Little Lake Shoreline Protection & Marsh Creation Project
BA-37

SCI PROJECT NO. 116478

PROJECT COMPLETION REPORT

AUGUST 2007

Prepared for:
Louisiana Department of Natural Resources

Prepared By:
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Shaw® Shaw Coastal, Inc.

PROJECT COMPLETION REPORT

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PROJECT COMPLETION REPORT

PROJECT NAME: Little Lake Shoreline Protection / Dedicated Dredging near Round Lake Project

CWPPRA/STATE PROJECT NO. BA-37

Report Date: August 2007 By: Shaw Coastal, Inc.

1. Project Managers/Contracting Officer:

DNR Construction Project Manager	Daniel Dearmond, P.E.	Telephone	985-449-5103
DNR Monitoring Manager	Glen Curole	Telephone	985-447-0995
Federal Agency Project Manager	Cheryl Brodnax - NOAA	Telephone	225-578-7923
Construction Administrator/Inspection	Jeffery M. Peña, P.E.	Telephone	985-868-3434

2. Location and Description of Projects as Approved for Construction by Task Force.

The Little Lake Shoreline Protection / Dedicated Dredging near Round Lake Project (BA-37) is a shoreline protection and marsh creation project located in the central Barataria Basin in Lafourche Parish, Louisiana. The Little Lake Shoreline Protection project area is located on the southwestern shoreline of Little Lake from Superior Canal to Plume Point. The Little Lake project area is generally bound by the East and West Forks of Bayou L'Ours and the southern shoreline of Little Lake from Plum Point westward to Breton Canal.

The site is accessible only by boat. The nearest boat launch is the Clovelly Farms on Clovelly Canal located in Cut Off, Louisiana.

The purpose of the project is to prevent erosion along approximately four (4) miles of Little Lake shoreline; create 488 acres of intertidal wetlands along the Little Lake shoreline; nourish and maintain 532 acres of intermediate marsh; and reduce the land-loss rates by 50% over the 20-year life of the project. The project consists of constructing a shoreline protection rock dike in open water along the shoreline of Little Lake and using dredged material from Little Lake to create/nourish intertidal marsh along the Little Lake shoreline. The project is sponsored by the United States Department of Commerce / National Ocean and Atmospheric Administration (NOAA) National Marine Fisheries Services (NMFS) and the Louisiana Department of Natural Resources (LDNR) under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA).

(Refer to Appendix E for fact sheet and project site map.)

3. Final, As-Built Features, Boundaries and Resulting Acreage (use attachments if necessary).

The project was constructed as described above. For additional information see attached Appendix F, Pre and Post Construction Plan View and Appendix G, As-Built Drawings.

This project created and nourished approximately 920 acres of marsh platform. Approximately 25,976 feet of rock dike was constructed of 175,290 tons of 250 pound class rock and Corp of Engineers R650 class.

4. Key Project Cost Elements**

	CWPPRA Project Report Estimates Data	Cost Incurred as of May 6, 2007*
Construction	$25,575,657.00	$20,224,882.44
E & D	$1,977,375.00	$419,110.70
Land rights	$63,837.00	$28,995.86
Monitoring	$23,816.00	$13,028.86
O & M	$4,602,045.00	0
Total	$32,242,730.00	$20,686,017.86

**Most recent estimate from CWPPRA Project estimates Report produced by USACE. See Appendix E, CWPPRA Project Status Report.

*Does not include Federal Sponsor administrative costs.

5. Items of Work

Schedule of Items										
Item No.	**Work**	**Est. Quan.***	**Unit**	**Estimated Unit Price**	**Estimated Amount**	**Bid Quan.**	**Bid Unit Price**	**Bid Amount**	**As-Built Quanity**	**As-Build Amount**
Base Bid										
1	Mobilization and Demobilization	1	LS	$1,000,000.00	$1,000,000.00	1	$2,100,000.00	$2,100,000.00	1	$2,100,000.00
2	Surveying	1	LS	$75,300.00	$75,300.00	1	$450,000.00	$450,000.00	1	$486,000.00
3	Primary Earthen Boundary Containment Levee	8,123	LF	$7.94	$64,496.62	8,123	$34.00	$276,182.00	11,273	$383,282.00
4	Secondary Earthen Boundary Containment Levee	6,675	LF	$6.34	$42,319.50	6,675	$32.00	$213,600.00	6,424	$205,568.00
5	Internal Training Dikes (3,165' minimum)	1	LS	$13,224.60	$13,224.60	1	$225,000.00	$225,000.00	1	$225,000.00
6	Hydraulic Dredging	2,512,432 (Fill Vol. in place at EL. 2.4')	CY	$6.00	$15,074,592.00	2,512,432	$2.45	$6,155,458.40	2,828,974	$6,930,986.30
7	Woven Geotextile Fabric	118,693	SY	$4.00	$474,772.00	1	$6.25	$741,831.25	113,294	$708,087.50
8	Rock Settlement Plates	24	EA	$1,000.00	$24,000.00	24	$600.00	$14,400.00	24	$14,400.00
9	250 Pound Class Rock	151,103	TON	$38.00	$5,741,914.00	151,103	$28.50	$4,306,435.50	145,528	$4,147,548.00
10	Temporary Warning Signs	63	EA	$2,000.00	$126,000.00	63	$250.00	$15,750.00	34	$8,500.00
11	Permanent Warning Signs	25	EA	$2,000.00	$50,000.00	25	$850.00	$21,250.00	25	$21,250.00
12	Grade Stakes and Flagging	207	EA	$1,000.00	$207,000.00	207	$350.00	$72,450.00	207	$72,450.00
13	Marsh Settlement Plates	5	EA	$1,000.00	$5,000.00	5	$1,000.00	$5,000.00	0	$0.00
14	Access and Flotation Channels	1	LS	$1,454,923.00	$1,454,923.00	1	$1,200,000.00	$1,200,000.00	1	$1,200,000.00
			DNR Estimated Amount:		**$24,353,541.72**	**Original Base Bid Amount:**		**$15,797,357.15**	**As-Built Amt.**	**$16,503,071.80**

Item No.	Work	Est. Quan.	Unit	Estimated Unit Price	Estimated Amount	Bid Quan.	Bid Unit Price	Bid Amount	As-Built Quanity	As-Build Amount
15	Hydraulic Dredging	422,361	CY	$6.00	$2,534,166.00	422,361	$4.25	$1,795,034.25	336,147	$1,428,624.75
16	Grade Stakes and Flagging	15	EA	$1,000.00	$15,000.00	15	$350.00	$5,250.00	15	$5,250.00
17	Primary Earthen Boundary Containment Levee	205	LF	$7.94	$1,627.70	205	$36.00	$7,380.00	205	$7,380.00
18	Secondary Earthen Boundary Containment Levee	6,261	LF	$6.34	$39,694.74	6,261	$35.00	$219,135.00	6,261	$219,135.00
19	Internal Training Dikes	1	LS	$1,729.85	$1,729.85	1	$75,000.00	$75,000.00	1	$75,000.00
20	R650 Corps Class Rock	30,000	TONS	$49.50	$1,485,000.00	0	0.00	$0.00	29,762	$1,473,219.00
DNR Additive Alternate Estimated Amount:					**$4,077,218.29**	**Original Additive Alternate Bid Amount:**		**$2,101,799.25**	**As-Built Amt.**	**$3,208,608.75**
									Total Project Cost	**$19,711,680.55**

6. Construction and Construction Oversight

Prime Construction Contractor	Pine Bluff Sand and Gravel Company
Subcontractor – Survey	T. Baker Smith, Inc.
Subcontractor – Excavation of Access and Flotation Channels	Manson Gulf, LLC
Subcontractor – Containment Levees & Internal Training Dikes	Wilco Marsh Buggies, Inc.
Original Construction Contract	$17,899,156.40
Change Orders	$1,812,524.15
Final Construction Contract	$19,711,680.55

Construction Oversight Contractor: Shaw Coastal, Inc.

Construction Oversight Amount: $477,978.00

7. Major Equipment Used

Large Open Skiff – Pine Bluff Sand and Gravel Company (PBSG)

18’ Skiff – PBSG

“Marion” 24” Cutterhead Dredge – PBSG

2 – 61-B Cranes – PBSG

IT-28 CAT Loader – PBSG

518 CAT Skidder – PBSG

Booster No. 9 – PBSG

2 – Derrick barges – PBSG

2 – CAT Marsh Excavators – PBSG

Fuel Barge – PBSG

Idler Barge – PBSG

6 – Motor Vessels – PBSG

8 – S Barges – PBSG

Crewboat for Rock Dike Construction – PBSG

Office Barge for Rock Dike Construction – PBSG

Ramp Barge for Rock Dike Construction – PBSG

4600 Manitowoc Dragline – PBSG

375-L Trackhoe – PBSG

Scully Boat for Rock Dike Construction – PBSG

16’ Skiff – TBS

Trimble 5700 GPS Total Station – T. Baker Smith (TBS)

15’ Air Boat – TBS

22’ Survey Vessel – TBS

15’ Work Boat – TBS

16’ Airboat – TBS

20’ Work Boat – TBS

22’ Work Boat – Wilco Marsh Buggies, Inc. (Wilco)

16’ Airboat – Wilco

2 – CAT Marsh Excavators, 330 LR – Wilco

Link Belt 100 Marsh Excavator – Wilco

“Terrebonne Bayou” 4600 Mantiowoc Crane Barge – Manson Gulf, LLC (Manson)

8. Construction Sequences and Activities

- August 5, 2005: Sub-Contractor, T. Baker Smith (TBS) commenced surveying of the project area.
- August 27, 2005 – October 2, 2005: Hurricane Katrina and Hurricane Rita caused high winds and rough seas; no work was conducted.
- November 26, 2005: Sub-Contractor, Wilco Marsh Buggies Inc. (Wilco) mobilized at the project site and commenced construction on the levees.
- December 12, 2005: Sub-Contractor, Manson Gulf, LLC (Manson), mobilized the “Terrebonne Bayou” at the project site and commenced dredging of the No. 3 Access Channel.
- December 23, 2005 – December 27, 2005: Holiday Break; no work was conducted at the project site during this time period.
- January 29, 2006: Sub-Contractor, Manson, ceased dredging and removed the “Terrebonne Bayou” from the project site.
- February 16, 2006: Contractor’s hydraulic dredge “Marion” arrived at the project staging area.
- February 22, 2006: Sub-Contractor, Wilco completed work on the levees.
- February 28, 2006: Contractor mobilized “Marion” at the project site borrow area.
- March 7, 2006: “Marion” commenced dredging operations at 5:50 am.
- March 8, 2006: Sub-Contractor, Wilco removed their equipment from the project site.
- March 15, 2006: Contractor mobilized equipment at the project area for construction of the rock dike.

- March 16, 2006: Contractor began placing the geotextile fabric for construction of the rock dike.
- March 21, 2006: Contractor commenced construction of the rock dike.
- June 30, 2006: The "Marion" completed the dredging and disposal operations for the marsh creation.
- July 17, 2006: Dredge "Marion" left the project site.
- August 14, 2006: Final 28 day surveys completed for remaining cells.
- October 11, 2006: Contractor mobilized Dredge "Alroar" at the project site.
- October 16, 2006: Dredge "Alroar" commenced dredging of the Flotation Channel.
- December 12, 2006: Begin Third Lift Rock Dike.
- December 15, 2006: Dredge "Alroar" commenced backfill of the Flotation Channel.
- February 9, 2007: "Alroar" commenced backfill of the Access Channel.
- February 11, 2007: Construction of the rock dike was completed.
- February 12, 2007: The Contractor CAT 345 continued the backfill of the Flotation Channel.
- February 24, 2007: The "Alroar" completed backfill of the Access Channel.
- February 25, 2007: The "Alroar" completed backfill of the Flotation Channel.
- March 21, 2007: Contractor completed demobilization from the project site.
- March 30, 2007: Final Site Inspection.

9. Construction Change Orders and Field Changes.

Change Order No. 1 (October 25, 2005):
Increase the total Construction Cost from $17,899,156.40 to $17,935,156.40 with an increase in project construction time from 500 days to 545 days. The 45 day increase is directly related to the delays caused by Hurricane Katrina and Rita.

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL $ AMOUNT
2	Surveying	LS	1	$450,000.00	$450,000.00	N/A	$36,000.00	$486,000.00
						TOTAL:	**$36,000.00**	

Change Order No. 2 (November 21, 2005):
Increase the total Construction Cost from $17,935,156.40 to $18,042,256.40 with no increase in project construction time.

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL $ AMOUNT
3	Primary Earthen Boundary Containment Levee	LS	8,123	$34.00	$276,182.00	3,150	$107,100.00	$383,282.00
						TOTAL:	**$107,000.00**	

Change Order No. 3 (September 18, 2006):
Increase the total Construction Cost from $18,042,256.40 to $18,817,784.30 with no increase in project construction time.

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL $ AMOUNT
6	Hydraulic Dredging	CY	2,512,432	$2.45	$6,155,458.40	316,542	$775,527.90	$6,930,986.30
						TOTAL:	**$775,527.90**	

Change Order No. 4 (October 30, 2006):
Increase the total Construction Cost from $18,817,784.30 to $20,302,784.30 with an increase in construction time from 545 days to 635 days (90 additional days).

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL $ AMOUNT
20	R650 Corp Class Rock	CY	0	$49.50	$0.00	30,000	$1,485,000.00	$1,485,000.00
						TOTAL:	**$1,485,000.00**	

Change Order No. 5 (Balancing Change Order) (May 2, 2007):
Decrease the total Contract Value by $591,103.75 from $20,302,784.30 $19,711,680.55.

ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	UNIT COST	TOTAL $ AMOUNT	UNEARNED QUANTITY	$ AMOUNT	BID ITEM TOTAL $ AMOUNT
4	Secondary Earthen Boundary Containment Levee	LF	6,675	$32.00	$213,600.00	251	$8,032.00	$205,568.00
7	Woven Geotextile Fabric	SY	118,693	$6.25	$741,831.25	5,399	$33,743.75	$708,087.50
9	250 Pound Class Rock	Tons	151,103	$28.50	$4,306,435.50	5,575	$158,887.50	$4,147,548.00
10	Temporary Warning Signs	EA	63	$250.00	$15,750.00	29	$7,250.00	$8,500.00
13	Marsh Settlement Plates	EA	5	$1,000.00	$5,000.00	5	$5,000.00	$0.00
15	Hydraulic Dredging	CY	422,361	$4.25	$1,795,034.25	86,214	$366,409.50	$1,428,624.75
20	R650 Corp Class Rock	Tons	30,000	$49.50	$1,485,000.00	238	$11,781.00	$1,473,219.00
				TOTALS:	**$8,562,651.00**		**$591,103.75**	**$7,971,547.25**

Field Order No. 1 (January 25, 2006):

This field order provides for revised rock quantities, cross-sections and alignment. The rock quantity for the revised cross-sections and alignment will be evaluated per linear foot after a portion of the rock dike is constructed and then a change order will be initiated for the quantity, if it exceeds the current contract amount. The Contractor submitted a revised alignment based on his surveys and the alignment was reviewed and accepted.

Field Order No. 2 (January 26, 2006):

This field order provides for a relocation of containment dike "P EBCL 13" to the northern extent of dike "P EBCL 12". The new location of the containment dike will extend northward along the marsh as directed by the Engineer and/or project representative. Containment dike "P EBCL 13" cannot be constructed in the original location due to access and permitting issues. It is being relocated as described above to further protect the no fill zone on the southeastern part of the project.

Field Order No. 3 (June 7, 2006):

This field order pertains to the clarification of payment methods and increments for the cells. The payment for specific edge cells to be between 0.9' and 2.4'. The following are the specific edge:

EC-1 through EC-47, EC-49 through EC-57, EC-64 through EC-66, EC-73, EC-74

IC-1 through IC-4, IC-7 through IC-10

These will be the only cells which will be paid for material below 1.8'. All other cells will be paid per specifications. Payment on one-tenth intervals will be allowed for all cells within the project area within the allowable range of 1.8' to 2.4' and 0.9' to 2.4' for the edge cells listed above.

10. Pipeline and Other Utility Crossings.

	Structure	**Owner**	**Rep. To Contact**
1.	Pipeline	British Petroleum	Jerry Erceg (504) 393-6285 Alt.: Al Davis (504) 393-6282
2.	Pipeline	Tennessee Gas Pipeline Company	Mike Bryan (985) 879-3516 (Ext 2023)
3.	Land	General Agriculture Services, LTD.	Harold Werner (504) 522-7496
4.	Land	Landowner Representative (Randy Moertle & Associates, Inc.)	Randy Moertle (985) 532-6388

11. Safety and Accidents.

The Contractor, Pine Bluff Sand and Gravel Company (PBSG), submitted an Accident Prevention Program that included the following topics:

- Safety Organization

- Safety Orientation – given to all employees as they arrive at the jobsite
- Safety Training & Motivation – including weekly safety meetings attended by all job personnel
- Employee Protective Equipment
- Fire Prevention and Protection
- Housekeeping and Sanitation
- First Aid and Medical Treatment – including availability of First Aid kits and at least two members of the job supervisory staff or key personnel on each shift will be qualified in First Aid and CPR
- Accident Investigation and Reporting
- Specific Job Hazards
- Maintaining a Drug-Free Workplace
- Safety Policy – PBSG ensures compliance with all safety and accident control requirements of the Code of Federal Regulations, Title 29, OSHA

There were no accidents reported during the Little Lake Shoreline Protection / Dedicated Dredging near Round Lake Project.

12. Project Issues and Discussion

1. Issue: Unconfined marsh creation

   Discussion: In most unconfined marsh creation areas of the project, marsh creation could not be constructed as per plans with the 500' sloping to natural ground elevation due to concerns with neighboring land owners and state water bottoms being impacted. In utilizing unconfined marsh creation in the early stages of the project dredge material flowed out of the project area and caused large movements in floating marsh. These issues were resolved by almost full containment of the project area.

2. Issue: Shoreline Erosion

   Discussion: From the date of original design surveys (2002-2003) and the effects of three hurricanes during construction, the shoreline experienced erosion ranging from 50' to 500' in certain areas. This caused the realignment of the rock dike to accommodate the changes (reference Appendix N).

3. Issue: Internal Training Dikes

   Discussion: Contractor was unclear regarding the definition and use of internal training dikes during this project.

   Dikes used for containment such as the 3,165' for the no fill area should have their own quantity/bid item defined as containment. Training dikes, if not considered incidental, should have its own bid item.

4. Issue: Lump Sum Items

   Discussion: True lump sum items should avoid having associated quantities. One example is the access channels have defined length and volume on the plans. If any additional quantity is required contractor

will have a claim for pro rated quantities. Items defined as lump sum can be depicted on plans while allowing contractors to estimate quantities they will require.

5. Contractor requested an additional 63 days be added to the Contract Time for the additional hydraulic dredge work approved in Change Order No. 3. SCI and LDNR declined the request for additional time since the dredging operations were completed in August 1, 2006 and the Contract end date was December 31, 2006. The dredging was completed approximately 5 months prior to the end of the contract time, therefore SCI and LDNR decided the additional dredge material did not influence the Contract Time.

6. Issue: 3rd Lift Rock Dike Cross Section

   Discussion: After completion of segment 23 and 24 with the 3rd lift cross section as shown on Change Order No. 4 typical section, the side slopes were revised to 2:1 and the crown width was reduced to 2' from 3.50'. Additionally the elevation was reduced from 4.0' to 3.5' for segments 10 through 20.

7. Issue: Borrow Area Surveys

   Discussion: Borrow area surveys should be conducted prior to excavation on pay by fill dredge projects. Although not needed for payment they will be essential for calculating cut to fill ratios.

8. Contractor requested permission to fill in the no fill zone in the northwest section of the marsh creation area. While marsh fill was being pumped to the northwest segment of the marsh fill the fill began to undermine the internal training dikes around the no fill zone. The internal dikes around the no fill zone could not withstand the pressure of the fill material. The contractor was allowed to fill in the previous no fill zone in the northwest segment of the project area and was paid for the fill in this area under Change Order No. 3.

9. Issue: Final Cut to Fill Dredging Ratio

   Discussion: Utilizing the as-built in place fill volume within the marsh creation area the cut to fill ratio was 1.10 to 1.00. Utilizing the nine month post construction surveys the cut to fill ratio is 1.65 to 1.00. The low as-built cut to fill ratio is in part due to the short time frame (28 days) for the as-built survey and the lack of dewatering due to the construction methods (no weir boxes, additional containment dikes constructed due to marsh blow outs). The volumes used in the ratio calculations are as follows:

Cut Volume:	3,818,213 cy
As-built fill volumes:	3,463,089 cy
Nine month fill volume:	2,307,462 cy

13. <u>Significant Construction Dates</u>: To be filled out by DNR Construction Project Manager or Contracting Officer for construction for Agency responsible for construction.

ACTION	Date
Bid Opening	May 5, 2005
Construction Contract	June 21, 2005
Preconstruction Conference	July 21, 2005
Notice to Proceed	July 5, 2005
Mobilization	August 4, 2005
Construction Start	August 5, 2005
Construction Completion	March 21, 2007
Final Acceptance	March 30, 2007

If different bids are taken, repeat this table to individually reflect each bid and attach tables.

Other significant Project Dates

	Date
Project Implementation closeout**	
Start of Preconstruction Monitoring***	
Preconstruction Aerial Photography Acquisition***	
Monitoring Plan Completion***	

** Final implementation closeout is made by either the DNR Project Manager or the Federal Agency Contracting Officer depending on which organization had lead role for construction of project.

*** To be completed by DNR Project Manager.

APPENDIX A

PROGRESS SCHEDULES

CONSTRUCTION PROGRESS CHART

(EP 415-1-260)

REQUIREMENTS CONTROL SYMBOL

1. CONTRACTOR: Pine Bluff Sand & Gravel Co.	3. PROJECT: Little Lake Shore Line Protection & Marsh Creation Project	5. CONTRACT DESCRIPTION: Little Lake Shoreline Protection & Marsh Creation Project	6. SUBMITTED FOR APPROVAL	DATE
2. CONTRACT NUMBER: DNR BA-37	4. LOCATION: Lafourche Parish, LA.		7. APPROVAL RECOMMENDED	DATE
			8. APPROVED	DATE

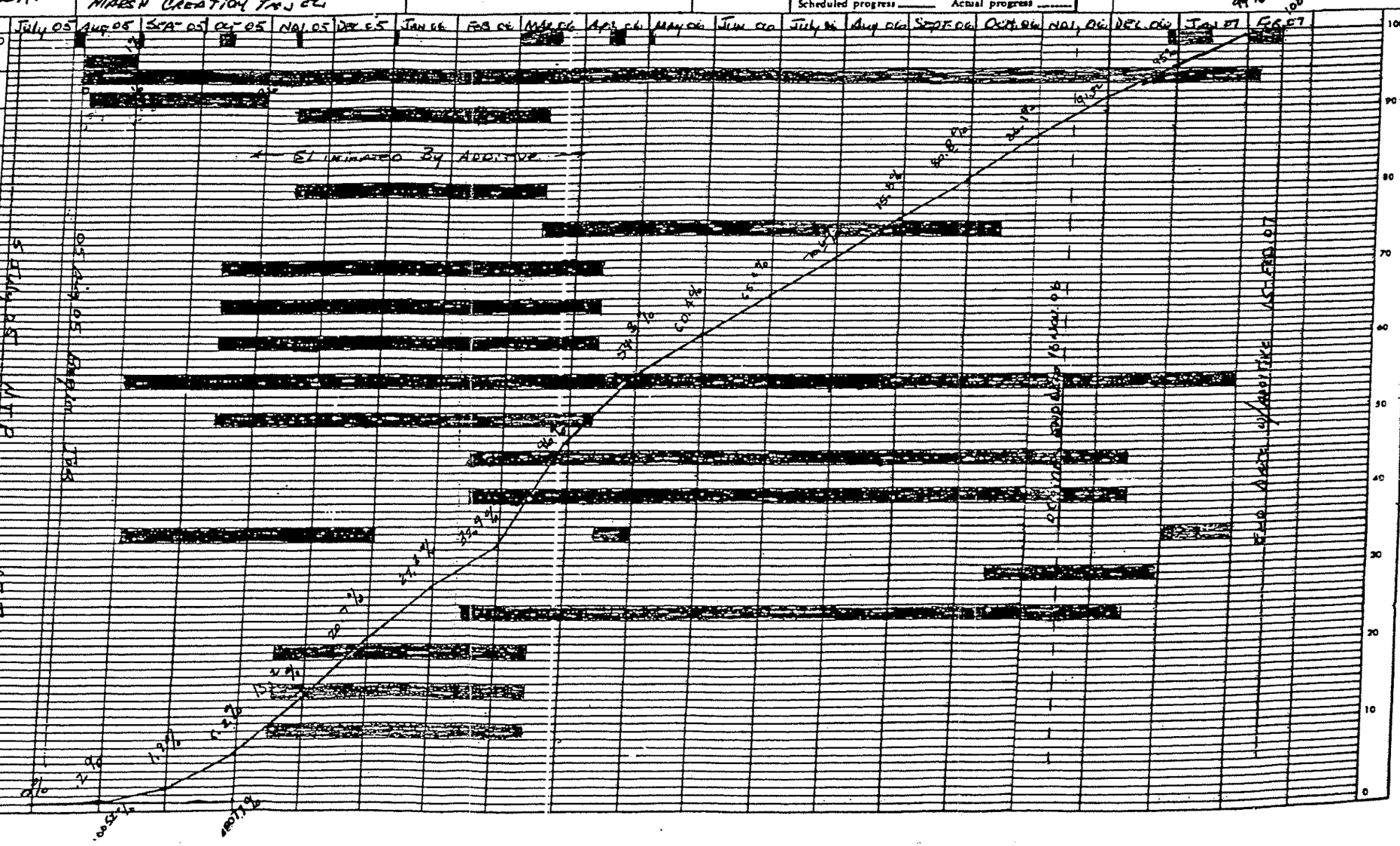
LEGEND

BARS: Scheduled progress to date of report (0 5 10)

Actual progress

CURVES: Scheduled progress ____ Actual progress ____

PRINCIPAL CONTRACT FEATURE	LINE ITEM	WT.	ESTIMATED COST	
Mobilization & Demobilization L.S.	1	.1175	$ 2,100,000.00	SCHED. ACTUAL
Surveying L.S.	2	.0251	$ 450,000.00	SCHED. ACTUAL
Primary Earthen B. Containment Levee 8123 @ L.F. @ $34.00	3	.0154	$ 276,182.00	SCHED. ACTUAL
Sec. Earthen B. Containment Levee - 6675 L.F. @ $32.00/ft	4	.0119	$ 213,600.00	SCHED. ACTUAL
Internal T. Dikes (165' Min) L.S.	5	.0126	$ 225,000.00	SCHED. ACTUAL
Hydraulic Dredging 512,432 C.Y. @ 2.45	6	.3439	$ 6,155,458.40	SCHED. ACTUAL
Geotextile Fabric Men SY @ 118,693 @ 6.25	7	.0414	$ 744,831.25	SCHED. ACTUAL
Rock Settlement Plates 24 EA @ $600.00 EA	8	.0008	$ 14,400.00	SCHED. ACTUAL
Rock Class 103 Tons @ $25.00 EA	9	.2406	$ 4,306,435.50	SCHED. ACTUAL
Temporary Warning Signs 63 @ $250.00 EA	10	.0009	$ 15,750.00	SCHED. ACTUAL
Permanent Warning Signs 5 @ $850.00 EA	11	.0012	$ 21,250.00	SCHED. ACTUAL
Wood Stakes & Flagging 07 @ $350.00 EA.	12	.0040	$ 72,450.00	SCHED. ACTUAL
Marsh Settlement Plates 5 @ $1000.00 EA	13	.0003	$ 5,000.00	SCHED. ACTUAL
Stress & Floatation Channels L.S.	14	.0670	$ 1,200,000.00	SCHED. ACTUAL
Hydraulic Dredging 2,361 C.Y. @ $4.25	15	.1003	$ 1,795,034.25	SCHED. ACTUAL
Wood Stakes & Flagging @ $350.00 EA	16	.0003	$ 5250.00	SCHED. ACTUAL
Primary Earthen B. Containment Levee 205 L.F. @ $36.00	17	.0004	$ 7,380.00	SCHED. ACTUAL
Secondary Earthen B. Contain. 6261 L.F. @ $35.00	18	.0122	$ 219,135.00	SCHED. ACTUAL
Internal T. Dikes L.S.	19	.0042	$ 75,000.00	SCHED. ACTUAL
Total Contract		100%	$ 17,899,156.40	SCHED. ACTUAL



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PREVIOUS EDITION MAY BE USED.

Contract Value $17,685,556.40

CONSTRUCTION PROGRESS CHART

(EP 415-1-260)

REQUIREMENTS CONTROL SYMBOL

1. CONTRACTOR: Pine Bluff Sand & Gravel Co.	3. PROJECT: Little Lake Shoreline Protection & Marsh Creation Project	5. CONTRACT DESCRIPTION: Little Lake Shoreline Protection & Marsh Creation Project	6. SUBMITTED FOR APPROVAL	DATE
2. CONTRACT NUMBER: DNR BA-37	4. LOCATION: Lafourche Parish, LA.		7. APPROVAL RECOMMENDED	DATE
			8. APPROVED	DATE

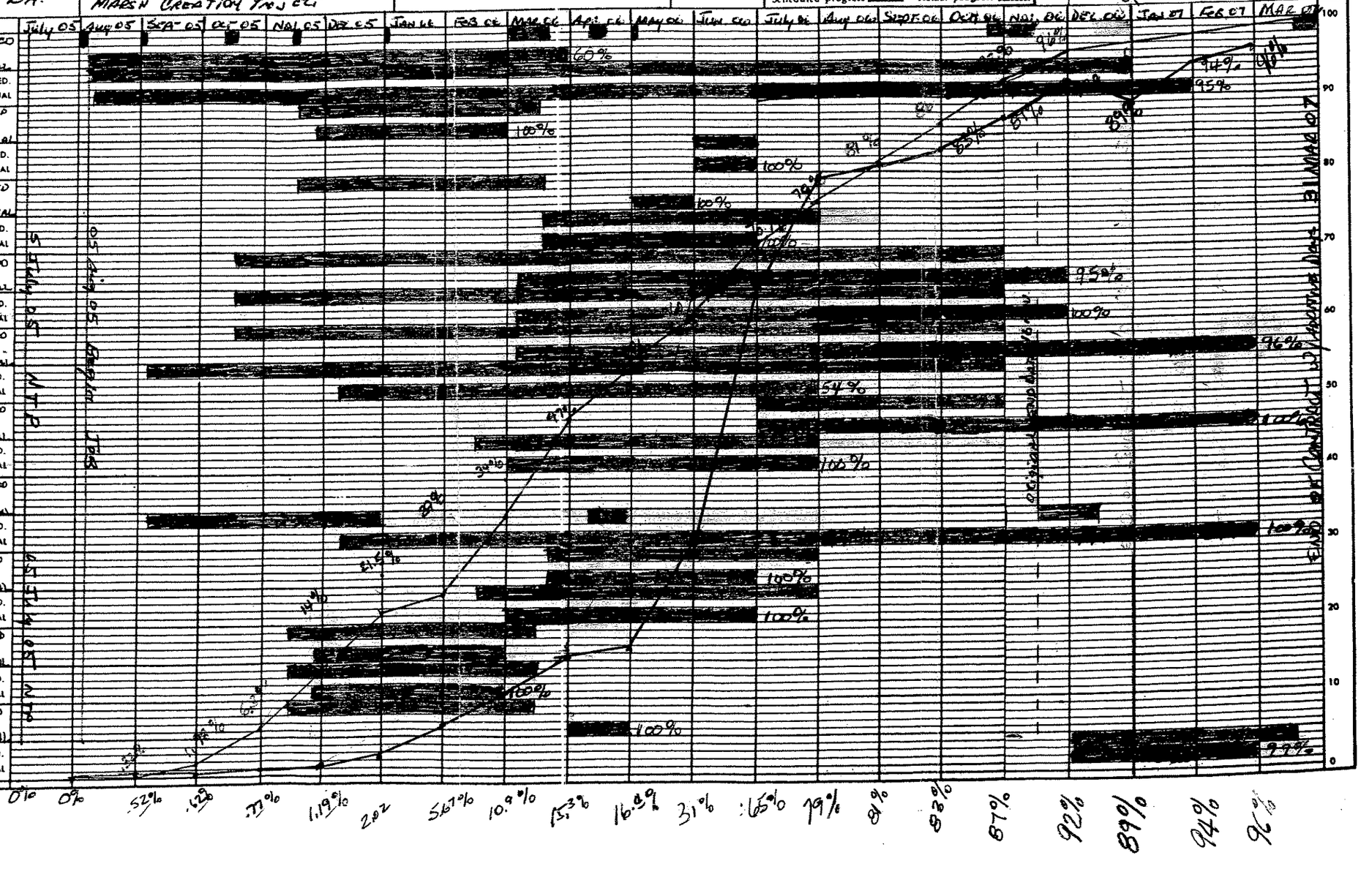
LEGEND

BARS: Scheduled progress to date of report (0 5 10)

Actual progress

CURVES: Scheduled progress ____ Actual progress ____

PRINCIPAL CONTRACT FEATURE	LINE ITEM	WT.	ESTIMATED COST	
Mobilization & Demobilization L.S.	1	.1164	$ 2,100,000.00	SCHED / ACTUAL
Surveying L.S.	2	.0269	$ 486,000 ~~450,000.00~~	SCHED. / ACTUAL
Primary Earthen B. Containment Levee 8123' @ L.F. @ $34.00	3	.0212	$ 383,288 ~~276,182~~	SCHED / ACTUAL
Sec. Earthen B. Containment Levee - 6675 L.F. @ $32.00/ft	4	.0118	$ 213,600.00	SCHED. / ACTUAL
Internal T. Dikes (3,165' Min) L.S.	5	.0125	$ 225,000.00	SCHED / ACTUAL
Hydraulic Dredging 2,512,432 C.Y. @ 2.45	6	.3412	$ 6,930,986.30 ~~6,155,458.40~~	SCHED. / ACTUAL
Woven Geotextile Fabric SY @ 118,693 @ 6.25	7	.0411	$ 741,831.25	SCHED / ACTUAL
Rock Settlement Plates 24 EA @ $600.00 EA	8	.0008	$ 14,400.00	SCHED. / ACTUAL
250# Rock Class 151,103 Tons @ $28.50 EA	9	.2387	$ 4,306,435.50	SCHED / ACTUAL
Temporary Warning Signs 63 @ $250.00 EA	10	.0009	$ 15,750.00	SCHED. / ACTUAL
Permanent Warning Signs 25 @ $850.00 EA	11	.0012	$ 21,250.00	SCHED / ACTUAL
Grade Stakes & Flagging 207 @ $350.00 EA.	12	.0040	$ 72,450.00	SCHED. / ACTUAL
Marsh Settlement Plates 5 @ $1000.00 EA	13	.0003	$ 5,000.00	SCHED / ACTUAL
Access & Floatation Channels L.S.	14	.0665	$ 1,200,000.00	SCHED. / ACTUAL
Hydraulic Dredging 422,361 C.Y. @ $4.25	15	.0995	$ 1,795,034.25	SCHED / ACTUAL
Grade Stakes & Flagging 15 @ $350.00 EA	16	.0003	$ 5250.00	SCHED. / ACTUAL
Primary Earthen B. Containment Levee 205 L.F. @ $36.00	17	.0004	$ 7,380.00	SCHED / ACTUAL
Secondary Earthen B. Contain. Levee 6261 L.F. @ $35.00	18	.0121	$ 219,135.00	SCHED. / ACTUAL
Internal T. Dikes L.S.	19	.0042	$ 75,000.00	SCHED / ACTUAL
R650 Cores Cl. Rock 30,000 Tns @ 0.45	20		$ 1,485,000.00	SCHED. / ACTUAL
Total Cores w/ Ex			$ 20,302,784.30	



BNG FORM 1 JUNE 65 2454 PREVIOUS EDITION MAY BE USED.

APPENDIX B

CHANGE ORDER NO. 1 THROUGH NO. 5 & FIELD ORDER NO. 1 THROUGH NO. 3

CHANGE ORDER NO. 1 THROUGH NO. 5

CHANGE ORDER NO. 1

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:
October 25, 2005

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:
Pine Bluff Sand and Gravel Company
Post Office Box 8672
Alexandria, Louisiana 71305

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
116478

You are directed to make the following changes in the Contract Documents.

Description:

See attached summary.

Purpose of Change Order:

This change order will increase the total contract value by $36,000.00 from $17,899,156.40 to $17,935,156.40 and increase the Construction Time by 45 days for a total of 545 days.

CHANGE IN CONTRACT PRICE:

Original Contract Price
$ 17,899,156.40

Previous Change Orders No. __ to No. __
$ 0.00

Contract Price Prior to this Change Order
$ 17,899,156.40

Net Increase of this Change Order
$ 36,000.00

Contract Price with all approved Change Orders
$ 17,935,156.40

CHANGE IN CONTRACT TIME:

Original Contract Time
500 Calender Days
days or date

Net Change from previous Change Orders
0 Days
days

Contract Time Prior to this Change Order
500 Calender Days
days or date

Net Increase of this Change Order
45 Days
date

Contract Time with all approved Change Orders
545 Calender Days
days or date

RECOMMENDED:
By: _____
Date: 11/17/05

APPROVED:
By: _____ LDNR
Date: 11/22/05

APPROVED:
By: _____ CONTRACTOR
Date: 11/11/05

Louisiana Department of Natural Resources
Little Lake Shoreline Protection and Demonstration Project (BA-37)

SCI Project No. 116478

Change Order No. 1 Summary

Change Order No. 1 will increase the total Construction Cost from $17,899,156.40 to $17,935,156.40 with a 45 day increase in construction time. The 45 day increase is directly related to the delays caused by Hurricanes Katrina and Rita.

The following Bid Items will be modified:

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID $ AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL $ AMOUNT	BID ITEM TOTAL $ AMOUNT
2	Surveying	LS	1	$450,000.00	$450,000.00	N/A	$36,000.00	$486,000.00
						TOTAL:	**$36,000.00**	

Bid Item No. 2:

The increase in surveying is related to the reestablishment of 36 TBM's and re-establishment of the 500' intervals on marsh Transect Line Sections 1, 1A, 2, 2A, 3, 3A, 4, and 4A within the project area that were destroyed by Hurricanes Katrina and Rita.

K:\116478\CHANGE ORDERS\NO. 1\SUMMARY.DOC

CHANGE ORDER NO. 2

RECEIVED
DEC 14 2005
CCF

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:
November 21, 2005

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:
Pine Bluff Sand and Gravel Company
Post Office Box 8672
Alexandria, Louisiana 71305

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
116478

You are directed to make the following changes in the Contract Documents.

Description:

See attached summary.

Purpose of Change Order:

This change order will increase the total contract value by $107,100.00 from $17,935,156.40 to $18,042,256.40. The total construction time is 545 days.

CHANGE IN CONTRACT PRICE:

Original Contract Price
$ 17,899,156.40

Previous Change Orders No. 1 to No. 1
$ 36,000.00

Contract Price Prior to this Change Order
$ 17,935,156.40

Net Increase of this Change Order
$ 107,100.00

Contract Price with all approved Change Orders
$ 18,042,256.40

CHANGE IN CONTRACT TIME:

Original Contract Time
500 Calender Days
days or date

Net Change from previous Change Orders
45 Days
days

Contract Time Prior to this Change Order
545 Calender Days
days or date

Net Increase of this Change Order
0 Days
date

Contract Time with all approved Change Orders
545 Calender Days
days or date

RECOMMENDED:
By: [signature]
SCI
Date: 12/12/05

STATE OF LOUISIANA
DONALD ALLAN COLLETTE, III
REG. No. 23067
REGISTERED
PROFESSIONAL ENGINEER

APPROVED:
By: [signature]
LDNR
Date: 12/15/05

ACCEPTED:
By: [signature]
CONTRACTOR
Date: 12/16/05

Louisiana Department of Natural Resources
Little Lake Shoreline Protection and Demonstration Project (BA-37)

SCI Project No. 116478

Change Order No. 2 Summary

Change Order No. 2 will increase the total Construction Cost from $17,935,156.40 to $18,042,256.40 with no increase in construction time.

The following Bid Items will be modified:

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID $ AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL $ AMOUNT	BID ITEM TOTAL $ AMOUNT
3	Primary Earthen Boundary Containment Levee	LS	8,123	$34.00	$276,182.00	3,150	$107,100.00	$383,282.00
						TOTAL:	$107,100.00	

Bid Item No. 3:

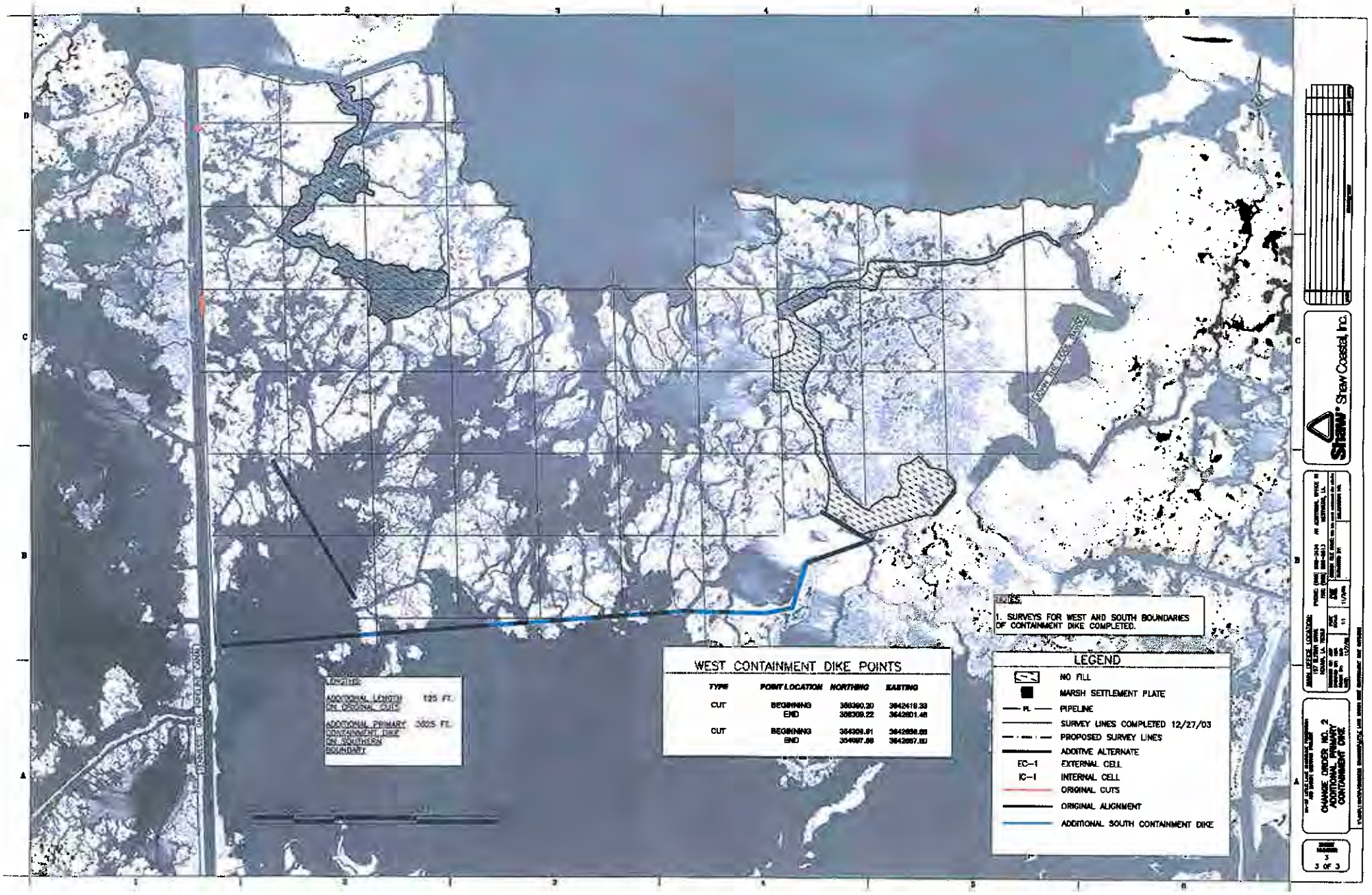
The increase in primary containment dike includes the degraded existing cuts on the eastern bank of the Tennessee Gas Pipeline Canal and the additional Primary Earthen Boundary Containment Levee required on the southern end of the project area. See attached drawing (Page 3 of 3).

K:\116478\CHANGE ORDERS\NO. 2\SUMMARY.DOC

RECEIVED

DEC 14 2005

CCP


LENGTHS:
ADDITIONAL LENGTH ON ORIGINAL CUTS 125 FT.
ADDITIONAL PRIMARY CONTAINMENT DIKE ON SOUTHERN BOUNDARY 3925 FT.
WEST CONTAINMENT DIKE POINTS
TYPE POINT LOCATION NORTHING EASTING
CUT BEGINNING 356360.20 3642416.39
END 356309.22 3642801.48
CUT BEGINNING 354309.91 3642656.66
END 354987.66 3642657.80
NOTES:
1. SURVEYS FOR WEST AND SOUTH BOUNDARIES OF CONTAINMENT DIKE COMPLETED.
LEGEND
NO FILL
MARSH SETTLEMENT PLATE
PL PIPELINE
SURVEY LINES COMPLETED 12/27/03
PROPOSED SURVEY LINES
ADDITIVE ALTERNATE
EC-1 EXTERNAL CELL
IC-1 INTERNAL CELL
ORIGINAL CUTS
ORIGINAL ALIGNMENT
ADDITIONAL SOUTH CONTAINMENT DIKE
Shaw Coastal, Inc.
CHANGE ORDER NO. 2
ADDITIONAL PRIMARY CONTAINMENT DIKE
3 OF 3

CHANGE ORDER NO. 3

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:
September 18, 2006

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:
Pine Bluff Sand and Gravel Company
Post Office Box 8672
Alexandria, Louisiana 71305

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
116478

You are directed to make the following changes in the Contract Documents.

Description:

See attached summary.

Purpose of Change Order:

This change order will increase the total contract value by $775,527.90 from $18,042,256.40 to $18,817,784.30.

The total construction time is 545 days.

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIME:
Original Contract Price	Original Contract Time
$ 17,899,156.40	500 Calender Days (days or date)
Previous Change Orders No. 1 to No. 2	Net Change from previous Change Orders
$ 143,100.00	45 Days (days)
Contract Price Prior to this Change Order	Contract Time Prior to this Change Order
$ 18,042,256.40	545 Calender Days (days or date)
Net Increase of this Change Order	Net Increase of this Change Order
$ 775,527.90	0 Days (date)
Contract Price with all approved Change Orders	Contract Time with all approved Change Orders
$ 18,817,784.30	545 Calender Days (days or date)

RECOMMENDED: PENA
By:
Date: Oct. 13, 2006

APPROVED:
By: (Owner)
Date: 11/1/06

ACCEPTED:
By: (Contractor)
Date: Oct. 17, 2006

Louisiana Department of Natural Resources
Little Lake Shoreline Protection and Demonstration Project (BA-37)

SCI Project No. 116478

Change Order No. 3 Summary

Change Order No. 3 will increase the total Construction Cost from $18,042,256.40 to $18,817,784.30 with no increase in construction time.

The following Bid Items will be modified:

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID $ AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL $ AMOUNT	BID ITEM TOTAL $ AMOUNT
6	Hydraulic Dredging	CY	2,512,432	$2.45	$6,155,458.40	316,542	$775,527.90	$6,930,986.30
						TOTAL:	**$775,527.90**	

Bid Item No. 6:

The increase in hydraulic dredging is mainly due to the filling of the no-fill area in the northwest quadrant of the project and the consistently higher elevations in the edge cells along the perimeter of the project. This additional quantity does not contain any material above the authorized elevation of 2.4 feet.

CHANGE ORDER NO. 4

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:
October 30, 2006

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:
Pine Bluff Sand and Gravel Company
Post Office Box 6672
Alexandria, Louisiana 71305

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
116478

You are directed to make the following changes in the Contract Documents.

Description:

See attached summary.

Purpose of Change Order:

This change order will increase the total contract value by $1,485,000.00 from $18,817,784.30 to $20,302,784.30
The total construction time is increased by 90 days from 545 days to 635 days.

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIME:
Original Contract Price	Original Contract Time
$ 17,899,156.40	500 Calender Days (days or date)
Previous Change Orders No. 1 to No. 3	Net Change from previous Change Orders
$ 918,627.90	45 Days (days)
Contract Price Prior to this Change Order	Contract Time Prior to this Change Order
$ 18,817,784.30	545 Calender Days (days or date)
Net Increase of this Change Order	Net Increase of this Change Order
$ 1,485,000.00	90 Days (date)
Contract Price with all approved Change Orders	Contract Time with all approved Change Orders
$ 20,302,784.30	635 Calender Days (days or date)

STATE OF LOUISIANA
JEFFERY M. PENA
23388
REGISTERED
PROFESSIONAL ENGINEER
CIVIL ENGINEERING

RECOMMENDED:
By:
Date: 10/30/06

APPROVED:
By: (Owner)
Date: 11/2/06

ACCEPTED:
By: (Contractor)
Date: 10/31/06

Louisiana Department of Natural Resources
Little Lake Shoreline Protection and Demonstration Project (BA-37)

SCI Project No. 116478

Change Order No. 4 Summary

Change Order No. 4 will increase the total Construction Cost from $18,817,784.30 to $20,302,784.30 with an increase of 90 days in construction time from 545 to 635 calendar days.

The following Bid Items will be modified:

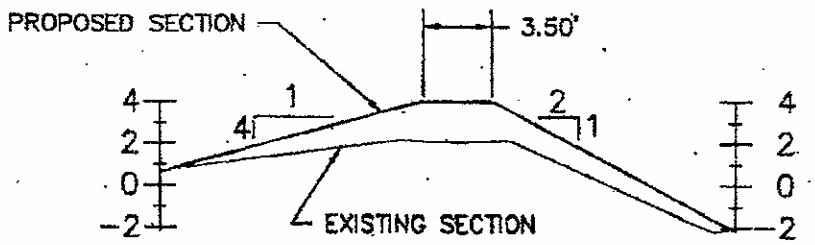
ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID $ AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL $ AMOUNT	BID ITEM TOTAL $ AMOUNT
20	R650 Corp Class Rock	Tons	0	$49.50	$0.00	30,000	$1,485,000.00	$1,485,000.00
						TOTAL:	$1,485,000.00	

Bid Item No. 20:

The increase in rock quantity is due to the increased settlement being observed on the Rock Dike alignment. The average height on the rock dike placed to date has settled to approximately elevation 2.0 NAVD88 with some location below this elevation.

Attached Items:

Rock Dike typical section.
Riprap gradation table.



AREA: 31.60 SQ. FT.

TYPICAL SECTION

Corps of Engineers riprap gradation R650

Weight (lbs.)	Percent lighter by weight
650 – 260	100
280 – 130	50
130 – 40	15

CHANGE ORDER NO. 5

RECEIVED
MAY 08 2007

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:
May 2, 2006

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:
Pine Bluff Sand and Gravel Company
Post Office Box 8672
Alexandria, Louisiana 71305

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
116478

You are directed to make the following changes in the Contract Documents.

Description:

See attached summary.

Purpose of Change Order:
This is a balancing change order. This change order will decrease the total contract value from $20,302,784.30 to $19,711,680.55.

CHANGE IN CONTRACT PRICE:

Original Contract Price
$ 17,899,156.40

Previous Change Orders No. 1 to No. 4
$ 2,403,627.90

Contract Price Prior to this Change Order
$ 20,302,784.30

Net Decrease of this Change Order
$ 591,103.75

Contract Price with all approved Change Orders
$ 19,711,680.55

CHANGE IN CONTRACT TIME:

Original Contract Time
500 Calender Days
days or date

Net Change from previous Change Orders
135 Days
days

Contract Time Prior to this Change Order
635 Calender Days
days or date

Net Increase of this Change Order
0 Days
date

Contract Time with all approved Change Orders
635 Calender Days
days or date

RECOMMENDED:
By: [signature]
SOI
Date: 5/6/07

APPROVED:
By: [signature]
LDNR
Date: 5/9/2007

ACCEPTED:
By: [signature]
CONTRACTOR
Date: 5/04/07

PROFESSIONAL ENGINEER
LA

Louisiana Department of Natural Resources
Little Lake Shoreline Protection and Demonstration Project (BA-37)

SCI Project No. 116478

Change Order No. 5 Summary
(Balancing Change Order)

Change Order No. 5 is a balancing change order. This change order will decrease the total contract value by $591,103.75 from $20,302,784.30 to $19,711,680.55.

The following Bid Items will be modified:

ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	UNIT COST	TOTAL $ AMOUNT	UNEARNED QUANTITY	UNEARNED $ AMOUNT	BID ITEM TOTAL $ AMOUNT
4	Secondary Earthen Boundary Containment Levee	LF	6,675	$32.00	$213,600.00	251	$8,032.00	$205,568.00
7	Woven Geotextile Fabric	SY	118,693	$6.25	$741,831.25	5,399	$33,743.75	$708,087.50
9	250 Pound Class Rock	Tons	151,103	$28.50	$4,306,435.50	5,575	$158,887.50	$4,147,548.00
10	Temporary Warning Signs	EA	63	$250.00	$15,750.00	29	$7,250.00	$8,500.00
13	Marsh Settlement Plates	EA	5	$1,000.00	$5,000.00	5	$5,000.00	$0.00
15	Hydraulic Dredging	CY	422,361	$4.25	$1,795,034.25	86,214	$366,409.50	$1,428,624.75
20	R650 Corp Class Rock	Tons	30,000	$49.50	$1,485,000.00	238	$11,781.00	$1,473,219.00
						TOTAL:	$591,103.75	

RECEIVED
MAY 08 2007

FIELD ORDER NO. 1 THROUGH NO. 3

FIELD ORDER NO. 1

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:
January 25, 2006

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:
Pine Bluff Sand and Gravel Company
PO Box 7008
Pine Bluff, Ark. 71611-7008

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
116478

You are directed to make the following changes in the Contract Documents.

Description:

Replace existing rock quantities, cross sections and alignment with the attached as per Shaw Coastal's correspondence dated January 3, 2006. The rock quantity will be evaluated per linear foot after a portion of the rock dike is constructed and then a change order will be initiated for the quantity if it exceeds the current contract amount.

Purpose of Field Order:

As per the specifications the contractor has submitted a revised alignment based on his surveys and that alignment has been reviewed and accepted.

RECEIVED
AUG 31 2006

This Field Order does not constitute a change in Contract Time and/or Contract Cost.

RECOMMENDED:
By: _____ SCI
Date: 1/25/05

APPROVED:
By: _____ LDNR
Date: 8/31/06

APPROVED:
By: _____ CONTRACTOR
Date: 8/25/06

Shaw® Shaw Coastal, Inc.

197 Elysian Drive
Houma, LA 70363
Toll Free: 888.230.2332
Office: 985.868.3434
Fax: 985.868.8513

January 3, 2006

Pine Bluff Sand & Gravel Company
Post Office Box 7008
Alexandria, Louisiana 71611-7008

Attention: **Mark Lemoine, Project Engineer**

Subject: **Shop Drawing Submittal**

Reference: **Louisiana Department of Natural Resources**
Little Lake Shore Protection and Marsh Creation (BA–37)
SCI Project No. 116478

Dear Mr. Lemoine:
Attached please find one (1) copy of your approval request dated December 19, 2005 for the above referenced project, which was reviewed by Shaw Coastal, Inc. (SCI).

The status of the submittal is as follows:

LEGEND

NE = No Exception Taken	RR = Rejected Resubmit
MC = Make Correction Noted	P = Pending
AS = Amend and Resubmit	

ITEM NO.	ITEM	STATUS	REMARKS
1.	Panel sizes for geotextile fabric	NE	NONE

After speaking with PBSG and reviewing the T. Baker Smith submittal, dated December 12 and 19, 2005, it appears the fabric widths are correct. The contractor is responsible for the placement of the fabric and no widths above three feet will be allowed outside the toe of the rock dike. No payment will be made for material outside of the maximum three foot edge overlap. Please refer to the specifications regarding the fabric.

If you have any questions or comments, please contact me at 985-868-3434.

Sincerely,

SHAW COASTAL, INC.

Jeffery M. Peña, P.E.
Project Manager
JMP:jmp
Attachment
cc: Daniel Dearmond – DNR
Oscar F. Peña, Sr. Vice-President – SCI

Pine Bluff Sand & Gravel Company
W. SCOTT McGEORGE, PRES.
RIVER CONTRACTORS
REVETMENTS DREDGING PILE DIKES
POST OFFICE BOX 7008
PINE BLUFF, ARK. 71611-7008

December 19, 2005

Mr. Jeffery M. Pena, P.E.
Shaw Coastal, Inc.
197 Elysian Drive
Houma, LA 70363

RE: Little Lake Shoreline Protection
& Marsh Creation Project
BA-37, Dept. of Natural Resources
LaFourche Parish, LA

Dear Sir:

Attached you will find our quantity calculations for the required 23 fish dips on the referenced project. We estimate construction of the fish dips will require 7,840.40 tons of rock.

Therefore, we anticipate the total quantity of rock required to construct the shoreline protection structure will be 167,006.56 tons.

If additional information is needed, please advise.

Sincerely,

PINE BLUFF SAND & GRAVEL COMPANY

Mark Lemoine, Project Engineer
River Operations

DEC 2 1 2005

T. BAKER SMITH, INC.
PROFESSIONAL CONSULTANTS SINCE 1913

412 South Van Avenue Houma, Louisiana 70363 • Post Office Box 2266 Houma, Louisiana 70361
Main Line: (985) 868-1050 • Toll Free: 1 (866) 357-1050 • Fax: (985) 868-5843 • Online: www.tbsmith.com

December 13, 2005

Mr. Mark Lemoine
Pine Bluff Sand & Gravel Company
P. O. Box 8672
Alexandria, LA 71306

Dear Mark:

RE: **Rock Dike Alignment**

In reference to the recent submittal drawings for the rock dike alignment, the total rock quantity included 114,458.90 tons with an additional tonnage of 44,707.26 for settlement. The total rock quantity of 159,166.16 tons did not include any rock for the Fish Dips as referenced in the DNR contract drawings. The estimated quantity for the Fish Dips is 7,840.40 tons, and the calculations are included in the attached table.

If you have any questions or require any additional information, please contact me at 868-1050.

Sincerely,

T. BAKER SMITH, INC.

David B. Rabalais
Construction Project Manager

DBR/pdb

Encl.

Cc: Mr. Jeff Pena – Shaw Coastal

2005.1460t4

Fish Dip Quantity Calculation
for the
Little Lake Shoreline Protection and Marsh Creation

Segment	Distance Between Segments	Levee Width @ Fish Dip
1		
	48.4	29.9
2		
	41.5	30.9
3		
	35.1	32.6
4		
	40.4	30.7
5		
	40	32.4
6		
	40	34
7		
	40.7	26.8
8		
	44.7	33.3
9		
	29	32.8
10		
	34.6	35.3
11		
	35.4	31.4
12		
	28.5	32
13		
	50	33.9
14		
	22.5	33.2
15		
	39.9	33.7
16		
	39.8	31.1
17		
	39.2	30.7
18		
	36.2	29.4
19		
	45.2	31
20		
	44.2	30.3
21		
	35.1	30.4
22		
	36.74	31.8
23		
	38.1	30.9
24		
Avg.	38.5	31.7

Fish Dip Width	52
Fish Dip Length	59
Fish Dip Depth	2
Fish Dip Volume (C.Y.)	227.3
No. of Fish Dips	23
Total Fish Dip Volume (C.Y.)	5,227.0
Total Fish Dip Weight (Tons)	7,840.4

Pine Bluff Sand & Gravel Co.
W. SCOTT McGEORGE, PRES.
RIVER CONTRACTORS
REVETMENTS DREDGING PILE DIKES
POST OFFICE BOX 7008
PINE BLUFF, ARK. 71611-7008

April 6, 2007

Mr. Jeffery M. Pena, P.E.
Shaw Coastal, Inc.
197 Elysian Drive
Houma, LA 70363

Re: Little Lake Shoreline Protection & Marsh Creation Project
BA-37, Dept. of Natural Resources
LaFourche Parish, LA

Dear Jeff:

Transmitted herewith are revised as-built data and drawings for the referenced project. The revised set of drawings has a total of 16 sheets to provide space for proper scale of sections at Stations 76+33 and 76+74.

Additionally, Stations 169+55, 174+68, 179+64, 184+55, 189+58, 194+47, 19+31, 205+02, 209+42, 214+39, 219+53, 224+47, and 226+95 were replotted to the proper scale.

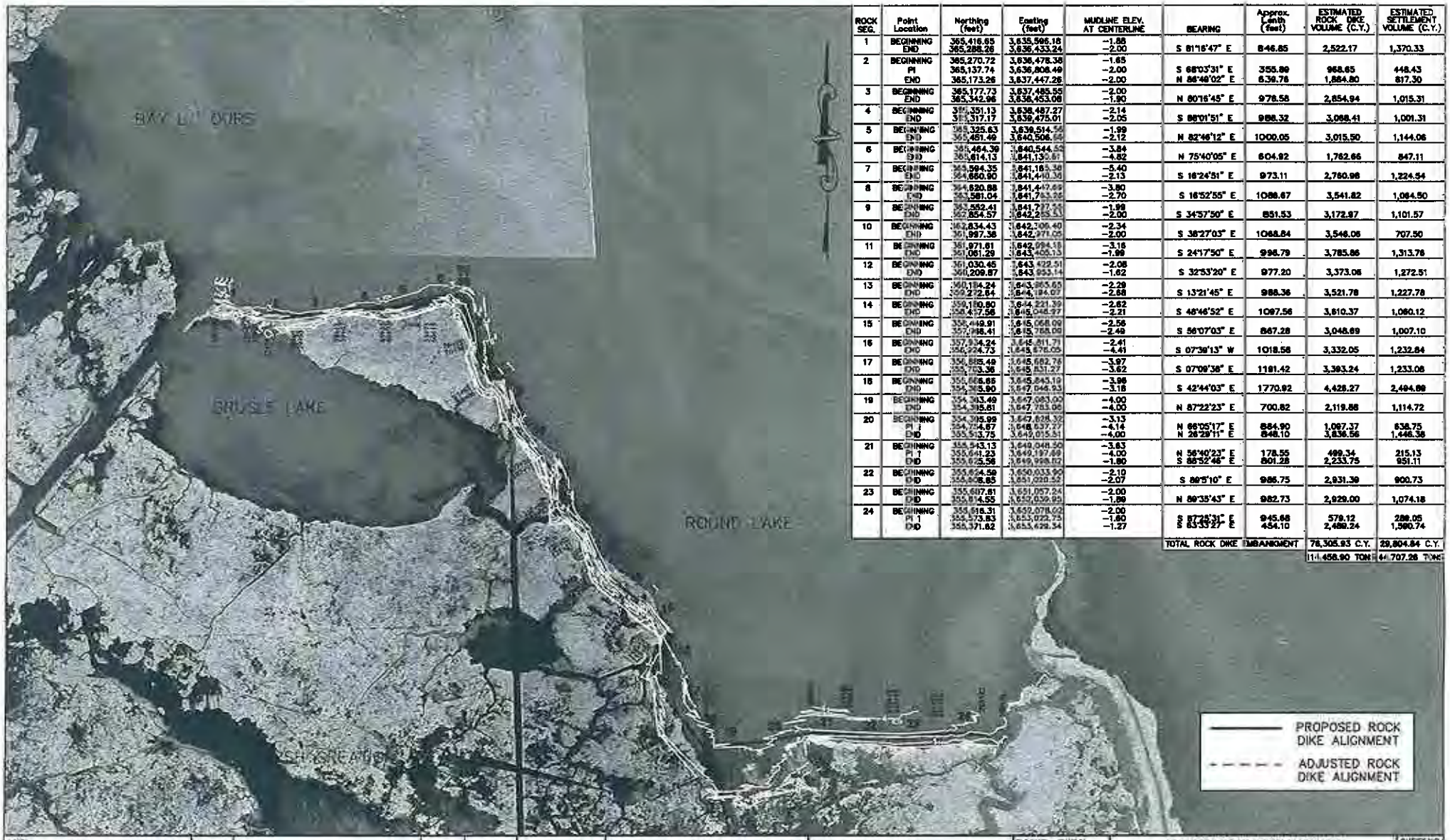
Also enclosed are corresponding point files for the borrow area (before and after), access channels, rock dike, and 3rd lift rock dike.

Sincerely,

Pine Bluff Sand & Gravel Company

Ronald M. Madden, P.E., PLS

Cc: Mr. Mark Lemoine



ROCK SEG.	Point Location	Northing (feet)	Easting (feet)	MUDLINE ELEV. AT CENTERLINE	BEARING	Approx. Length (feet)	ESTIMATED ROCK DIKE VOLUME (C.Y.)	ESTIMATED SETTLEMENT VOLUME (C.Y.)
1	BEGINNING	365,416.65	3,635,596.18	-1.85				
	END	365,288.26	3,636,433.24	-2.00	S 81°16'47" E	846.85	2,522.17	1,370.33
2	BEGINNING	365,270.72	3,636,478.38	-1.65				
	PI	365,137.74	3,636,808.49	-2.00	S 68°03'31" E	355.89	968.65	448.43
	END	365,173.26	3,637,447.26	-2.00	N 86°49'02" E	639.78	1,884.80	817.30
3	BEGINNING	365,177.73	3,637,485.55	-2.00				
	END	365,342.96	3,638,453.06	-1.90	N 80°16'45" E	976.58	2,854.94	1,015.31
4	BEGINNING	365,351.13	3,638,487.27	-2.14				
	END	365,317.17	3,639,475.01	-2.05	S 88°01'51" E	988.32	3,068.41	1,001.31
5	BEGINNING	365,325.63	3,639,514.56	-1.99				
	END	365,451.49	3,640,506.66	-2.12	N 82°46'12" E	1000.05	3,015.50	1,144.06
6	BEGINNING	365,464.39	3,640,544.52	-3.84				
	END	365,614.13	3,641,130.81	-4.82	N 75°40'05" E	604.92	1,762.66	847.11
7	BEGINNING	363,594.35	3,641,165.36	-5.40				
	END	364,660.90	3,641,440.36	-2.13	S 16°24'51" E	973.11	2,760.98	1,224.54
8	BEGINNING	364,620.88	3,641,447.69	-3.80				
	END	363,581.04	3,641,733.06	-2.70	S 16°52'55" E	1088.67	3,541.82	1,084.50
9	BEGINNING	363,552.41	3,641,727.14	-1.99				
	END	362,854.57	3,642,255.53	-2.00	S 34°57'50" E	851.53	3,172.97	1,101.57
10	BEGINNING	362,834.43	3,642,306.40	-2.34				
	END	361,997.36	3,642,971.05	-2.00	S 36°27'03" E	1068.84	3,546.06	707.50
11	BEGINNING	361,971.61	3,642,994.18	-3.16				
	END	361,081.29	3,643,405.13	-1.99	S 24°17'50" E	998.79	3,785.86	1,313.76
12	BEGINNING	361,030.45	3,643,422.51	-2.08				
	END	360,209.87	3,643,953.14	-1.62	S 32°53'20" E	977.20	3,373.06	1,272.51
13	BEGINNING	360,184.24	3,643,965.65	-2.29				
	END	359,272.64	3,644,184.07	-2.68	S 13°21'45" E	988.36	3,521.78	1,227.78
14	BEGINNING	359,180.80	3,644,221.39	-2.62				
	END	358,417.56	3,645,048.97	-2.21	S 48°46'52" E	1097.56	3,810.37	1,080.12
15	BEGINNING	358,449.91	3,645,068.09	-2.56				
	END	357,798.41	3,645,768.09	-2.49	S 56°07'03" E	867.28	3,048.69	1,007.10
16	BEGINNING	357,934.24	3,645,811.71	-2.41				
	END	356,924.73	3,646,676.05	-4.41	S 07°39'13" W	1018.56	3,332.05	1,232.84
17	BEGINNING	356,885.49	3,646,682.78	-3.97				
	END	355,703.36	3,646,831.27	-3.62	S 07°09'38" E	1191.42	3,393.24	1,233.08
18	BEGINNING	355,686.85	3,646,845.19	-3.98				
	END	354,365.90	3,647,946.93	-3.18	S 42°44'03" E	1770.92	4,428.27	2,494.89
19	BEGINNING	354,343.49	3,647,983.02	-4.00				
	END	354,315.61	3,647,783.06	-4.00	N 87°22'23" E	700.82	2,119.88	1,114.72
20	BEGINNING	354,395.99	3,647,828.32	-3.13				
	PI	354,754.67	3,648,637.27	-4.14	N 66°05'17" E	884.90	1,097.37	636.75
	END	355,513.75	3,649,015.51	-4.00	N 26°29'11" E	848.10	3,836.56	1,446.38
21	BEGINNING	355,543.13	3,649,048.50	-3.83				
	PI 1	355,641.23	3,649,197.89	-4.00	N 56°40'23" E	178.55	499.34	215.13
	END	355,675.58	3,649,358.82	-1.80	S 88°52'46" E	801.28	2,233.75	951.11
22	BEGINNING	355,654.58	3,650,033.90	-2.10				
	END	355,636.85	3,651,020.53	-2.07	S 89°5'10" E	986.75	2,931.39	900.73
23	BEGINNING	355,607.81	3,651,057.24	-2.00				
	END	355,614.55	3,652,039.89	-1.89	N 89°35'43" E	982.73	2,929.00	1,074.18
24	BEGINNING	355,616.31	3,652,078.60	-2.00				
	PI 1	355,573.83	3,653,022.75	-1.80	S 87°25'31" E	945.68	578.12	286.05
	END	355,571.82	3,653,429.34	-1.27	S 83°37'27" E	454.10	2,489.24	1,390.74
					TOTAL ROCK DIKE EMBANKMENT		76,305.93 C.Y.	29,804.84 C.Y.
							114,458.90 TON	44,707.26 TON

NOTES:

11/13/20	REVISED PLAN VIEW	BTB	AJT
DATE	REVISIONS	DRAWN BY	APPROVED BY

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(501) 868-1000 www.tbsmith.com

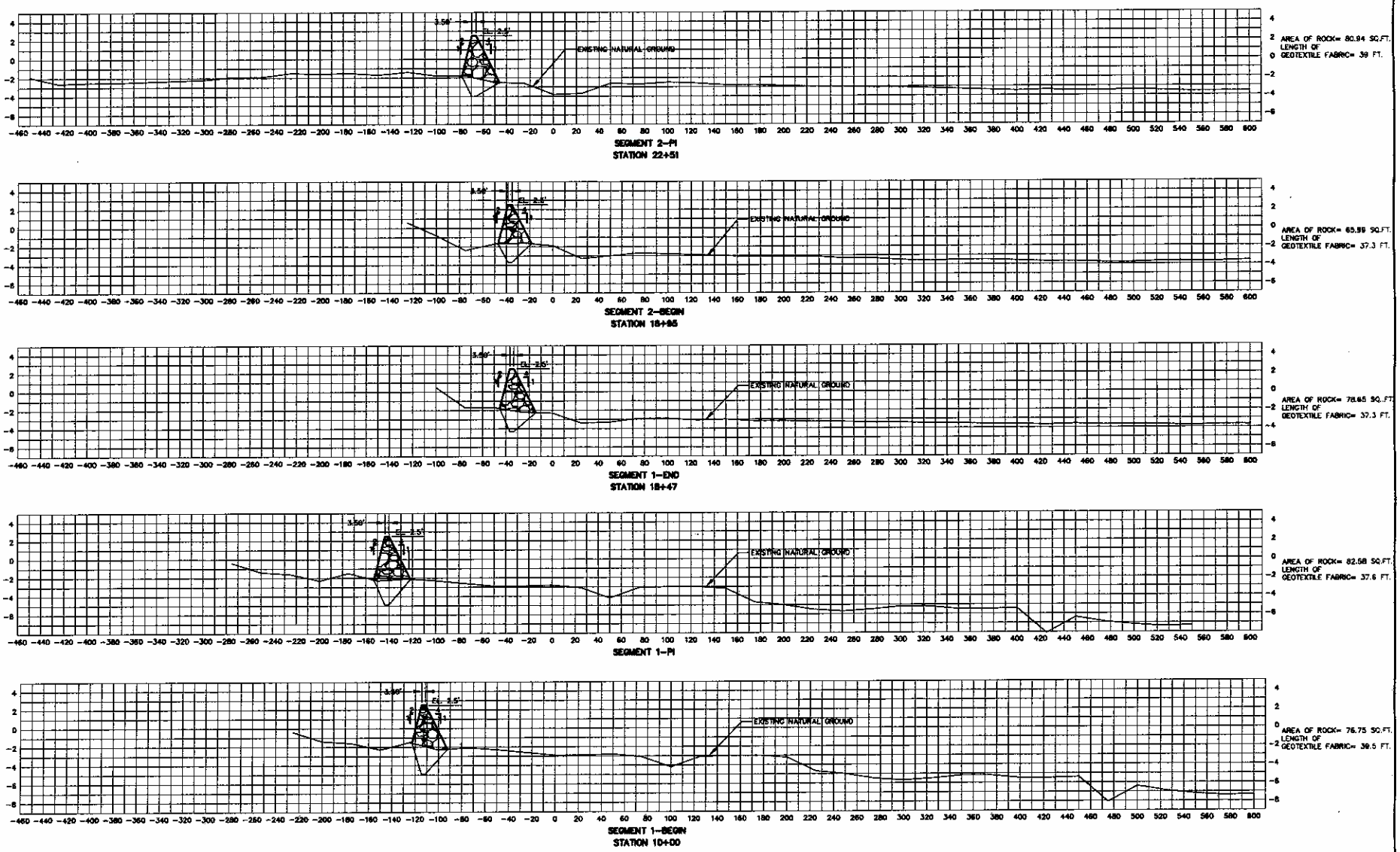
SCALE IN FEET
2,000 1,000 0 2,000

FILE NAME:	60-1180-P1
TBS NO.:	2060-1180
DATE:	10/29/20
PLOT SCALE:	1/1
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

ADJUSTED ROCK DOCK ALIGNMENT
PLAN VIEW

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO.
1
OF
15



NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/95	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

TBS T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1915
(800) 268-1000 www.tbsmith.com

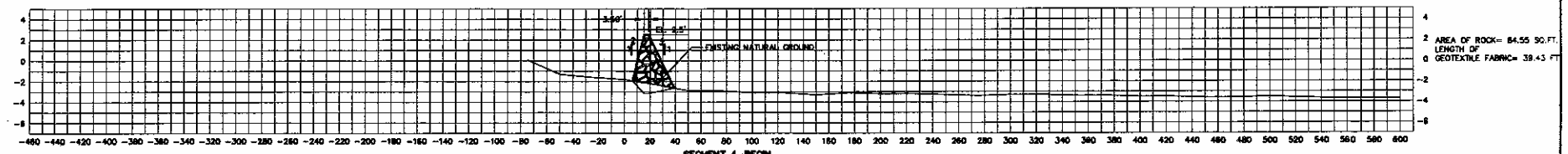
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	951400K1
TBS NO.:	2005.1400
DATE:	08/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

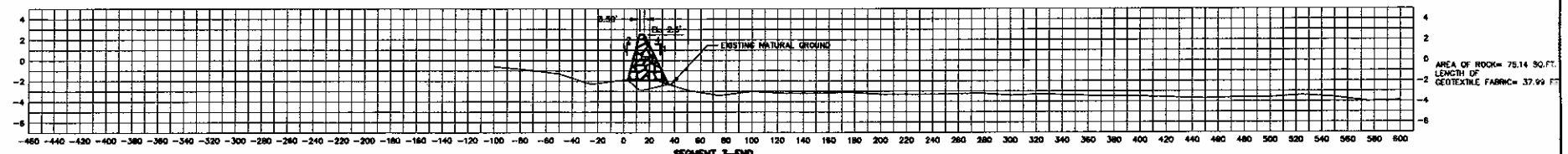
ROCK DIKE CROSS SECTIONS
SEGMENTS 1 BEGIN - 2 PI

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

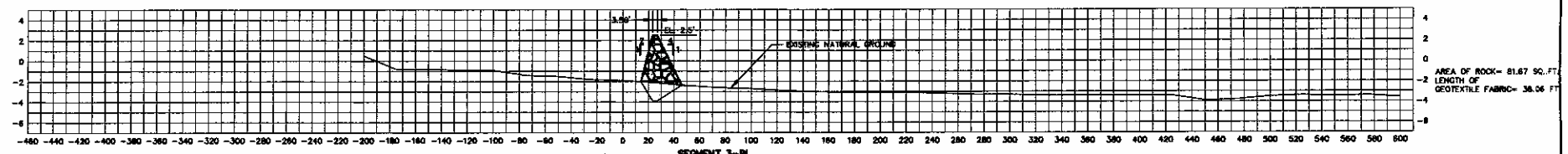
SHEET NO. 2 OF 15



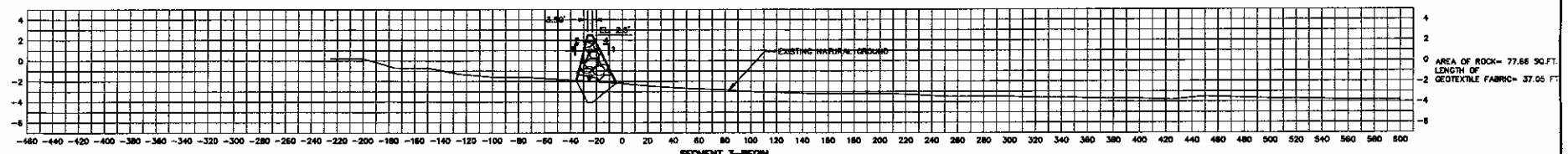
SEGMENT 4—BEGIN
STATION 39+47



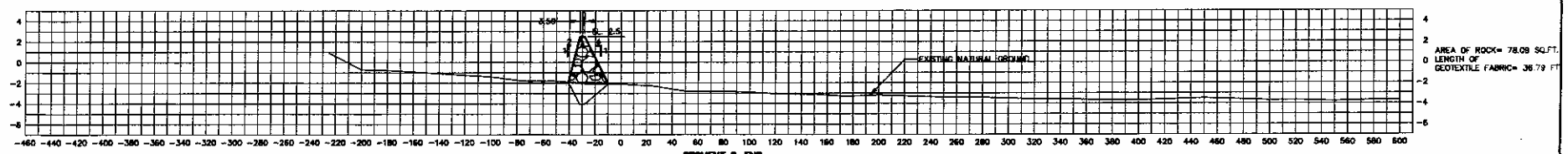
SEGMENT 3—END
STATION 39+12



SEGMENT 3—PI



SEGMENT 3—BEGIN
STATION 29+33



SEGMENT 2—END
STATION 28+91

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/05	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1943
(800) 555-1500 www.tbsmith.com

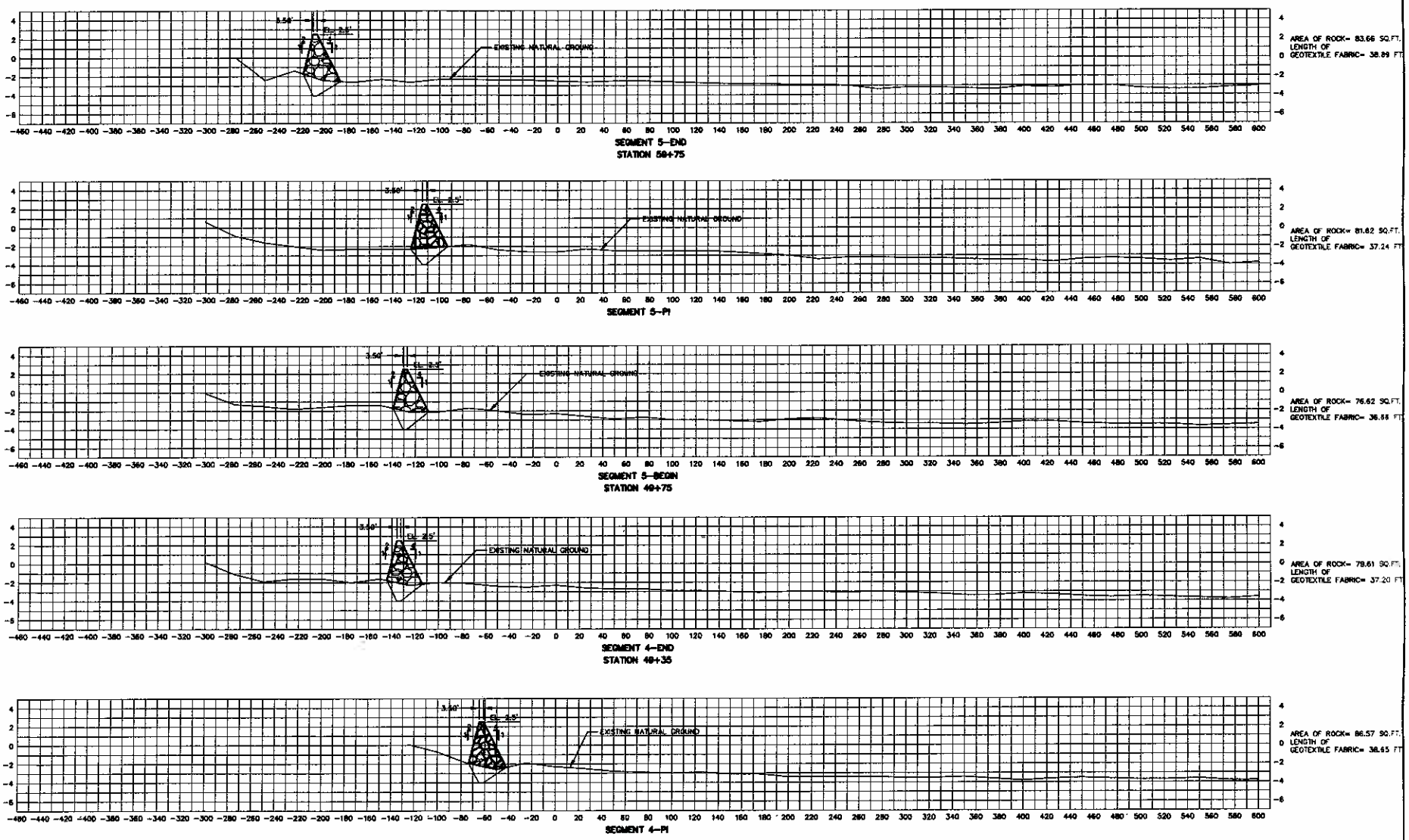
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	05140MX2
TBS NO.:	2005.1400
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

ROCK DIKE CROSS SECTIONS
SEGMENTS 2 END - 4 BEGIN

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO.
3
OF
15



NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/13/05	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1914
(800) 800-1000 www.tbsmith.com

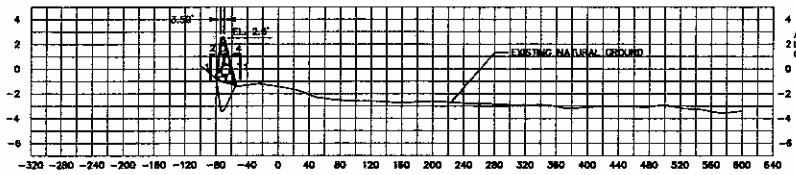
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	96140003
TBS NO.:	2000.1400
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

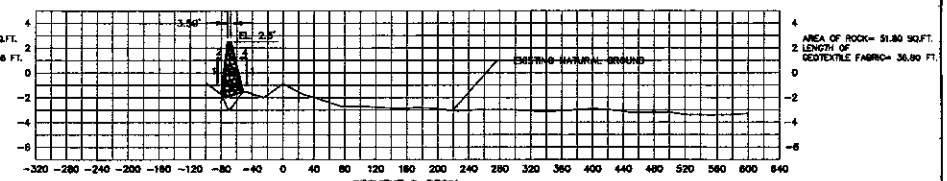
ROCK DIKE CROSS SECTIONS
SEGMENTS 4 PI - 5 END

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

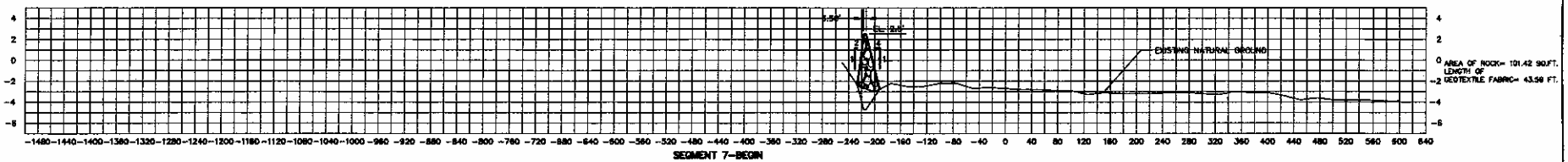
SHEET NO. 4 OF 15



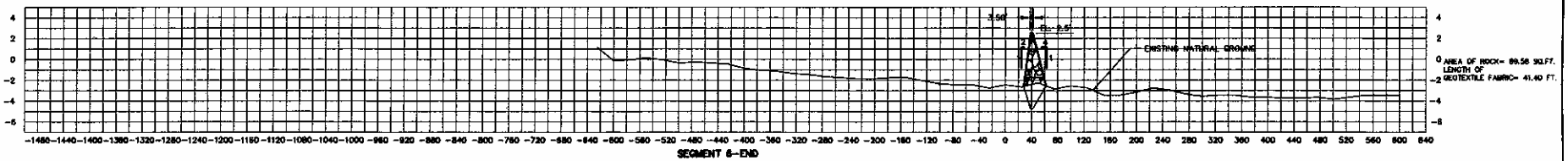
SEGMENT 7-END
STAION 76+33



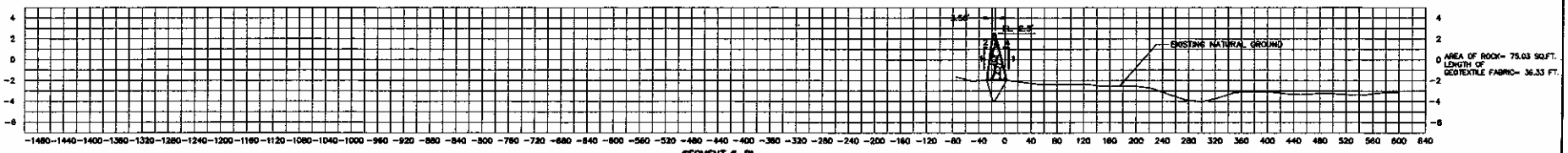
SEGMENT 8-BEGIN
STATION 76+74



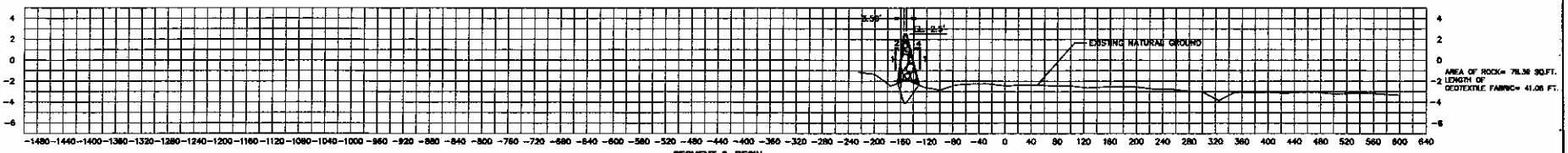
SEGMENT 7-BEGIN
STATION 66+60



SEGMENT 6-END
STATION 66+20



SEGMENT 6-PI



SEGMENT 6-BEGIN
STATION 60+15

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/06	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1912
(800) 666-1886 www.tbsmith.com

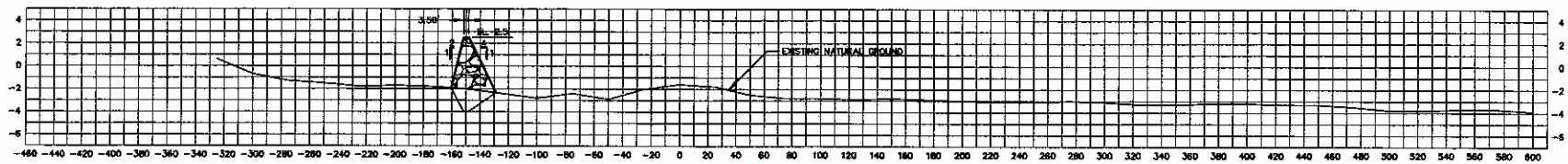
SCALE: HORIZ 1"=80'
VERT 1"=5'

FILE NAME:	[illegible]
TBS NO.:	2005-1408
DATE:	[illegible]
PLOT SCALE:	[illegible]
DRAWN BY:	ADF
APPROVED:	APPROVED
MAP NO.	

ROCK DIKE CROSS SECTIONS
SEGMENTS 6 BEGIN - 8 BEGIN

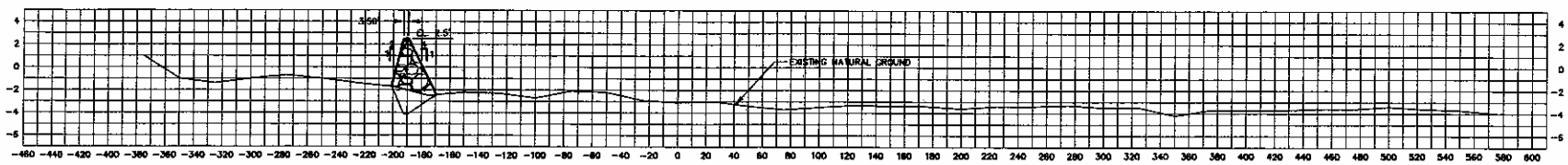
LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO.
5
OF
15



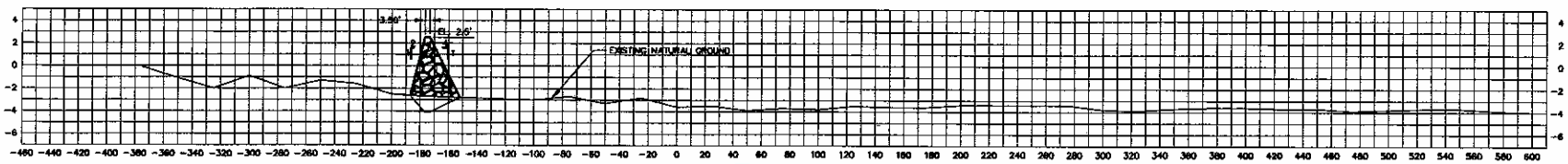
AREA OF ROCK= 79.38 SQ.FT.
LENGTH OF GEOTEXTILE FABRIC= 37.87 FT

SEGMENT 9-END
STATION 96+58



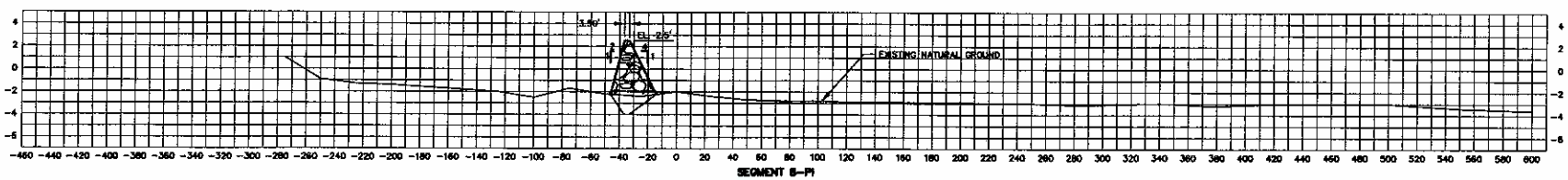
AREA OF ROCK= 80.74 SQ.FT.
LENGTH OF GEOTEXTILE FABRIC= 38.45 FT

SEGMENT 9-BEGIN
STATION 88+06



AREA OF ROCK= 99.77 SQ.FT.
LENGTH OF GEOTEXTILE FABRIC= 40.91 FT

SEGMENT 8-END
STATION 87+61



AREA OF ROCK= 86.38 SQ.FT.
LENGTH OF GEOTEXTILE FABRIC= 38.01 FT

SEGMENT 8-PI

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/05	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1919
(800) 368-1050 www.tbsmith.com

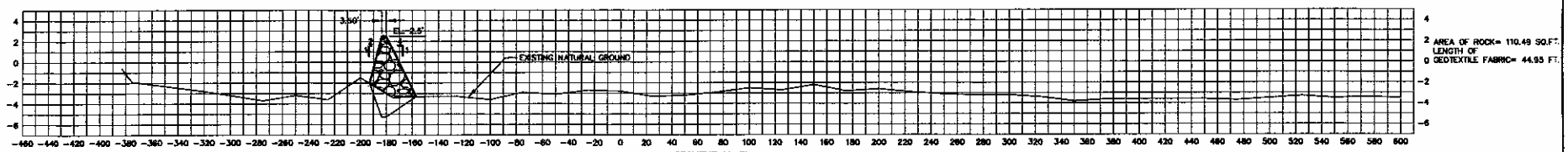
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	061400K5
TBS NO.:	2005.1400
DATE:	08/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

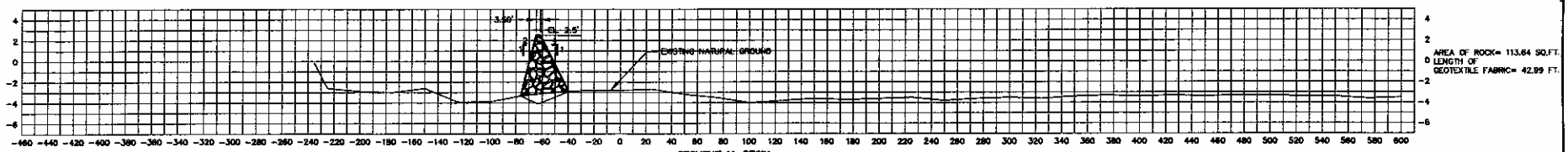
ROCK DIKE CROSS SECTIONS
SEGMENTS 8 PI - 9 END

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

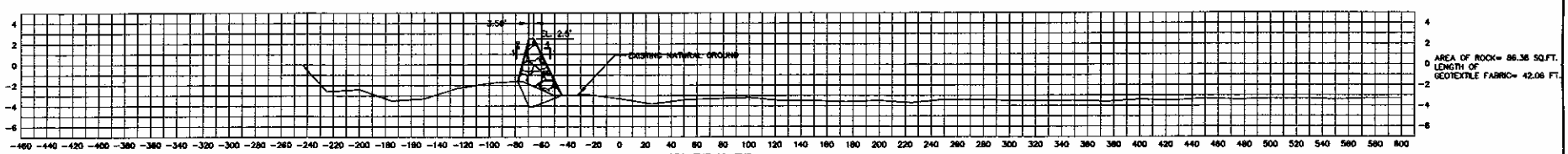
SHEET NO. 6 OF 15



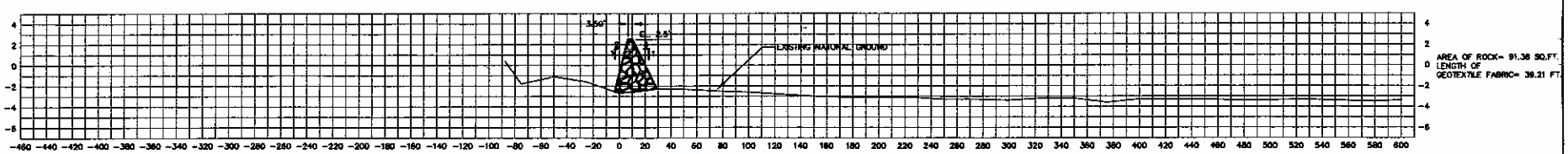
SEGMENT 11-PI



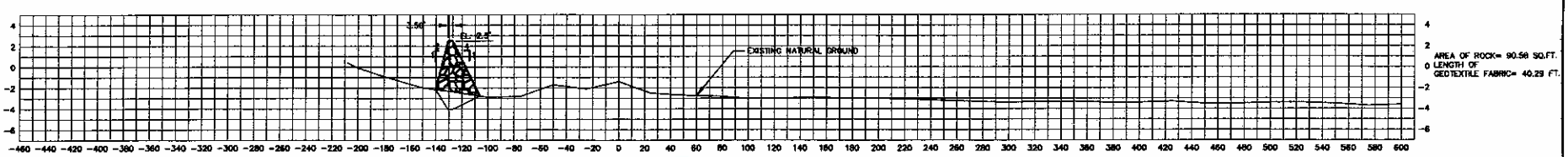
SEGMENT 11-BEGIN
STATION 107+91



SEGMENT 10-END
STATION 107+56



SEGMENT 10-PI



SEGMENT 10-BEGIN
STATION 96+87

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/05	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1933
(985) 868-1050 www.tbsmith.com

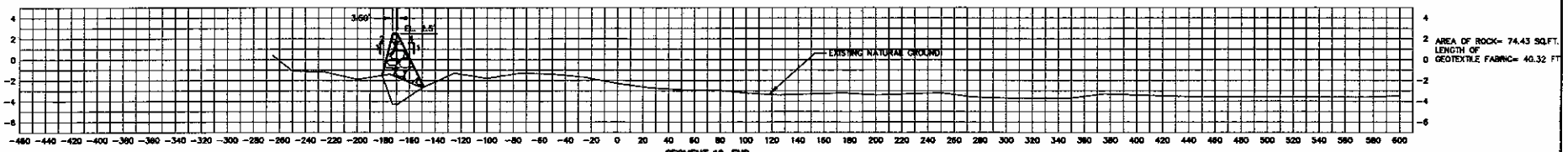
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	05140005
TBS NO.:	2005.1400
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

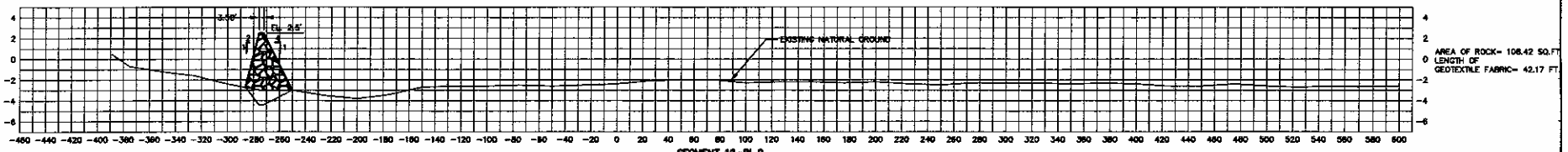
ROCK DIKE CROSS SECTIONS
SEGMENTS 10 BEGIN - 11 PI

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

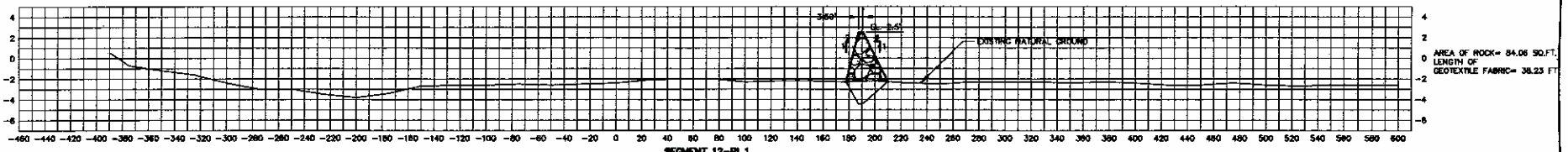
SHEET NO.
7
OF
15



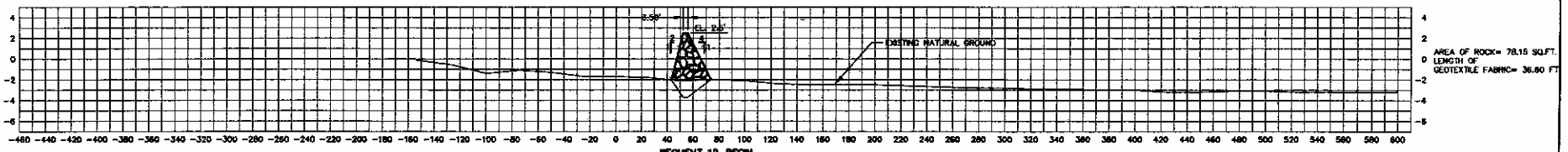
SEGMENT 12-END
STATION 126+02



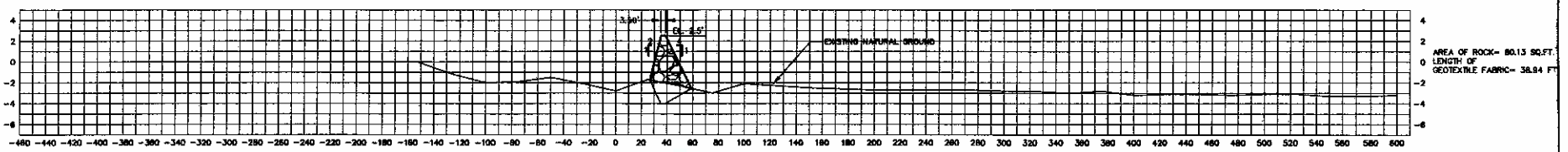
SEGMENT 12-PI 2



SEGMENT 12-PI 1



SEGMENT 12-BEGIN
STATION 118+25



SEGMENT 11-END
STATION 117+90

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/13/06	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1952
(800) 880-1000 www.tbsmith.com

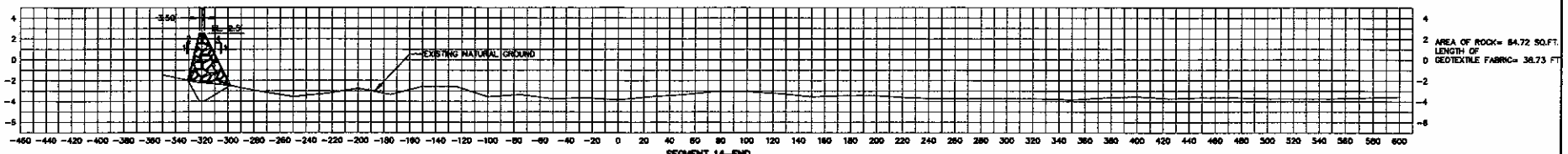
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	051400K7
TBS NO.:	2006.1400
DATE:	08/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

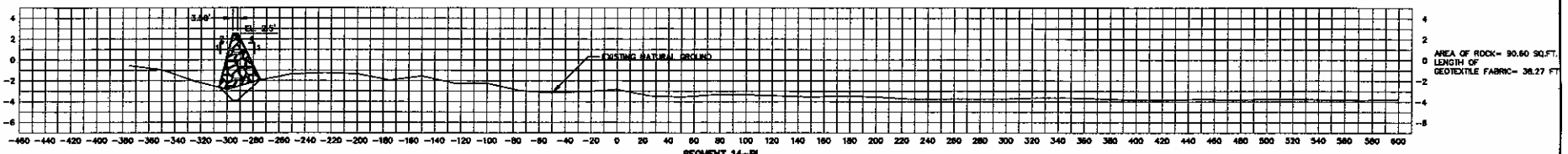
ROCK DIKE CROSS SECTIONS
SEGMENTS 11 END - 12 END

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

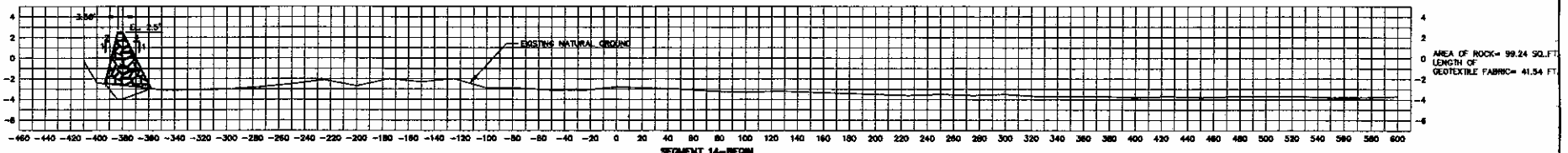
SHEET NO. 8 OF 15



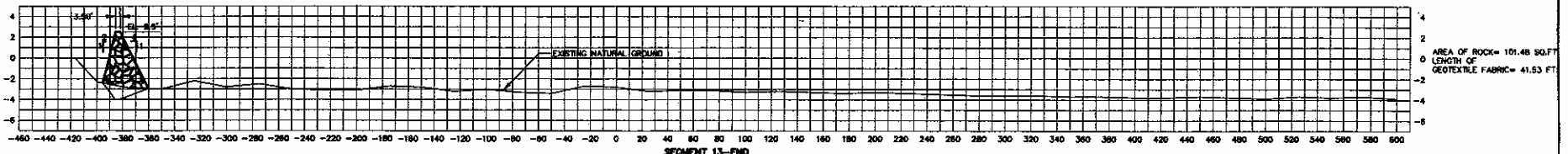
SEGMENT 14–END
STATION 149+67



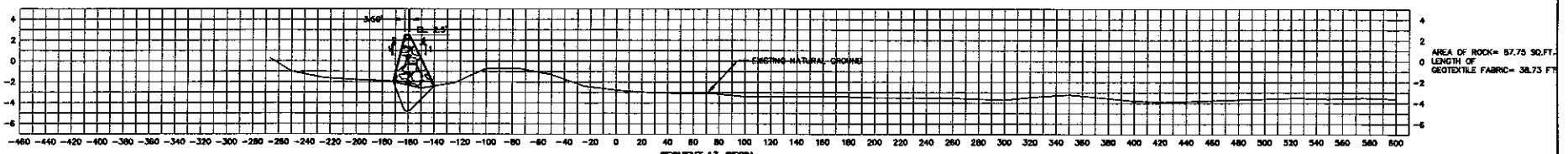
SEGMENT 14–PI



SEGMENT 14–BEGIN
STATION 138+69



SEGMENT 13–END
STATION 138+19



SEGMENT 13–BEGIN
STATION 128+31

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/05	REVISED CROSS SECTIONS	STS	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1975

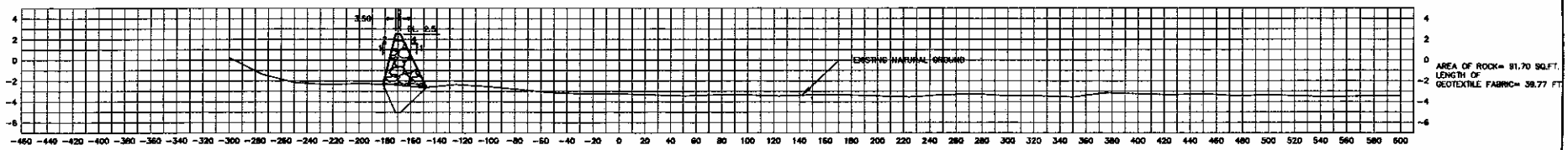
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	[illegible]
TBS NO.:	[illegible]
DATE:	[illegible]
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

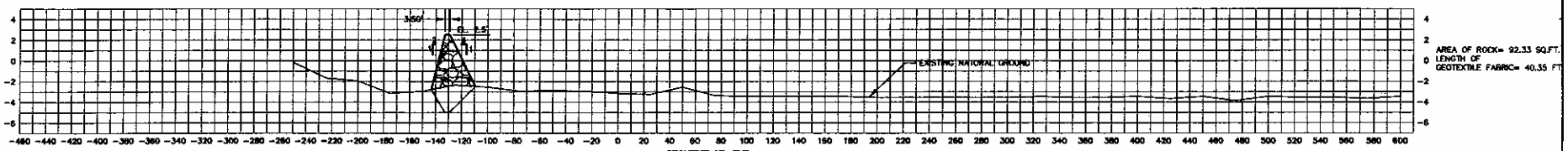
ROCK DIKE CROSS SECTIONS
SEGMENTS 13 BEG - 14 END

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

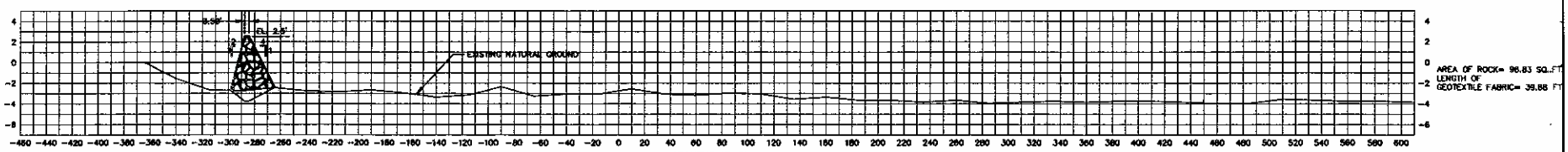
SHEET NO. 9 OF 15



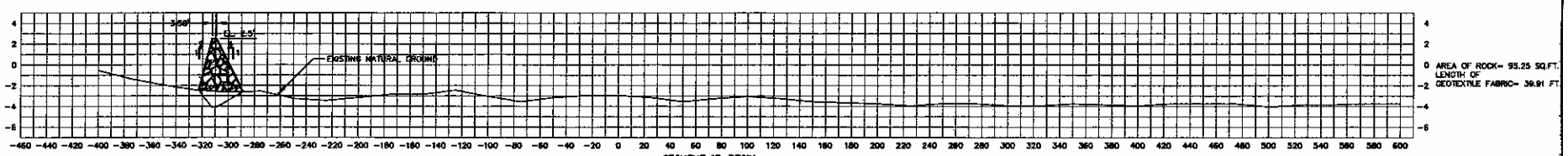
SEGMENT 16–BEGIN
STATION 156+95



SEGMENT 15–END
STATION 156+56



SEGMENT 15–PI



SEGMENT 15–BEGIN
STATION 149+89

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/05	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1919
(800) 860-1000 www.tbsmith.com

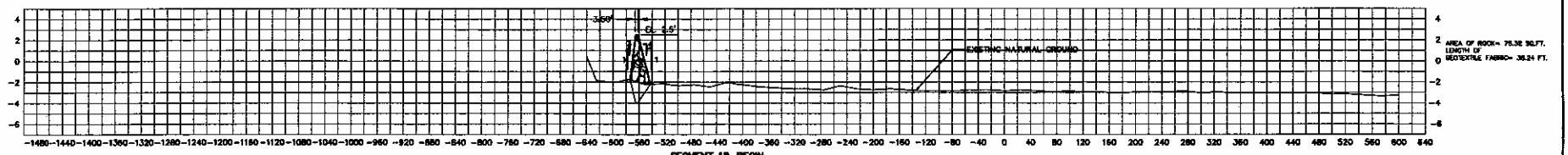
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	[illegible]
TBS NO.:	[illegible]
DATE:	[illegible]
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

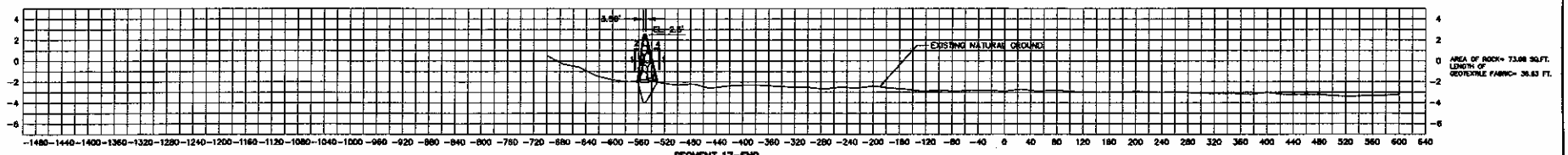
ROCK DIKE CROSS SECTIONS
SEGMENTS 15 BEGIN - 16 BEGIN

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

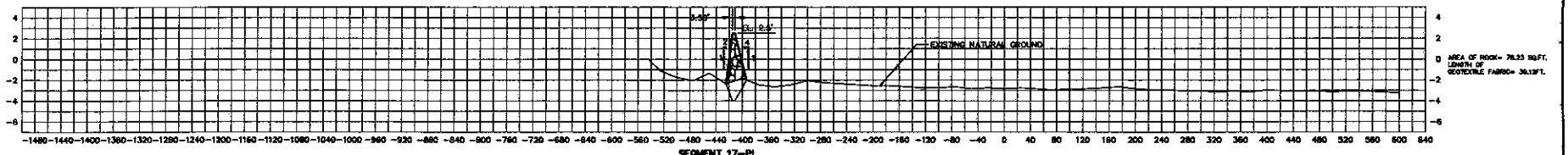
SHEET NO.
10
OF
15



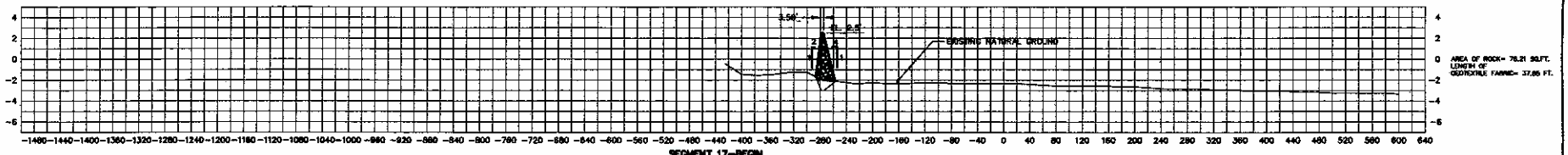
SEGMENT 18–BEGIN
STATION 181+86



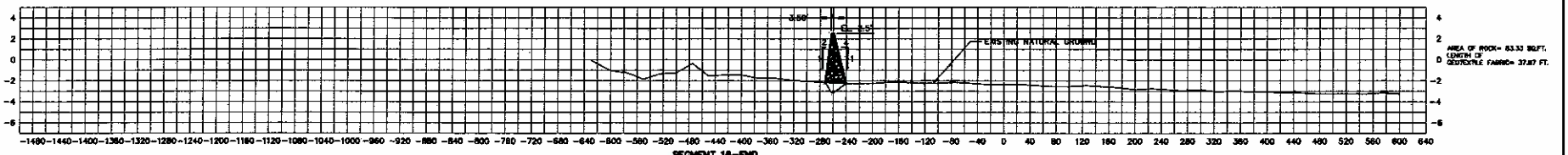
SEGMENT 17–END
STATION 181+46



SEGMENT 17–PI



SEGMENT 17–BEGIN
STATION 189+55



SEGMENT 16–END
STATION 189+15

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/05	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(800) 880-1000 www.tbsmith.com

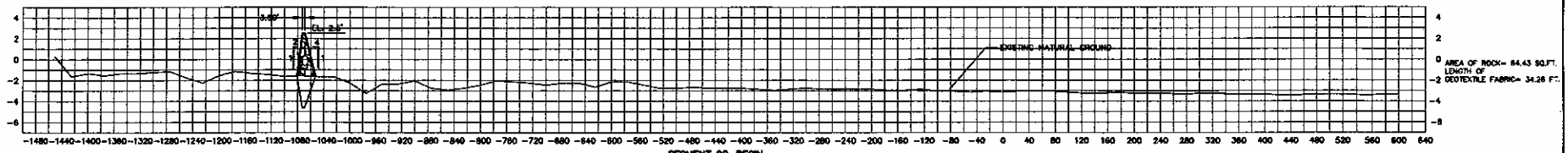
SCALE: HORIZ 1"=80'
VERT 1"=5'

FILE NAME:	051400x15
TBS NO.:	2005-1400
DATE:	08/01/2005
PLOT SCALE:	50
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

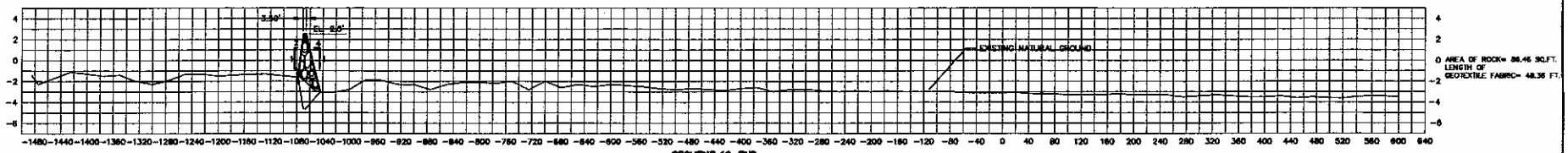
ROCK DIKE CROSS SECTIONS
SEGMENTS 16 END - 18 BEGIN

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

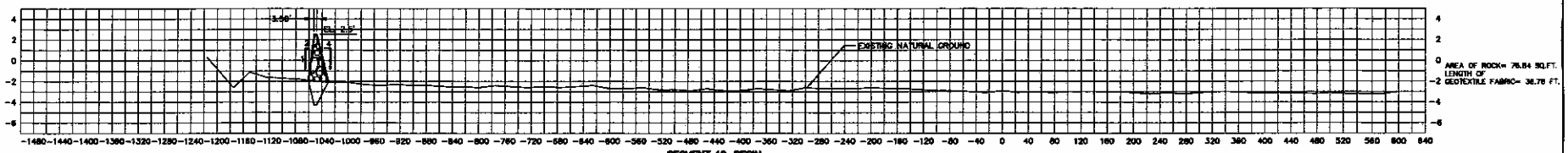
SHEET NO.
11
OF
15



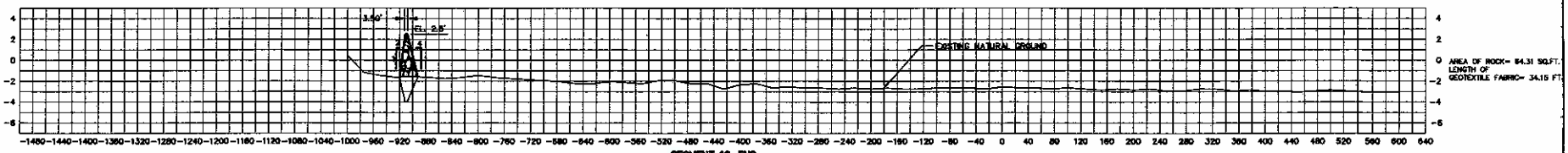
SEGMENT 20-BEGIN
STATION 207+39



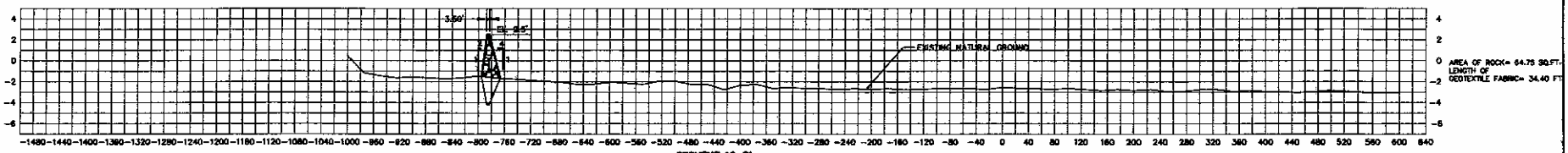
SEGMENT 19-END
STATION 208+94



SEGMENT 19-BEGIN
STATION 199+93



SEGMENT 18-END
STATION 199+57



SEGMENT 18-PI

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/06	REVISED CROSS SECTIONS	STS	PJT

REVISIONS

TBS T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1918
(800) 666-1950 www.tbsmith.com

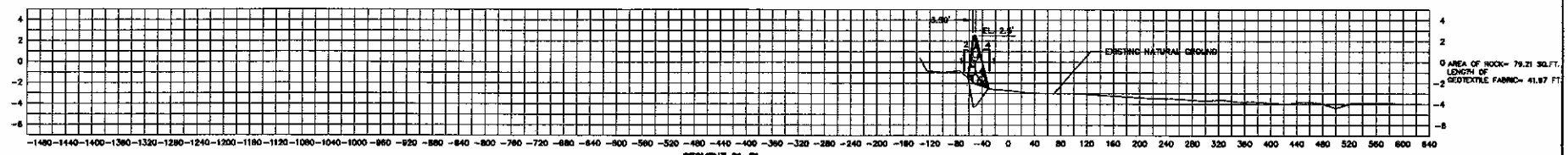
SCALE: HORIZ 1"=80'
VERT 1"=5'

FILE NAME:	951400x11
TBS NO.:	2006-1400
DATE:	08/01/2006
PLOT SCALE:	80
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

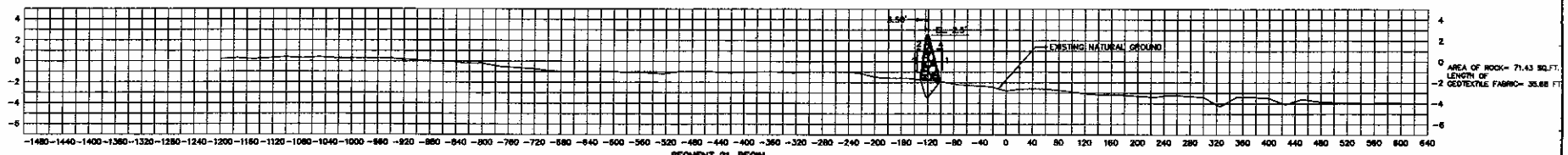
ROCK DIKE CROSS SECTIONS
SEGMENTS 18 PI - 20 BEGIN

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

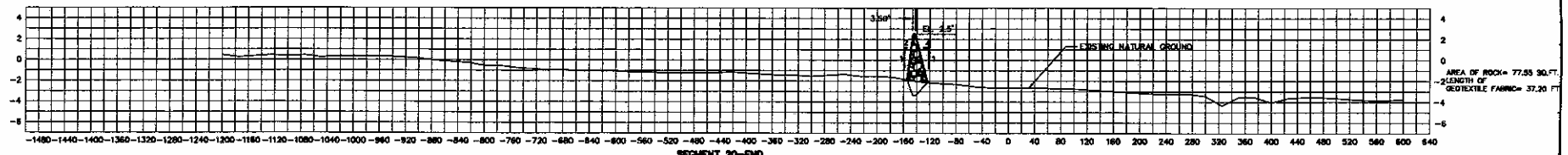
SHEET NO. 12 OF 15



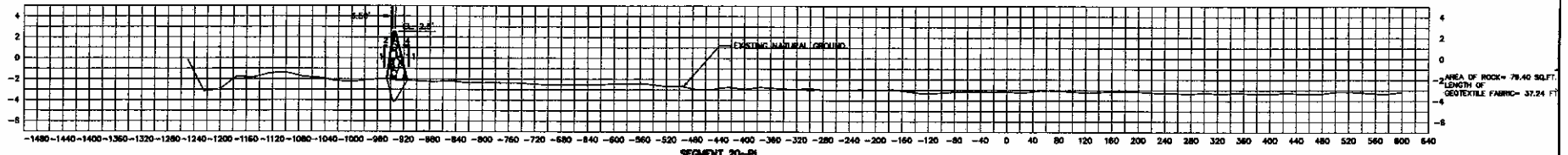
SEGMENT 21-PI
STATION 226+95



SEGMENT 21-BEGIN
STATION 225+16



SEGMENT 20-END
STATION 224+72



SEGMENT 20-PI
STATION 216+24

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/95	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1912
(800) 360-1650 www.tbsmith.com

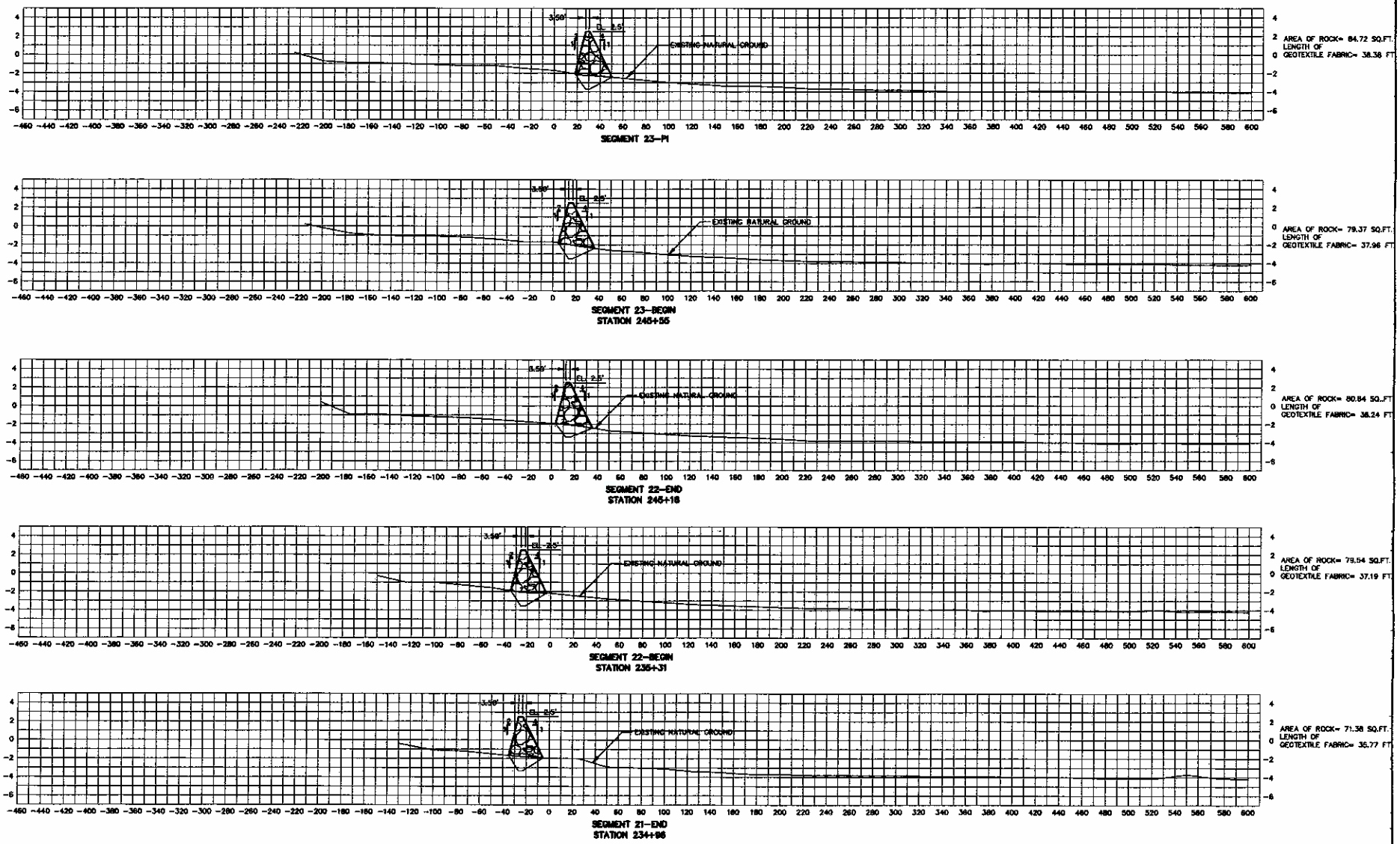
SCALE: HORIZ 1"=80'
VERT 1"=5'

FILE NAME:	951480x12
TBS NO.:	2005-1480
DATE:	09/01/2005
PLOT SCALE:	80
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

ROCK DIKE CROSS SECTIONS
SEGMENTS 20 PI - 21 PI

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO. 13 OF 15



OTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
11/15/05	REVISED CROSS SECTIONS	STB	PJT

REVISIONS

TBS T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1942
(800) 800-1500 www.tbsmith.com

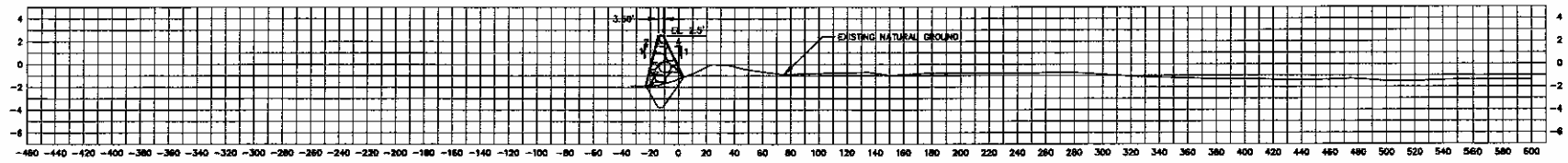
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	[illegible]
TBS NO.:	[illegible]
DATE:	[illegible]
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

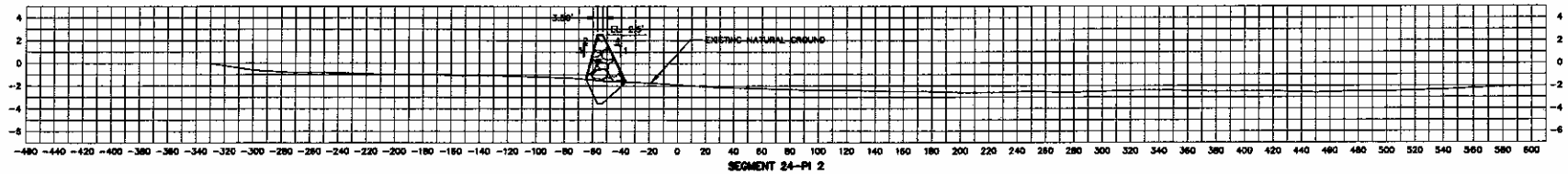
ROCK DIKE CROSS SECTIONS
SEGMENTS 21 END - 23 PI

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

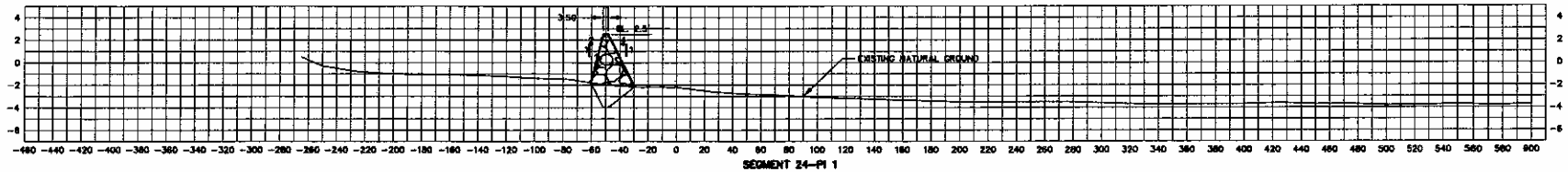
SHEET NO. 14 OF 15



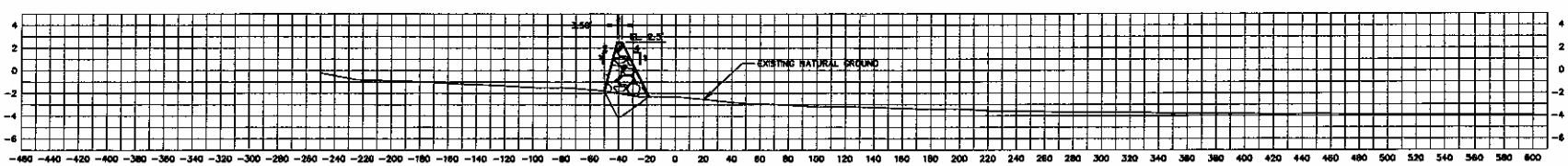
SEGMENT 24-END



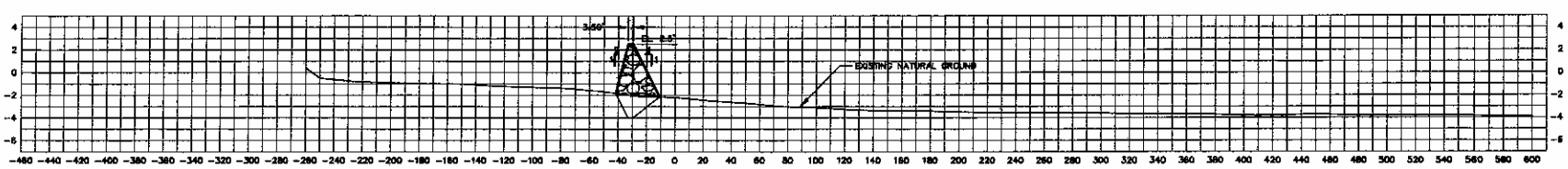
SEGMENT 24-PI 2



SEGMENT 24-PI 1



SEGMENT 24-BEGIN



SEGMENT 23-END

NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1912
(800) 866-1800 www.tbsmith.com

SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	[illegible]
TBS NO.:	[illegible]
DATE:	[illegible]
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	APPROVED
MAP NO.	

ROCK DIKE CROSS SECTIONS
SEGMENTS 23 END - 24 END

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO. 15 OF 15

FIELD ORDER NO. 2

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:
January 26, 2006

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:
Pine Bluff Sand and Gravel Company
PO Box 7008
Pine Bluff, Ark. 71611-7008

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
116478

You are directed to make the following changes in the Contract Documents.

Description:

Containment dike "P EBCL 13" is to be relocated to the northern extent of dike "P EBCL 12" and extend northward along the marsh as directed by the engineer and/or project representative.

Purpose of Field Order:

As shown on drawing sheet 8 of 32 dike P EBCL 13 cannot be constructed in its current location due to access and permitting issues. It is being relocated as descibed above to further protect the no fill zone on the southeastern part of the project.

This Field Order does not constitute a change in Contract Time and/or Contract Cost.

RECOMMENDED:
By: _____ SCI
Date: 1/27/06

APPROVED:
By: Daniel Dearmond LDNR
Date: 2/2.0/06

APPROVED:
By: _____ CONTRACTOR
Date: 2/01/06

K:\116478\Field Orders\FO #2\Field Order No2.xls

FIELD ORDER NO. 3

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:
June 7, 2006

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:
Pine Bluff Sand and Gravel Company
PO Box 7008
Pine Bluff, Ark. 71611-7008

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
116478

You are directed to make the following changes in the Contract Documents.

Description:

See Attached Summary and drawing for Details

Purpose of Field Order:

Clarification of payment methods and increments. Rock payment revisions. Secondary containment dike authorization. Marsh creation in northwest quadrant of project area.

This Field Order does not constitute a change in Contract Time and/or Contract Cost.

RECOMMENDED:
By: _____ (SCI)
Date: 6/13/06

APPROVED:
By: _____ (LDNR)
Date: 7/10/06

APPROVED:
By: _____ (CONTRACTOR)
Date: 6/29/06

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION PROJECT (BA-37)
SCI Project No. 116478

FIELD ORDER NO. 3 SUMMARY

You are directed to make the following changes in the Contract Documents:

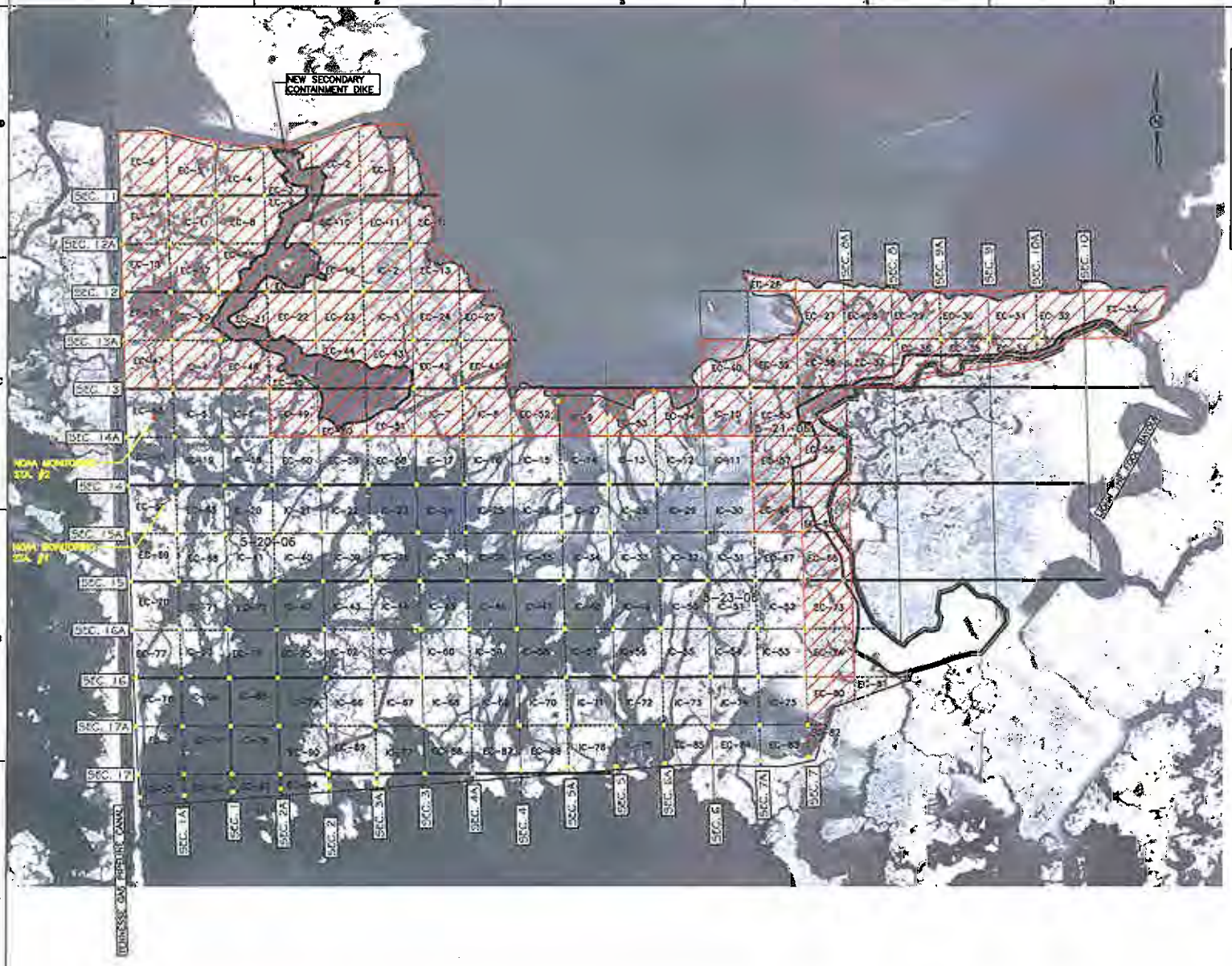
Rock Dike Payment:
Pine Bluff Sand and Gravel (PBSG) is to be paid partial rock dike quantities as rock is delivered to the site and placed. Final rock dike sections after 28 days are still required and will be submitted within 60 days of completion of the rock dike segment (Beginning of the 28 day review period).

Secondary Containment Dikes:
PBSG is authorized to use Bid Item No. 4 "Secondary Earthen Boundary Containment Levee" for the construction of additional containment along the north and east boundaries of the project area. These dikes total 6,675' in length. Also PBSG is relieved of the responsibility to degrade these dikes. The two main reasons to not degrade the dikes are as follows: 1) There is no buffer zone on the outer perimeter of the project for access to the dikes. 2) In order to access the dikes from the interior of the project newly placed material would have to be disturbed possibly causing containment problems at these locations.

Edge and Interior Cell Payment:
Payment along specific edge and interior cells will be allowed between 0.9' and 2.4'. The specific cells are the following and are also depicted on the attached drawing:
EC-1, EC-2, EC-3, EC-4, EC-5, EC-6, EC-7, EC-8, EC-9, EC-10, EC-11, EC-12, EC-13, EC-14, EC-15, EC-16, EC-17, EC-18, EC-19, EC-20, EC-21, EC-22, EC-23, EC-24, EC-25, EC-26, EC-27, EC-28, EC-29, EC-30, EC-31, EC-32, EC-33, EC-34, EC-35, EC-36, EC-37, EC-38, EC-39, EC-40, EC-41, EC-42, EC-43, EC-44, EC-45, EC-46, EC-47, EC-49, EC-50, EC-51, EC-52, EC-53, EC-54, EC-55, EC-56, EC-57, EC-64, EC-65, EC-66, EC-73, EC-74, EC-80, EC-81, EC-82
IC-1, IC-2, IC-3, IC-4, IC-7, IC-8, IC-9, IC-10
The above cells listed are the only cells which will be paid for material below 1.8'. All other cells will be paid as per the specifications.
Payment on one tenth intervals will be allowed for all cells within the project area within the allowable range of 1.8' to 2.4' and 0.9' and 2.4' for the edge and interior cells listed above.
All cells not located along the perimeter of the project or as listed above shall be accepted if the average of the four staff gages associated with the cell are at a minimum of 1.8' elevation at the 28 day reading. The maximum elevation to be used in the average calculation shall be 2.4'

Northwest quadrant of project:
The no-fill area located in the Northwest quadrant of the project is now identified as an area that can be filled. Therefore the contractor is relieved of the responsibility to maintain the ITDs located around this area. A secondary containment dike will be required at the opening of the no-fill area in cell EC-3 as depicted on the attached drawing. The secondary dikes authorized earlier in this field order will be used for this dike construction. The contractor will be required to revise the cell volumes within the no-fill zone to reflect complete 500' by 500' cells. The initial marsh creation transect surveys will be utilized as the initial readings for the cell volumes at these locations.

This Field Order does not constitute a change in Contract Time and/or Contract Cost.



Shaw Coastal, Inc.

FIELD ORDER NO. 3
6-7-06

3 OF 3

APPENDIX C

PRELIMINARY MEETING & PRE-CONSTRUCTION CONFERENCE

PRELIMINARY CONSTRUCTION MEETING

Shaw Coastal, Inc.

197 Elysian Drive
Houma, LA 70363
Toll Free: 888.230.2332
Office: 985.868.3434
Fax: 985.868.8513

Shaw® Shaw Coastal, Inc.

June 20, 2005

Pine Bluff Sand & Gravel Company
2950 Site Road
Alexandria, Louisiana 71306

Post Office Box 7008
Pine Bluff, Arkansas 71611

Attention: **Mark Lemoine**

Subject: **Pre-Construction Conference**

Reference: **Louisiana Department of Natural Resources**
Little Lake Shore Protection /
Dedicated Dredging Near Round Lake Project (BA–37)
SCI Project No. Bids and Proposals - 17002009

Dear Mr. Lemoine:

A Pre-Construction Conference has been scheduled for the above referenced project on June 29, 2005 at 10:00 a.m. at the offices of Shaw Coastal, Inc (SCI). SCI is located at 197 Elysian Drive Houma, Louisiana. See attached map and directions.

If there are any questions or comments, please contact me at 985-868-3434.

Sincerely,

SHAW COASTAL, INC.

Jeffery M. Peña, P.E.
Project Manager

JMP:jmp

Attachments
cc: Greg Grandy – LDNR
Clark Allen – LDNR
Daniel Dearmond - LDNR
Oscar F. Peña, Sr. Vice-President – SCI
Byron "Sonny" Eells – SCI
Jeremy George - SCI

K:\BIDS AND PROPOSALS\Little Lake Shoreline Protection\Letters\Lemoine 062005.doc

Shaw Shaw Coastal, Inc.

DIRECTIONS TO SHAW COASTAL, INC.
197 ELYSIAN DRIVE
985-868-3434

From **New Orleans Airport** (2 hours)

- Exit the airport and turn right on US 61.
- Travel 3 miles to I-310 South to Houma.
- From I-10 take the I-310 South exit (Houma, Boutte).
- Drive 11 miles on I-310 to US 90 West and exit right.
- Drive approximately 24 miles.
- Take the exit for Houma (LA 182).
- Turn left at LA 182 - drive to first traffic light at LA 3087 (Prospect Blvd.) -turn left.
- Follow LA 3087 (Prospect Blvd.) through two signal lights and cross the 'high' Intracoastal Bridge.
- Go through two signal lights and cross the bayou (Bayou Terrebonne). Continue to travel on Prospect Blvd. to the intersection with Grand Caillou Road (end of Prospect Blvd.)
- At the intersection of Prospect and Grand Caillou Road (Burger King on left Rally's on right.), turn right, on to Grand Caillou. Go to second red light - Elysian Drive (Wendy's on corner) and turn left. Shaw Coastal is the building located on the left just behind the Nockos Convenient Store. – address is 197 Elysian Drive.

From **New Orleans** and points east (2 hours)

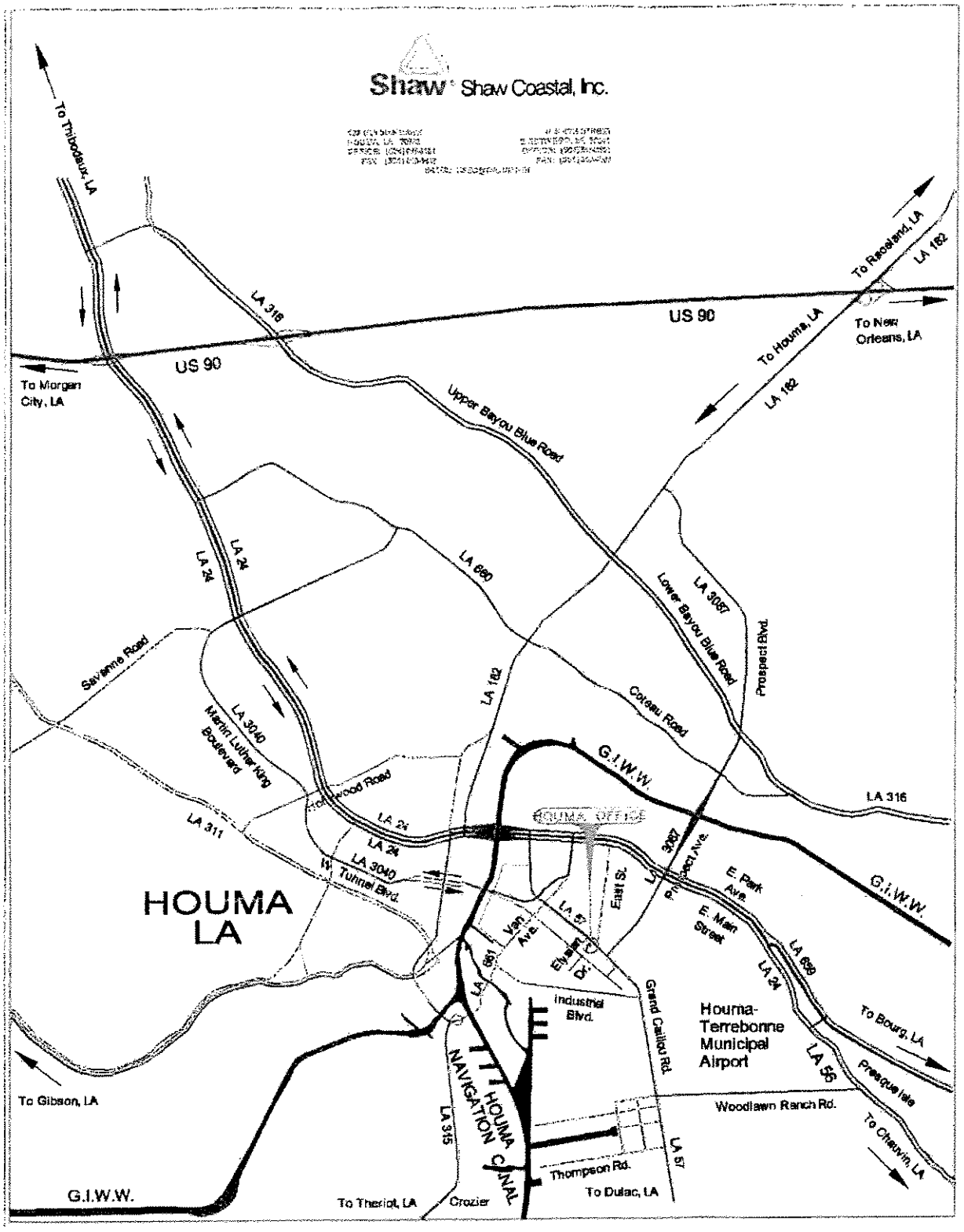
- From I-10 take the I-310 South exit (Houma, Boutte).
- Drive 11 miles on I-310 to US 90 West and exit right.
- Drive approximately 24 miles.
- Take the exit for Houma (LA 182).
- Turn left at LA 182 - drive to first traffic light at LA 3087 (Prospect Blvd.) -turn left.
- Follow LA 3087 (Prospect Blvd.) through two signal lights and cross the 'high' Intracoastal Bridge.
- Go through two signal lights and cross the bayou (Bayou Terrebonne). Continue to travel on Prospect Blvd. to the intersection with Grand Caillou Road (end of Prospect Blvd.)
- At the intersection of Prospect and Grand Caillou Road (Burger King on left Rally's on right.), turn right, on to Grand Caillou. Go to second red light - Elysian Drive (Wendy's on corner) and turn left. Shaw Coastal is the building located on the left just behind the Nockos Convenient Store. – address is 197 Elysian Drive.

From **Lafayette** and points west (3 hours)

- I-10, exit south on HWY 167 to HWY 90 to Morgan City.
- Stay on HWY 90 through Morgan City into Houma.
- HWY 90 joins HWY 24 in Houma for a while.
- HWY 90 continues to New Orleans. Stay on HWY 24 until you cross the Intracoastal Bridge.
- At the foot of the bridge turn right onto Grand Caillou. Continue on Grand Caillou (you will cross Tunnel Blvd., continue through two more red lights, at third light (Elysian Drive) turn right. Coastal is second building on left. 197 Elysian Drive.

From **Baton Rouge** and points north (3 hours)

- I-10 to Donaldsonville, Sorrento, and Sunshine Bridge exit to HWY 22.
- Follow to Spur 70 to Napoleonville, Thibodaux.
- Head south on HWY 1 or HWY 308 (both parallel Bayou Lafourche) to Thibodaux.
- In Thibodaux, switch to HWY 24 and follow it into and through Houma.
- Stay on HWY 24 until you cross the Intracoastal Bridge.
- At the foot of the bridge turn right onto Grand Caillou Rd. Continue on Grand Caillou (you will cross Tunnel Blvd., continue through two more red lights, at fourth light (Elysian Drive) turn right. Coastal is second building on left. 197 Elysian Drive.


Shaw Shaw Coastal, Inc.
To Thibodaux, LA
LA 316
US 90
US 90
To Morgan City, LA
To Raceland, LA
LA 182
To New Orleans, LA
To Houma, LA
LA 182
Upper Bayou Blue Road
LA 24
LA 24
LA 660
Lower Bayou Blue Road
LA 3087
Prospect Blvd.
Savanne Road
LA 182
Coteau Road
LA 3040
Martin Luther King Boulevard
G.I.W.W.
LA 316
Hollywood Road
LA 24
LA 24
LA 311
LA 3040
W. Tunnel Blvd.
HOUMA OFFICE
LA 3087
Prospect Ave.
E. Park Ave.
G.I.W.W.
HOUMA
LA
East St.
LA 57
Van Ave.
E. Main Street
LA 659
LA 24
LA 661
Industrial Blvd.
Grand Caillou Rd.
Houma-Terrebonne Municipal Airport
To Bourg, LA
LA 56
Presque Isle
To Gibson, LA
HOUMA NAVIGATION CANAL
LA 315
Woodlawn Ranch Rd.
To Chauvin, LA
LA 57
Thompson Rd.
G.I.W.W.
To Theriot, LA
Crozier
To Dulac, LA

Shaw® Shaw Coastal, Inc.

197 ELYSIAN DRIVE, HOUMA, LOUISIANA 70363
PHONE (985) 868-3434 - FAX (985) 868-8513

MEETING REPORT

Job No.: 116478 **Date:** June 29, 2005

Job Title: Little Lake Shoreline Protection and Restoration Project – LDNR **Time:** 10:00 a.m.

Meeting Location: [X] SCI [ ]

Meeting Purpose: Preliminary Meeting

Participants: See Attached Attendance Sheet

Summary:

Jeffery Peña began the meeting by introducing everyone present and reviewing the Preliminary Meeting Report (copy attached).

Mr. Peña distributed the Project Submittal Schedule, samples of the Change Order and Field Order forms along with examples of Weekly and Daily Quality Control / Quality Assurance Report forms. Mr. Peña stated that the Contractor is to submit the Daily Report form that they intend to use for approval before beginning the project and survey work.

The Contractor stated that he received the executed contract and letter indicating that the Notice to Proceed date is July 5, 2005.

Mr. Peña stated that the surveys could begin on the Notice to Proceed date.

The Contractor stated that the contract indicates $3.00 less than the actual Bid Form. This issue is to be resolved between the Contractor, the Louisiana Department of Natural Resources (LDNR) and the state purchasing department.

The Contractor stated that the dredge will not have a specific schedule but will probably work 24 hours, seven days a week. Mr. Peña stated that a specific dredge schedule will be required to be submitted to the Engineer in order to coordinate Project Representation.

The possible Subcontractors are Wilco Marsh Buggies for the levee work and Manson Gulf for the floatation work. The survey subcontractor has not been determined.

The Contractor stated that he will require additional days to complete the alternate bid. The contract lists 500 days for the base bid but does not stipulate additional days for the alternate. The Contractor stated that this issue was brought up in the Pre-Bid Meeting, but was not addressed. Mr. Peña stated that as per the contract, the Contractor should file a Change Order if he believes there is justification to increase the project construction time.

Written by: Jeffery M. Peña **Date:** July 6, 2005

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PHONE (985) 868-3434 - FAX (985) 868-8513

The communication for the project will be as follows:

Subcontractor to Contractor
Contractor to Engineer / Project Representative
Engineer to LDNR
LDNR to Federal Sponsor
and vice versa

Mr. Peña went over access to the site and that the Contractor is responsible for submitting their access plan for approval.

Mr. Peña reiterated that the Contractor, as per the specifications, was responsible to provide a boat (including fuel, lube and maintenance) for the Project Representative's exclusive use. The Contractor asked if this meant that the Project Representative would be driving the boat. Mr. Peña stated that the Project Representative would be operating the boat and that the boat would have to be available when the work was started including the surveying.

The Contractor asked when the office building, as described in the specifications, would be required. Mr. Peña stated that it would be required (at a minimum) when the actual project construction began. This may be revised if it is deemed necessary that the office building be established prior to actual project construction.

The Pre-Construction Conference is tentatively schedule for July 21, 2005 at 10:00 a.m. at the offices of Shaw Coastal, Inc. (SCI).

It was agreed that the survey data required at the Pre-Construction Conference, according to the specifications, could be delivered at a later meeting. At that time, continuation of the construction could be determined.

Mr. Peña stated that as per General Provision 23, the Contractor shall have at all times, a competent, qualified, and reliable Superintendent authorized to receive orders and supervise all work performed by the Contractor and any of his Subcontractors.

Mr. Peña stated that he would submit an example Payment Request form (attached) as used on similar projects for invoicing to the Contractor.

PRE-CONSTRUCTION CONFERENCE

Shaw Coastal, Inc.

197 Elysian Drive
Houma, LA 70363
Toll Free: 888.230.2332
Office: 985.868.3434
Fax: 985.868.8513

Shaw® Shaw Coastal, Inc.

July 14, 2005

Pine Bluff Sand & Gravel Company
2950 Site Road
Alexandria, Louisiana 71306

Post Office Box 7008
Pine Bluff, Arkansas 71611-7008

Attention: **Mark Lemoine, Project Engineer**

Subject: **Pre-Construction Conference**

Reference: **Louisiana Department of Natural Resources**
Little Lake Shore Protection and Marsh Creation (BA–37)
SCI Project No. 116478

Dear Mr. Lemoine:

As per the Preliminary meeting on June 29, 2005, a Pre-Construction Conference has been scheduled for the above referenced project on July 21, 2005 at 10:00 a.m. at the office of Shaw coastal, Inc (SCI). SCI is located at 197 Elysian Drive Houma, Louisiana.

If there are any questions or comments, please contact me at 985-868-3434.

Sincerely,

SHAW COASTAL, INC.

Jeffery M. Peña, P.E.
Project Manager

JMP:mbl

Attachment
cc: Greg Grandy – LDNR
Clark Allen – LDNR
Daniel Dearmond – LDNR
Cheryl Brodnax – LMFS
Oscar F. Peña, Sr. Vice-President – SCI
Byron "Sonny" Eells – SCI
Jeremy George – SCI

SHAW COASTAL, INC.

197 ELYSIAN DRIVE, HOUMA, LOUISIANA 70363
PHONE (985) 868-3434 - FAX (985) 868-8513

M E E T I N G R E P O R T

Job No.: 116478 **Date:** July 21, 2005

Job Title: LADNR-Little Lake Shoreline Protection and Marsh Creation-BA37 **Time:** 10:00 a.m.

Meeting Location: [X] SCI [ ] Project Site

Meeting Purpose: Pre-Construction Conference

Participants: See attached attendance record

Summary:

Please see attached Agenda, Pre-Construction Meeting Report, Field Order Form, and Change Order Form.

Jeffery Peña, Project Manager, opened the meeting and all parties present identified themselves. Contact information was reviewed and updated on the Pre-Construction Meeting Report.

Contractor requested that all correspondence be delivered to the office in Pine Bluff, Arkansas and to the office in Alexandria, LA.

Ms. Brodnax requested to be copied on weekly progress reports, change orders and schedule changes.

Mr. Moertle requested to be copied on weekly progress reports and notified of bi-weekly meetings.

Contractor representatives shall be available at all times by contact information listed on the Pre-Construction Meeting Report.

Communication shall follow the listed chain of command:

Subcontractor to Contractor
Contractor to Engineer/Project Representative
Engineer to Owner
Owner to Federal Sponsor

Construction Engineer shall process and recommend to owner all change order requests submitted in writing. Contractor was notified that the request for additional days will have to be resubmitted with a determined amount of time and justification.

Mr. Pena asked if the contractor had identified a survey sub-contractor and that once a sub had been identified the subcontract would have to be submitted for approval. The contractor stated that they never had to submit their sub-contracts before.

Contractor stated that their construction schedule would be submitted by July 29. Mr. Moertle requested to be copied on the progress schedule.

Contractor stated that the contract had errors in it regarding the total contract amount and that the notice to proceed should not have been issued until it was modified. Mr. Allen agreed that the contract had an error but that it caused no delay and that the

Written by: Jeffery M. Peña, P.E. **Date:** July 21, 2005

SHAW COASTAL, INC.

197 ELYSIAN DRIVE, HOUMA, LOUISIANA 70363
PHONE (985) 868-3434 - FAX (985) 868-8513

contractor had been notified at the preliminary meeting that he could begin the surveys without delay.

Contractor was notified that he may use the attached example invoice or submit an invoice of his own for approval. The invoice must contain all information on attached example and submitted with cover letter and daily reports. Invoices will be paid once all approvals have been received - DNR included. Contractor was informed that coordination with the project representative would be very important in the invoice approval process.

Bi-weekly meetings to be held to discuss progress/contract compliance of project. This meeting has been changed from weekly as stated in the contract to biweekly. This may be changed back to weekly if it is deemed necessary.

Pine Bluff will utilize GPS tracking system to monitor daily dredging. Daily dredging reports shall be submitted on a daily basis.

Rock transfer locations are to be pre-approved by engineer as per contract.

SPECIFICATIONS REVIEW:

Target elevation is 2.1'. Min. is 1.8' and max is 2.4' - once completed, surveys will be performed in 2 weeks and then again in two more weeks (4 week measurement, if accepted, will be final as-built) If it fails, process must start over.

Slurry elevation may be adjusted to attain the proper elevation within the cells with a maximum height of 3'.

Two copies of all permits were distributed to the contractor for their use. Contractor must follow all rules and regulations as described in the permits..

Contractor stated that they will establish correct levels and procedures for the first two or three cells and use as a model for the remaining cells.

They will need approximately 73-75 temporary benchmarks plus any additional benchmarks the contractors feels is needed and shall be maintained by contractor.

These temporary benchmarks are set from the 2 permanent benchmarks already in place.

It was agreed upon that the As-built surveys will be taken at the completion of each component of work and the requirement for an as-built survey at the end of the project completion will not be required.

Access to the project site will be as described in addendum #1 (Clovelly Canal) except during inclement weather.

Contractor needs to locate all pipelines before beginning work. Contractor to send paperwork for access to Tennessee Gas Pipeline if it is decided to use.

Mr. Pena stated that the Hydraulic Dredge as listed on the dredging data sheet drafts 6.5' and asked if the contractor had determined the access to Little Lake. The contractor stated that they had not yet determined the route to the site.

BP Pipeline crosses Little Lake – it was noted that BP had recently laid a new 30" pipeline (Mardi Gras) in the vicinity of the borrow site.

Need Certificate of Compliance for Geotextile fabric and sample of material and seams. Overlaps will not be paid for. The contractor stated that the material was difficult to obtain. The contractor was informed to notify the engineer if it was not available and that the use of the specified fabric would be re-assessed.

Written by: Jeffery M. Peña, P.E. **Date:** July 21, 2005

SHAW COASTAL, INC.

197 ELYSIAN DRIVE, HOUMA, LOUISIANA 70363
PHONE (985) 868-3434 - FAX (985) 868-8513

Stone gradation will be submitted when production is started (6 – 8 weeks) \ QC performed by quarry person

The rocks will not be allowed to free fall onto the fabric. Rocks will be placed in 2 lifts with 2 weeks between lifts for settlement.

Contractor to provide barge tables.

Temporary warning signs – Coast Guard may require lights.

Marsh settlement plates will be surveyed with grade stakes at cell acceptance after 28 days.

Mr. Moertle stated that the marsh settlement plates if allowed to rise above the marsh would pose a significant risk to airboats harvesting alligator eggs around June/July. Several options were discussed on this issue and it was determined that it would be looked into further before placement.

The issue of the project representative boat was discussed and it was determined that either the PR would be allowed to drive the boat or that a designated driver be assigned to drive the PR at all times. The contractor stated that Pine Bluff would have a problem with the PR driving their boat and that they would need a waiver. The contractor was instructed to submit a letter requesting this waiver (insurance) as soon as possible.

NOAA representatives, University researchers, Randy Moertle, etc. may go to project site for research, biological monitoring, set up stations, etc. but will stay out of the way. Anyone accessing the site will be required to check in with the contractor and or PR.

Bi-weekly meetings are scheduled at project site once project starts. These meetings will be on a predetermined schedule.

If housing facilities are available on site either through the prime or subcontractor they will be made available for the use of the PR.

cc: Attendees

Daniel Dearmond – LDNR
Glen Curole– LDNR
Brian Babin– LDNR
Clark Allen– LDNR
Greg Grandy– LDNR
Cheryl Brodnax – NOAA
Randy Moertle- Little Lake Co.
Jeffery Peña, Sr. – SCI
Byron "Sonny" Eells, Project Representative – SCI
Jeremy George, Project Representative – SCI
James Bourgeois-Pine Bluff
Mark LeMoine-Pine Bluff
Ronald Madden-Pine Bluff
Toni Fontenot-SCI

Written by: Jeffery M. Peña, P.E. **Date:** July 21, 2005

Shaw® Shaw Coastal, Inc.

Thursday, July 21, 2005
10:00 a.m.
Shaw Coastal, Inc., Large Conference Room

Meeting Purpose: **Pre Construction Meeting**
Little Lake Shoreline Protection
SCI Project No. 116478

Project Sponsor: Louisiana Department of Natural Resources

**If you wish to be furnished a copy of the attendance record, please indicate so by checking the box next to your name.*

ATTENDANCE REGISTER *

	NAME	√	COMPANY NAME AND PHYSICAL ADDRESS	TELEPHONE NUMBER	FAX NUMBER	EMAIL ADDRESS
1	Jeffery Pena		SCI	985-868-3434	985-868-8513	jeffery.pena@shawgrp.com
2	Byron "Sonny" Eells III		—	—	—	byron.eells@shawgrp.com
3	Daniel Dearmond		DNR / TFO	(985) 449-5103	(985) 447-0997	daniel.dearmond@la.gov
4	Glen Curole		DNR / TFO	(985) 447-0995	"	glenc@la.gov
5	Brian Babin		DNR / TFO	(985) 447-0956	"	brianbe@la.gov
6	Jeremy George		SCI	985-868-3434	985-868-8513	jeremy.george@shawgrp.com
7	James Sawyer		Pine Bluff Sand	318-448-0536		
8	Randy Moertle		Little Lake Land Co. / General Agricultural Services	985-532-6388	985-532-6389	rmoertle@bellsouth.net
9	Mark LeMoine		Pine Bluff Sand & Gr. Co.	318-448-0536	318-442-6291	Mark.LeMoine@PBSG&C.com
10	Ronald Madden		Pine Bluff Sand & Gravel.	225-922-7861	225-922-7862	ronald.madden@pbsgc.com
11	Cheryl Brodnax		NOAA Fisheries Service	225-578-7923	225-578-7926	cheryl.brodnax@noaa.gov
12	CLARK ALLEN		LA DNR	225 342-6738	225 342-6801	clark.allen@la.gov
13	GREG GRANDY		LDNR	225 342-6410	"	GREGORY.GRANDY@LA.GOV
14	Tom Fontenot		SCI.			
15						
16						

Louisiana Department of Natural Resources
Little Lake Shoreline Protection and Marsh Creation - BA-37
SCI Project No. 116478

PRE-CONSTRUCTION CONFERENCE

AGENDA

Date: Thursday, July 21, 2005

Time: 10:00 a.m.

Location: Shaw Coastal, Inc. (SCI)
197 Elysian Drive
Houma, Louisiana 70363

I. Introductions
   1. LDNR (State Sponsor and Owner)
   2. NOAA/NMFS (Federal Sponsor)
   3. SCI (Project Representation)
   4. Pine Bluff Sand and Gravel (Contractor)

II. Pre-Construction Conference Report
   See Attachment

III. Construction Issues
   1. Schedule of Deliverables (Attached)
      Submittals Received
      - Accident Prevention Plan
        - Contractor Schedule for weekly safety meetings
      - Quality Control Plan
      - Notification of Superintendents
      - Notification of Quality Control Personnel
      - Environmental Pollution Plan
      - Hurricane Plan
      - Stone Source
      - Dredge Disposal Plan (Incomplete – TS-8, Section 8.4)

2. Daily Inspection Reports
    - Project Representative
    - Contractors (Not Received)
3. Change Orders / Field Orders
    - Additive Alternate
4. Invoicing (See Attached Example)
5. Specification Review
    - TS-3 Surveying
6. Plan Review
7. Transportation for Project Representative(SP-23)
8. Access (Dredge Data Sheets)
9. Pipelines
10. Contractor Representative
11. Chain of Communication:
    Subcontractor to Contractor
    Contractor to Engineer (Project Representative)
    Engineer to Owner/Federal Sponsor
    and vice versa

IV. Contractor's Questions - Open floor to Contractor's questions/concerns.

CLOSE MEETING

PRE-CONSTRUCTION CONFERENCE REPORT

DATE: July 21, 2005
TIME: 10:00 a.m.

PROJECT NAME: Little Lake Shoreline Protection Project

LDNR PROJECT NO. BA-37

SCI PROJECT NO. 116478

1. **INTRODUCTION**

   A. Attendees (Introduction)

   B. Contact Personnel for the project:

2. **OWNER** Louisiana Department of Natural Resources

	NAME	PHONE #	EMERGENCY #
PROJECT MANAGER	Daniel Dearmond	985-449-5103	985-446-5722
FIELD REP.			

3. **ENGINEER** Shaw Coastal, Inc.

	NAME	PHONE #	EMERGENCY #
PROJECT MANAGER	Jeffery M. Pena, P.E.	985-868-3434	985-860-6350
PROJECT ENGINEER	Jeffery M. Pena, P.E.	985-868-3434	985-860-6350
PROJECT REP.	Byron "Sonny" Eells	985-868-3434	985-856-1599 985-406-2404
PROJECT REP.	Jeremy George	985-868-3434	985-209-8530

4. **CONTRACTOR** Pine Bluff Sand and Gravel Company

	NAME	PHONE #	EMERGENCY #
OPERATIONS MANAGER	Mark Lemoine	318-448-0536	318-201-0013 318-793-2110
PROJECT MANAGER	Mark Lemoine	318-448-0536	318-201-0013 318-793-2110
BACK-UP PROJECT MGR	Ronald Madden	225-922-7861	225-978-0701
PROJECT SUPERINT.	James Bourgeois		318-452-2467
BACK-UP PROJECT SUP	John Barnhart		318-201-0145
BACK-UP PROJECT SUP	Thomas McCabe		318-481-3054
DREDGE CAPTAIN			
PROJECT ENGINEER & CQC SYST MANAGER	James Bourgeois		318-452-2467
Land Owner	Randy Moertle	985-532-6388	985-856-3630
Land Owner	Harold Werner	504-522-7496	

5. **CONSTRUCTION AGREEMENT**

A.	Executed and Recorded	X	Yes	No
B.	Contract Recorded	X	Yes	No
B.	Copies Distributed	X	Yes	No
C.	Payment and Performance Bonds	X	Yes	No

6. **INSURANCE**

A.	Contractural Liability - Certificate Received	X	Yes	No
B.	Builder's Risk - Certificate Received	X	Yes	No
C.	Owner's/Engineer's Protective Liability - Certificate Received	X	Yes	No

Remarks:

7. **SUBCONTRACTORS**

A. Subcontractors List Received ____ Yes X No
B. List Approved ____ Yes N/A No
C. Contracts Received ____ Yes N/A No

Remarks: Possible Subcontractors:
Wilco Marsh - Levee Work; Manson Gulf - Floatation Work; Surveys - Not Determined

8. **PAYROLLS AND LABOR STANDARDS**

A. Certifications Reviewed N/A Yes N/A No
B. Wage Rates and Rosters Distributed N/A Yes N/A No
C. Payrolls to be submitted to: N/A
Name
D. Will job interviews be required ____ Yes ____ No

Remarks: N/A

9. **PROGRESS SCHEDULES**

A. Time of complete project. 500 Calender Days
B. Amount of liquidated damages. $1,380 per day
C. Bar Chart received. ____ Yes X No
D. Does Contractor expect any unavoidable delays in completing the project on time? X Yes ____ No
If yes, explain: Contractor expects weather delays due to active hurricane season

Remarks: Contractor to submit schedule by July 29, 2005

10. **SUBMITTALS**

A. Schedule of submittal received ____ Yes X No
If not, date due: ____

B. Distribution of copies: Contractor will submit Six copies for review. Approved submittals will be distributed as follows:

Owner 1 (# of Copies)
Fed. Spon. 1 (# of Copies)
Engineer 3 (# of Copies)
Contractor 1 (# of Copies)

C. Has Contractor been informed he must certify submittals before submission: Failure to comply will result in rejection of submittal.
X Yes ____ No
Remarks: ____

11. **QUALITY CONTROL**

A. System Manager — Name: James Bourgeois
Phone #:
Alter. System Manager — Name: John Barnhart
Phone #:
Alter. System Manager — Name: Thomas J. McCabe
Phone #:
System Inspector — Name:
Phone #:
System Inspector — Name:
Phone #:

B. Authorized to Execute Change Orders and Modifications: Name: Mark Lemoine

C. Contractors informed will be responsible for record drawings. (As-Built Drawings) — X Yes ___ No

D. Daily Quality Control Form and Report reviewed: ___ Yes X No
Remarks: Contractor to submit form by July 29, 2005

12. **ENVIRONMENTAL PROTECTION PLAN**
(Burning, Dust Control, Sanitary Facilities, etc.)

Received — X Yes ___ No
If not, date due:
Remarks:

13. **PROJECT SIGN**

A. Required — ___ Yes X No
B. Location
Remarks:

14. **NOTICE TO PROCEED**

A. Issued at Meeting — ___ Yes X No
B. Date: July 5, 2005
C. Construction Start Date: Before August 5, 2005
D. Construction Completion Date: 500 days - November 16, 2006
Remarks: Contractor to submit Change Order for additive alternate for extension of time

15. **MONTHLY PAYMENT REQUESTS**

A. Has Schedule of Values been submitted? — X Yes ___ No
If not, due date:
B. Has Schedule of Values been approved? — X Yes ___ No
C. Pay request ending date will be: Last day of each month.
(Day of Month)
D. Time anticipated for review:
A. Engineer 10 working days
B. Owner
Remarks: Sample Invoice Submitted to contractor.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION (BA-37)

SUBMITTAL SCHEDULE

Page in Contract	Date to be Submitted/Performed	Description	Status	Notes
7 OF 65	Submitted with Bid	Dredge Data Sheet:	Received	
15 OF 65	Within 15 days of effective date of contract.	GP-7 PROGRESS SCHEDULE	Not Received	No progress payment will be made until received
15 OF 65	Within 30 days of effective date of contract.	GP-8 PRELIMINARY CONFERENCE	Conducted	Scheduled for June 29,2005
17 OF 65	Before Awarding Contract to Sub-Contractor	GP-14 NOTIFICATION ABOUT SUB-CONTRACTORS	None Submitted	
22 OF 65	5 workings days prior to commencement of work.	GP-28 "LA. ONE CALL"	Not received	
22 OF 65	Within 1 calendar days	GP-30 SAFETY PROVISIONS (Accident Notification)	None Submitted	Notify Engineer of Accident
23 OF 65	Within 15 days of effective date of contract.	GP-32 SUBMITTALS, REPORTS, AND RECORDS (Progress Schedule)	None Submitted	No progress payment will be made until received
23 OF 65	MONTHLY	GP-32 SUBMITTALS, REPORTS, AND RECORDS (Monthly Report)	None Submitted	
23 OF 65	As Required	GP-33 CERTIFICATES OF COMPLIANCE (3 Copies to be Submitted)	No Activity	
23 OF 65	WEEKLY	GP-34 PROGRESS MEETINGS (Weekly Progress Meeting will be Held)	No Activity	
28 OF 65	Completion of work	GP-47 FINAL INSPECTION AND ACCEPTANCE	No Activity	Written notice of completion required.

Page in Contract	Date to be Submitted/Performed	Description	Status	Notes
29 OF 65	As specific work items are completed	GP-48 AS-BUILT DRAWINGS	No Activity	Final payment will not be approved before receipt and acceptance
33 OF 65	5 Days prior to mobilization and beginning of work.	SP-4 AGREEMENTS WITH LAND OWNERS	No Activity	
35 OF 65	DAILY	SP-6 DAILY PROGRESS REPORTS	No Activity	Report form to be submitted to engineer for approval prior to work commencing
35 OF 65	Within 15 days of issuance of Notice to Proceed	SP-7 PROJECT SCHEDULING (Estimated Project Schedule)	Not Received	
36 OF 65	At least 7 days prior to Pre-Construction Conference.	SP-11 HURRICANE AND SEVERE STORM PLAN	Not Received	
38 OF 65	DAILY	SP-18 DREDGE LOCATION CONTROL (Cutter head location)	No Activity	To be submitted with daily reports
39 OF 65	Within 30 days of issuance of Notice to Proceed	SP-21 COMMENCEMENT EXECUTION AND COMPLETION	No Activity	
44 OF 65	Prior to construction activities	TS-1 GENERAL REQUIREMENTS (Magnetometer Survey)	No Activity	See section 3.5 "Magnetometer Survey" for additional requirements
59 OF 65	Prior to construction activities	TS-12 ROCK DIKE (Proposed staging area location)	No Activity	Must be approved by engineer
63 OF 65	Within 15 days of effective date of contract.	TS-16 DELIVERABLES (Work plan and Estimated work Schedule)	Not Submitted	No progress payment will be made until received
63 OF 65	Before construction operation commence	TS-16 DELIVERABLES (Pre-Construction Conference)	Conducted	

Page in Contract	Date to be Submitted/Performed	Description	Status	Notes
63 OF 65	Before Pre-Construction Conference	TS-16 DELIVERABLES -Communication Plan -Sequence of Construction -Access Corridors -Safety Plan Report -Results of the Magnetometer, Marsh Transect and Lake transect Surveys -Dredge Disposal Plan	Not All Received	Will BE delivered at a later date TBD

FIELD ORDER NO. 1

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
_____

You are directed to make the following changes in the Contract Documents.

Description:

Purpose of Field Order:

This Field Order does not constitute a change in Contract Time and/or Contract Cost.

RECOMMENDED:	APPROVED:	APPROVED:
By: _____ SCI	By: _____ LDNR	By: _____ CONTRACTOR
Date: _____	Date: _____	Date: _____

CHANGE ORDER NO. 1

PROJECT:
Little Lake Shoreline Protection and Marsh Creation

DATE OF ISSUANCE:

OWNER:
Louisiana Department of Natural Resources
1440 Tiger Drive STE B
Thibodaux, LA 70301

OWNER'S PROJECT NO.
BA-37

CONTRACTOR:

ENGINEER:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70364

CONTRACT FOR:
Little Lake Shoreline Protection and Marsh Creation

ENGINEER'S PROJECT NO.
_____

You are directed to make the following changes in the Contract Documents.

Description:

Purpose of Change Order:

CHANGE IN CONTRACT PRICE:

Original Contract Price
$ 0.00

Previous Change Orders No. 1 to No.2
$ 0.00

Contract Price Prior to this Change Order
$ 0.00

Net Increase of this Change Order
$ 0.00

Contract Price with all approved Change Orders
$ 0.00

CHANGE IN CONTRACT TIME:

Original Contract Time
0 Calender Days
days or date

Net Change from previous Change Orders
0 Days
days

Contract Time Prior to this Change Order
0 Calender Days
days or date

Net Increase of this Change Order
0 Days
date

Contract Time with all approved Change Orders
0 Calender Days
days or date

RECOMMENDED:
By: _____
SCI
Date: _____

APPROVED:
By: _____
LDNR
Date: _____

APPROVED:
By: _____
CONTRACTOR
Date: _____

Pine Bluff Sand & Gravel Company
W. SCOTT McGEORGE, PRES.
RIVER CONTRACTORS
REVETMENTS DREDGING PILE DIKES
POST OFFICE BOX 7008
PINE BLUFF, ARK. 71611-7008

July 29, 2005

Mr. Jeffery M. Pena, P.E.
Shaw Coastal, Inc.
197 Elysian Drive
Houma, LA 70363

RE: Little Lake Shoreline Protection
& Marsh Creation Project
BA-37, Dept. of Natural Resources
LaFourche Parish, LA

Dear Sir:

Attached please find 6 copies of our Construction Progress Chart and schedule of activities for the above referenced project.

Also, we have estimated the additional performance time necessary to complete the Additive Alternate work is 90 days. We estimate bid item 15, Hydraulic Dredging, will take 75 days to complete. The remaining bid items in the Additive Alternate will take an estimated 15 days to complete. The above estimated durations are reflected in our Construction Progress Chart.

Sincerely,

PINE BLUFF SAND & GRAVEL COMPANY

Mark Lemoine, Project Manager
River Operations

RECEIVED
AUG 2005

CONSTRUCTION PROGRESS CHART

(EP 415-1-260)

REQUIREMENTS CONTROL SYMBOL

1. CONTRACTOR	Pine Bluff Sand & Gravel Co.
2. CONTRACT NUMBER	DNR BA-37
3. PROJECT	Little Lake & Shoreline Protection & Marsh Creation Project
4. LOCATION	Lafourche Parish, LA.
5. CONTRACT DESCRIPTION	Little Lake & Shoreline Protection & Marsh Creation Project
6. SUBMITTED FOR APPROVAL	DATE
7. APPROVAL RECOMMENDED	DATE
8. APPROVED	DATE

LEGEND

BARS: Scheduled progress to date of report; Actual progress

CURVES: Scheduled progress ____ Actual progress ____

PRINCIPAL CONTRACT FEATURE	LINE ITEM	WT.	ESTIMATED COST	
Mobilization & Demobilization L.S.	1	11.3%	$ 2,100,000.00	SCHED.
				ACTUAL
Surveying L.S.	2	02.5%	$ 450,000.00	SCHED.
				ACTUAL
Primary Earthen B. Containment Levee 8,123' @ L.F. @ $34.00	3	01.5%	$ 276,182.00	SCHED.
				ACTUAL
Sec. Earthen B. Containment Levee - 6675 L.F. @ $32.00/LF	4	01.1%	$ 213,600.00	SCHED.
				ACTUAL
External T. Dikes 3.165 'Mile) L.S.	5	01.2%	$ 225,000.00	SCHED
				ACTUAL
Hydraulic Dredging 2,512,432 C.Y. @ 2.45	6	23.5%	$ 6,155,458.40	SCHED.
				ACTUAL
Geotextile Fabric Woven SY @ 118,695 @ 6.25	7	04.1%	$ 741,831.25	SCHED
				ACTUAL
Settlement Plates 4 EA @ $600.00 EA	8	.008%	$ 14,400.00	SCHED.
				ACTUAL
50# Rock Class 51,103 Tons @ $ 28.00 EA	9	24.4%	$ 4,308,435.00	SCHED
				ACTUAL
Temporary Warning Signs 63 @ $ 25.00 EA	10	.009%	$ 15,750.00	SCHED.
				ACTUAL
Permanent Warning Signs 25 @ $ 850.00 EA	11	.001%	$ 21,250.00	SCHED
				ACTUAL
Range Stakes & Flagging 207 @ $350.00 EA.	12	.004%	$ 72,450.00	SCHED.
				ACTUAL
Marsh Settlement Plates 5 @ $ 1000.00 EA	13	.0003%	$ 5,000.00	SCHED
				ACTUAL
Access & Floatation Channel L.S.	14	.067%	$ 1,200,000.00	SCHED.
				ACTUAL
Marsh Dredging 722,361 C.Y. @ $4.45	15	10.0%	$ 1,795,031.45	SCHED
				ACTUAL
Range Stakes & Flagging 15 @ $350.00 EA	16	.003%	$ 5250.00	SCHED.
				ACTUAL
Primary Earthen B. Containment Levee 205 L.F. @ $36.00	17	.004%	$ 7,380.00	SCHED
				ACTUAL
Secondary Earthen B. Cont'n. Levee 6216 L.F. @ $35.00	18	01.2%	$ 219,135.00	SCHED.
				ACTUAL
External T. Dikes L.S.	19	.004%	$ 75,000.00	SCHED
				ACTUAL
= Contract		100%	$ 17,899,156.00	SCHED.
				ACTUAL

July 05 Aug 05 Sept 05 Oct 05 Nov 05 Dec 05 Jan 06 Feb 06 Mar 06 Apr 06 May 06 June 06 July 06 Aug 06 Sept 06 Oct 06 Nov 06 Dec 06 Jan 07 Feb 07

← Estimated By Adjusted →

99% 100%

Final Date of Positive Contract Time

0 10 20 30 40 50 60 70 80 90 100

2454 PREVIOUS EDITION MAY BE USED.

Current Contract Value $17,685,556.40

Little Lake Shoreline Protection & Marsh Creation
Schedule of Activities

Item 1 - Initial Mob.(Surveying)	Aug. 1 – Aug. 5, 2005
Item 2 - Surveying(Magnetometer, Transects, etc.)	Aug. 5 – Aug 30, 2005
Item 2 – Surveying(Const. Layout,etc.)	Sept. 1, 2005 – Feb. 8, 2007
Item 1 - Mob.(Access & Flot. Ch.)	Sept. 1 – Sept 2, 2005
Item 14 – Access & Flot. Ch. Exca.	Sept. 2 – Dec. 31, 2005
Item 1 – Demob.(Access & Fl. Ch. Equip.)	Jan. 1, 2006 – Jan. 2, 2006
Item 10 - Temp. Warning Signs	Sept. 2, 2005 – Jan. 31, 2007
Item 1 - Mob.(250 lb. Rock)	Oct. 10 – Oct. 15, 2005
Item 7 – Geotextile Fabric	Oct. 15, 2005 – Apr. 15, 2006
Item 8 – Rock Settlement Plates	Oct. 15, 2005 – Apr. 15, 2006
Item 9 – 250 lb. Rock	Oct. 15, 2005 – Apr. 15, 2006
Item 11 – Perm. Warning Signs	Oct. 15, 2005 – Apr. 15, 2006
Item 1 – Demob.(Rock Placing Equip.)	Apr. 16, 2006 – April 21, 2006
Item 1 – Remob.(Access & Fl. Ch. Equip.)	Apr. 14, 2006 – Apr. 15, 2006
Item 14 – Access & Flot. Ch. Backfill	Apr. 16, 2006 – Apr. 30, 2006
Item 1 – Demob.(Access & Fl. Ch. Equip.)	May 1, 2006 – May 2, 2006
Item 1 – Mob.(Levees & Tr. Dikes)	Nov. 13 – Nov. 14, 2005
Item 3 – Primary Cont. Levee	Nov. 15, 2005 – Mar. 15, 2006
Item 4 - Secondary Cont. Levee	NOT USED
Item 5 – Internal Tr. Dikes	Nov. 15, 2005 – Mar. 15, 2006
Item 17 – Primary Cont. Levee	Nov. 15, 2005 – Mar. 15, 2006
Item 18 – Secondary Cont. Levee	Nov. 15, 2005 – Mar. 15, 2006
Item 19 – Internal Tr. Dikes	Nov. 15, 2006 – Mar. 15, 2006
Item 1 – Demob.(Levees & Tr. Dikes)	Mar. 16 – Mar. 17, 2006
Item 12 – Grade Stakes	Feb. 15, 2006 – Dec. 15, 2006
Item 13 – Marsh Settlement Plates	Feb. 15, 2006 – Dec. 15, 2006
Item 16 – Grade Stakes	Feb. 15, 2006 – Dec. 15, 2006
Item 1 – Mob.(Dredge)	Mar. 1, 2006 – Mar. 14, 2006
Item 6 – Hydraulic Dredging	Mar. 15, 2006 – Oct. 15, 2006
Item 15 – Hydraulic Dredging	Oct. 16, 2006 – Dec. 31, 2006
Item 1 – Demob. Dredge	Jan. 1, 2007 – Jan. 15, 2007
Item 1 – Remob.(Access & Fl. Ch. Equip.)	Dec. 30 – Dec. 31, 2006
Item 14 – Access & Flot. Ch. Backfill	Jan. 1, 2007 – Jan. 31, 2007
Item 1 – Final Demob. & Cleanup Jobsite	Feb. 1, 2007 – Feb. 15, 2007

INSPECTORS QUALITY ASSURANCE REPORT(QAR) DAILY LOG OF CONSTRUCTION - DREDGING	THE CONTRACTOR QCR REPORT IS TO BE ATTACHED TO THE QAR
TO: Louisiana Department of Natural Resources	REPORT NO.:
PROJECT: LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	DATE:
CONTRACTOR: PINE BLUFF SAND AND GRAVEL COMPANY	CONTRACT NUMBER:
PORTION OF SCHEDULED WEEK SUITABLE FOR OPERATIONS_____%	WEATHER AND EA CONDITIONS BY SHIFT:
HAS ANYTHING DEVELOPED ON THE WORK WHICH MIGHT LEAD TO A CHANGE ORDER OR FINDING OF FACT? ☐ NO ☐ YES	

NUMBER OF DNR EMPLOYEES OR REPRESENTATIVES					
SUPERVISORY	OFFICE	LAYOUT	INSPECTION	LABOR	TOTAL

NUMBER OF CONTRACTOR EMPLOYEES			NUMBER OF SHIFTS					
SUPERVISORY	SKILLED	LABORERS	FROM	TO	FROM	TO	FROM	TO

TEMPERATURE	
MINIMUM	MAXIMUM

24 HOUR PRECEIPTATION	
INCHES	ENDING

TIDES		
	FT. NAVD	TIME
HIGH		
LOW		

ATTACH LIST OF THE FOLLOWING: Major items of equioment either working or idle
NOTE: if contractor's Quality Control Report(QCR) contains the information it need not be reported.

CONTRACTOR/SUBCONTRACTOR AND AREA OF RESPONSIBILITY FOR WORK PERFORMED FOR WEEK:

A. _____

B. _____

WORK PERFORMED TODAY: (Indicate location and description of work performed. Refer to wprk performed by prime and/or subcontractor by the letter in the table above.)

Days of no work and reasons for same:

Information on progress of work, causes for delays and extent of delays. Plant, material , etc.
_____ Days have elapsed on the project; _____% of the time has elapsed of the days allowed.
****EQUIPMENT ON SITE****

CONSTRUCTION INSPECTION PHASES ATTENDED AND INSTRUCTIONS GIVEN:

RESULTS OF QA INSPECTIONS AND TESTS, DEFICIENCIES OBSERVED, ACTIONS TAKEN, AND CORRECTIVE ACTION OF CONTRACTOR: INCLUDE COMMENT PERTAINING TO CONTRACTOR'S CQC ACTIVITIES.

VERBAL INSTRUCTIONS GIVEN TO CONTRACTOR: (INCLUDE NAMES, REACTIONS, AND REMARKS)

CONTROVERSIAL MATTERS IN DETAIL:

INFORMATION, INSTRUCTIONS, OR ACTIONS: (NOT COVERED IN QCR REPORT OR DISAGREEMENTS)
Total Amount of Floating Pipeline being used _____ Feet. Total Amount of Shore Pipe being used _____ Feet.
Total Length of Line _____ Feet. Total Cubic Yards Pumped To Date _____C.Y.
_____% of Estimated _____ Cubic Yards were Pumped. (Mark Adjustments with * and explain.)

REMARKS: (INCLUDE VISITORS TO PROJECT AND MISCELLANEOUS REMARKS PERTINENT TO THE WORK.)

SAFETY: (INCLUDE ANY INFRACTIONS OF APPROVED SAFETY PLAN, SAFETY MANUAL, OSHA STANDARDS, OR INSTRUCTIONS FROM OWNER'S REPRESENTATIVES, SPECIFY CORRECTIVE ACTION TAKEN.)

BID ITEM NO.	DESCRIPTION	BID QUANTITY	UNIT	QUANTITY PERFORMED FOR WEEK	TOTAL QUANTITY PERFORMED
1	MOBILIZATION	1	LS		
2	SURVEYING	1	LS		
3	PRIMARY EATHEN BOUNDARY CONTAINMENT LEVEE	8,123	LF		
4	SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE	6,675	LF		
5	INTERNAL TRAINING DIKES	1	LS		
6	HYDRAULIC DREDGING	2,512,432	CY		
7	WOVEN GEOTEXTILE FABRIC	118,693	SY		
8	ROCK SETTLEMENT PLATES	24	EACH		
9	250 POUND CLASS ROCK	151,103	TON		
10	TEMPARY WARNING SIGNS	63	EACH		
11	PERMANENT WARNING SIGNS	25	EACH		
12	GRADE STAKES AND FLAGGING	207	EACH		
13	MARSH SETTLEMENT PLATES	5	EACH		
14	ACCESS AND FLOATATION CHANNELS	1	LS		

ADDITIVE ALTERNATE					
15	HYDRAULIC DREDGING	422,361	CY		
16	GRADE STAKES AND FLAGGING	15	EACH		
17	PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEE	205	LF		
18	SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE	6,261	LF		
19	INTERNAL TRAINING DIKES	1	LS		

INSPECTOR'S SIGNATURE:	DATE:	SUPERVISOR'S APPROVAL:	DATE:

CONTRACTOR'S QUALITY CONTROL REPORT (OCR) (ER 1180-1-6)	DATE	REPORT NO.
204	22-Dec-04	200
CONTRACT NUMBER AND NAME OF CONTRACTOR 12040129 Weeks Marine Inc.	DESCRIPTION AND LOCATION OF WORK Beach Nourishment TIMBALIER ISLAND	

WEATHER CLASSIFICATION:

CLASS A No interruptions of any kind from weather conditions occurring on this or previous shifts

CLASS B Weather occurred during this shift that caused a complete stoppage of work.

CLASS C Weather occurred during this shift that caused a partial stoppage of work

CLASS D Weather overhead excellent or suitable during shift. Work completely stopped due to results of previous adverse weather.

CLASS E Weather overhead excellent or suitable during shift but work partially stopped due to previous adverse weather.

OTHER Explain

CLASSIFICATION	
Class	A
TEMPERATURE:	
Max.	60
Min.	45
PRECIPITATION	
	.0"

CONTRACTORS / SUBCONTRACTORS AND AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY

a. Weeks Marine, Inc. - PRIME - dredging and dike construction

b.

c.

d

e.

f.

g.

1. WORK PERFORMED TODAY: (Indicate location and description of work performed. Refer to work performed by prime and / or subcontractors by letter in Table above.)

A. The dredge Tom James continued demobilizing all support vehicles and equipment.

2. TYPE AND RESULTS OF INSPECTION (Indicated whether: P- Preparatory. I- Initial or F- Follow up and include satisfactory work completed or deficiencies with action to be taken.)

A. None this day.

3. TESTS REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:

A. None this day.

4. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Government personnel on construction deficiencies, retesting required, etc., with action to be taken.)

A. Continued to process and edit final/after storm Ads to overlay with earlier/pre storm Ads.

5. REMARKS: (Cover any conflict in plans, specifications or instructions; acceptability of incoming materials; off-site surveillance activities; progress of work, delays, causes and extent thereof; days of no work with reasons for same.)

A. Beach surveys completed.

7. SAFETY: (Include any infractions of approved safety plan, safety manual or instructions from Government personnel. Specify corrective action taken.)

A: Boats were checked to insure navigational lights were functional. Faulty bulbs and/or fixtures were replaced

	Personnel	Hours	
Supervisors	11	132	
Skilled	16	192	
Unskilled	28	336	0
Total	55	660	

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

CONTRACTORS APPROVED AUTHORIZED REPRESENTATIVE

PINE BLUFF SAND & GRAVEL COMPANY
QUALITY CONTROL – RECORD & REPORT OF INSPECTION
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION PROJECT (BA-37)
LAFOURCHE PARISH, LOUISIANA

DATE _____ REPORT NO. _____

WEATHER:				NO.	HRS.
CLEAR	P. CLOUDY	OTHER	SUPV.	_____	_____
CLOUDY	RAIN		SKILLED	_____	_____
TEMP._____	PRECIP._____		UNSKILLED	_____	_____
TIDE GAGE _____			TOTAL	_____	_____

CONTRACTOR/SUBCONTRACTOR & AREA OF RESPONSIBILITY:

A. _____

B. _____

C. _____

D. _____

E. _____

1. WORK PERFORMED:

_____

_____

_____

_____

_____

_____

2. TYPE & RESULTS OF INSPECTION:

_____

_____

_____

_____

PINE BLUFF SAND & GRAVEL COMPANY
QUALITY CONTROL – RECORD & REPORT OF INSPECTION
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION PROJECT (BA-37)
LAFOURCHE PARISH, LOUISIANA
(continued)

3. TESTS PERFORMED & RESULTS:

4. ENVIRONMENTAL PROTECTION:

5. VERBAL INSTRUCTIONS RECEIVED:

6. REMARKS:

7. SAFETY:

PINE BLUFF SAND & GRAVEL COMPANY
QUALITY CONTROL – RECORD & REPORT OF INSPECTION
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION PROJECT (BA-37)
LAFOURCHE PARISH, LOUISIANA
(continued)

8. EQUIPMENT:

TYPE OF PLANT & NO.	HOURS WORKED	REMARKS

9. OTHER:

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

CONTRACTORS APPROVED AUTHORIZED REPRESENTATIVE

APPLICATION FOR PAYMENT NO. 1

WNER: Louisiana Department of Natural Resources
ROJECT NAME: Little lake Shoreline Protection and Marsh Creation Project
LE NUMBER: _____
URCHASE ORDER NUMBER: _____
WNER PROJECT NUMBER: BA-37
NGINEER PROJECT NUMBER: 116478
'ork Completed Through: _____
riginal Contract Total: $17,899,156.40

ITEM NO	DESCRIPTION	EST. QUANTITY	UNIT	UNIT PRICE	EST. AMOUNT	CURRENT QUANTITY	CURRENT REVENUE	TOTAL QUANTITY	TOTAL REVENUE	UNEARNED QUANTITY	UNEARNED REVENUE
ASE BID											
1	Mobilization and Demolization	1	LS	$ 2,100,000.00	$ 2,100,000.00		$ -	-	$ -	1	$ 2,100,000.00
2	Surveying	1	LS	$ 450,000.00	$ 450,000.00		$ -	-	$ -	1	$ 450,000.00
3	Primary Earthen Boundary Containment Levee	8,123	LF	$ 34.00	$ 276,182.00		$ -	-	$ -	8,123	$ 276,182.00
4	Secondary Earthen Boundary Containment Levee	6,675	LF	$ 32.00	$ 213,600.00		$ -	-	$ -	6,675	$ 213,600.00
5	Internal Training Dikes (3,165' Minimum)	1	LS	$ 225,000.00	$ 225,000.00		$ -	-	$ -	1	$ 225,000.00
6	Hydraulic Dredging	2,512,432	CY	$ 2.45	$ 6,155,458.40		$ -	-	$ -	2,512,432	$ 6,155,458.40
7	Woven Geotextile Fabric	118,693	CY	$ 6.25	$ 741,831.25		$ -	-	$ -	118,693	$ 741,831.25
8	Rock Settlement Plates	24	EA	$ 600.00	$ 14,400.00		$ -	-	$ -	24	$ 14,400.00
9	250 Pound Class Rock	151,103	TONS	$ 28.50	$ 4,306,435.50		$ -	-	$ -	151,103	$ 4,306,435.50
10	Temporary Warning Signs	63	EA	$ 250.00	$ 15,750.00		$ -	-	$ -	63	$ 15,750.00
11	Permanent Warning Signs	25	EA	$ 850.00	$ 21,250.00		$ -	-	$ -	25	$ 21,250.00
12	Grade Stakes and Flagging	207	EA	$ 350.00	$ 72,450.00		$ -	-	$ -	207	$ 72,450.00
13	Marsh Settlement Plates	5	EA	$ 1,000.00	$ 5,000.00		$ -	-	$ -	5	$ 5,000.00
14	Access and Floatation Channels	1	LS	$ 1,200,000.00	$ 1,200,000.00		$ -	-	$ -	1	$ 1,200,000.00
	TOTAL BASE BID:				**$ 15,797,357.15**						**$ 15,797,357**

EXAMPLE

APPLICATION FOR PAYMENT NO. 1

ADDITIVE ALTERNATE BID											
15	Hydraulic Dredging	422,361	CY	$ 4.25	$ 1,795,034.25	$ -	$ -	422,361	$ 1,795,034.25		
16	Grade Stakes and Flagging	15	EA	$ 350.00	$ 5,250.00	$ -	$ -	15	$ 5,250.00		
17	Primary Earthen Boundary Containment Levee	205	LF	$ 36.00	$ 7,380.00	$ -	$ -	205	$ 7,380.00		
18	Secondary Earthen Boundary Containment Levee	6,261	LF	$ 35.00	$ 219,135.00	$ -	$ -	6,261	$ 219,135.00		
19	Internal Training Dikes	1	LS	$ 75,000.00	$ 75,000.00	$ -	$ -	1	$ 75,000.00		
	TOTAL ADDITIVE ALTERNATE BID:				**$ 2,101,799.25**				**$ 2,101,799.25**		
	TOTAL CONTRACT:				**$ 17,899,156.40**	**$ -**	**$ -**		**$ 17,899,156.40**		

INVOICE TOTAL	$ -
LESS RETAINAGE(5%)	$ -
LESS PRIOR INVOICE	$ -
DUE THIS INVOICE	$ -

CONTRACTORS CERTIFICATION

The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied to discharge in full all obligations of CONTRACTOR incurred in connection with Work covered in prior Applications for Payment numbered1 through 1 inclusive; and (2) title to all materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, claims, security interests and encumbrances (except such as covered by Bond acceptable to OWNER).

PINE BLUFF SAND AND GRAVEL COMPANY
Contractor

By: _____ Date: _____, 2005

Payment of the AMOUNT DUE THIS APPLICATION is recommended.

SHAW COASTAL, INC.
Engineer

By: _____ Date: _____, 2005

PLEASE REMIT PAYMENT TO:

Pine Bluff Sand and Gravel Company
_____
_____

EXAMPLE

APPENDIX D

FINAL INSPECTION & ACCEPTANCE

Shaw Coastal, Inc.

197 Elysian Drive
Houma, LA 70363
Toll Free: 888.230.2332
Office: 985.868.3434
Fax: 985.868.8513

Shaw® Shaw Coastal, Inc.

April 19, 2007

Louisiana Department of Natural Resources
1440 Tiger Drive, Suite B
Thibodaux, Louisiana 70301

Attention: **Daniel Dearmond, P.E.**

Subject: **Final Inspection Acceptance**

Reference: **Louisiana Department of Natural Resources**
Little Lake Shoreline Protection and Marsh Creation - BA-37
SCI Project No. 116478

Dear Mr. Dearmond:

Shaw Coastal, Inc. has received all deliverables from Pine Bluff Sand and Gravel and the project construction is complete as per the Final Inspection meeting held on March 30, 2007. Therefore, it is SCI's recommendation that this project be accepted by the Louisiana Department of Natural Resources as complete on March 30, 2007 and final acceptance be issued to PBSG.

Should you have any questions or wish to discuss, please contact me at 985-868-3434.

Sincerely,

SHAW COASTAL, INC.

Jeffery M. Peña, P.E.
Client Program Manager

JMP:jmp

Attachments

cc: Oscar F. Peña, Sr. Vice-President – SCI
Byron "Sonny" Eells, Project Representative – SCI
Mark Lemoine - PBSG

Louisiana Department of Natural Resources
Little Lake Shoreline Protection and Marsh Creation Project (BA-37)
SCI Project No. 116478

PROJECT STATUS MEETING

MINUTES & AGENDA

Date: Friday, March 30, 2007

Time: 8:30 a.m.

Location: Project Site

Attendees: Daniel Dearmond, DNR; Jeffery Pena, SCI; Byron Eells, SCI; Brian Babin, DNR; Jacob Clanton, PBSG; Cheryl Brodnax, NOAA; Ben Malbrough, SCI; Randy Moertle; Mark Lemoine, PBSG; John Barnhart, PBSG

- Safety Topic
  - PPE being used, Work over water

- Site Investigation
  - ***The contractor's boat and air boat was used to inspect the rock dike alignment, signs and overall marsh creation area.***

- Invoicing status
  - Pay Request 17 and 18 have been reviewed and submitted for payment.
    - ***It was stated to the contractor that pay request 19 had not been received as of this date and that the pay request would not be processed until the rock dike as-built data was received.***

- General Project Status Discussion
  - Final Inspection and Deliverables
    - ***The schedule for Final Acceptance was discussed and is as follows:***
      - ***Once all data is received and reviewed an acceptance letter will be sent from Shaw to DNR saying the project is complete and all deliverables are in order.***
      - ***DNR will then submit this to procurement at which time they will issue a form to the contractor stating that the contract is complete.***

    - *This form can then be taken by the contractor to the place where the contract is recorded and the 45 clear lien period will begin at that time.*
    - *When the acceptance letter is submitted to DNR the contract end date will be March 30, 2007.*

- *The data remaining to be delivered is the Final Rock dike as-builts as stated at the March 27, 2007 meeting held at the SCI office. Other data is also being reviewed for completeness as far as deliverables.*
- *Daily reports are required March 20 to March 30, 2007. As discussed if no activity was performed please state so on the daily report.*
- *Water level at the site during the visit was approx. 1.2 NAVD 88.*
- *All construction aspects of the project were inspected and deemed complete as of this Final Inspection Meeting.*
- *Contractor stated that there were no lost days of work due to safety issues for the duration of this project.*

- Questions and Comments
- Close Meeting

Pine Bluff Sand & Gravel Company
W. SCOTT McGEORGE, PRES.
RIVER CONTRACTORS
REVETMENTS DREDGING PILE DIKES
POST OFFICE BOX 7008
PINE BLUFF, ARK. 71611-7008

March 15, 2007

RECEIVED
MAR 19 2007
By
116478

Mr. Jeffery M. Pena, P.E.
Shaw Coastal, Inc.
197 Elysian Drive
Houma, LA 70363

Re: Little Lake Shoreline Protection
& Marsh Creation Project
BA-37, Dept. of Natural Resources
LaFourche Parish, LA

Dear Sir:

As of this date, we have completed all physical work on the referenced contract.

We are currently in the process of preparing the final as-built drawings and anticipate submitting those to you shortly.

Therefore, we request the Final Inspection be scheduled during the week of March 26, 2007.

Please confirm the date for the Final Inspection which best fits your schedule.

Sincerely,

PINE BLUFF SAND & GRAVEL COMPANY

Mark Lemoine, Project Engineer
River Operations

APPENDIX E

PROJECT DATA AND FACT SHEET

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

PROJECT STATUS REPORT as of 17-Apr-2007

Little Lake Shoreline Protection/Dedicated Dredging near Round Lake

PROJECT DATA

PROJECT: Little Lake Shoreline Protection/Dedicated Dredging near Round Lake
PRIORITY LIST: 11 **PROJECT NO:** 1110 **CWPPRA NO:** BA-24-1 **DNR NO:** BA-37
PROJECT TYPE: Shoreline Protection **NET ACRES BENEFITTED:** 713
REGION: 2 **BASIN:** Barataria **PARISH:** Lafourche
LEAD AGENCY: NMFS
LOCAL SPONSOR: DEPT. OF NATURAL RESOURCES, STATE OF LA

MILESTONES:

CSA EXECUTION:	6-Aug-2002	(Actual)
DESIGN COMPLETION:	11-Sep-2003	(Actual)
CONSTRUCTION START:	4-Aug-2005	(Actual)
CONSTRUCTION COMPLETION:	30-Mar-2007 *	
ESCROW AMENDMENT		**No:**
MONITORING PLAN APPROVAL:	9-Jan-2006	(Actual)
O and M PLAN APPROVAL:		
DEAUTHORIZATION DATE:		
CASH FLOW PROECTS:		
Phase 1 Approval:	1/16/2002	(Actual)
Phase 2 Approval:	12-Nov-2003	(Actual)

LEGISLATIVE DISTRICTS:

CONGRESSIONAL DISTRICT:	3	Charlie Melancon
STATE SENATE DISTRICT:	20	Reggie P. Dupre, Jr.
STATE HOUSE DISTRICT:	105	Ernest D. Wooton

Point of Contact:

DEPT. OF COMMERCE
NATIONAL MARINE FISHERIES SERVICE

Cheryl Brodnax
Marine Resources Habitat Specialist
Louisiana Business and Technology Center
South Stadium Drive
Baton Rouge, LA 70803

PHONES:
Office: (225) 578-7923
Fax: (225) 578-7926

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

PROJECT STATUS REPORT as of 17-Apr-2007

Little Lake Shoreline Protection/Dedicated Dredging near Round Lake

FINANCIAL DATA

ESTIMATES	BASELINE	CSA	CURRENT
Engr & Design:	$1,977,375	$0	$1,955,377
Lands:	$63,837	$0	$63,837
Construction:	$25,575,657	$0	$31,829,321
Monitoring:	$23,816	$0	$23,816
O & M:	$4,602,045	$0	$120,527
Contingencies:	$3,752,199	$32,868,938	$0
Total:	$35,994,929	$32,868,938	$33,992,878
Maximum Project Cost:	$44,993,661	future input	future input

		Non-Federal		
OBLIGATIONS	Federal	Cash	WIK	Total
Engr & Design:	$1,451,854	$0	$56,937	$1,508,791
Lands:	$0	$0	$4,248	$4,248
Construction:	$27,316,099	$0	$41	$27,316,140
Monitoring:	$20,244	$0	$26,626	$46,869
O & M:	$0	$0	$0	$0
Total:	$28,788,197	$0	$87,852	$28,876,048
		$87,852		

		Non-Federal		
EXPENDITURES	Federal	Cash	WIK	Total
Engr & Design:	$1,074,146	$0	$56,937	$1,131,083
Lands:	$0	$0	$4,248	$4,248
Construction:	$11,597,310	$0	$41	$11,597,351
Monitoring:	$0	$0	$26,626	$26,626
O & M:	$0	$0	$0	$0
Total:	$12,671,456	$0	$87,852	$12,759,308
		$87,852		

Financial Data Analysis:

Federal Expenditures: $12,671,456 (99.3%)

Non-Fed Expenditures: $87,852 (0.7%)

Escrow Funds Deposited:

Notes

1. Financial data based on Corps of Engineers records.
2. A "#" by the CSA Estimate indicates that the CURRENT ESTIMATE exceeds 125% of the CSA ESTIMATE for the feature. A modification to the Cost Sharing Agreement may be required.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

PROJECT STATUS REPORT as of 17-Apr-2007

Little Lake Shoreline Protection/Dedicated Dredging near Round Lake

PROJECT LOCATION:

The project is located in the central Barataria Basin in Lafourche Parish, Louisiana. The project area is generally bound by the East and West Forks of Bayou L'Ours and the southern shoreline of Little Lake from Plum Point westward to Breton Canal.

PROJECT DESCRIPTION:

The project would entail construction of approximately 21,000 feet along the Little Lake Shoreline from John the Fool Bayou to Breton Canal. The project would also include dedicated dredging from Little Lake to create approximately 488 acres of marsh at intertidal elevation and nourish 532 acres of fragmented, subsiding marsh.

PROJECT STATUS: (Project Status Last Updated: 26-Dec-2006)

The dredging component is complete. The contractor is finishing dressing the rock which is expected to be completed early Spring 2007.

FUND STATUS:

The current project estimate is $33,992,878 , which includes $33,848,535 for construction first costs, and $23,816 and $120,527 for 20 years of monitoring and operations and maintenance, respectively.

June 2006 (rev.)

Little Lake Shoreline Protection/Dedicated Dredging Near Round Lake (BA-37)

Project Status

Approved Date: 2002
Cost: $38.5 million
Project Area: 1,373 acres
Status: Construction
Net Benefit After 20 Years: 713 acres
Project Type: Shoreline Protection and Marsh Creation

Location

The project is located in the central Barataria Basin in Lafourche Parish, Louisiana. The project area is generally bound by the East and West Forks of Bayou L'Ours and the southern shoreline of Little Lake from Plum Point westward to Breton Canal.

Problems

The Little Lake mapping unit is an area of high wetland loss caused by shoreline erosion, subsidence, and channel construction. The project is located in an area protecting approximately 3,000 acres of fragile interior marshes between the Little Lake shoreline and Bayou L'Ours Ridge. Project area wetlands currently experience two major problems: high shoreline erosion rates (20 to 40 feet per year) and subsidence that deteriorates interior marshes. The project area marsh is expected to convert to mostly open water over the next 20 years if these problems go unchecked. In addition, continued shoreline erosion and wetland loss may adversely affect large areas of adjacent marsh.



This 24-inch dredge pipe is actively rebuilding marsh by depositing sediment dredged from the lake. As the project progresses, the placed sediment will reach an elevation conducive for growing and sustaining marsh vegetation.

Restoration Strategy

The project's goals are to: 1) prevent erosion along roughly 4 miles of Little Lake shoreline; 2) create 488 acres of intertidal wetlands along the Little Lake shoreline; 3) nourish and maintain 532 acres of intermediate marsh; and 4) reduce land-loss rates by 50% over the 20-year life of the project.

Geotechnical, soil stability, and engineering evaluation will be required prior to selection of the specific structural and non-structural measures that could achieve the project's goals. However, for the purpose of evaluation, two major project features are envisioned. The first of these is 21,000 feet of shoreline protection in the open water constructed parallel to the existing shoreline at a crest elevation some 2 feet above the mean water level. The second project feature envisioned is marsh creation in the open water and broken marsh areas along the Little Lake shoreline. Borrow areas would be located in Little Lake, with preliminary data indicating that silty and clay-like sands may be located in the vicinity of Plum Point. Semi-confined disposal will likely be used, and any retaining features would be degraded or gapped as soon as the fill material has sufficiently consolidated.

Progress to Date

This project was selected for Phase I (engineering and design) funding at the January 2002 Breaux Act Task Force meeting and for Phase II (construction) funding in November 2003.

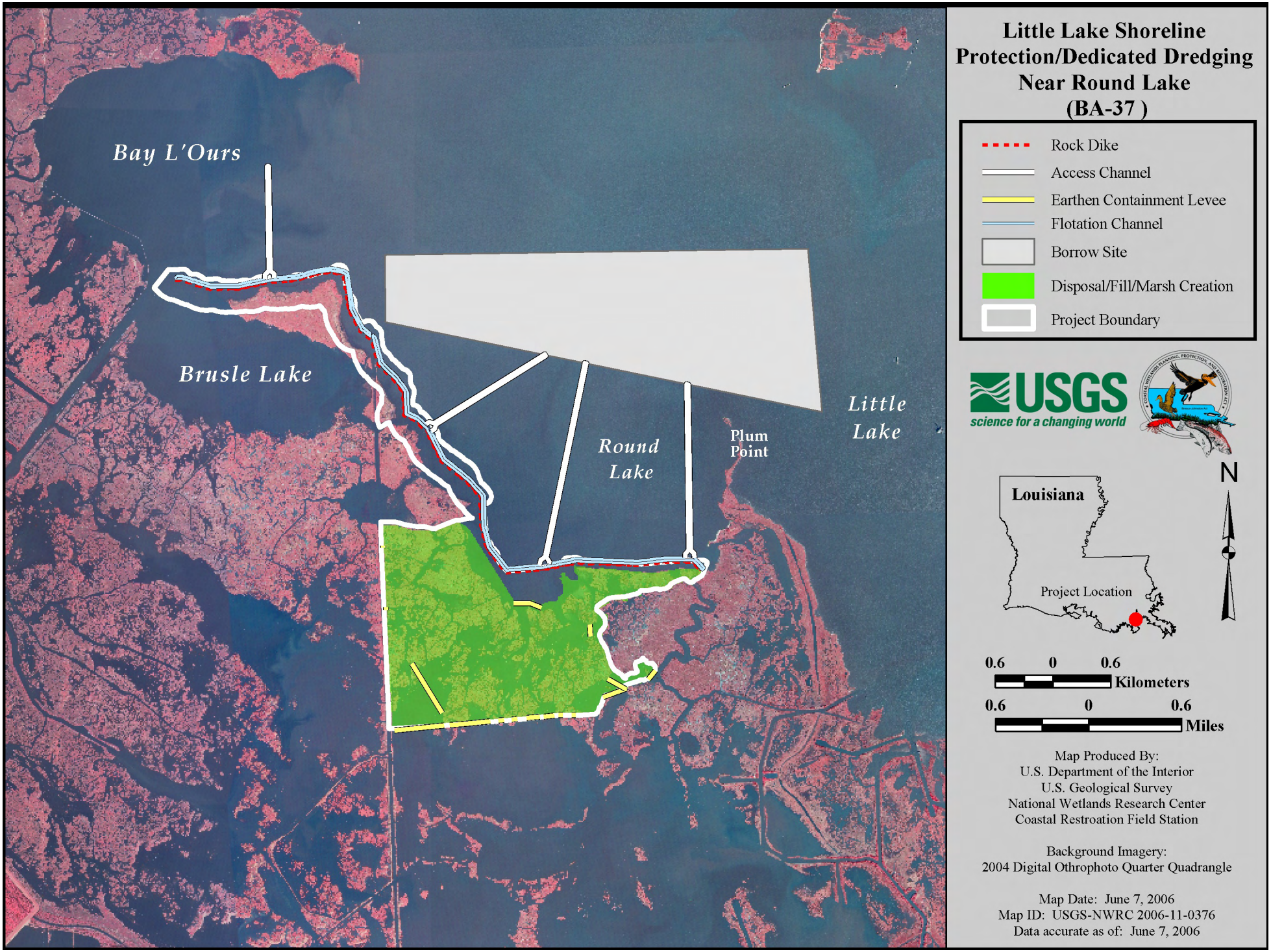
The project is currently in construction, which is anticipated to be complete in summer 2006.

It is listed on Priority Project List 11.

For more project information, please contact:

Federal Sponsor:
National Marine Fisheries Service
Baton Rouge, LA
(225) 389-0508

Local Sponsor:
Louisiana Department of Natural Resources
Baton Rouge, LA
(225) 342-7308



Little Lake Shoreline Protection/Dedicated Dredging Near Round Lake (BA-37)

- Rock Dike
- Access Channel
- Earthen Containment Levee
- Flotation Channel
- Borrow Site
- Disposal/Fill/Marsh Creation
- Project Boundary

USGS science for a changing world

N

0.6 0 0.6 Kilometers

0.6 0 0.6 Miles

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restroation Field Station

Background Imagery:
2004 Digital Othrophoto Quarter Quadrangle

Map Date: June 7, 2006
Map ID: USGS-NWRC 2006-11-0376
Data accurate as of: June 7, 2006

APPENDIX F

OVERALL PROJECT PLAN AND AS-BUILT DRAWINGS

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
BA-37
LAFOURCHE PARISH

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3	APPROXIMATE PIPELINE LOCATIONS
4	PROJECT LAYOUT
4A	AS-BUILT ACCESS, FLOATATION, ROCK DIKE STATIONING, SIGNS
5	BORING LOCATIONS
6	MARSH CREATION PLAN VIEW
6A	PRE CONSTRUCTION & AS-BUILT CELL ELEVATIONS
6B	PRE CONSTRUCTION, AS-BUILT, & 9 MONTH POST CONSTRUCTION MONITORING CELL ELEVATIONS
6C	INITIAL, 14 DAY, 28 DAY CELL ELEVATIONS
7	STAKE COORDINATES
8	PROPOSED CONTAINMENT
9	TYPICAL INTERNAL TRAINING DIKE SECTION & PLAN VIEW
10-13	SHORELINE PROTECTION PLAN VIEW
14	ROCK DIKE COORDINATES
15	TYPICAL ACCESS CHANNEL PLAN & PROFILE VIEWS
16	TYPICAL ACCESS CHANNEL SECTION
17	FISH DIP PLAN VIEW
18	FISH DIP DETAIL
19	TYPICAL ROCK DIKE SECTIONS
20	TYPICAL MARSH SECTIONS
21	TYPICAL CONTAINMENT LEVEE SECTION & PLAN VIEW
22	TYPICAL BORROW AREA SECTIONS
22A	AS-BUILT BORROW AREA PLAN VIEW
23-26	ROCK DIKE CROSS SECTIONS
27-30	MARSH CREATION CROSS SECTIONS
31	TYPICAL DETAILS
32	WEATHER CONDITIONS
33	ADJUSTED ROCK DIKE ALIGNMENT
34-47	ROCK DIKE CROSS SECTIONS
48	MARSH TRANSECT PLAN VIEW
49-56	MARSH CROSS SECTIONS (EXISTING)





AS BUILT PLANS

TYPE OF CONSTRUCTION

CLASSIFICATION III (HEAVY CONSTRUCTION)
SHORELINE PROTECTION AND MARSH CREATION

FEDERAL PROJECT SPONSOR

STATE PROJECT SPONSOR

CED DIRECTOR

CED ENGINEER MANAGER

CED PROJECT ENGINEER

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

TITLE SHEET

DATE: FEBRUARY 2005

SHEET 1

V:\CAD\116478\DNR DESIGN PLANS 8-25-06\AS-BUILT-LAND 2007\A01 TITLE SHEET.DWG

GENERAL NOTES

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) U. S. SURVEY FEET (FEET). ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD83, LOUISIANA STATE PLANE SOUTH ZONE U. S. FEET).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NAVIGATING FROM A NAVIGABLE WATER BODY TO THE PROJECT AREA. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR NAVIGATING WITHIN THE LIMITS OF THE PROJECT PLAN AREA AND DREDGING ONLY WITHIN THE LIMITS OF THE FLOATATION, ACCESS CHANNELS AND BORROW AREA. THE LDNR. PROJECT ENGINEER OR HIS REPRESENTATIVE SHALL MONITOR THE EQUIPMENT LOCATION DURING CONSTRUCTION.
3. ALL EQUIPMENT SHALL BE FLOATING AT ALL TIMES DURING THE TRANSIT TO AND FROM THE PROJECT SITE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING PIPELINE AND UTILITY OPERATORS 5 WORKING DAYS PRIOR TO MOBILIZATION. ALL PIPELINES AND UNDERGROUND UTILITIES SHALL BE MARKED WITH BUOYS BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN BUOYS DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE CLEARANCES FROM THE PIPELINES SET FORTH IN THE PLAN DRAWINGS OR IN THE BID DOCUMENTS. SEE SP-4 "LAND OWNER REQUIREMENTS". NO EXCAVATION IS ALLOWED WITHIN ANY AREA RESTRICTED BY PIPELINE COMPANIES AND SET FORTH ON THE PLANS. THE FOLLOWING IS A LIST OF UTILITIES AND PIPELINE OPERATORS KNOWN TO HAVE PIPELINES IN THE VICINITY. PIPELINE LOCATIONS SHOWN ON SHEET **3** ARE APPROXIMATIONS. THE OWNER IS NOT LIABLE FOR EXACT LOCATIONS. THE CONTRACTOR MUST CALL LOUISIANA ONE CALL AT 1-800-272-3020 AT LEAST 5 WORKING DAYS PRIOR TO MOBILIZATION.

TENNESSEE GAS	CAM PIPELINE	MARDI GRAS/BP	MARDI GRAS/BP
CONTACT: MIKE BRYAN	CONTACT: JERRY ERCEG	CONTACT: BILL SCAIFE	CONTACT: BARRY DUFF
PHONE: (985) 879-3516 EXT. 2023	PHONE: (504) 393-6285	PHONE: (281) 366-4402	PHONE: (281) 366-6567
FAX: (985) 876-0836	FAX: (504) 394-2652	FAX: (281) 366-7910	FAX: (281) 366-3385
PIPE SIZE: 4", 6", AND 12"	PIPE SIZE: 24"	PIPE SIZE: 30"	PIPE SIZE: 30"

5. THE CONTRACTOR SHALL CONTACT MR. HARALD WERNER OF CLOVELLY OIL AT LEAST FIVE (5) WORKING DAYS PRIOR TO ACCESSING THE SITE TO OBTAIN PERMISSION TO ACCESS THE SITE. MR. WERNER CAN BE REACHED AT (504) 522-7496.
6. THE CONTRACTOR SHALL CONTACT MR. RANDY MOERTLE AT LEAST FIVE (5) WORKING DAYS PRIOR TO ACCESSING THE PROJECT SITE. MR. MOERTLE CAN BE REACHED AT HIS OFFICE AT (985) 532-6388 OR ON HIS CELL PHONE AT (985) 856-3630.
7. THE CONTRACTOR SHALL CONTACT MR. ZEB MAYHEW, JR. AT LEAST FIVE (5) WORKING DAYS PRIOR TO ACCESSING THE PROJECT SITE. MR. MAYHEW CAN BE REACHED AT HIS HOME AT (225) 265-4211 OR ON HIS CELL PHONE AT (225) 915-9527.
8. THE CONTRACTOR SHALL CONTACT MS. MERLE HIGGISON AT LEAST FIVE (5) WORKING DAYS PRIOR TO ACCESSING THE PROJECT SITE. MS. HIGGISON CAN BE REACHED AT (516) 759-9415.
9. THE BOAT LAUNCH HAS BEEN DEDICATED TO LAFOURCHE PARISH AND MAY BE UTILIZED THROUGH OUT CONSTRUCTION.
10. PLANS AND BID DOCUMENTS ARE COMPLEMENTARY; WHAT IS REQUIRED IN ONE IS AS BINDING AS IF REQUIRED BY ALL. CLARIFICATIONS AND INTERPRETATIONS OF, OR NOTIFICATIONS OF MINOR VARIATIONS AND DEVIATIONS IN THE CONTRACT DOCUMENTS, WILL BE ISSUED BY THE ENGINEER.
11. ELEVATIONS SHOWN ON PLANS ARE BASED ON SURVEYS PERFORMED BETWEEN 11/22/02 AND 1/27/03 BY T. BAKER SMITH AND SON, INC FOR LDNR.
12. THE ROCK ALIGNMENT AND MARSH CREATION AREA MAY BE REVISED BY THE ENGINEER AT THE TIME OF CONSTRUCTION TO REFLECT CHANGES IN FIELD CONDITIONS.
13. INITIAL PLACEMENT OF TEMPORARY NAVIGATION SIGNS SHALL BE 10.0' OUTSIDE OF THE SPOIL PLACEMENT. TEMPORARY NAVIGATION SIGNS AND PILINGS SHALL BE REMOVED PRIOR TO DEMOBILIZATION. PILINGS MAY BE REUSED AT PERMANENT SIGN LOCATIONS IF APPROVED BY THE ENGINEER. SEE SHEET 19 FOR PERMANENT SIGN LOCATIONS.
14. 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.
15. ESTIMATED DREDGE QUANTITIES SHOWN ARE FOR BIDDING PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED FROM 11/22/02 TO 1/27/03. DREDGE QUANTITIES WERE CALCULATED USING THE END AREA METHOD OF SECTIONS 1 THOUGH 10 AND 11 THOUGH 17 WHICH WERE TAKEN ON 1000.0' CENTERS. THE VOLUME FROM SECTIONS 1 THOUGH 10 AND SECTIONS 11 THROUGH 17 WERE AVERAGED TO DETERMINE THE BID QUANTITIES. SETTLEMENT OF THE DREDGE MATERIAL IS NOT INCLUDED IN THE BID QUANTITIES. ACTUAL QUANTITIES WILL BE BASED ON A SURVEY DONE AS PART OF THIS CONTRACT AS REQUIRED IN TS-3 "SURVEYING" OF THE SPECIFICATIONS. THE OWNER RESERVES THE RIGHT TO ADJUST QUANTITIES HIGHER OR LOWER WITHOUT ADJUSTMENT OF THE UNIT PRICE.
16. ESTIMATED ROCK QUANTITIES SHOWN ARE FOR BIDDING PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED FROM 11/22/02 TO 1/27/03. ROCK QUANTITIES WERE CALCULATED USING THE END AREA METHOD OF SECTIONS AT THE BEGINNING OF EACH ROCK SEGMENT, 1000.0' CENTERS ALONG EACH SEGMENT, AND AT THE END OF EACH SEGMENT. TWO FEET OF SETTLEMENT UNDER THE CROWN TAPERING TO NO SETTLEMENT AT THE TOE OF STRUCTURE WAS INCLUDED IN THE QUANTITIES. THE QUANTITIES REQUIRED FOR EACH FISH DIP WERE CALCULATED ASSUMING AN UNIFORM 2.0' LAYER OF RIP-RAP BEING INSTALLED OVER THE ENTIRE FISH DIP AND 0.25' OF SETTLEMENT. THE IN-PLACE UNIT WEIGHT OF 1.5 TONS/CU. YDS. FOR THE ROCK WAS ASSUMED. ACTUAL QUANTITIES WILL BE BASED ON BARGE DISPLACEMENT MEASUREMENTS. SEE SECTION TS 12.10 "MEASUREMENTS AND PAYMENT" FOR ADDITIONAL REQUIREMENTS. THE OWNER RESERVES THE RIGHT TO ADJUST QUANTITIES HIGHER OR LOWER WITHOUT ADJUSTMENT OF THE UNIT PRICE.
17. MATERIAL STOCKPILED LAKEWARD OF FLOATATION AND ACCESS CHANNELS SHALL BE DEPOSITED IN AREAS SHOWN ON THE PLANS AND PLACED SUCH THAT IT IS READILY AVAILABLE TO BE USED TO BACK FILL FLOATATION AND ACCESS CHANNELS. ONLY MATERIAL DREDGED FROM FLOATATION AND ACCESS CHANNELS SHALL BE BACK FILLED INTO SAID CHANNELS.
18. MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) WERE CALCULATED FROM THE NOAA GRAND ISLE TIDAL GAGE AND THE USGS GAGE IN LITTLE LAKE. DATA FROM 01/01/1984 TO 12/31/2002 WAS USED. ELEVATIONS ARE REFERENCED TO NAVD 88, US FEET.
19. THE CONTRACTOR SHALL PERFORM A MAGNETOMETER SURVEY OF THE ACCESS, FLOATATION, AND BORROW AREA. 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. MAGNETOMETER LINES SHALL BE RUN ALONG THE CENTERLINE ALIGNMENT OF ACCESS CHANNELS, THE FLOATATION CHANNEL, AND THE ROCK ALIGNMENT. ADDITIONAL MAGNETOMETER LINES SHALL BE RUN PERPENDICULAR TO THE ROCK ALIGNMENT AND ACCESS CHANNEL. THESE LINES SHALL BEGIN AT THE EDGE OF THE PERMANENT OR TEMPORARY SPOIL PLACEMENT AND EXTEND 25.0' PAST THE TEMPORARY SPOIL AND SHALL BE SPACED A MAXIMUM OF 500.0' APART. MAGNETOMETER LINES IN THE BORROW AREA SHALL FORM A GRID PATTERN WITH A MAXIMUM OFFSET OF 500.0' APART AND SHALL BE ORIENTED NORTH/SOUTH AND EAST/WEST. THE DRAWING SHALL BE STAMPED BY A REGISTERED PROFESSIONAL SURVEYOR LICENSED IN LOUISIANA. SEE SECTION TS 3.5 "MAGNETOMETER SURVEY" FOR ADDITIONAL REQUIREMENTS.

SUMMARY OF ESTIMATED QUANTITIES

BASE BID

ITEM No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	AS-BUILT QUANTITY
1	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	1	1
2	SURVEYING OF MARSH CREATION AREA AND LAKE TRANSECTS	LUMP SUM	1	1
3	PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEE	LINEAR FEET	8,123	11,273
4	SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE	LINEAR FEET	6,675	6,424
5	INTERNAL TRAINING DIKES (3,165' MINIMUM)	LUMP SUM	1	1
6	HYDRAULIC DREDGING (FILL VOLUME IN PLACE @ 2.4' EL.)	CUBIC YARDS	2,512,432	2,828,874
7	WOVEN GEOTEXTILE FABRIC	SQ. YARDS	118,693	113,294
8	ROCK SETTLEMENT PLATES	EACH	24	24
9	250 LB CLASS ROCK	TONS	151,103	145,528
10	TEMPORARY WARNING SIGNS	EACH	63	34
11	PERMANENT WARNING SIGNS	EACH	25	25
12	GRADE STAKES AND FLAGGING	EACH	207	207
13	MARSH SETTLEMENT PLATES	EACH	5	0
14	ACCESS AND FLOATATION CHANNELS	LUMP SUM	1	1

ADDITIVE ALTERNATE BID

ITEM No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	AS-BUILT QUANTITY
15	HYDRAULIC DREDGING	CUBIC YARDS	422,361	336,147
16	GRADE, STAKES AND FLAGGING	EACH	15	15
17	PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEE	LINEAR FEET	205	205
18	SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE	LINEAR FEET	6,261*	6,261
19	INTERNAL TRAINING DIKES (414' MINIMUM)	LUMP SUM	1	1
20	R250 CORDS CLASS ROCK C.O. NO. 4	TONS	30,000	29,762

LOW BIDDER WILL BE DETERMINED ON THE BASIS OF THE BASE BID ALONE.

QUANTITIES SHOWN ARE FOR BID PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED FROM 11/22/02 TO 1/27/03. THE OWNER RESERVES THE RIGHT TO ADJUST QUANTITIES HIGHER OR LOWER WITHOUT ADJUSTMENT OF THE UNIT PRICE. SEE NOTES 12 AND 13.

* IF THE ADDITIVE ALTERNATE IS AWARDED THE TOTAL LENGTH OF SECONDARY EARTHEN CONTAINMENT LEVEE REQUIRED TO CONSTRUCT BOTH THE BASE BID AND ADDITIVE ALTERNATE WILL BE 6,261 FEET. SEE SHEETS 8 OF 32 FOR CLARIFICATION.

AS BUILT PLANS

REV.	DATE	DESCRIPTION	BY
1	4/13/05	REVISED NOTE 6.	KC
2	4/13/05	ADDED NOTES 7, 8, AND 9.	KC
3	4/13/05	ADDED BASE BID ITEM 14.	KC
4	4/17/07	ADDED AS-BUILT QUANTITIES	JMP
5	5/1/07	REVISED SHEET NUMBER & QUANTITIES LIST	WE

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

GENERAL NOTES

DATE: FEBRUARY 2005

SHEET 2

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A02 GENERAL NOTES.DWG



ABBREVIATIONS

BP	BRITISH PETROLEUM
BGD	BRIDGELINE GAS DISTRIBUTION
EPC	EQUILON PIPELINE COMPANY
FIP	FREEPORT INTERSTATE PIPELINE
KPC	KOCH PIPELINE COMPANY
LIG	LOUISIANA INTERSTATE GAS
TGP	TENNESSEE GAS PIPELINE
TPI	TEXACO PIPELINE INCORPORATED
TET	TEXAS EASTERN TRANSMISSION CORP.
SONAT	SOUTHERN NATURAL GAS COMPANY

NOTES:
1. THE BACKGROUND IMAGERY IS A 2000 SPOT IMAGE.
2. PIPELINE LOCATIONS ARE APPROXIMATIONS. THE OWNER IS NOT LIABLE FOR EXACT LOCATIONS.
3. PIPELINES LOCATED OUTSIDE THE PROBABLE ACCESS ROUTES ARE NOT LABELED FOR CLARITY.
4. ALL PIPELINES WITHIN 150' OF THE ROCK ALIGNMENT, FLOATATION CHANNELS, ACCESS CHANNELS OR BORROW AREA SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES.
5. PIPELINE LOCATIONS IN SUPERIOR CANAL ARE BASED ON DRAWINGS OF MAGNETOMETER SURVEYING AND PROBING PERFORMED BY T. BAKER SMITH INC. FOR BRITISH PETROLEUM IN 2003.
6. THE LOCATION OF THE TWO PIPELINES IMMEDIATELY EAST OF THE BORROW AREA ARE BASED ON A MAGNETOMETER SURVEY PERFORMED BY T. BAKER SMITH INC. ON 12/07/02. RESULTS OF MAGNETOMETER SURVEY AVAILABLE UPON WRITTEN REQUEST.
7. PIPELINE LOCATIONS, EXCEPT THOSE IDENTIFIED IN NOTES 4 AND 5, ARE BASED ON THE FOLLOWING DATA BASES: LOUISIANA GEOLOGICAL SURVEY AND NATIONAL PIPELINE MAPPING SYSTEM.

LEGEND

- BORROW AREA
- MARSH CREATION
- PIPELINE

REV.	DATE	DESCRIPTION	BY
1	6/1/07	REVISED SHEET NUMBER	WI

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

APPROXIMATE PIPELINE LOCATIONS

DATE: FEBRUARY 2005

SHEET 3

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A03 PIPELINE.DWG



BORROW AREA BOUNDARY		
PT.	NORTHING (FEET)	EASTING (FEET)
1	366,289.36	3,642,789.75
2	366,289.36	3,657,225.92
3	360,714.07	3,657,625.28
4	363,981.42	3,642,789.75
5	364,318.55	3,650,107.67

MARSH CREATION AREA BOUNDARY		
PT.	NORTHING (FEET)	EASTING (FEET)
6	357,069.21	3,642,574.77
7	357,151.21	3,645,148.02
8	354,393.40	3,647,018.99
9	354,389.79	3,648,460.82
10	355,629.68	3,649,078.20
11	355,420.24	3,653,462.74
12	350,547.65	3,649,847.88
13	350,216.87	3,644,778.37
14	350,085.81	3,642,821.18
15	353,705.18	3,642,680.21

NOTES:

1. SEE SHEET 19 FOR SECTION AA–AA'.
2. SEE SHEET 16 FOR SECTION A–A'.
3. SEE SHEET 20 FOR SECTIONS B–B', C–C', AND D–D'.
4. SEE SHEET 22 FOR SECTIONS E–E' AND F–F'
5. ALL PIPELINES WITHIN 150' OF THE ROCK ALIGNMENT, FLOATATION CHANNELS, ACCESS CHANNELS OR BORROW AREA SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES.
6. PERMITTED ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.
7. SEE SHEET 14 FOR PROPOSED COORDINATES OF ROCK DIKE. A TABLE CONTAINING THE SAME INFORMATION SHALL BE SUBMITTED FOR APPROVAL BY THE CONTRACTOR. WRITTEN APPROVAL BY THE ENGINEER OF THE ALIGNMENT AND QUANTITIES IS REQUIRED BEFORE PLACING ANY ROCKS.
8. PIPELINE LOCATIONS ARE APPROXIMATIONS. THE OWNER IS NOT LIABLE FOR EXACT LOCATIONS.
9. PIPELINE LOCATIONS IN SUPERIOR CANAL ARE BASED ON RESULTS OF MAGNETOMETER SURVEYING AND PROBING PERFORMED BY T. BAKER SMITH INC. FOR BRITISH PETROLEUM IN 2003.
10. TWO PIPELINES IMMEDIATELY EAST OF THE BORROW AREA ARE BASED ON A MAGNETOMETER SURVEY PERFORMED BY T. BAKER SMITH INC. ON 12/07/02. RESULTS OF MAGNETOMETER AVAILABLE UPON WRITTEN REQUEST.
11. APPROXIMATE PIPELINE LOCATIONS EXCEPT THOSE IDENTIFIED IN NOTES 9 AND 10 ARE BASED ON THE FOLLOWING DATA BASES: LOUISIANA GEOLOGICAL SURVEY AND NATIONAL PIPELINE MAPPING SYSTEM.
12. SECTIONS 1, 3, 5 AND 7 WERE EXTENDED TO CALCULATE QUANTITIES. THE CONTRACTOR SHALL VERIFY THE PRE–CONSTRUCTION ELEVATIONS AT THE EARTHEN BOUNDARY CONTAINMENT LEVEES. SEE SECTION TS 5.1, "SCOPE" FOR ADDITIONAL REQUIREMENTS.
13. SEE SHEET 16 FOR ACCESS CHANNELS COORDINATES.

REV.	DATE	DESCRIPTION	BY
1	4/19/05	REVISED MONUMENT INFORMATION.	KC
2	4/17/07	CORRECT MONUMENT ELEVATIONS	BP
3	5/1/07	REVISED SHEET NUMBER, SEC. & ELEVATION	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E. | APPROVED BY: LUKE LEBAS, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

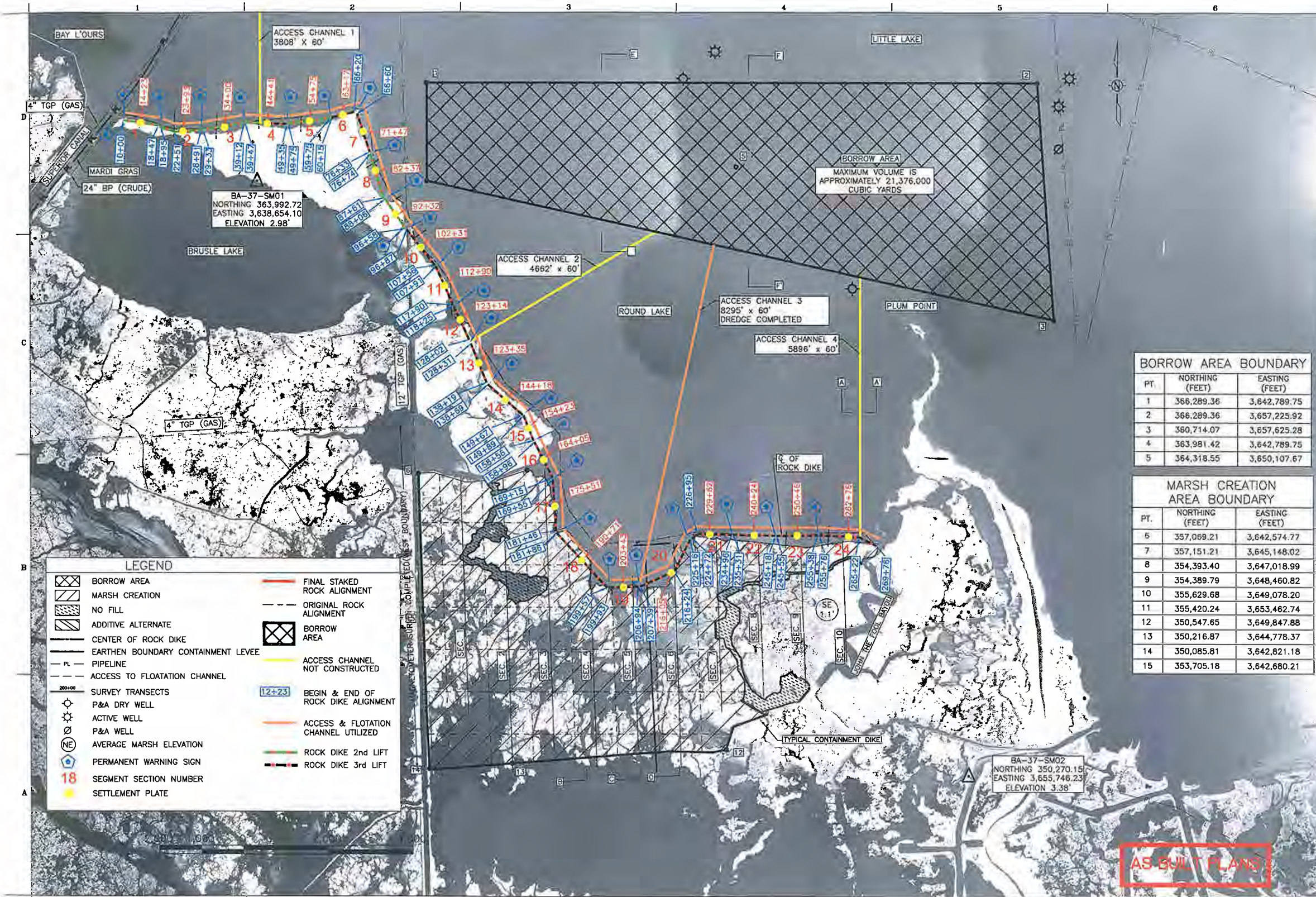
FEDERAL PROJECT NUMBER: BA-37

PROJECT LAYOUT

DATE: FEBRUARY 2005

SHEET 4

V:\CAD\118478\DNR DESIGN PLANS 8-28-08\AS-BUILT-LAND 2007\A04-5 PROJECT LOCATION.DWG



BORROW AREA BOUNDARY

PT.	NORTHING (FEET)	EASTING (FEET)
1	366,289.36	3,642,789.75
2	366,289.36	3,657,225.92
3	360,714.07	3,657,625.28
4	363,981.42	3,642,789.75
5	364,318.55	3,650,107.67

MARSH CREATION AREA BOUNDARY

PT.	NORTHING (FEET)	EASTING (FEET)
6	357,069.21	3,642,574.77
7	357,151.21	3,645,148.02
8	354,393.40	3,647,018.99
9	354,389.79	3,648,460.82
10	355,629.68	3,649,078.20
11	355,420.24	3,653,462.74
12	350,547.65	3,649,847.88
13	350,216.87	3,644,778.37
14	350,085.81	3,642,821.18
15	353,705.18	3,642,680.21

Shaw Coastal, Inc.

MAIN OFFICE LOCATION:
197 ELYSIAN DRIVE
HOUMA, LA. 70363
PHONE: (985) 868-3434
FAX: (985) 868-8513
AN ADDITIONAL OFFICE IN WESTWEGO, LA.

BA-37 LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION PROJECT
LITTLE LAKE SHORELINE
AS-BUILT
ACCESS&FLOATATION CHANNELS, ROCK DIKE, AND STATIONING

SHEET NUMBER 4A

V:\CAD\116478\DWR ORIGINAL DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A 4A-ACCESS, FLOATATION, ROCK DIKE.DWG

NOTES:

1. SURVEY CROSS SECTIONS AND POINT FILE ARE AVAILABLE UPON REQUEST.
2. SEE APPENDIX A OF SPECIFICATIONS FOR DNR AND COE BORING LOGS.
3. SEE APPENDIX B OF SPECIFICATIONS FOR DATA SHEETS OF THE BENCH MARKS.
4. THE LAKE TRANSECTS REQUIRED IN TS-3.3 "LAKE TRANSECTS" SHALL EXTEND FROM THE SHORELINE TO 600' BEYOND THE PROPOSED CENTERLINE.
5. PIPELINE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL CALL LOUISIANA ONE CALL AND THE PIPELINE COMPANIES LISTED IN NOTE 4 OF THE GENERAL NOTES AT LEAST 5 WORKING DAYS PRIOR TO MOBILIZATION.
6. PIPELINE LOCATIONS IN SUPERIOR CANAL ARE BASED ON RESULTS OF MAGNETOMETER SURVEYING AND PROBING PERFORMED BY T. BAKER SMITH INC. FOR BRITISH PETROLEUM IN 2003.
7. TWO PIPELINES IMMEDIATELY EAST OF THE BORROW AREA ARE BASED ON A MAGNETOMETER SURVEY PERFORMED BY T. BAKER SMTH INC. ON 12/07/02. RESULTS OF MAGNETOMETER AVAILABLE UPON WRITTEN REQUEST.
8. APPROXIMATE PIPELINE LOCATIONS EXCEPT THOSE IDENTIFIED IN NOTES 6 AND 7 ARE BASED ON THE FOLLOWING DATA BASES: LOUISIANA GEOLOGICAL SURVEY AND NATIONAL PIPELINE MAPPING SYSTEM.
9. THERE IS AN EXISTING FLOATING MARINE BARRICADE IN THE TENNESSEE GAS PIPELINE CANAL. SEE SHEET 8 FOR LOCATION.

BORING LOCATIONS

NAME	NORTHING (FEET)	EASTING (FEET)
DNR (2002)		
BORR-01	367,536.79	3,642,708.25
BORR-02	371,744.38	3,645,293.16
BORR-03	370,036.35	3,652,861.13
BORR-04	361,579.51	3,657,251.72
BORR-05	363,162.56	3,649,371.90
BORR-06	367,426.26	3,647,561.43
BORR-07	365,698.80	3,656,457.95
SHORE-01	366,019.39	3,638,838.18
SHORE-02	363,281.96	3,642,967.92
SHORE-03	359,925.66	3,645,149.94
SHORE-04	356,749.77	3,646,393.66
SHORE-05	355,285.90	3,647,465.66
SHORE-06	356,245.20	3,650,443.35
FILL-01	355,187.72	3,644,328.13
FILL-02	352,869.66	3,648,360.32
FILL-03	353,388.39	3,649,824.06
FILL-04	354,525.42	3,651,895.39
U.S. CORPS OF ENGINEERING (2000)		
BMNL-1G	356,989.31	3,669,034.19
BMNL-2G	360,495.87	3,665,529.98
BMNL-3G	364,844.78	3,653,029.86
BMNL-4G	355,845.54	3,662,029.85
BMNL-5G	367,344.18	3,658,029.51
BMNL-6G	359,844.36	3,658,528.67
BMNL-7G	366,234.15	3,653,029.50
BMNL-8G	370,812.24	3,647,530.07
BMNL-9G	364,312.65	3,648,020.51
BMNL-10G	368,012.47	3,643,029.59

LEGEND

- BORROW AREA
- MARSH CREATION
- NO FILL
- ADDITIVE ALTERNATE
- BORINGS
- BENCHMARK
- ACTIVE WELL
- P&A DRY WELL
- P&A WELL
- USGS GAGE
- SHORELINE PROTECTION
- SURVEY BASELINE
- CONTAINMENT LEVEE
- PIPELINE
- ACCESS TO FLOATATION CHANNEL
- SURVEY TRANSECTS

AS BUILT PLANS

3,000' 1,500' 0' 3,000' 6,000'

REV.	DATE	DESCRIPTION	BY
1	4/19/05	REVISED MONUMENT INFORMATION.	KC
2	4/17/05	CORRECT MONUMENT ELEVATIONS	JMP
3	5/1/07	REVISED SHEET NUMBER, SFT. & ELEVATION	WI

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

BORING LOCATIONS

DATE: FEBRUARY 2005

SHEET 5

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A04-5 PROJECT LOCATION.DWG



NOTES:

1. SURVEY CROSS SECTIONS AND POINT FILES ARE AVAILABLE UPON REQUEST.
2. SECTIONS 1–17 HAVE BEEN SURVEYED. SECTIONS 1A–17A HAVE NOT BEEN SURVEYED.
3. ALL SECTIONS SHOWN ARE TO BE SURVEYED AT THE CONTRACTOR'S EXPENSE BY A LOUISIANA LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION IN ORDER TO CALCULATE THE VOLUME BELOW THE TARGET ELEVATION. SEE SECTION TS–3 "SURVEYING" OF THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. PIPELINE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL CALL LOUISIANA ONE CALL AND THE PIPELINE COMPANIES LISTED IN NOTE 4 OF THE GENERAL NOTES AT LEAST 5 WORKING DAYS PRIOR TO MOBILIZATION.
5. PIPELINE SHOWN ON THIS DRAWING IS BASED ON THE FOLLOWING DATA BASES: LOUISIANA GEOLOGICAL SURVEY AND NATIONAL PIPELINE MAPPING SYSTEM.
6. THE CONTRACTOR MAY ACCESS THE BOUNDARY CONTAINMENT THROUGH THE TENNESSEE GAS PIPELINE CHANNEL PROVIDED THAT THE PIPELINE IS LOCATED AND PROBED. SEE TS–5 SECTION 5.2, "ACCESS" FOR ADDITIONAL REQUIREMENTS.
7. THE CONTRACTOR MAY ACCESS THE BOUNDARY CONTAINMENT THROUGH JOHN THE FOOL BAYOU.
8. CELLS EC–1, EC–13, EC–25 THROUGH EC–33, AND EC–41 EXTEND TO SHORELINE.
9. CELL EC–32 EXTENDS TO THE EASTERN NO FILL AREA.
10. CELLS EC–63, EC–68, EC–71, EC–72, EC–75, EC–76, AND EC–79 WILL BE RECLASSIFIED AS INTERNAL CELLS IF THE ADDITIVE ALTERNATE IS AWARDED.
11. INTERNAL TRAINING DIKES SHALL BE CONSTRUCTED AND MAINTAINED AT ALL EXISTING STREAMS, BAYOUS, TRENASSES OR OPEN WATER AREAS DIRECTLY CONNECTED TO A NAVIGABLE WATER BODY OR NO FILL AREAS WITHIN THE MARSH CREATION/NOURISHMENT AREA. SEE SECTION TS–7 "INTERNAL DIKES" FOR ADDITIONAL REQUIREMENTS.
12. THE CONTRACTOR SHALL INSTALL A MINIMUM OF FOUR (4) STAKES PER CELL. ADDITIONAL STAKES MAY BE INSTALLED AT NO COST TO THE OWNER.
13. THERE IS AN EXISTING FLOATING MARINE BARRICADE IN THE TENNESSEE GAS PIPELINE CANAL. SEE SHEET 8 FOR LOCATION.

LEGEND

- NO FILL
- MARSH SETTLEMENT PLATE
- PL — PIPELINE
- SURVEY LINES COMPLETED 12/27/03
- PROPOSED SURVEY LINES
- ADDITIVE ALTERNATE
- EC–1 EXTERNAL CELL
- IC–1 INTERNAL CELL

1,000' 500' 0' 1,000' 2,000'

REV.	DATE	DESCRIPTION	BY
1	8/1/07	REVISED SHEET NUMBER & ADDED NOTE	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

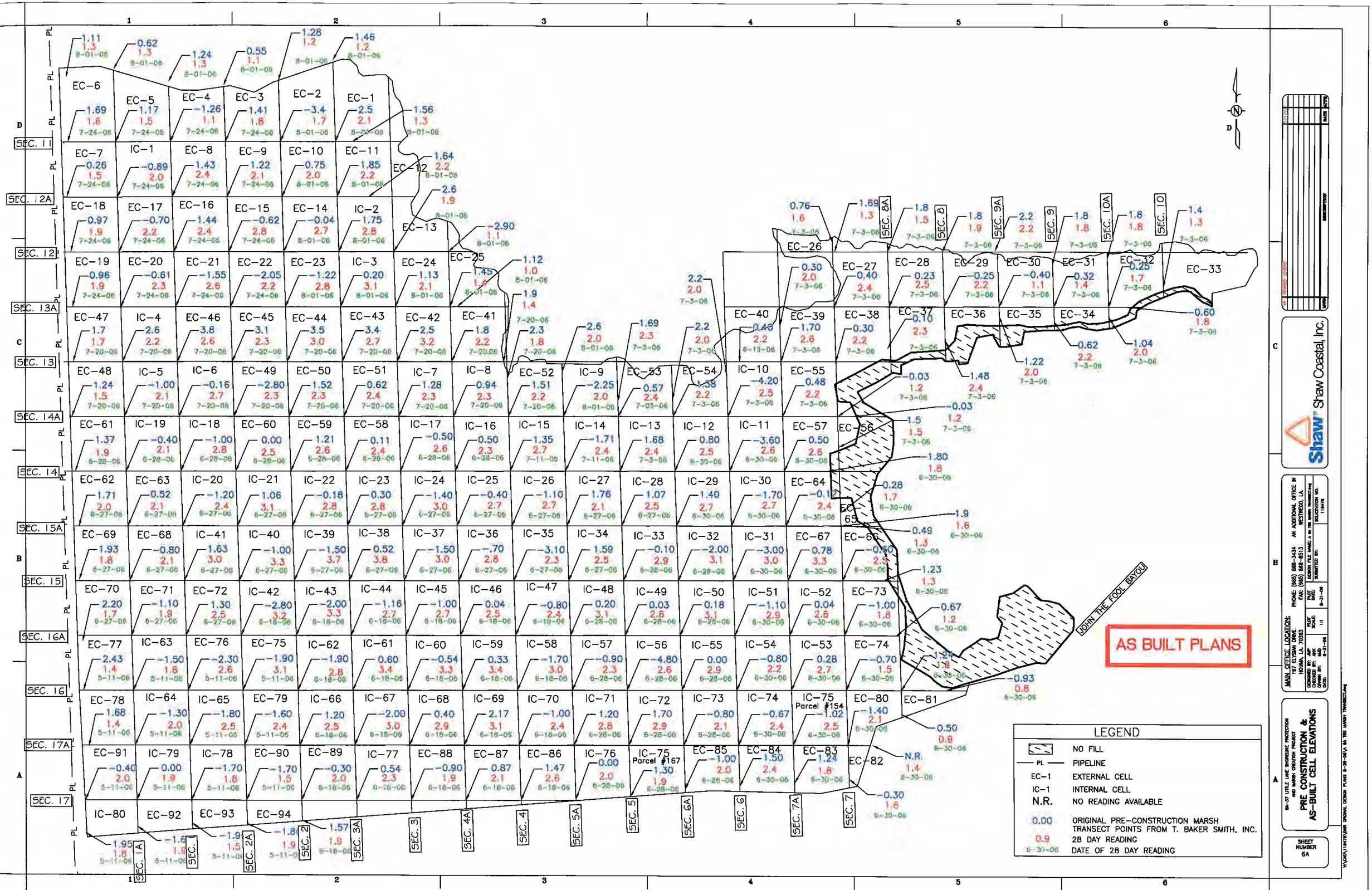
APPROVED BY: LUKE LEBAS, P.E.

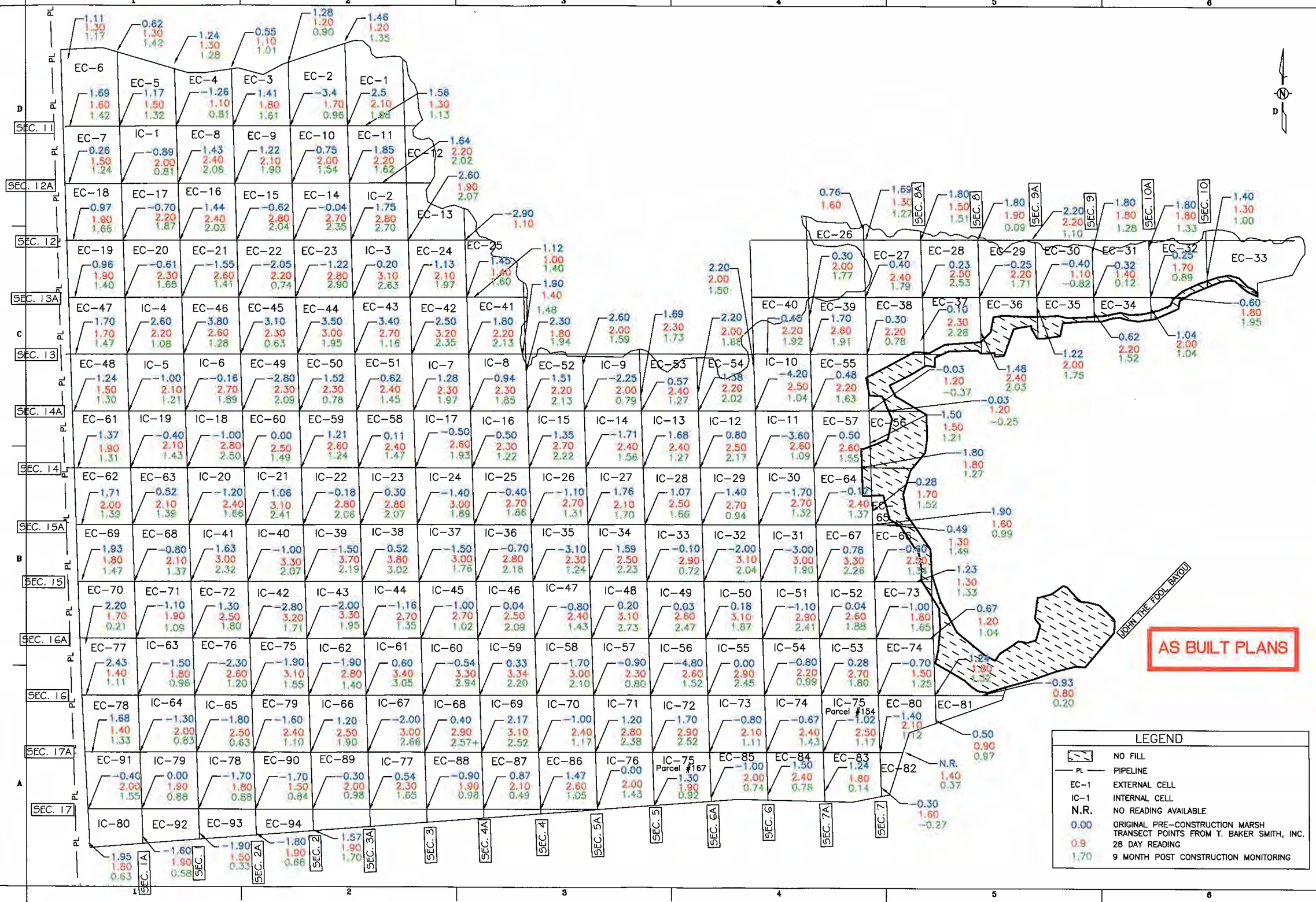
MARSH CREATION
PLAN VIEW

DATE: FEBRUARY 2005

SHEET 6

V:\CAD\116478\DNR DESIGN PLANS 8-28-08\AS-BUILT-LAND 2007\A06 PROJECT LOCATION.DWG


EC-6 EC-5 EC-4 EC-3 EC-2 EC-1
EC-7 IC-1 EC-8 EC-9 EC-10 EC-11 EC-12 EC-13
EC-18 EC-17 EC-16 EC-15 EC-14 IC-2
EC-19 EC-20 EC-21 EC-22 EC-23 IC-3 EC-24 EC-25
EC-47 IC-4 EC-46 EC-45 EC-44 EC-43 EC-42 EC-41
EC-48 IC-5 IC-6 EC-49 EC-50 EC-51 IC-7 IC-8 EC-52 IC-9 EC-53 EC-54 IC-10 EC-55
EC-61 IC-19 IC-18 EC-60 EC-59 EC-58 IC-17 IC-16 IC-15 IC-14 IC-13 IC-12 IC-11 EC-57 EC-56
EC-62 EC-63 IC-20 IC-21 IC-22 IC-23 IC-24 IC-25 IC-26 IC-27 IC-28 IC-29 IC-30 EC-64
EC-69 EC-68 IC-41 IC-40 IC-39 IC-38 IC-37 IC-36 IC-35 IC-34 IC-33 IC-32 IC-31 EC-67 EC-66
EC-70 EC-71 EC-72 IC-42 IC-43 IC-44 IC-45 IC-46 IC-47 IC-48 IC-49 IC-50 IC-51 IC-52 EC-73
EC-77 IC-63 EC-76 EC-75 IC-62 IC-61 IC-60 IC-59 IC-58 IC-57 IC-56 IC-55 IC-54 IC-53 EC-74
EC-78 IC-64 IC-65 EC-79 IC-66 IC-67 IC-68 IC-69 IC-70 IC-71 IC-72 IC-73 IC-74 IC-75 Parcel #154 EC-80 EC-81
EC-91 IC-79 IC-78 EC-90 EC-89 IC-77 EC-88 EC-87 EC-86 IC-76 IC-75 Parcel #167 EC-85 EC-84 EC-83 EC-82
IC-80 EC-92 EC-93 EC-94
EC-26 EC-27 EC-28 EC-29 EC-30 EC-31 EC-32 EC-33
EC-40 EC-39 EC-38 EC-37 EC-36 EC-35 EC-34
SEC. 11 SEC. 12A SEC. 12 SEC. 13A SEC. 13 SEC. 14A SEC. 14 SEC. 15A SEC. 15 SEC. 16A SEC. 16 SEC. 17A SEC. 17
SEC. 1A SEC. 1 SEC. 2A SEC. 2 SEC. 3A SEC. 3 SEC. 4A SEC. 4 SEC. 5A SEC. 5 SEC. 6A SEC. 6 SEC. 7A SEC. 7
SEC. 8A SEC. 8 SEC. 9A SEC. 9 SEC. 10A SEC. 10
JOHN THE FOOL BAYOU
AS BUILT PLANS
LEGEND
NO FILL
PL PIPELINE
EC-1 EXTERNAL CELL
IC-1 INTERNAL CELL
N.R. NO READING AVAILABLE
0.00 ORIGINAL PRE-CONSTRUCTION MARSH TRANSECT POINTS FROM T. BAKER SMITH, INC.
0.9 28 DAY READING
8-30-06 DATE OF 28 DAY READING
Shaw Coastal, Inc.
MAIN OFFICE LOCATION: 197 ELYSIAN DRIVE HOUMA, LA. 70363
PHONE: (985) 868-3434 FAX: (985) 868-8513
AN ADDITIONAL OFFICE IN WESTWEGO, LA.
DESIGNED BY: AJP DRAWN BY: AWS CHECKED BY: AJP DATE: 8-31-06
PLOT DATE: 8-31-06
PLOT SCALE: 1:1
SUBMITTED BY:
SOLICITATION NO. 118478
BA-37 LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION PROJECT
PRE CONSTRUCTION & AS-BUILT CELL ELEVATIONS
SHEET NUMBER 6A
V:\JOBS\118478\dwg\AS_BUILT_PLANS 8-28-06\6A TBS MARSH TRANSECT.dwg



AS BUILT PLANS

LEGEND

	NO FILL
— PL —	PIPELINE
EC-1	EXTERNAL CELL
IC-1	INTERNAL CELL
N.R.	NO READING AVAILABLE
0.00	ORIGINAL PRE-CONSTRUCTION MARSH TRANSECT POINTS FROM T. BAKER SMITH, INC.
0.9	28 DAY READING
1.70	9 MONTH POST CONSTRUCTION MONITORING

Shaw® Shaw Coastal, Inc.

MAIN OFFICE LOCATION:
197 ELYSIAN DRIVE
HOUMA, LA 70363

PHONE: (985) 868-3434
FAX: (985) 868-8513

AN ADDITIONAL OFFICE IN WESTWEGO, LA.

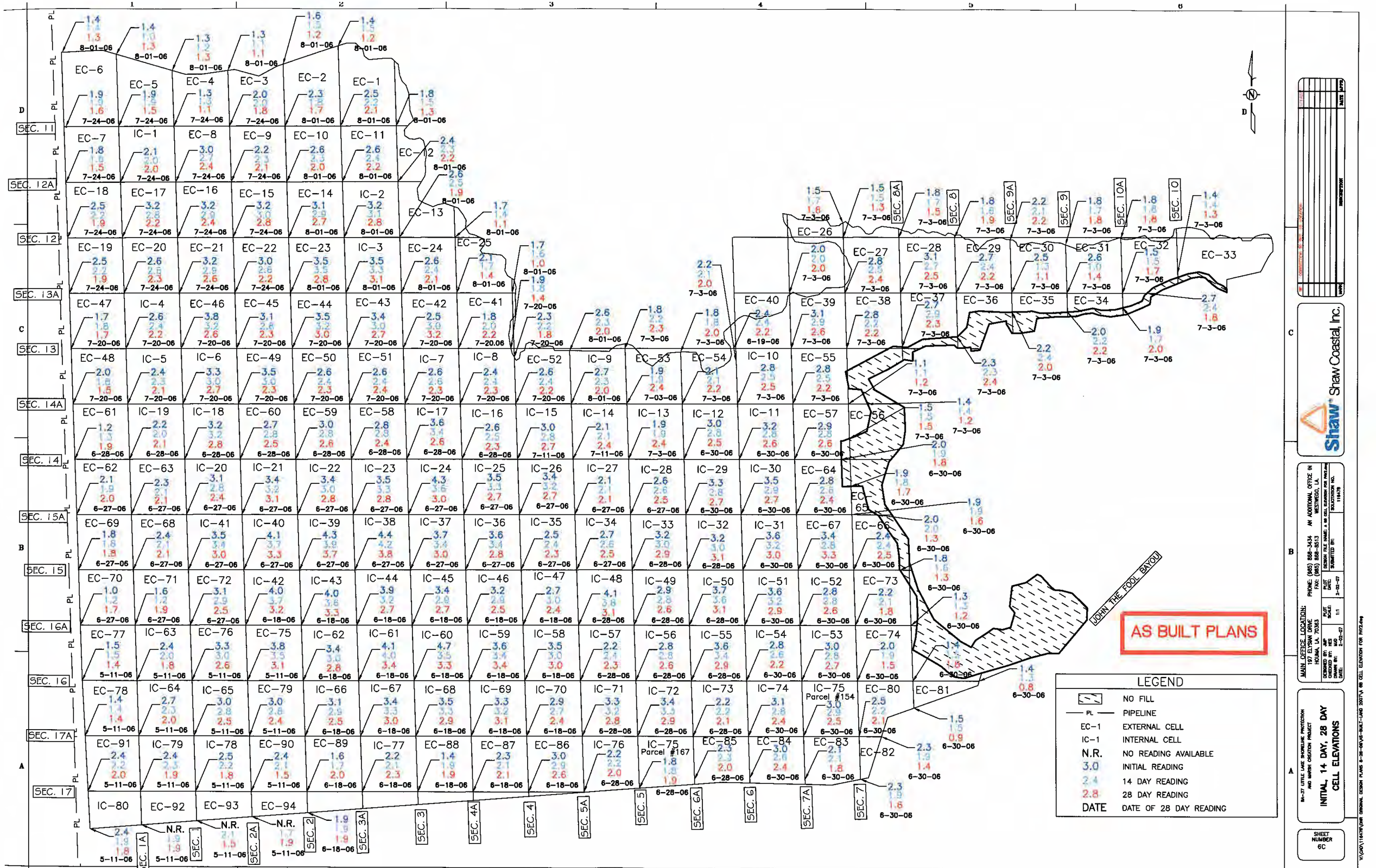
DESIGNED BY: JMP
CHECKED BY: AKK
DRAWN BY: MJD
DATE: 7-31-07
PLOT SCALE: 1:1
PLOT DATE: 8-31-08
DESIGN FILE NAME: e:\b post construction monitoring
SUBMITTED BY:
SOLICITATION NO. 118478

BA-37 LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION PROJECT

9 MONTH POST CONSTRUCTION MONITORING

SHEET NUMBER 6B

V:\CAD\118478\DWR ORIGINAL DESIGN PLANS 8-28-08\A BB POST CONSTRUCTION MONITORING.dwg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EC-90
EC-91
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EC-93
EC-94
SEC. 1
SEC. 1A
SEC. 2
SEC. 2A
SEC. 3
SEC. 3A
SEC. 4
SEC. 4A
SEC. 5
SEC. 5A
SEC. 6
SEC. 6A
SEC. 7
SEC. 7A
SEC. 8
SEC. 8A
SEC. 9
SEC. 9A
SEC. 10
SEC. 10A
SEC. 11
SEC. 12
SEC. 12A
SEC. 13
SEC. 13A
SEC. 14
SEC. 14A
SEC. 15
SEC. 15A
SEC. 16
SEC. 16A
SEC. 17
SEC. 17A
PL
N.R.
JOHN THE FOOL BAYOU
AS BUILT PLANS
LEGEND
NO FILL
PIPELINE
EXTERNAL CELL
INTERNAL CELL
N.R. NO READING AVAILABLE
3.0 INITIAL READING
2.4 14 DAY READING
2.8 28 DAY READING
DATE DATE OF 28 DAY READING
Shaw Coastal, Inc.
MAIN OFFICE LOCATION:
197 ELYSIAN DRIVE
HOUMA, LA. 70363
PHONE: (985) 858-3434
FAX: (985) 858-3513
AN ADDITIONAL OFFICE IN
WESTWEGO, LA.
DESIGNED BY: AMP
CHECKED BY: MES
DRAWN BY: MAS
DATE: 2-02-07
PLOT DATE: 2-02-07
PLOT SCALE: 1:1
SUBMITTED BY:
DESIGN FILE NAME: J & M CELL ELEVATION FOR PW2.dwg
SOLICITATION NO. 116479
BA-27 LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION PROJECT
INITIAL, 14 DAY, 28 DAY
CELL ELEVATIONS
SHEET NUMBER 6C
V:\JOB\116479\DWG ORIGINAL DESIGN PLANS 6-28-06\AS-BUILT-LAND 2007\AS BUILT CELL ELEVATION FOR PW2.dwg

SECTION INTERSECTIONS COORDINATES (STAKE LOCATIONS)

Point	Northing (Feet)	Easting (Feet)
1A,11	356,402.27	3,643,090.91
1A,12A	355,902.30	3,643,106.55
1A,12	355,402.31	3,643,107.71
1A,13A	354,902.37	3,643,137.83
1A,13	354,402.41	3,643,153.48
1A,14A	353,902.45	3,643,169.12
1A,14	353,402.48	3,643,184.76
1A,15A	352,902.52	3,643,200.40
1A,15	352,402.55	3,643,216.05
1A,16A	351,902.59	3,643,231.69
1A,16	351,402.62	3,643,247.33
1A,17A	350,902.66	3,643,262.97
1A,17	350,405.64	3,643,278.52
1,11	356,403.43	3,643,591.12
1,12A	355,903.47	3,643,606.76
1,12	355,403.50	3,643,622.40
1,13A	354,903.54	3,643,638.04
1,13	354,403.57	3,643,653.68
1,14A	353,903.61	3,643,669.33
1,14	353,403.64	3,643,684.97
1,15A	352,903.68	3,643,700.61
1,15	352,403.71	3,643,716.25
1,16A	351,903.75	3,643,731.90
1,16	351,403.78	3,643,747.54
1,17A	350,903.86	3,643,763.68
1,17	350,405.46	3,643,778.99
2A,11	356,404.60	3,644,091.32
2A,12A	355,904.63	3,644,106.97
2A,12	355,404.67	3,644,122.61
2A,13A	354,904.70	3,644,138.25
2A,13	354,404.74	3,644,153.89
2A,14A	353,904.77	3,644,169.54
2A,14	353,404.81	3,644,185.18
2A,15A	352,904.84	3,644,200.82
2A,15	352,404.88	3,644,216.46
2A,16A	351,904.91	3,644,232.11
2A,16	351,403.78	3,643,747.54
2A,17A	350,904.80	3,644,263.26
2A,17	350,405.98	3,644,280.16

Point	Northing (Feet)	Easting (Feet)
2,11	356,405.76	3,644,591.53
2,12A	355,905.80	3,644,607.17
2,12	355,405.83	3,644,622.82
2,13A	354,905.87	3,644,638.46
2,13	354,405.90	3,644,654.10
2,14A	353,905.94	3,644,669.74
2,14	353,405.97	3,644,685.39
2,15A	352,906.01	3,644,701.03
2,15	352,406.04	3,644,716.67
2,16A	351,906.08	3,644,732.31
2,16	351,406.11	3,644,747.96
2,17A	350,906.15	3,644,763.60
2,17	350,406.18	3,644,779.24
3A,11	356,406.93	3,645,091.74
3A,12A	355,906.96	3,645,107.38
3A,12	355,407.00	3,645,123.02
3A,13A	354,907.03	3,645,138.67
3A,13	354,407.07	3,645,154.31
3A,14A	353,907.10	3,645,169.95
3A,14	353,407.14	3,645,185.59
3A,15A	352,907.17	3,645,201.24
3A,15	352,407.21	3,645,216.88
3A,16A	351,907.24	3,645,232.52
3A,16	351,407.28	3,645,248.16
3A,17A	350,907.31	3,645,263.81
3A,17	350,407.35	3,645,279.45
3,11	356,408.09	3,645,591.95
3,12A	355,908.13	3,645,607.59
3,12	355,408.16	3,645,623.23
3,13A	354,908.20	3,645,638.88
3,13	354,408.23	3,645,654.52
3,14A	353,908.27	3,645,670.16
3,14	353,408.30	3,645,685.80
3,15A	352,908.34	3,645,701.44
3,15	352,408.37	3,645,717.09
3,16A	351,908.41	3,645,732.73
3,16	351,408.44	3,645,748.37
3,17A	350,908.48	3,645,764.01
3,17	350409.6745	3646279.865

Point	Northing (Feet)	Easting (Feet)
4A,12A	355,909.29	3,646,107.80
4A,12	355,409.32	3,646,123.44
4A,13A	354,909.36	3,646,139.08
4A,13	354,409.39	3,646,154.73
4A,14A	353,909.43	3,646,170.37
4A,14	353,409.46	3,646,186.01
4A,15A	352,909.50	3,646,201.65
4A,15	352,409.53	3,646,217.30
4A,16A	351,909.57	3,646,232.94
4A,16	351,409.60	3,646,248.58
4A,17A	350,909.64	3,646,264.22
4A,17	350,409.67	3,646,279.87
4,13A	354,910.52	3,646,639.29
4,13	354,410.56	3,646,654.93
4,14A	353,910.59	3,646,670.58
4,14	353,410.63	3,646,686.22
4,15A	352,910.66	3,646,701.86
4,15	352,410.70	3,646,717.50
4,16A	351,910.73	3,646,733.15
4,16	351,410.77	3,646,748.79
4,17A	350,910.80	3,646,764.43
4,17	350,410.84	3,646,780.07
5A,13	354,411.72	3,647,155.14
5A,14A	353,911.76	3,647,170.78
5A,14	353,411.79	3,647,186.43
5A,15A	352,911.83	3,647,202.07
5A,15	352,411.86	3,647,217.71
5A,16A	351,911.90	3,647,233.35
5A,16	351,411.93	3,647,249.00
5A,17A	350,911.97	3,647,264.64
5A,17	350,412.00	3,647,280.28

Point	Northing (Feet)	Easting (Feet)
5,13	354,412.89	3,647,655.35
5,14A	353,912.92	3,647,670.99
5,14	353,412.96	3,647,686.64
5,15A	352,912.99	3,647,702.28
5,15	352,413.03	3,647,717.92
5,16A	351,913.06	3,647,733.56
5,16	351,413.10	3,647,749.21
5,17A	350,913.13	3,647,764.85
6A,13	354,414.04	3,648,153.25
6A,14A	353,914.09	3,648,171.20
6A,14	353,414.12	3,648,186.84
6A,15A	352,914.16	3,648,202.49
6A,15	352,414.19	3,648,218.13
6A,16A	351,914.23	3,648,233.77
6A,16	351,414.26	3,648,249.41
6A,17A	350,914.30	3,648,265.06
6,12	355,413.18	3,648,624.54
6,13A	354,915.18	3,648,640.12
6,13	354,415.21	3,648,655.77
6,14A	353,915.25	3,648,671.41
6,14	353,415.28	3,648,687.05
6,15A	352,915.32	3,648,702.69
6,15	352,415.35	3,648,718.34
6,16A	351,915.39	3,648,733.98
6,16	351,415.42	3,648,749.62
6,17A	350,915.46	3,648,765.26
7A,12	355,416.31	3,649,124.69
7A,13A	354,916.34	3,649,140.33
7A,13	354,416.38	3,649,155.98
7A,14A	353,916.41	3,649,171.62
7A,14	353,416.45	3,649,187.26
7A,15A	352,916.48	3,649,202.90
7A,15	352,416.52	3,649,218.55
7A,16A	351,916.55	3,649,234.19
7A,16	351,416.59	3,649,249.83
7A,17A	350,916.62	3,649,265.47

Point	Northing (Feet)	Easting (Feet)
7,12	355,417.47	3,649,624.90
7,13A	354,917.51	3,649,640.54
7,13	354,417.54	3,649,656.18
7,14A	353,917.58	3,649,671.83
7,14	353,417.61	3,649,687.47
7,15A	352,917.65	3,649,703.11
7,15	352,417.68	3,649,718.75
7,16A	351,917.72	3,649,734.40
8A,12	355,418.64	3,650,125.11
8A,13A	354,918.67	3,650,140.75
8A,13	354,418.71	3,650,156.39
8,12	355,419.80	3,650,625.32
8,13A	354,919.84	3,650,640.96
8,13	354,426.81	3,650,650.29
9A,12	355,420.96	3,651,125.52
9A,13A	354,921.00	3,651,141.17
9A,13	354,421.03	3,651,156.22
9,12	355,422.13	3,651,625.73
9,13A	354,922.16	3,651,641.37
9,13	354,422.20	3,651,657.02
10A,12	355,423.29	3,652,125.94
10A,13A	354,923.33	3,652,141.58
10A,13	354,423.36	3,652,157.22
10,12	355424.4566	3652626.148
10,13A	354924.4916	3652641.791
10,13	354424.5267	3652657.433

AS-BUILT STAKE LOCATION COORDINATES SHOWN IN APPENDIX I "CELL SHEETS"

AS BUILT PLANS

NOTES:
1. THE CONTRACTOR SHALL INSTALL A MINIMUM OF FOUR STAKES PER CELL. ADDITIONAL STAKES MAY BE INSTALLED AT NO COST TO THE OWNER.
2. ALL COORDINATES REFERENCE THE NORTH AMERICAN DATUM OF 1983 (NAD 83) LOUISIANA SOUTH ZONE, U.S. SURVEY FEET.

SURVEY BASELINE (SEE SHEET 4)			
Northing (Feet)	Easting (Feet)	Bearing	Distance (Feet)
365,389.06	3,635,818.26	S 86°28'13.5" E	5,073.72
365,076.70	3,640,882.35	S 34°11'22.5" E	8,655.29
357,917.20	3,645,746.04	S 55°25'36.2" E	4,184.12
355,542.88	3,649,191.25	S 86°29'44.5" E	4,248.84
355,283.17	3,653,432.15	S 86°29'44" E	4,248.83

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	MF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

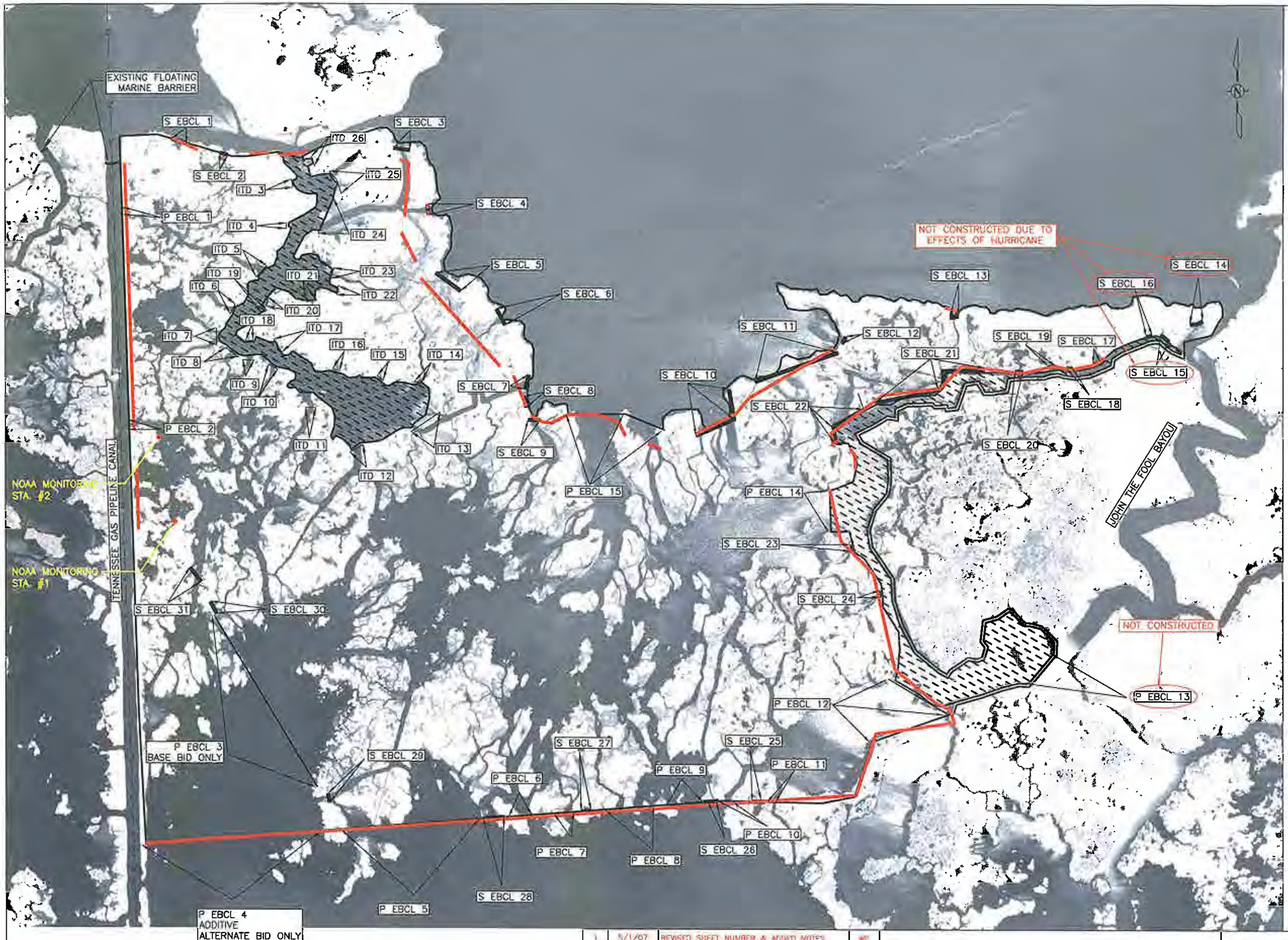
APPROVED BY: LUKE LEBAS, P.E.

STAKE COORDINATES

DATE: FEBRUARY 2005

SHEET 7

V:\CAD\116478\DNR DESIGN PLANS 8-28-08\AS-BUILT-LAND 2007\A07 SECTION COORDINATES.DWG



NOTES:

1. THE BACKGROUND IMAGERY WAS ACQUIRED BY GULF COST AERIAL MAPPING COMPANY ON APRIL 15, 2003 FOR LDNR.
2. INTERNAL TRAINING DIKES SHALL BE CONSTRUCTED AND MAINTAINED AT ALL EXISTING STREAMS, BAYOUS, TRENASSES, OR OPEN WATER AREAS DIRECTLY CONNECTED TO A NAVIGABLE WATER BODY OR NO FILL AREA UNLESS A PRIMARY OR SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE IS SHOWN. INTERNAL TRAINING DIKES MAY BE CONSTRUCTED ANYWHERE WITHIN THE MARSH CREATION\NOURISHMENT AREA TO MAXIMIZE SOLIDS RETENTION.
3. THE LENGTHS OF THE INTERNAL TRAINING DIKES SHOWN ON SHEET 9 INCLUDE A 20' TIE-IN TO EXISTING MARSH ON EACH END.
4. SEE SECTION TS-7 "INTERNAL TRAINING DIKES" OF THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. THE VOLUME OF INTERNAL TRAINING DIKES SHOWN ON SHEET 9 ARE BASED ON A DIGITAL TERRAIN MODEL DEVELOPED IN AUTOCAD OF SURVEY POINTS COLLECTED BETWEEN 11/22/02 AND 1/27/03 BY T. BAKER SMITH AND SON, INC.
6. THE CONTRACTOR SHALL INCLUDE IN HIS BASE BID THE COST OF CONSTRUCTING THE LENGTH OF INTERNAL TRAINING DIKES SHOWN ON SHEET 9 (3,165 FEET MINIMUM).
7. SEE SHEET 21 FOR THE VOLUME OF MATERIAL REQUIRED FOR EACH PRIMARY AND SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE.
8. ALL SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES SHALL BE DEGRADED TO THE ELEVATION OF THE ADJACENT MARSH CREATION PRIOR TO DEMOBILIZATION.
9. SECONDARY EARTHEN CONTAINMENT LEVEES 29-31 ARE INCLUDED ONLY IN THE BASE BID. THERFORE, THE TOTAL LENGTH OF SECONDARY EARTHEN CONTAINMENT LEVEE REQUIRED TO CONSTRUCT BOTH THE BASE BID AND ADDITIVE ALTERNATE WILL BE 6,261 FEET RATHER THAN THE 6,675 FEET REQUIRED TO CONSTRUT ONLY THE BASE BID.

LEGEND

- NO FILL
- PL — PIPELINE
- INTERNAL TRAINING DIKES (ITD)
- PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEES (P EBCL)
- SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES (S EBCL)
- ASBUILT PRIMARY & SECONDARY CONTAINMENT LEVEES

AS BUILT PLANS

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER & ADDED NOTES	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

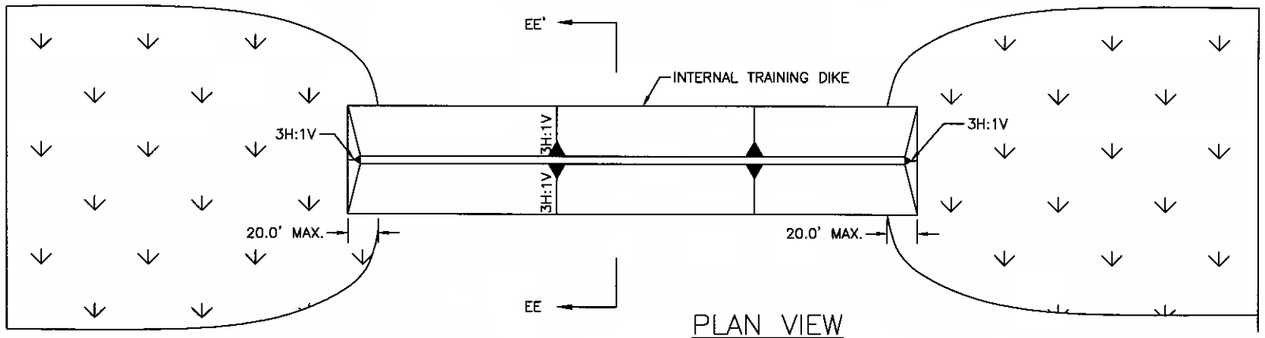
APPROVED BY: LUKE LEBAS, P.E.

PROPOSED CONTAINMENT

DATE: FEBRUARY 2005

SHEET 8

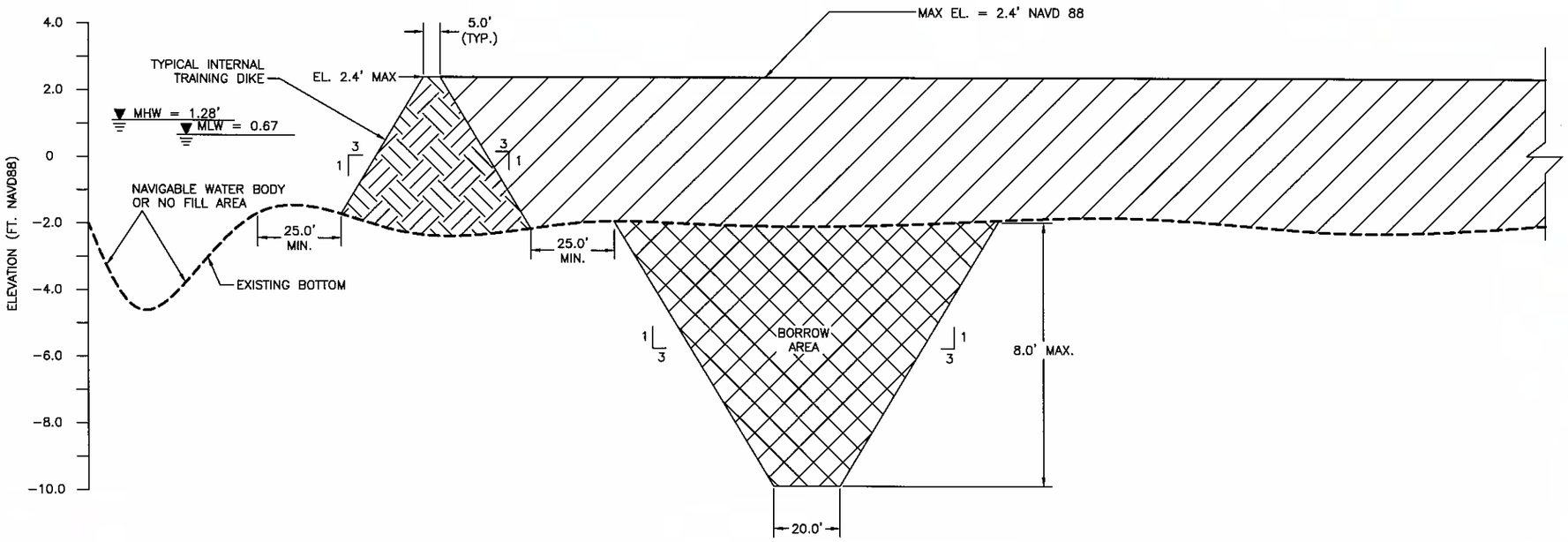
V:\CAD\115478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A08 INTERNAL TRAINING DIKES.DWG



PLAN VIEW
TYPICAL INTERNAL TRAINING DIKE

100' 50' 0' 100' 200'

INTERNAL TRAINING DIKES ORIGINALLY CONSTRUCTED BUT WERE INCORPORATED INTO THE MARSH CREATION DUE TO CHANGE ORDER #3 (FILLING OF "NO FILL" AREA)



SECTION EE-EE'
TYPICAL INTERNAL TRAINING DIKE

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
4' 2' 0 4' 8'
VERTICAL GRAPHIC SCALE

INTERNAL TRAINING DIKE (ITD) VOLUMES

DIKE	LENGTH (FEET)	VOLUME (CU. YDS.)
ITD 1	83.0	92.0
ITD 2	60.0	52.0
ITD 3	154.0	390.0
ITD 4	110.0	268.0
ITD 5	170.0	284.0
ITD 6	153.0	128.0
ITD 7	108.0	151.0
ITD 8	103.0	183.0
ITD 9	100.0	48.0
ITD 10	150.0	260.0
ITD 11	346.0	427.0
ITD 12	77.0	45.0
ITD 13	73.0	104.0
ITD 14	71.0	74.0
ITD 15	154.0	291.0
ITD 16	74.0	312.0
ITD 17	58.0	56.0
ITD 18	93.0	66.0
ITD 19	101.0	71.0
ITD 20	89.0	105.0
ITD 21	107.0	136.0
ITD 22	381.0	431.0
ITD 23	255.0	177.0
ITD 24	96.0	115.0
BASE BID TOTAL	3,165.0	4,266.0

AS BUILT PLANS

LEGEND
- INTERNAL TRAINING DIKE BORROW AREA
- FILL AREA
- INTERNAL TRAINING DIKE

NOTES:
1. INTERNAL TRAINING DIKES SHALL BE CONSTRUCTED AND MAINTAINED AT ALL EXISTING STREAMS, BAYOUS, TRENASSES, OR OPEN WATER AREAS DIRECTLY CONNECTED TO A NAVIGABLE WATER BODY OR NO FILL AREA. INTERNAL TRAINING DIKES MAY BE CONSTRUCTED ANYWHERE WITHIN THE MARSH CREATION/NOURISHMENT AREA TO MAXIMIZE SOLIDS RETENTION.
2. THE LENGTHS OF THE INTERNAL TRAINING DIKES SHOWN ABOVE INCLUDE A 20' TIE-IN TO EXISTING MARSH ON EACH END.
3. THE CONTRACTOR SHALL INCLUDE IN HIS BASE BID THE COST OF CONSTRUCTING THE LENGTH OF INTERNAL TRAINING DIKES SHOWN ABOVE (3,165 FEET MINIMUM).
4. SEE SECTION TS-7 "INTERNAL TRAINING DIKES" OF THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS OF THE EARTHEN BOUNDARY CONTAINMENT LEVEES.
5. THE VOLUME OF INTERNAL TRAINING DIKES SHOWN ABOVE ARE BASED ON A DIGITAL TERRAIN MODEL DEVELOPED IN AUTOCAD OF SURVEY POINTS COLLECTED BETWEEN 11/22/02 AND 1/27/03 BY T. BAKER SMITH AND SON, INC. A 1:1 CUT TO FILL RATIO WAS ASSUMED IN THE CALCULATIONS.

REV.	DATE	DESCRIPTION	BY
1	4/22/05	CHANGED BORROW AREA SIDE SLOPES TO 3H:1V.	KC
1	5/1/07	REVISED SHEET NUMBER & NOTES	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37
APPROVED BY: LUKE LEBAS, P.E.

TYPICAL INTERNAL TRAINING DIKE SECTION & PLAN VIEW

DATE: FEBRUARY 2005
SHEET 9

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A09 INTERNAL TRAINING DIKES.DWG

NOTES:

1. SPACING OF FISH DIPS VARY BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREAS SHALL BE BACK FILLED INTO THE CHANNEL PRIOR TO PROJECT COMPLETION, LEAVING THE LAKE BOTTOM NO HIGHER THAN 0.5' OF PRE-CONSTRUCTION ELEVATIONS.
3. PERMANENT WARNING SIGNS WILL BE LOCATED LAKEWARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 19.
4. NO DREDGING OR PLACEMENT OF ROCK AND/OR SPOIL ALLOWED WITHIN 50' OF ANY PIPELINE EXCEPT BY THE 12" TCP PIPELINE SHOWN ON SHEET 11. COORDINATES SHALL BE ADJUSTED AND RECORDED IN THE FIELD AS NECESSARY.
5. NO DREDGING OR DREDGE MATERIAL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
6. THE CONTRACTOR SHALL NOTIFY TENNESSEE GAS PIPELINE COMPANY (TGP) A MINIMUM OF 5 WORKING DAYS PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES. CONTACT MIKE BRYAN AT (985) 879-3516 IN HOUMA, LA.
7. THE CONTRACTOR SHALL NOTIFY BRITISH PETROLEUM PIPELINE COMPANY (BP) A MINIMUM OF 5 WORKING DAYS PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES. CONTACT BARRY DUFF AT (281) 366-6567 IN HOUSTON, TX.
8. THE CONTRACTOR SHALL NOTIFY CAM PIPELINE COMPANY A MINIMUM OF 5 WORKING DAYS PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES. CONTACT JERRY ERCEG AT (504) 394-2652 IN NEW ORLEANS, LA.
9. THE ROCK ALIGNMENT SHALL BE APPROXIMATELY PARALLEL TO ALIGNMENT GIVEN ON SHEET 14. ALL THE POINTS OF INFLECTION SHALL BE LOCATED AT THE MUDLINE ELEVATIONS SHOWN ON SHEET 14. THE CENTER OF THE ROCK DIKE SHALL BE LOCATED SUCH THAT THE MUDLINE ELEVATION OF THE EXISTING BOTTOM AT THE CENTERLINE MATCHES THE ELEVATION SHOWN ON SHEET 14.
10. PERMITTED FLOATATION AND ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.
11. ALL PIPELINES WITHIN 150' OF THE ROCK ALIGNMENT, FLOATATION CHANNELS, ACCESS CHANNELS OR BORROW AREA SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION. SEE TS-3.5 "MAGNETOMETER SURVEY" FOR FURTHER REQUIREMENTS.
12. APPROXIMATE PIPELINE LOCATIONS ARE BASED ON THE FOLLOWING DATA BASES UNLESS STATED OTHERWISE: LOUISIANA GEOLOGICAL SURVEY AND NATIONAL PIPELINE MAPPING SYSTEM.
13. CONSTRUCTION EQUIPMENT IS NOT ALLOWED TO CROSS TGP, BP, MARDI GRAS PIPELINES OR ANY OTHER PIPELINES WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

SETTLEMENT PLATE NO.	STATION	NORTHING NAD 83 US. FT.	EASTING NAD 83 US. FT.
1	103+ 34	365,478.45	3,635,980.54
2	111+ 48	365,204.97	3,636,956.75
3	121+ 61	365,233.62	3,637,973.58
4	131+ 51	365,413.57	3,638,976.65
5	141+ 48	365,536.40	3,639,983.62
6	151+52	365,719.70	3,640,937.51

SETTLEMENT PLATE NO.	STATION	NORTHING NAD 83 U.S. FT.	EASTING NAD 83 U.S. FT.
1	14+23	365,352.27	3,636,018.17
2	23+93	365,149.12	3,636,952.44
3	34+22	365,262.80	3,637,966.41
4	44+41	365,336.74	3,638,980.00
5	54+75	365,390.14	3,640,011.49
6	63+17	365,545.08	3,640,838.09

LEGEND

- PERMANENT DREDGE MATERIAL
- TEMPORARY SPOIL
- PIPELINES
- CENTERLINE OF ROCK STRUCTURE
- FLOATATION CHANNEL
- TEMPORARY WARNING SIGN
- ROCK SETTLEMENT PLATES
- TGP TENNESSEE GAS PIPELINE
- BP BRITISH PETROLEUM

BAY L'OURS

LITTLE LAKE

SEE SHEETS 4A & 33 FOR AS-BUILT ROCK DIKE ALIGNMENT

MATCH LINE STA. 152+92

50' GAP EVERY 1000' ALONG ACCESS CHANNEL

ACCESS CHANNEL 1
LENGTH = 3808'
BOTTOM WIDTH = 60'
(SEE SHEET 16 FOR COORDINATES)

NOT CONSTRUCTED

TEMPORARY SPOIL LOCATION

30" ø MARDI GRAS (GAS) (UNDER CONSTRUCTION)

4" ø TGP (GAS)

24" ø BP (CAM)

TEMPORARY WARNING SIGN

TURNING BASIN

120'

100'

ROCK DIKE
SEE SHEET 19 FOR TYPICAL SECTION

SEE NOTE 4

FLOATATION CHANNEL

FISH DIP
SEE SHEETS 17, 18, AND 19 FOR PLAN AND SECTION VIEWS

PERMANENT DREDGE MATERIAL PLACEMENT (SEE NOTE 5 AND TS 8.5 "DISPOSAL")

500' 250' 0' 500' 1000'

SUPERIOR CANAL

AS BUILT PLANS

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER & ADDED NOTE	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

SHORELINE PROTECTION PLAN VIEW

DATE: FEBRUARY 2005

SHEET 10

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A10-13 ROCK ALIGN.DWG

MATCH LINE STA 152+82

MATCH LINE STA 191+77

SEE SHEETS 4A & 33 FOR AS-BUILT ROCK DIKE ALIGNMENT

LEGEND

- PERMANENT DREDGE MATERIAL
- TEMPORARY SPOIL
- PIPELINES
- CENTERLINE OF ROCK STRUCTURE
- FLOATATION CHANNEL
- TEMPORARY WARNING SIGN
- PERMANENT WARNING SIGN
- ROCK SETTLEMENT PLATES
- TGP TENNESSEE GAS PIPELINE
- BP BRITISH PETROLEUM

SETTLEMENT PLATE NO.	STATION	NORTHING NAD 83 US. FT.	EASTING NAD 83 US. FT.
7	153+ 40	365,154.42	3,641,444.82
8	158+ 54	364,195.52	3,641,658.95
9	172+ 76	363,403.11	3,642,290.89
10	182+ 90	362,378.51	3,642,692.08

SETTLEMENT PLATE NO.	STATION	NORTHING NAD 83 U.S. FT.	EASTING NAD 83 U.S. FT.
7	71+47	365,116.70	3,641,311.69
8	82+17	364,094.93	3,641,610.29
9	92+32	363,207.00	3,642,045.81
10	102+21	362,419.61	3,642,638.14

TURNING BASIN

732'

FLOATATION CHANNEL

FISH DIP SEE SHEETS 17, 18, AND 19 FOR PLAN AND SECTION VIEWS

ROCK DIKE SEE SHEET 19 FOR TYPICAL SECTION

120

PERMANENT DREDGE MATERIAL PLACEMENT (SEE NOTE 6 AND TS 8.5 "DISPOSAL")

TEMPORARY SPOIL LOCATION

SEE NOTE 8

TEMPORARY WARNING SIGN

AS BUILT PLANS

12" ø TGP (GAS) (SEE NOTE 4)

ROUND LAKE

500' 250' 0' 500' 1000'

NOTES:

1. SPACING OF FISH DIPS VARIES BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREAS SHALL BE BACKFILLED INTO THE CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM NO HIGHER THAN 0.5' OF PRE-CONSTRUCTION ELEVATIONS.
3. PERMANENT WARNING SIGNS WILL BE LOCATED LAKEWARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 19.
4. ALL PIPELINES WITHIN 150' OF THE ROCK ALIGNMENT, FLOATATION CHANNELS, ACCESS CHANNELS, OR BORROW AREA SHALL BE PROBED AND THEIR LOCATION MARKED FOR THE DURATION OF THE CONSTRUCTION ACTIVITIES. SEE TS-3 SECTION 3.3 AND SECTION 3.5 FOR ADDITIONAL REQUIREMENTS.
5. NO DREDGING OR PLACEMENT OF SPOIL ALLOWED WITHIN 50' OF THE 12" TGP PIPELINE. COORDINATES SHALL BE ADJUSTED IN THE FIELD AS NECESSARY.
6. NO DREDGING OR SPOIL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
7. THE ROCK ALIGNMENT SHALL BE APPROXIMATELY PARALLEL TO ALIGNMENT GIVEN ON SHEET 14. ALL THE POINTS OF INFLECTION SHALL BE LOCATED AT THE MUDLINE ELEVATIONS SHOWN ON SHEET 14. THE CENTER OF THE ROCK DIKE SHALL BE LOCATED SUCH THAT MUDLINE ELEVATION OF THE EXISTING BOTTOM AT THE CENTERLINE MATCHES THE ELEVATIONS SHOWN ON SHEET 14.
8. THE CONTRACTOR SHALL NOTIFY TENNESSEE GAS PIPELINE COMPANY A MINIMUM OF 5 WORKING DAYS PRIOR TO MOBILIZATION. CONTACT MIKE BRYAN AT (985) 879-3516 IN HOUMA, LA.
9. PERMITTED FLOATATION AND ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.
10. PIPELINE LOCATIONS, SHOWN ON THIS DRAWING, ARE BASED ON THE FOLLOWING DATA BASES: LOUISIANA GEOLOGICAL SURVEY AND NATIONAL PIPELINE MAPPING SYSTEM.

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER & ADDED NOTE	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

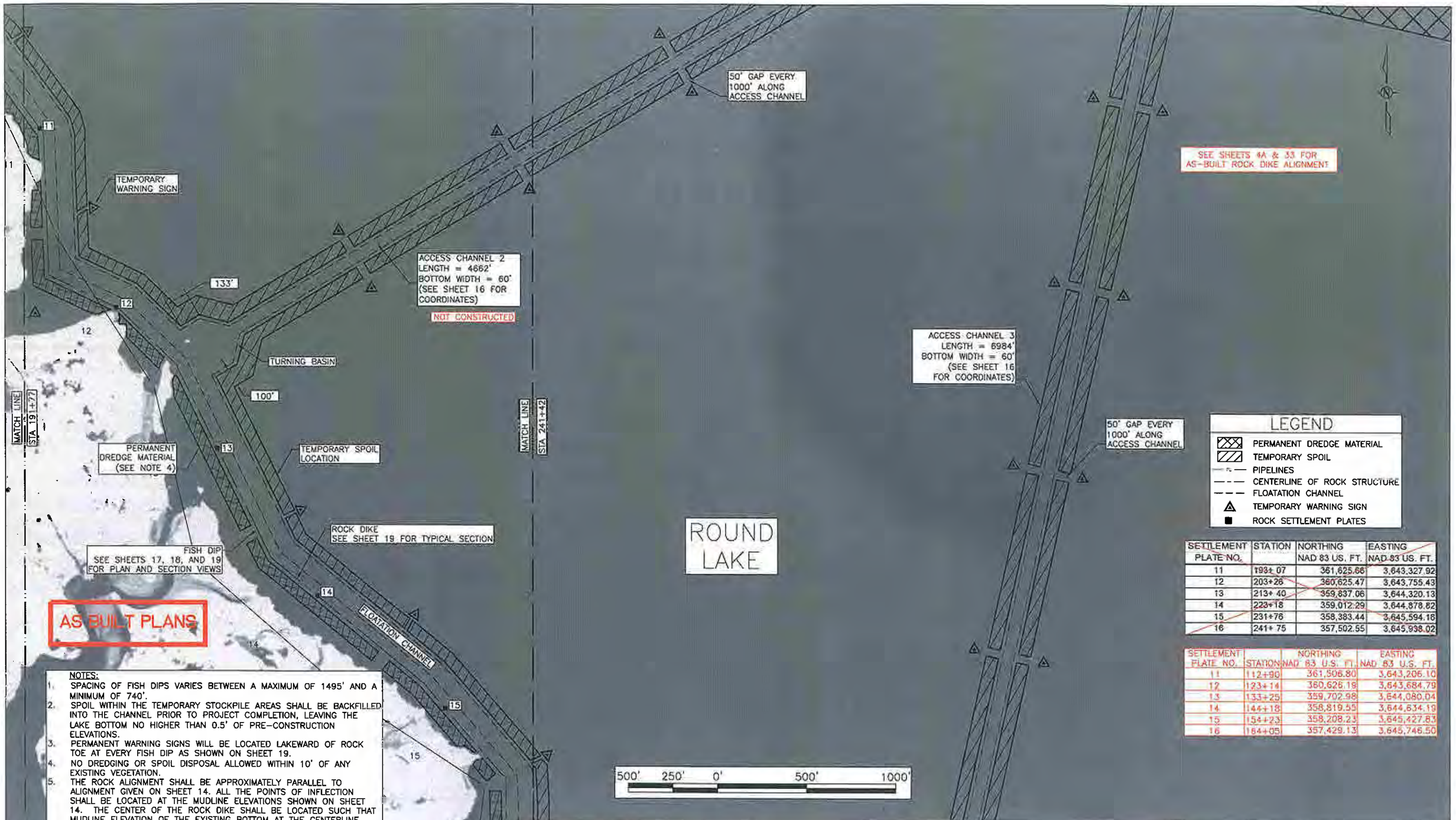
APPROVED BY: LUKE LEBAS, P.E.

SHORELINE PROTECTION PLAN VIEW

DATE: FEBRUARY 2005

SHEET 11

V:\CAD\116478\DNR DESIGN PLANS 8-28-08\AS-BUILT-LAND 2007\A10-13 ROCK ALIGN.DWG



SETTLEMENT PLATE NO.	STATION	NORTHING NAD 83 US. FT.	EASTING NAD 83 US. FT.
11	193+ 07	361,625.66	3,643,327.92
12	203+26	360,625.47	3,643,755.43
13	213+ 40	359,837.06	3,644,320.13
14	223+18	359,012.29	3,644,878.82
15	231+76	358,383.44	3,645,594.18
16	241+ 75	357,502.55	3,645,938.02

SETTLEMENT PLATE NO.	STATION	NORTHING NAD 83 U.S. FT.	EASTING NAD 83 U.S. FT.
11	112+90	361,506.80	3,643,206.10
12	123+14	360,626.19	3,643,684.79
13	133+25	359,702.98	3,644,080.04
14	144+18	358,819.55	3,644,634.19
15	154+23	358,208.23	3,645,427.83
16	164+05	357,429.13	3,645,746.50

NOTES:

1. SPACING OF FISH DIPS VARIES BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREAS SHALL BE BACKFILLED INTO THE CHANNEL PRIOR TO PROJECT COMPLETION, LEAVING THE LAKE BOTTOM NO HIGHER THAN 0.5' OF PRE-CONSTRUCTION ELEVATIONS.
3. PERMANENT WARNING SIGNS WILL BE LOCATED LAKEWARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 19.
4. NO DREDGING OR SPOIL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
5. THE ROCK ALIGNMENT SHALL BE APPROXIMATELY PARALLEL TO ALIGNMENT GIVEN ON SHEET 14. ALL THE POINTS OF INFLECTION SHALL BE LOCATED AT THE MUDLINE ELEVATIONS SHOWN ON SHEET 14. THE CENTER OF THE ROCK DIKE SHALL BE LOCATED SUCH THAT MUDLINE ELEVATION OF THE EXISTING BOTTOM AT THE CENTERLINE MATCHES THE ELEVATIONS SHOWN ON SHEET 14.
6. ALL PIPELINES WITHIN 150' OF THE ROCK ALIGNMENT, FLOATATION CHANNELS, ACCESS CHANNELS, OR BORROW AREA SHALL BE PROBED AND THEIR LOCATION MARKED FOR THE DURATION OF THE CONSTRUCTION ACTIVTIES.
7. PERMITTED FLOATATION AND ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER & ADDED NOTE	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37
APPROVED BY: LUKE LEBAS, P.E.

SHORELINE PROTECTION PLAN VIEW

DATE: FEBRUARY 2005
SHEET 12

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A10-13 ROCK ALIGN.DWG

NOTES:

1. SPACING OF FISH DIPS VARIES BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREAS SHALL BE BACKFILLED INTO THE CHANNEL PRIOR TO PROJECT COMPLETION, LEAVING THE LAKE BOTTOM NO HIGHER THAN 0.5' OF PRE-CONSTRUCTION ELEVATIONS.
3. PERMANENT WARNING SIGNS SHALL BE LOCATED LAKEWARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 19.
4. NO DREDGING OR SPOIL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
5. THE ROCK ALIGNMENT SHALL BE APPROXIMATELY PARALLEL TO ALIGNMENT GIVEN ON SHEET 14. ALL THE POINTS OF INFLECTION SHALL BE LOCATED AT THE MUDLINE ELEVATIONS SHOWN ON SHEET 14. THE CENTER OF THE ROCK DIKE SHALL BE LOCATED SUCH THAT MUDLINE ELEVATION OF THE EXISTING BOTTOM AT THE CENTERLINE MATCHES THE ELEVATION SHOWN ON SHEET 14.
6. ALL PIPELINES WITHIN 150' OF THE ROCK ALIGNMENT, FLOATATION CHANNELS, ACCESS CHANNELS OR BORROW AREA SHALL BE PROBED AND THEIR LOCATIONS MARKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. SEE SECTION 3.5 "MAGNETOMETER SURVEY" FOR ADDITIONAL REQUIREMENTS.
7. PERMITTED FLOATATION AND ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.
8. ROCK SEGMENT 24 SHALL EXTEND INTO THE EXISTING MARSH APPROXIMATELY 90 FEET. QUANTITIES ARE BASED ON MARSH ELEVATIONS PERFORMED BETWEEN 11/22/02 AND 1/27/03.

SETTLEMENT PLATE NO.	STATION	NORTHING NAD 83 US. FT.	EASTING NAD 83 US. FT.
17	248+31	356,478.76	3,646,065.15
18	257+21	355,625.47	3,646,586.36
19	265+68	355,445.26	3,647,490.22
20	271+61	355,524.83	3,648,265.23
21	282+23	355,676.82	3,649,509.67
22	292+43	355,621.61	3,650,528.32
23	302+60	355,605.22	3,651,545.83
24	315+17	355,674.46	3,652,809.39

SETTLEMENT PLATE NO.	STATION	NORTHING NAD 83 U.S. FT.	EASTING NAD 83 U.S. FT.
17	175+51	356,311.61	3,645,754.14
18	190+71	355,029.54	3,646,434.68
19	203+43	354,383.20	3,647,436.74
20	216+05	354,751.69	3,648,618.32
21	229+62	355,640.38	3,649,474.06
22	240+24	355,615.83	3,650,529.72
23	250+46	355,610.72	3,651,548.12
24	262+76	355,588.69	3,652,776.27

LEGEND

- PERMANENT DREDGE MATERIAL
- TEMPORARY SPOIL
- PIPELINES
- CENTERLINE OF ROCK STRUCTURE
- FLOATATION CHANNEL
- TEMPORARY WARNING SIGN
- ROCK SETTLEMENT PLATES

MATCH LINE STA 241+42

TEMPORARY SPOIL LOCATION

TEMPORARY WARNING SIGNS

8,295'

ACCESS CHANNEL 3
LENGTH = 6984'
BOTTOM WIDTH = 60'
(SEE SHEET 16 FOR COORDINATES)

ACCESS CHANNEL 4
LENGTH = 5896'
BOTTOM WIDTH = 60'
(SEE SHEET 16 FOR COORDINATES)

50' GAP EVERY 1000' ALONG ACCESS CHANNEL

ROUND LAKE

SEE SHEETS 4A & 33 FOR AS-BUILT ROCK DIKE ALIGNMENT

ROCK DIKE
SEE SHEET 19 FOR TYPICAL SECTION

TURNING BASIN

FLOATATION CHANNEL

PERMANENT SPOIL PLACEMENT (SEE NOTE 4)

FISH DIP
SEE SHEETS 17, 18, AND 19 FOR PLAN AND SECTION VIEWS

SEE NOTE 8

130'
121'
100'
152.3'
120.0'
120'
100'
132'

16 17 18 19 20 21 22 23 24

500' 250' 0' 500' 1000'

AS BUILT PLANS

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER & ADDED NOTE	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

SHORELINE PROTECTION PLAN VIEW

DATE: FEBRUARY 2005

SHEET 13

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A10-13 ROCK ALIGN.DWG

SHORELINE PROTECTION CENTERLINE COORDINATES

Rock Seg.	Point Location	Northing (Feet)	Easting (Feet)	MUDLINE ELEV. AT CENTERLINE	Bearing	Approx. Length (Feet)	Estimated Quantity (Tons)
1	Beginning	365,529.04	3,635,597.85	-2.96			
	PI1	365,523.63	3,635,827.04	-2.02	S 88°38'27" E	229.24	
	End	365,521.52	3,636,444.13	-2.34	S 71°51'54" E	649.34	5,511
2	Beginning	365,308.73	3,636,482.03	-2.35	S 71°21'23" E	40.01	216*
	PI1	365,205.60	3,636,808.78	-2.00	S 72°29'00" E	342.63	
	End	365,202.89	3,637,447.38	-2.05	S 89°45'25" E	639.11	5,990
3	Beginning	365,202.73	3,637,485.66	-2.07	S 89°45'25" E	37.78	204*
	PI1	365,201.35	3,637,810.42	-2.00	S 89°45'25" E	324.76	
	End	365,328.97	3,638,455.59	-0.87	N 78°48'40" E	657.67	5,339
4	Beginning	365,334.66	3,638,489.24	-1.14	N 80°23'48" E	34.13	174*
	PI1	365,401.98	3,638,824.70	-2.00	N 75°39'10" E	342.15	
	End	365,450.84	3,639,465.53	-1.96	N 85°38'24" E	642.69	6,018
5	Beginning	365,453.83	3,639,504.79	-1.94	N 85°38'24" E	39.38	211*
	PI1	365,478.71	3,639,831.33	-1.92	N 85°38'34" E	327.49	
	End	365,650.81	3,640,452.53	-2.02	N 74°30'55" E	644.60	5,793
6	Beginning	365,660.50	3,640,489.16	-2.08	N 75°10'26" E	37.88	207*
	PI1	365,720.76	3,640,948.98	-2.32	N 82°32'04" E	463.75	
	End	365,631.39	3,641,343.30	-2.74	S 77°13'49" E	404.32	6,071
7	Beginning	365,615.22	3,641,380.12	-2.72	S 66°17'42" E	40.21	219*
	End	364,665.81	3,641,512.15	-2.01	S 7°54'59" E	958.55	6,888
8	Beginning	364,628.52	3,641,517.35	-1.91	S 7°55'39" E	37.66	204*
	PI1	364,412.39	3,641,547.37	-2.53	S 7°54'31" E	218.20	
	End	363,731.72	3,641,894.10	-2.09	S 26°59'39" E	763.90	6,842
9	Beginning	363,701.07	3,641,916.87	-2.10	S 36°33'20" E	38.18	186*
	PI1	363,389.65	3,642,304.86	-3.26	S 51°14'53" E	497.51	
	End	362,891.37	3,642,430.95	-1.99	S 14°11'41" E	513.99	7,031
10	Beginning	362,856.04	3,642,439.78	-2.06	S 14°01'45" E	36.41	198*
	PI1	362,555.94	3,642,516.40	-0.61	S 14°19'23" E	309.72	
	End	362,044.99	3,643,019.41	-2.06	S 44°33'03" E	717.60	7,544
11	Beginning	362,014.01	3,643,040.80	-2.02	S 34°37'30" E	37.65	219*
	PI1	361,597.41	3,643,347.66	-3.28	S 36°22'31" E	517.42	
	End	361,059.90	3,643,367.66	-2.01	S 2°07'48" E	537.89	8,000
* Fish Dip Quantity							

Rock Seg.	Point Location	Northing (Feet)	Easting (Feet)	MUDLINE ELEV. AT CENTERLINE	Bearing	Approx. Length (Feet)	Estimated Quantity (Tons)
12	Beginning	361,021.14	3,643,369.09	-1.99	S 2°06'51" E	38.79	145*
	PI1	360,804.08	3,643,377.18	-2.43	S 2°08'09" E	217.20	
	PI2	360,617.54	3,643,770.60	-2.16	S 64°37'53" E	435.41	
	End	360,309.79	3,644,087.56	-2.78	S 45°50'38" E	441.78	7,586
13	Beginning	360,271.57	3,644,106.41	-2.79	S 26°15'06" E	42.61	250*
	End	359,392.19	3,644,538.95	-2.07	S 26°11'29" E	980.00	6,783
14	Beginning	359,357.22	3,644,554.80	-2.07	S 24°22'30" E	38.40	206*
	PI1	359,221.65	3,644,621.03	-1.91	S 26°02'22" E	150.89	
	End	358,704.04	3,645,251.02	-2.02	S 50°35'35" E	815.35	5,477
15	Beginning	358,679.90	3,645,280.40	-2.09	S 50°35'35" E	38.03	203*
	PI1	358,523.17	3,645,471.16	-2.23	S 50°35'35" E	246.89	
	End	358,022.10	3,645,904.01	-3.01	S 40°49'19" E	662.14	6,536
16	Beginning	357,993.43	3,645,931.86	-3.05	S 44°09'41" E	39.97	228*
	End	356,983.53	3,645,944.08	-1.14	S 0°41'36" E	1,009.97	6,570
17	Beginning	356,949.68	3,645,951.77	-0.97	S 12°46'43" E	34.71	166*
	PI1	356,226.44	3,646,124.35	-2.00	S 13°25'21" E	743.54	
	End	356,039.54	3,646,268.03	-1.97	S 37°33'8" E	235.75	4,743
18	Beginning	356,009.49	3,646,291.14	-1.98	S 37°33'08" E	37.90	201*
	PI1	355,393.43	3,646,764.75	-2.22	S 37°33'08" E	777.07	
	End	355,408.03	3,646,969.07	-2.28	N 85°54'49" E	204.84	5,519
19	Beginning	355,410.82	3,647,008.17	-2.30	N 85°54'49" E	39.20	214*
	End	355,460.75	3,647,706.98	-2.64	N 85°54'49" E	700.59	4,949
20	Beginning	355,463.64	3,647,747.49	-2.63	N 85°54'49" E	40.62	227*
	PI1	355,484.69	3,648,042.12	-2.12	N 85°54'49" E	295.38	
	End	355,655.23	3,648,990.06	-1.41	N 79°48'05" E	963.16	8,507
21	Beginning	355,661.51	3,649,024.97	-1.41	N 79°48'05" E	35.46	186*
	PI1	355,693.08	3,649,200.45	-2.24	N 79°48'05" E	178.30	
	End	355,650.52	3,650,000.15	-1.48	S 86°57'13" E	800.83	4,965
22	Beginning	355,648.60	3,650,036.28	-1.57	S 86°57'13" E	36.19	186*
	End	355,594.61	3,651,020.62	-1.41	S 86°51'39" E	985.82	5,288
23	Beginning	355,592.63	3,651,056.41	-1.51	S 86°49'46" E	35.84	184*
	PI1	355,580.01	3,651,284.25	-2.00	S 86°49'46" E	228.19	
	End	355,652.49	3,652,036.36	-2.00	N 84°29'44" E	755.60	6,060
24	Beginning	355,656.13	3,652,074.18	-2.01	N 84°29'44" E	37.99	207*
	PI1	355,677.13	3,652,292.07	-2.00	N 84°29'44" E	218.90	
	PI2	355,672.81	3,653,128.15	-1.54	S 89°42'15" E	836.09	
	End	355,371.62	3,653,429.34	-1.76	S 45°00'00" E	425.95	7,100
* Fish Dip Quantity					TOTAL	24,886.57	151,103

AS BUILT PLANS

SEE SHEET 33

NOTES:

1. ROCK SEGMENTS 1–24 ARE NUMBERED WEST TO EAST WITH SEGMENT 1 ADJACENT TO SUPERIOR CHANNEL AND SEGMENT 24 NEAR PLUM POINT. SEE SHEETS 10–15 FOR PLAN VIEW OF ROCK SEGMENTS
2. ALL COORDINATES REFERENCE THE NORTH AMERICAN DATUM OF 1983 (NAD 83) LOUISIANA SOUTH ZONE, U.S. SURVEY FEET.
3. THE ROCK ALIGNMENT SHALL BE APPROXIMATELY PARALLEL TO ALIGNMENT ABOVE. ALL THE POINTS OF INFLECTION SHALL BE LOCATED AT THE MUDLINE ELEVATIONS GIVEN ABOVE. THE CENTER OF THE ROCK DIKE SHALL BE LOCATED SUCH THAT THE MUDLINE ELEVATION OF THE EXISTING BOTTOM AT THE CENTERLINE MATCHES THE ELEVATIONS SHOWN.
4. ESTIMATED QUANTITIES SHOWN ARE FOR BIDDING PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED FROM 11/22/02 TO 1/27/03. ROCK QUANTITIES WERE CALCULATED USING THE END AREA METHOD OF SECTIONS AT BEGINNING OF EACH ROCK SEGMENT, 1000.0' CENTERS ALONG EACH SEGMENT, AND AT THE END OF EACH SEGMENT. TWO FEET OF SETTLEMENT UNDER THE CROWN TAPERING TO NO SETTLEMENT AT THE TOE OF STRUCTURE WERE INCLUDED IN THE QUANTITIES. THE QUANTITIES REQUIRED FOR EACH FISH DIP WAS CALCULATED ASSUMING AN UNIFORM 2.0' LAYER OF ROCK BEING INSTALLED OVER THE ENTIRE FISH DIP AND 0.25' OF SETTLEMENT. THE IN–PLACE UNIT WEIGHT OF 1.5 TONS/CU. YDS. FOR THE ROCK WAS ASSUMED. ACTUAL QUANTITIES WILL BE BASED ON BARGE DISPLACEMENT MEASUREMENTS. SEE SECTION TS 12.10 "MEASUREMENTS AND PAYMENT" FOR ADDITIONAL REQUIREMENTS. THE OWNER RESERVES THE RIGHT TO ADJUST QUANTITIES WITHOUT ADJUSTMENT OF THE UNIT PRICE.

REV.	DATE	DESCRIPTION	BY
1	5/1/03	REVISED SHEET NUMBER	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

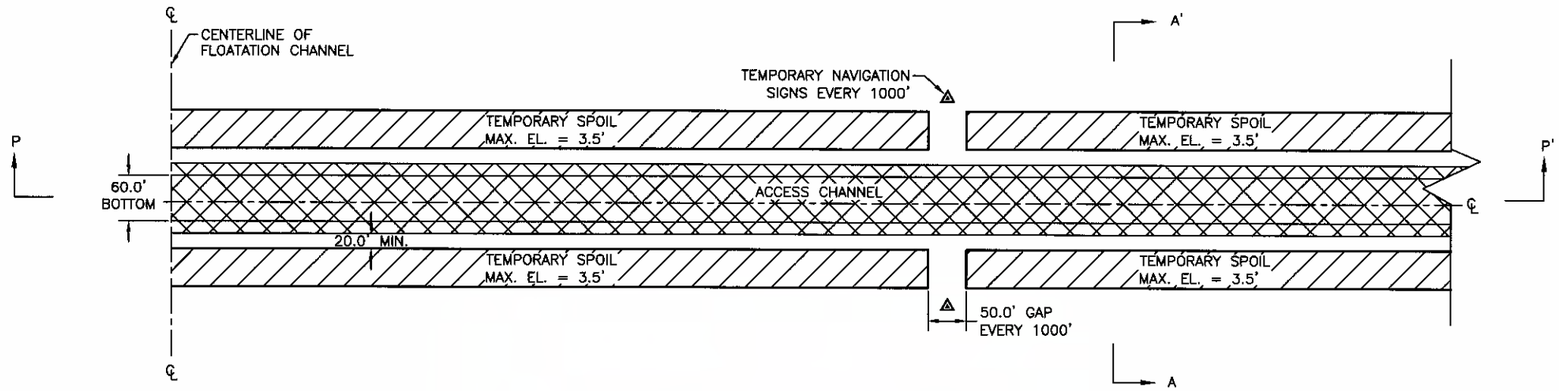
APPROVED BY: LUKE LEBAS, P.E.

ROCK DIKE COORDINATES

DATE: FEBRUARY 2005

SHEET 14

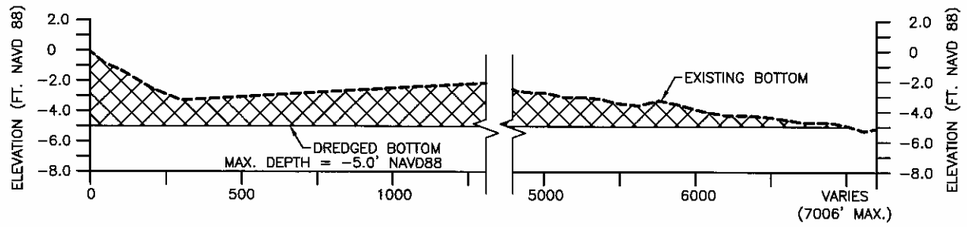
V:\CAD\116478\DNR DESIGN PLANS 6-28-06\AS-BUILT-LAND 2007\A14 CENTERLINE.DWG



PLAN VIEW

TYPICAL ACCESS CHANNEL

200' 100' 0' 200' 400'



SECTION P–P'

TYPICAL ACCESS CHANNEL

HORIZONTAL GRAPHIC SCALE

500' 250' 0 500' 1000'

10' 5' 0 10' 20'

VERTICAL GRAPHIC SCALE

AS BUILT PLANS

NOTES:

1. SPOIL WITHIN THE TEMPORARY STOCKPILE AREAS SHALL BE BACKFILLED INTO THE CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM NO HIGHER THAN 0.5' OF PRE–CONSTRUCTION ELEVATIONS.
2. ALL ACCESS DREDGING WILL BE PAID AS A LUMP SUM ITEM UNDER BID ITEM 14 "ACCESS AND FLOATATION CHANNELS".
3. NO DREDGING ALLOWED OUTSIDE OF BORROW AREA AND FLOATATION AND ACCESS CHANNELS.
4. SEE SHEET 16 FOR TYPICAL SECTION A–A'.
5. SEE SHEETS 10–13 FOR LOCATIONS OF TEMPORARY SPOIL.
6. NO PORTION OF ANY EQUIPMENT OR VESSEL SHALL CONTACT THE WATER BOTTOM DURING TRANSIT TO OR FROM THE PROJECT SITE.
7. PERMITTED FLOATATION AND ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ACCESS CHANNELS IN A USEABLE CONDITION FOR THE DURATION OF THE CONSTRUCTION AT NO COST TO THE OWNER.
9. THE ACCESS CHANNELS VOLUMES SHOWN ON SHEET 16 ARE BASED ON A DIGITAL TERRAIN MODEL (DTM) DEVELOPED IN AUTOCAD FROM SURVEY POINTS ON THE TRANSECTS SHOWN ON SHEET 4 AND POINTS WITHIN THE BORROW AREA.
10. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS ALONG THE ACCESS CHANNEL IN THE PRE–CONSTRUCTION SURVEY.

REV.	DATE	DESCRIPTION	BY
1	4/13/05	REVISED NOTE 2.	KC
2	5/1/07	REVISED SHEET NUMBER	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

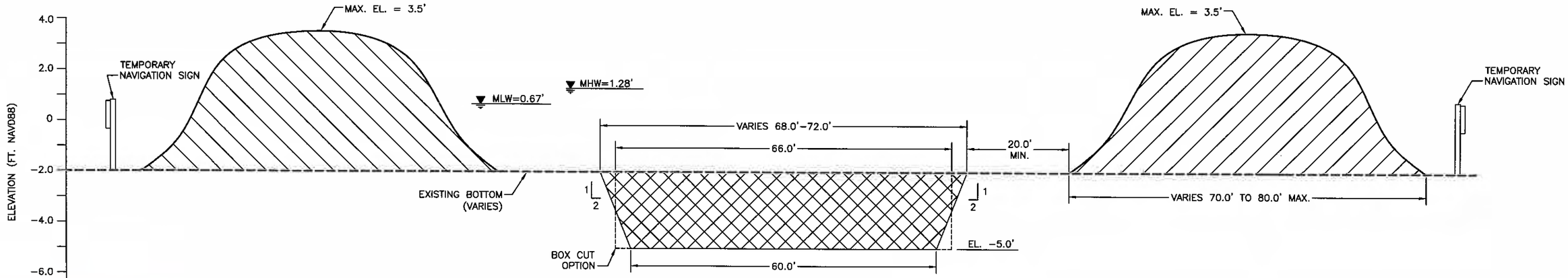
TYPICAL ACCESS CHANNEL PLAN AND PROFILE VIEWS

DATE: FEBRUARY 2005

SHEET 15

V:\CAD\118478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A15 ACCESS CHANNEL.DWG

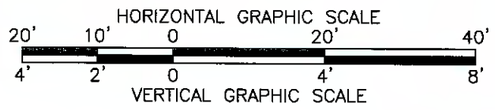
	BEGIN (X, Y)	END (X, Y)	LENGTH	VOLUME (CU. YRDS)	
ACCESS CHANNEL #1	3638854.65, 365362.93	3638854.65, 369362.93	~~4000'~~	8400	NOT CONSTRUCTED
ACCESS CHANNEL #2	3644091.65, 360303.76	3648212.25, 362787.78	~~4902'~~ 8295'	16300	NOT CONSTRUCTED
ACCESS CHANNEL #3	3648042.33, 355484.73	3649583.88, 362485.09	~~6994'~~	~~15430~~	
ACCESS CHANNEL #4	3653044.19, 355673.24	3653044.98, 361722.83	~~5806'~~	26400	NOT CONSTRUCTED
		TOTAL	~~21350'~~ 8,295'	66500	



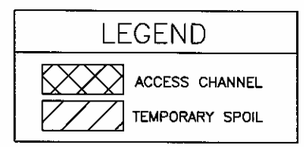
SECTION A-A'
TYPICAL ACCESS CHANNEL
(SEE SHEET 4 FOR LOCATION)

AS BUILT PLANS

NOTES:
1. ACCESS CHANNEL SIDE SLOPES WERE PROVIDED BY GEOTECHINAL CONSULTANTS.
2. ALL FLOATATION DREDGING WILL BE AT NO DIRECT PAY UNLESS DREDGED HYDRAULICALLY AND PLACED IN MARSH CREATION/NOUSHISHMENT AREA.
3. THE SPOIL FROM MAINTENANCE DREDGING SHALL BE PLACED ADJACENT TO THE CHANNEL.
4. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACKFILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM NO HIGHER THAN 0.5' OF PRE-CONSTRUCTION ELEVATIONS.
5. PERMITTED FLOATATION AND ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.
6. ACCESS CHANNEL BOTTOM WIDTH = 60'
   FLOATATION CHANNEL BOTTOM WIDTH = 80' EXCEPT IN TURNING BASIN WHERE THE WIDTH = 120'. SEE SHEETS 10-13.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ACCESS CHANNELS IN A USEABLE CONDITION FOR THE DURATION OF THE CONSTRUCTION AT NO COST TO THE OWNER.
8. THE ACCESS CHANNELS VOLUMES SHOWN ABOVE ARE BASED ON A DIGITAL TERRAIN MODEL (DTM) DEVELOPED IN AUTOCAD FROM SURVEY POINTS ON THE TRANSECTS SHOWN ON SHEET 4 AND POINTS WITHIN THE BORROW AREA.
9. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS ALONG THE ACCESS CHANNEL IN THE PRE-CONSTRUCTION SURVEY.



*ACCESS CHANNELS ARE NUMBERED FROM WEST TO EAST WITH THE 'BEGIN' COORDINATES AT THE CENTER LINE OF THE ROCK DIKE.



REV.	DATE	DESCRIPTION	BY
1	2/1/07	REVISED SHEET NUMBER & UPDATED NOTES	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

TYPICAL ACCESS CHANNEL SECTION

DATE: FEBRUARY 2005

SHEET 16

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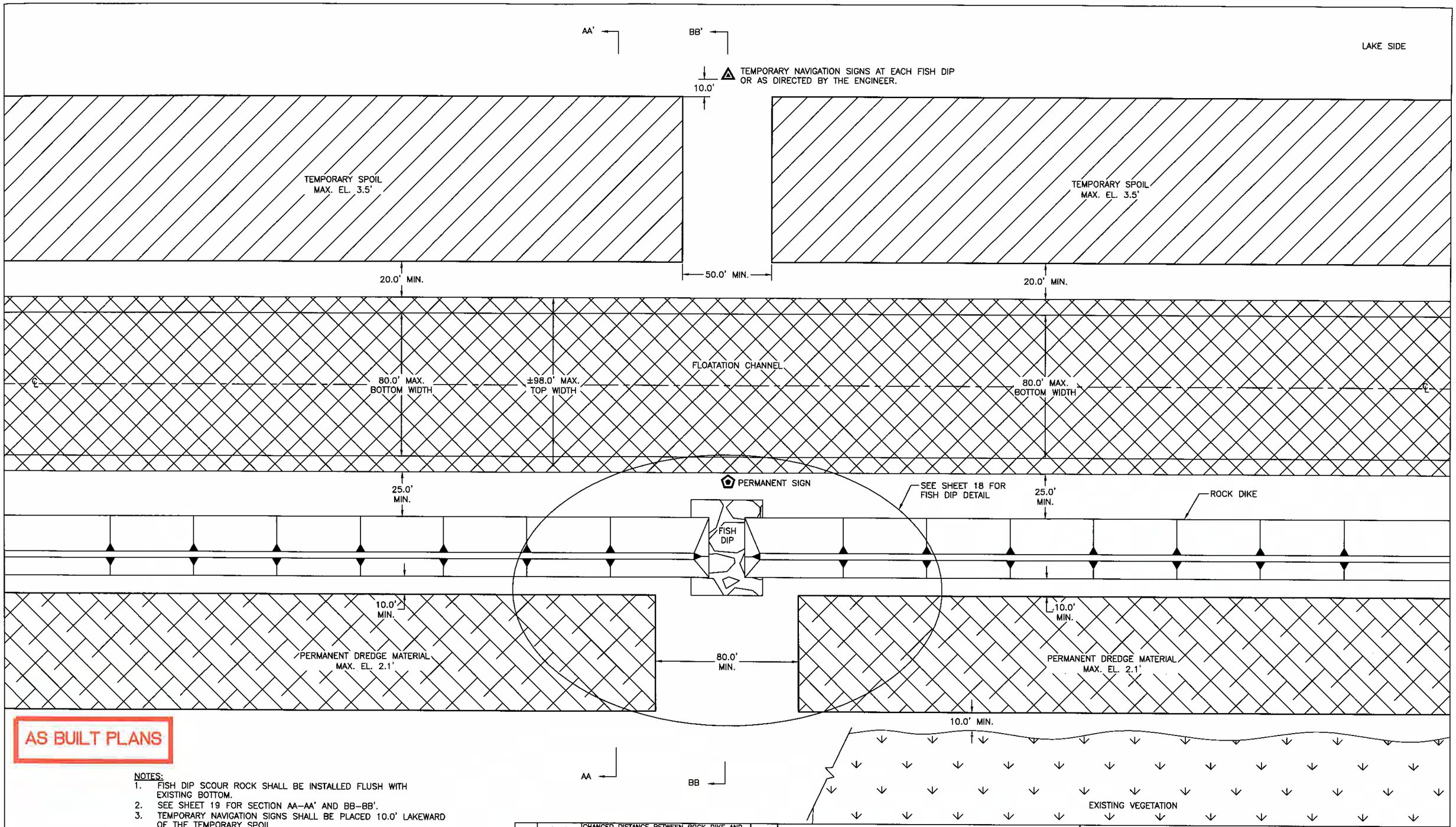

AS BUILT PLANS

NOTES:
1. FISH DIP SCOUR ROCK SHALL BE INSTALLED FLUSH WITH EXISTING BOTTOM.
2. SEE SHEET 19 FOR SECTION AA–AA' AND BB–BB'.
3. TEMPORARY NAVIGATION SIGNS SHALL BE PLACED 10.0' LAKEWARD OF THE TEMPORARY SPOIL.
4. PERMITTED FLOATATION AND ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.
5. TEMPORARY SPOIL SHALL HAVE A 50.0' GAP AT EACH FISH DIP.

50' 25' 0' 50' 100'

REV.	DATE	DESCRIPTION	BY
1	4/13/05	CHANGED DISTANCE BETWEEN ROCK DIKE AND FLOATATION CHANNEL FROM 40' TO 25' MIN.	KC
1	6/1/07	REVISED SHEET NUMBER	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

FISH DIP PLAN VIEW

DATE: FEBRUARY 2005

SHEET 17

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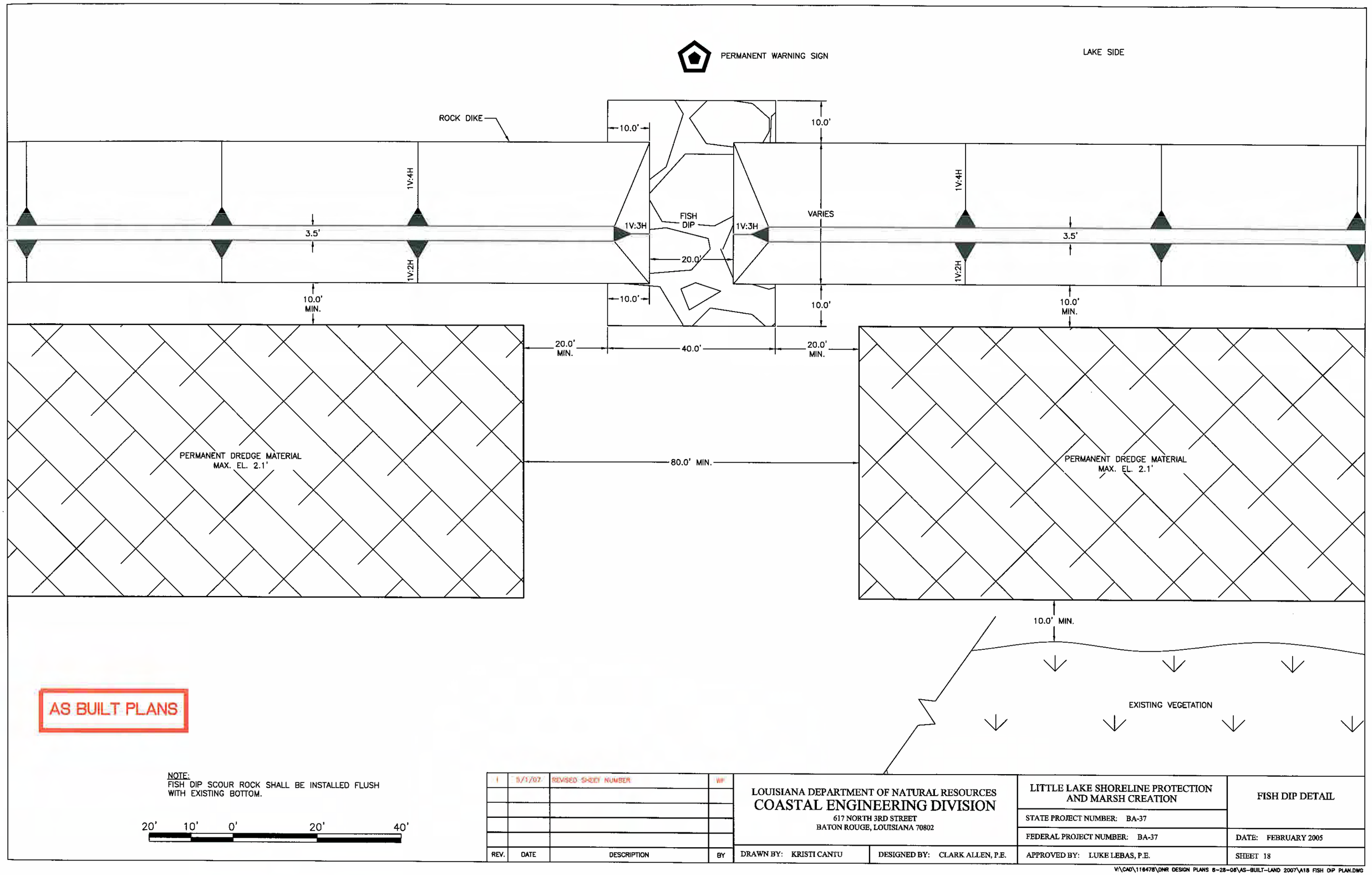

AS BUILT PLANS

NOTE:
FISH DIP SCOUR ROCK SHALL BE INSTALLED FLUSH WITH EXISTING BOTTOM.

20' 10' 0' 20' 40'

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

FISH DIP DETAIL

DATE: FEBRUARY 2005

SHEET 18

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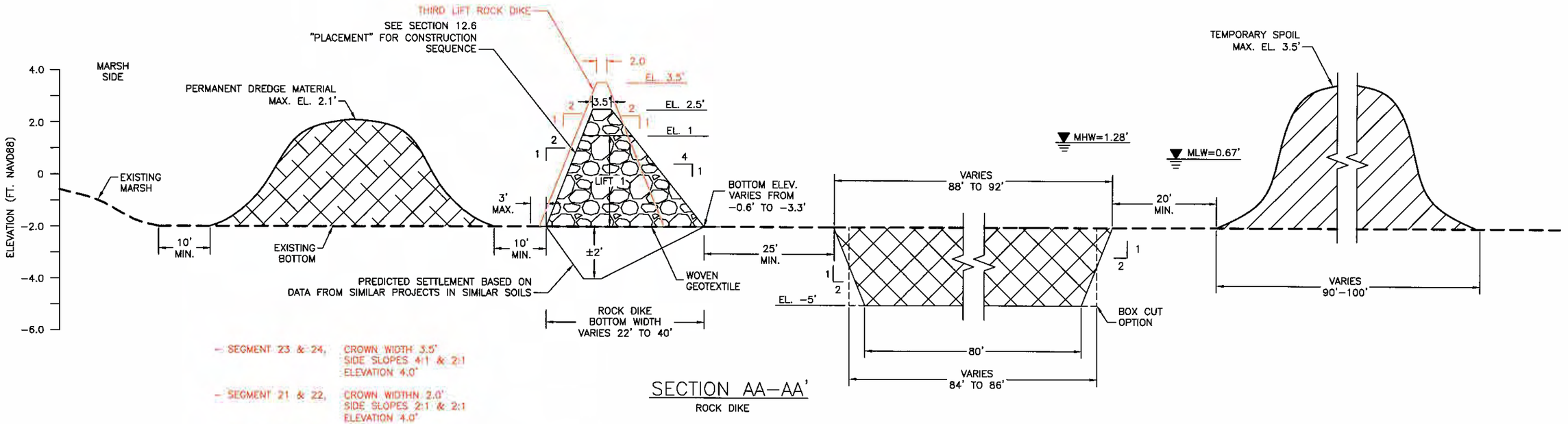
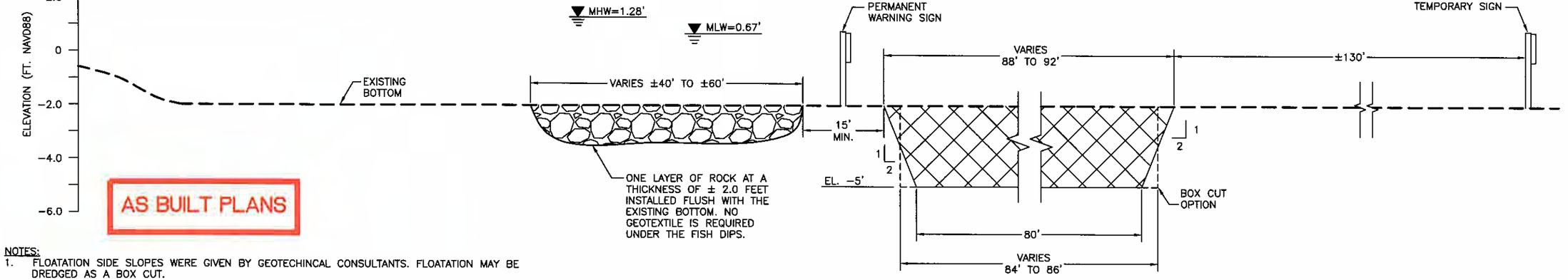


SECTION AA−AA'
ROCK DIKE

- SEGMENT 23 & 24, CROWN WIDTH 3.5' SIDE SLOPES 4:1 & 2:1 ELEVATION 4.0'
- SEGMENT 21 & 22, CROWN WIDTHN 2.0' SIDE SLOPES 2:1 & 2:1 ELEVATION 4.0'
- SEGMENT 10 − 20 CROWN WIDTH 2.0' SIDE SLOPES 2"1 2:1 ELEVATION 3.5'



AS BUILT PLANS

SECTION BB−BB'
FISH DIP

NOTES:
1. FLOATATION SIDE SLOPES WERE GIVEN BY GEOTECHINCAL CONSULTANTS. FLOATATION MAY BE DREDGED AS A BOX CUT.
2. ALL FLOATATION DREDGING WILL BE PAID AS A LUMP SUM ITEM UNDER BID ITEM 14 "ACCESS AND FLOATATION CHANNEL".
3. THE SPOIL FROM MAINTENANCE DREDGING OF ACCESS CHANNELS AND/OR FLOATATION CHANNELS SHALL BE PLACED ADJACENT TO THE CHANNEL.
4. SPOIL WITHIN THE TEMPORARY STOCKPILE AREAS SHALL BE BACK FILLED INTO THE CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM NO HIGHER THAN 0.5' OF PRE−CONSTRUCTION ELEVATIONS.
5. PERMITTED FLOATATION AND ACCESS CHANNELS ARE SHOWN. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT FEWER, SMALLER, AND/OR SHORTER CHANNELS.
6. THE REMOVAL OF APPROXIMATELY 220,670 CUBIC YARDS OF MATERIAL WILL BE REQUIRED TO CONSTRUCT THE FLOATATION CHANNEL SHOWN WEST OF THE 12" TENNESSEE GAS PIPELINE.
7. THE REMOVAL OF APPROXIMATELY 182,160 CUBIC YARDS OF MATERIAL WILL BE REQUIRED TO CONSTRUCT THE FLOATATION CHANNEL SHOWN EAST OF THE 12" TENNESSEE GAS PIPELINE.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ACCESS CHANNELS IN A USABLE CONDITION FOR THE DURATION OF CONSTRUCTION AT NO COST TO THE OWNER.

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE
4' 2' 0 4' 8'

LEGEND
- ROCK DIKE
- FLOATATION CHANNEL
- PERMANENT DREDGE MATERIAL
- TEMPORARY SPOIL

REV.	DATE	DESCRIPTION	BY
1	4/13/05	CHANGED DISTANCE BETWEEN ROCK DIKE AND FLOATATION CHANNEL FROM 40' TO 25' MIN.	KC
2	4/13/05	CHANGED DISTANCE BETWEEN FISH DIP AND FLOATATION CHANNEL FROM 30' TO 15' MIN.	KC
3	4/13/05	REVISED NOTE 2.	KC
4	9/1/07	REVISED SHEET NUMBER & NOTES	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37
APPROVED BY: LUKE LEBAS, P.E.

TYPICAL ROCK DIKE SECTIONS
DATE: FEBRUARY 2005
SHEET 19

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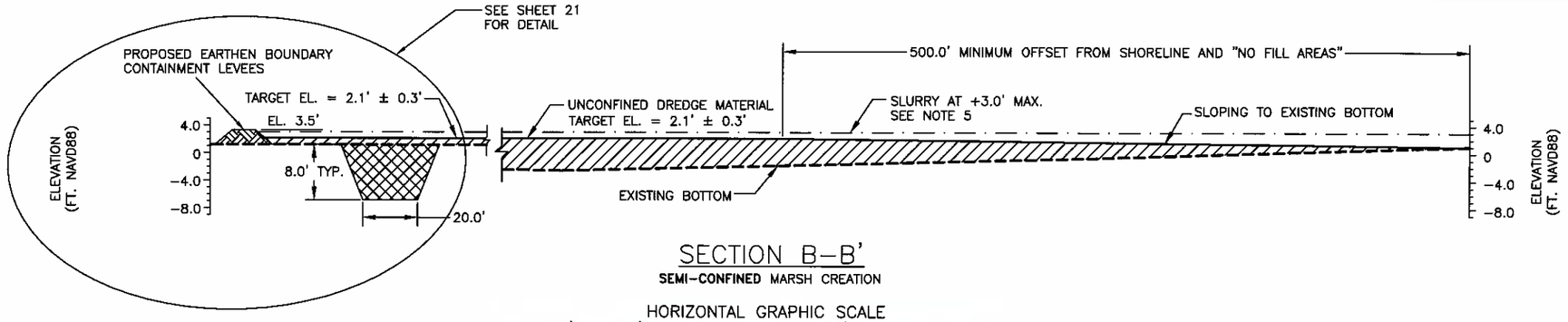


SECTION B–B'

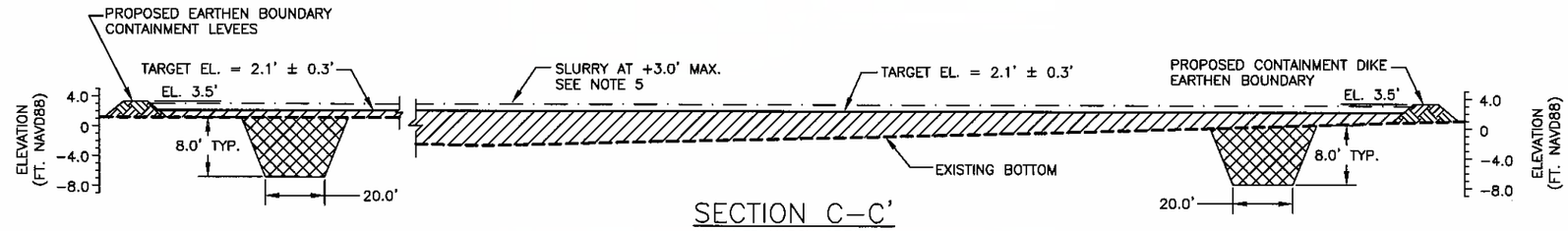
SEMI–CONFINED MARSH CREATION

HORIZONTAL GRAPHIC SCALE

50' 25' 0 50' 100'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE



SECTION C–C'

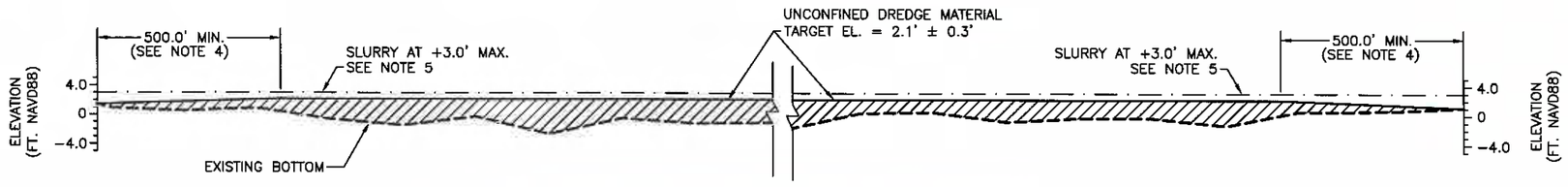
CONFINED MARSH CREATION

HORIZONTAL GRAPHIC SCALE

50' 25' 0 50' 100'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE



SECTION D–D'

UNCONFINED MARSH CREATION

HORIZONTAL GRAPHIC SCALE

400' 200' 0 400' 800'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

AS BUILT PLANS

NOTES:

1. DISCHARGE SHALL BE DIRECTED TO RETAIN AS MUCH MATERIAL AS POSSIBLE.
2. NO DISCHARGE POINT SHALL BE WITHIN 500.0' OF THE PROJECT BOUNDARY OR ANY AREA DEPICTED AS NO FILL WITHOUT PRIOR APPROVAL OF THE ENGINEER.
3. NO DISCHARGE POINT SHALL BE WITHIN 75' OF ANY GRADE STAKES WITHOUT PRIOR APPROVAL OF THE ENGINEER.
4. MINIMUM OFFSET FROM SHORELINE AND "NO FILL AREAS" IS 500.0'.
5. THE SLURRY MAY BE PUMPED TO A MAXIMUM ELEVATION OF +3.0' NAVD 88. HOWEVER, IF THE MATERIAL DOES NOT DEWATER TO A ACCEPTABLE ELEVATION (1.8' TO 2.4' NAVD 88) WITHIN 28 DAYS, THE MAXIMUM SLURRY ELEVATION MAY BE ADJUSTED BY A WRITTEN FIELD ORDER. ANY CHANGES TO THE MAXIMUM SLURRY ELEVATIONS WILL NOT EFFECT THE UNIT COST.

SUMMARY OF AVERAGE EXISTING MARSH ELEVATION (SEE SHEET 4)

PT.	NORTHING	EASTING	AVE MARSH ELEV. FT. NAVD 88
NW	363,333	3,640,686	1.3
CENT.	355,923	3,645,139	1.3
SE	353,859	3,652,243	1.1
AVER.	NA	NA	1.2

LEGEND

- CONTAINMENT DIKE BORROW
- FILL AREA
- EARTHEN LEVEE

REV.	DATE	DESCRIPTION	BY
1	4/13/05	REVISED NOTE 3.	KC
2	4/13/05	ADDED NOTE 5.	KC
3	4/13/05	ADDED SLURRY LINE AND LEADER NOTE TO EACH SECTION.	KC
4	4/26/05	CHANGED THE FLOATATION DEPTH DIMENSIONS FROM 8.0' MAX. TO 8.0' TYP.	KC
5	9/1/07	REVISED SHEET NUMBER	WT

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
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LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

APPROVED BY: LUKE LEBAS, P.E.

TYPICAL MARSH SECTIONS

DATE: FEBRUARY 2005

SHEET 20

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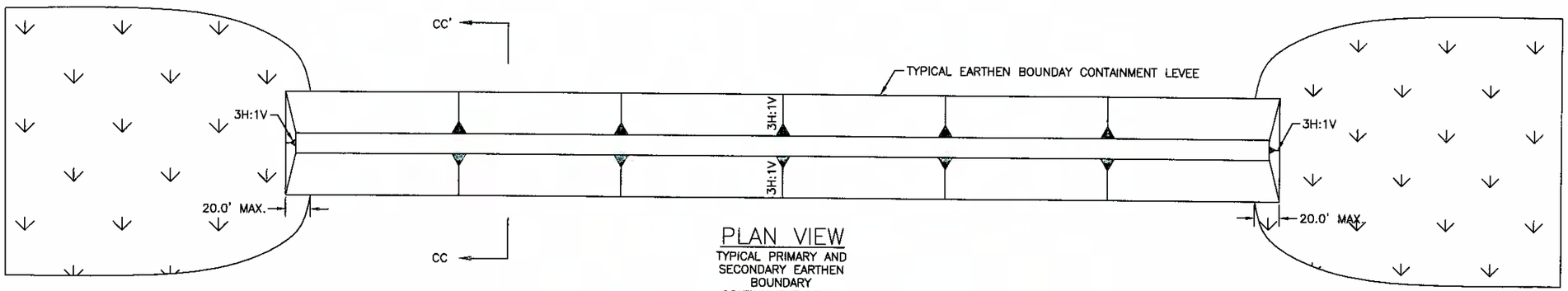
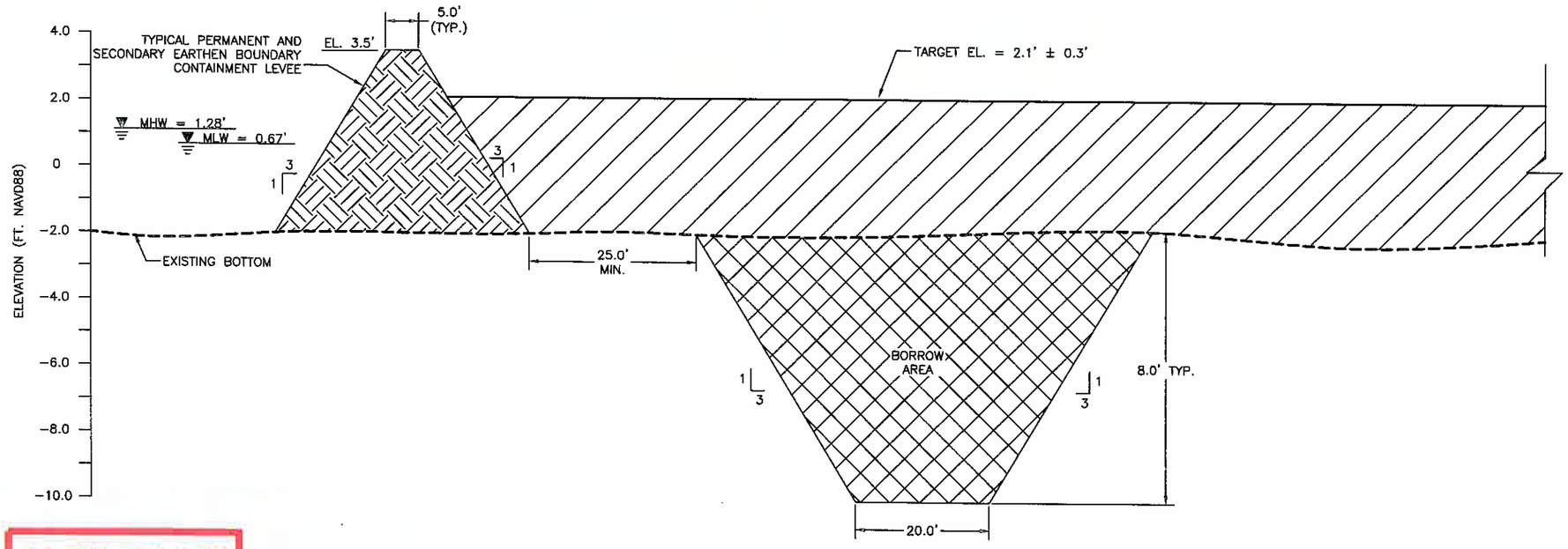


PLAN VIEW
TYPICAL PRIMARY AND SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE

100' 50' 0' 100' 200'



SECTION CC–CC'
TYPICAL PRIMARY AND SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
4' 2' 0 4' 8'
VERTICAL GRAPHIC SCALE

AS BUILT PLANS

NOTES:
1. CONTAINMENT LEVEES WILL BE CONSTRUCTED ONLY IN OPEN WATER ALONG PROJECT BOUNDARY. INTERNAL TRAINING DIKES ARE ALLOWED PROVIDED THEY ARE NO HIGHER THAN 2.4' NAVD 88. SEE SHEETS 8 AND 9 FOR LOCATION AND TYPICAL SECTION OF THE INTERNAL TRAINING DIKES.
2. THE LENGTHS OF THE PRIMARY AND SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES SHOWN ON ABOVE INCLUDE A 20' TIE–IN TO EXISTING MARSH ON EACH END.
3. SEE SECTION TS–5 "PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEES" AND TS–6 "SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES OF THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. SEE SHEET 8 FOR LOCATION OF THE PRIMARY AND SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES.
5. THE VOLUME OF PRIMARY AND SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES SHOWN ABOVE ARE BASED ON A DIGITAL TERRAIN MODEL DEVELOPED IN AUTOCAD OF SURVEY POINTS COLLECTED BETWEEN 11/22/02 AND 1/27/03 BY T. BAKER SMITH AND SON, INC. A 1:1 CUT TO FILL RATIO WAS ASSUMED IN THE CALCULATIONS.
6. ALL SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES SHALL BE DEGRADED TO THE ELEVATION OF THE ADJACENT MARSH CREATION PRIOR TO DEMOBILIZATION.

PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEE (P EBCL) VOLUMES

LEVEE	LENGTH (FEET)	VOLUME (CU. YDS.)
P EBCL 1	75.0	85.0
P EBCL 2	98.0	106.0
P EBCL 3*	1,768.0	5,154.0
P EBCL 4**	1,973.0	5,301.0
P EBCL 5	1,388.0	3,125.0
P EBCL 6	232.46	1,053.0
P EBCL 7	196.0	297.0
P EBCL 8	482.95	939.0
P EBCL 9	406.06	841.0
P EBCL 10	137.0	394.0
P EBCL 11	81.66	103.0
P EBCL 12	1,478.95	3,555.0
P EBCL 13	386.58	1,251.0
P ECBL 14	413.77	1,074.0
P ECBL 15	978.32	2,175.0
BASE BID TOTAL	8,122.75	20,152.0
ADD. ALT. TOTAL	205.0	147.0

*P EBCL 3 IS INCLUDED ONLY IN THE BASE BID.
** P EBCL 4 IS INCLUDED ONLY IN THE ADDITIVE ALTERNATE BID.

SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE (S EBCL) VOLUMES

LEVEE	LENGTH (FEET)	VOLUME (CU. YDS.)
S EBCL 1	157.03	653.0
S EBCL 2	80.27	259.0
S EBCL 3	165.9	226.0
S EBCL 4	118.22	148.0
S EBCL 5	306.31	432.0
S EBCL 6	183.16	165.0
S EBCL 7	150.93	449.0
S EBCL 8	113.61	316.0
S EBCL 9	121.37	431.0
S EBCL 10	721.2	1,080.0
S EBCL 11	870.0	1,193.0
S EBCL 12	79.84	132.0
S EBCL 13	87.9	146.0
S ECBL 14	135.53	129.0
S ECBL 15	105.22	127.0
S ECBL 16	57.83	149.0
S ECBL 17	72.12	75.0
S ECBL 18	57.88	79.0
S ECBL 19	67.21	107.0
S ECBL 20	77.68	280.0
S ECBL 21	1,258.11	3,071.0
S ECBL 22	601.52	1,395.0
S ECBL 23	66.66	242.0
S ECBL 24	70.39	174.0
S ECBL 25	140.77	198.0
S ECBL 26	87.04	366.0
S ECBL 27	97.7	147.0
S ECBL 28	209.98	244.0
S ECBL 29*	93.56	302.0
S ECBL 30*	138.44	388.0
S ECBL 31*	181.84	552.0
BASE BID TOTAL	6,675.22	13,655.0
ADD. ALT. TOTAL	6,261.38	12,413.0

* S EBCL 29–31 ARE INCLUDED ONLY IN THE BASE BID. SEE SHEET 8 OF 32 FOR CLARIFICATION.

LEGEND
- CONTAINMENT DIKE BORROW AREA
- FILL AREA
- EARTHEN CONTAINMENT LEVEE

REV.	DATE	DESCRIPTION	BY
1	4/22/05	CHANGED BORROW AREA SIDE SLOPES TO 3H:1V.	KC
2	4/26/05	CHANGED THE FLOATATION DEPTH DIMENSION FROM 8.0' MAX. TO 8.0' TYP.	KC
1	5/1/07	REVISED SHEET NUMBER	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E.

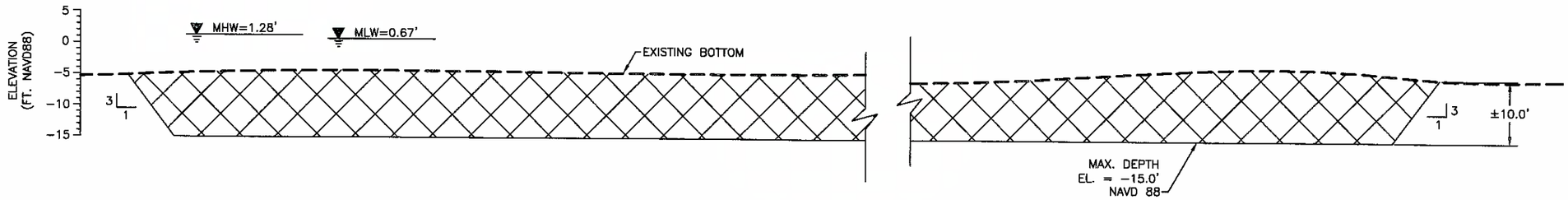
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37
APPROVED BY: LUKE LEBAS, P.E.

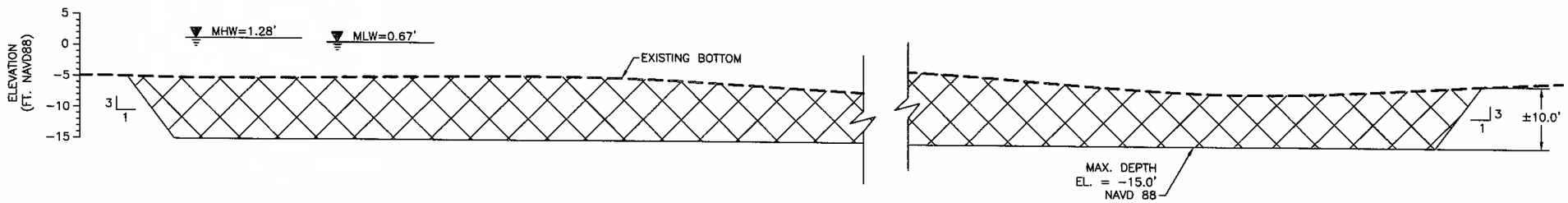
TYPICAL CONTAINMENT LEVEE SECTION & PLAN VIEW

DATE: FEBRUARY 2005
SHEET 21

V:\CAD\11847\Dwg\DESIGN PLANS 6-28-05\AS-BUILT-LAND 2007\21 CONTAINMENT DIKE SECTION.DWG



SECTION E–E'
BORROW AREA



SECTION F–F'
BORROW AREA

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

NOTE:
THE BORROW AREA CONTAINS APPROXIMATELY 21,376,000 CUBIC YARDS OF MATERIAL WITH A MAXIMUM DEPTH OF CUT TO A ELEVATION OF −15.0'.

AS BUILT PLANS

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WP

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37
APPROVED BY: LUKE LEBAS, P.E.

TYPICAL BORROW AREA SECTIONS

DATE: FEBRUARY 2005
SHEET 22

V:\CAD\118478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A22 TYPICAL BORROW SECTION.DWG

BORROW AREA BOUNDARY		
PT.	NORTHING (FEET)	EASTING (FEET)
1	366,289.36	3,642,789.75
2	366,289.36	3,657,225.92
3	360,714.07	3,657,625.28
4	363,981.42	3,642,789.75
5	364,318.55	3,650,107.67



NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

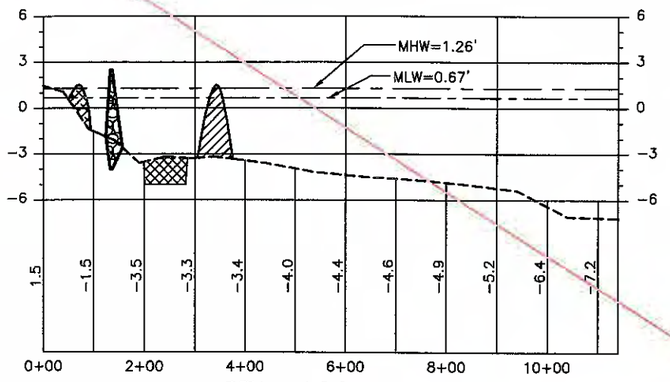
SCALE IN FEET
1000 500 0 1000

FILE NAME:	051460-P2
TBS NO.:	2005-1460
DATE:	10/16/06
PLOT SCALE:	1"=1000'
DRAWN BY:	KSP
APPROVED:	PJT
MAP NO.	

AS-BUILT BORROW AREA
PLAN VIEW

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO.: 1 OF 1
22a



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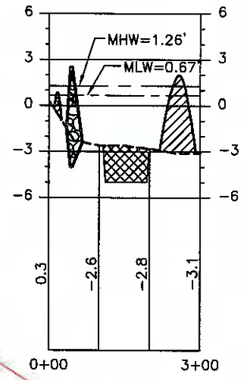
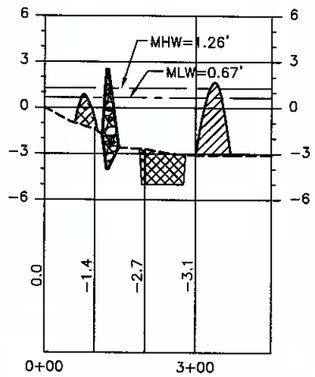


STA. 110+00



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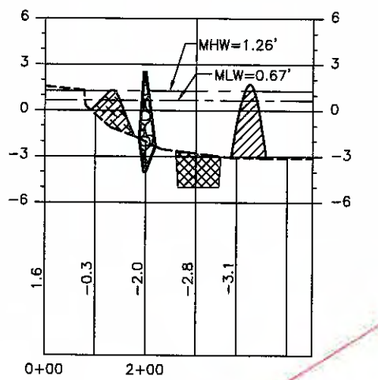

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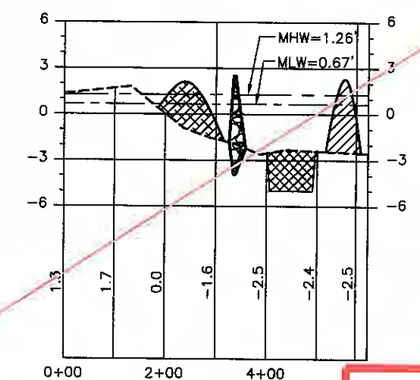
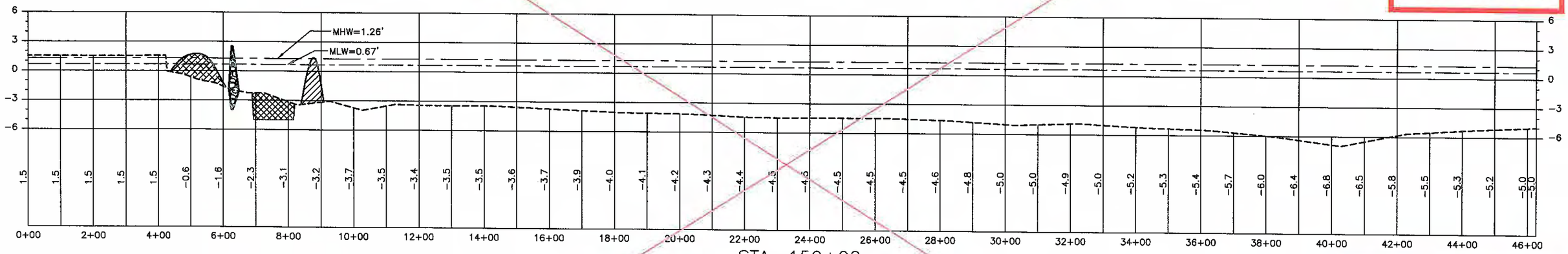
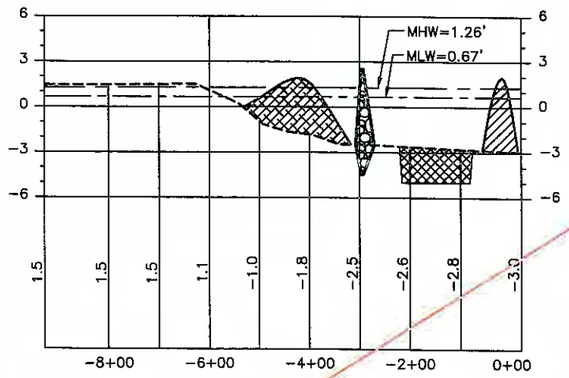


STA. 140+00

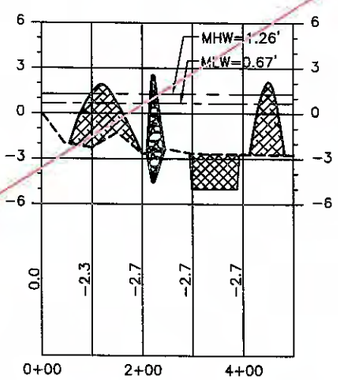
AS BUILT PLANS



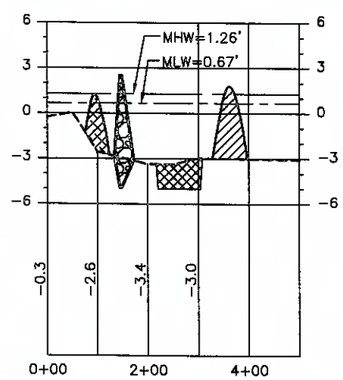
STA. 150+00



STA. 150+74



STA. 160+00



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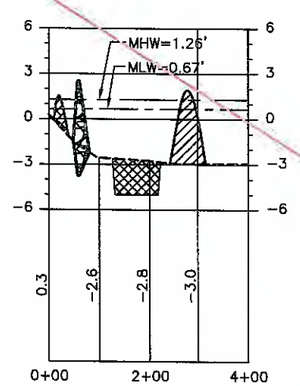
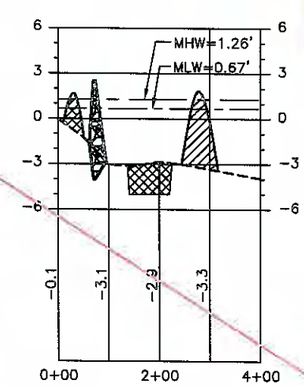


STA. 180+00



STA. 190+00

SEE SHEETS 34-47

NOTES:
1. CROSS SECTIONS ARE BASED ON SURVEY PERFORMED BETWEEN 11/22/02 AND 1/27/03.
2. NUMBERS BELOW THE EXISTING GROUND ARE THE EXISTING MUDLINE ELEVATIONS IN NAVD 88 FEET.

LEGEND

- ROCK DIKE EL.=2.5'
- PERMANENT DREDGE MATERIAL
- TEMPORARY SPOIL
- FLOATATION CHANNEL
- EXISTING BOTTOM

HORIZONTAL GRAPHIC SCALE
300' 150' 0 300' 600'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WF

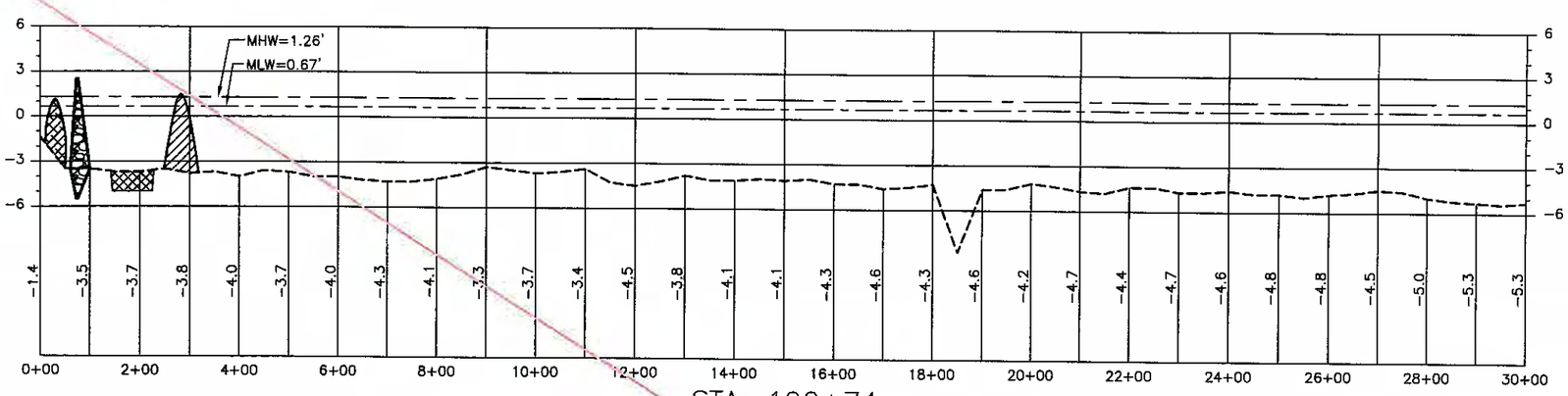
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.
APPROVED BY: LUKE LEBAS, P.E.

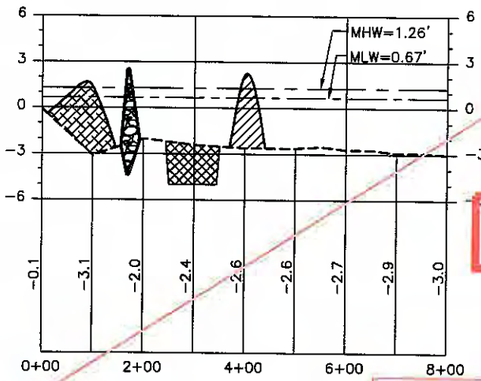
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37

ROCK DIKE CROSS SECTIONS
DATE: FEBRUARY 2005
SHEET 23

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A23-26 REV ROCK X-SEC.DWG



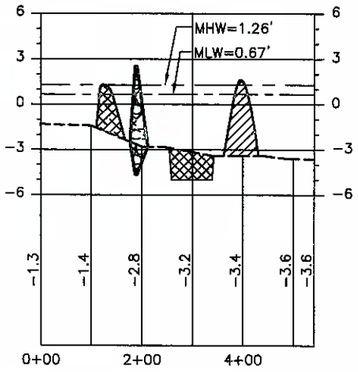
STA. 190+74



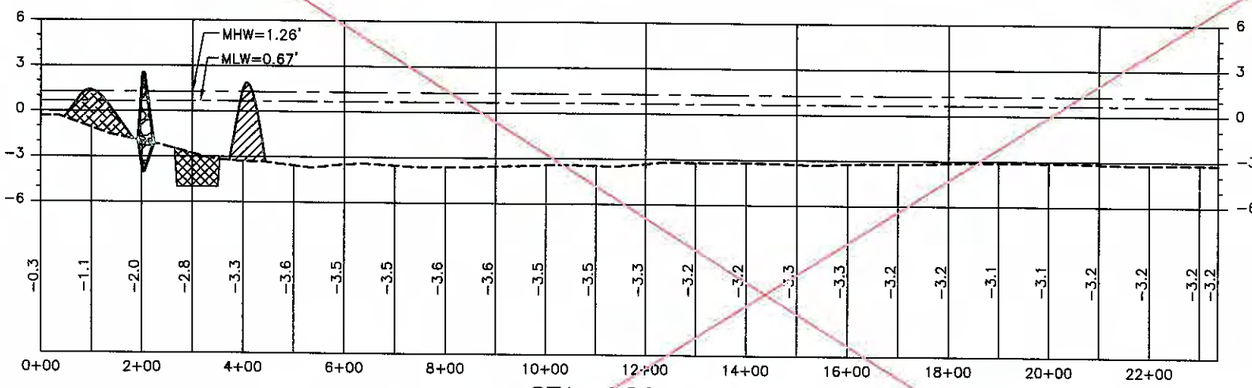
STA. 200+00

AS BUILT PLANS

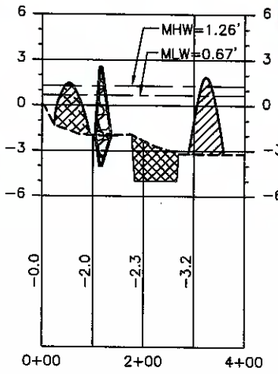
SEE SHEETS 34-47



STA. 210+00



STA. 220+00

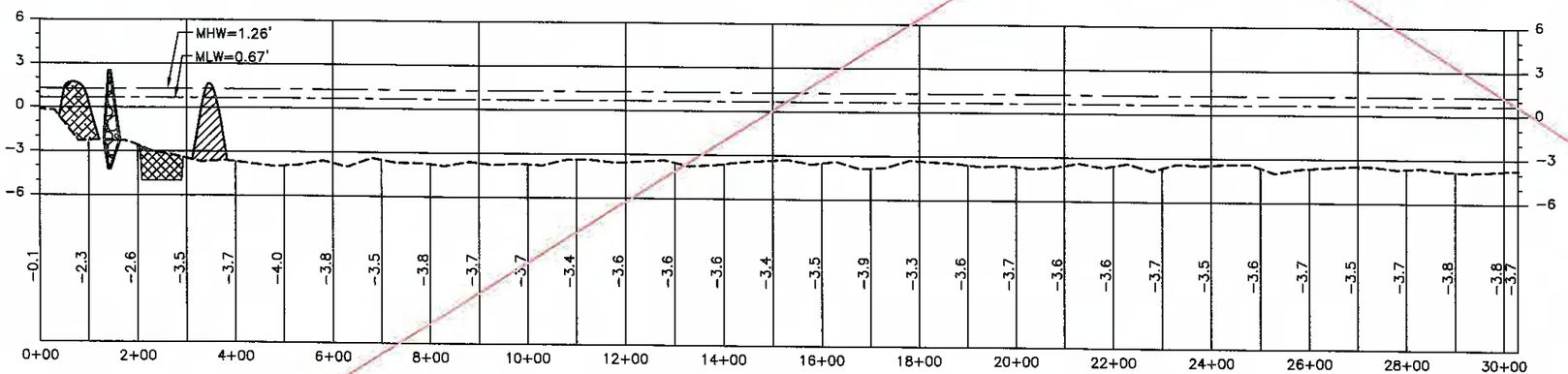


STA. 230+00

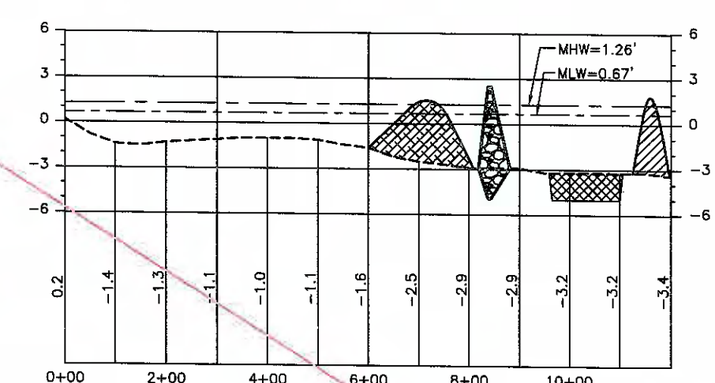
NOTES:
1. CROSS SECTIONS ARE BASED ON SURVEY PERFORMED BETWEEN 11/22/02 AND 1/27/03.
2. NUMBERS BELOW THE EXISTING GROUND ARE THE EXISTING MUDLINE ELEVATIONS IN NAVD 88 FEET.

LEGEND

- ROCK DIKE EL.=2.5'
- PERMANENT DREDGE MATERIAL
- TEMPORARY SPOIL
- FLOATATION CHANNEL
- EXISTING BOTTOM



STA. 230+74



STA. 240+00

HORIZONTAL GRAPHIC SCALE
300' 150' 0 300' 600'
VERTICAL GRAPHIC SCALE
10' 5' 0 10' 20'

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WP

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.

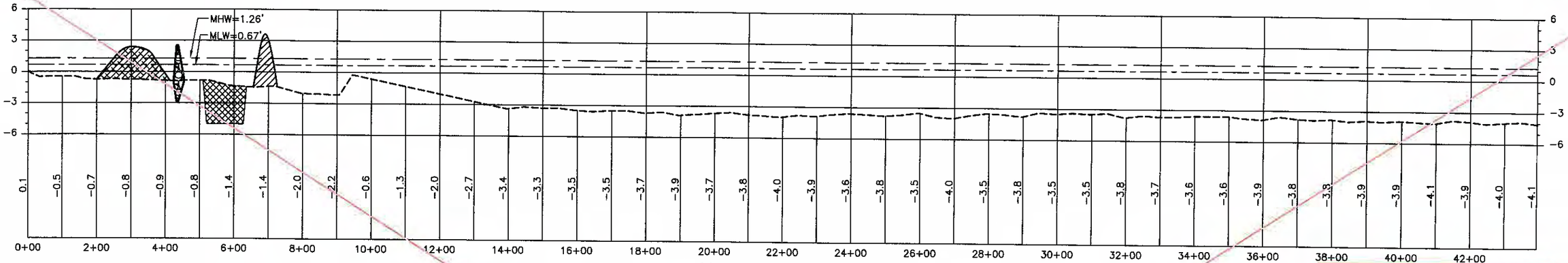
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37
APPROVED BY: LUKE LEBAS, P.E.

ROCK DIKE CROSS SECTIONS

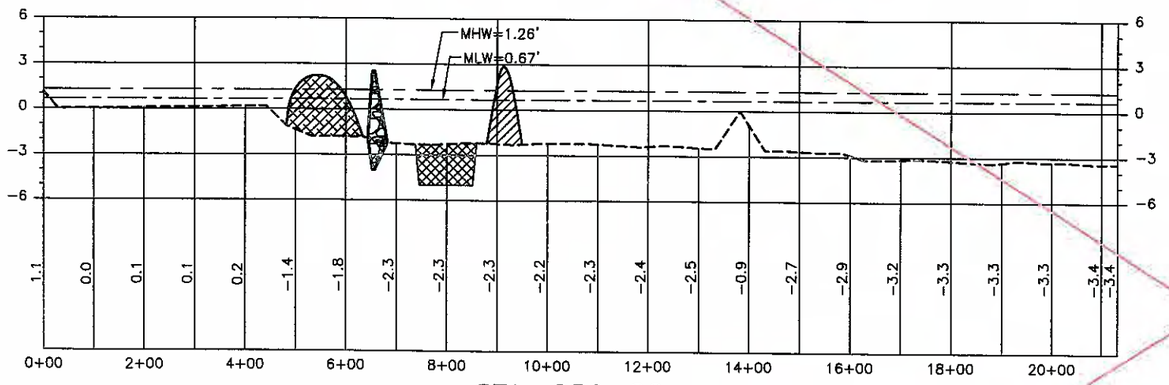
DATE: FEBRUARY 2005
SHEET 24

V:\CAD\116478\DNR DESIGN PLANS 8-28-08\AS-BUILT-LAND 2007\A23-26 REV ROCK X-SEC.DWG

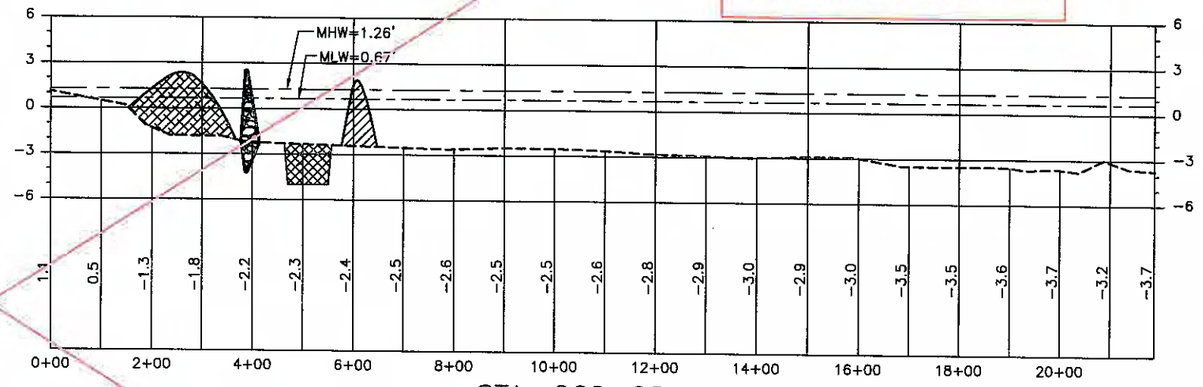


STA. 247+59

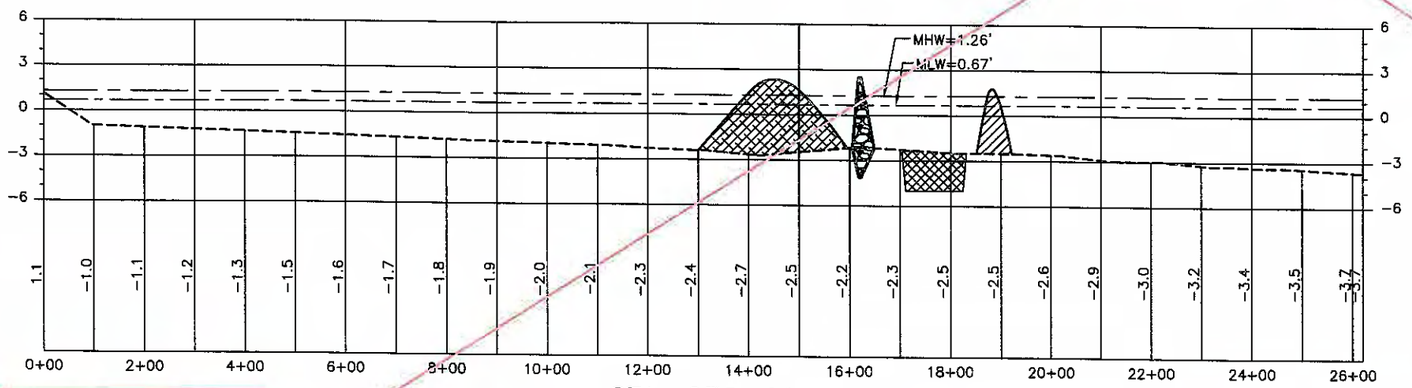
SEE SHEETS 34-47



STA. 250+00



STA. 260+00



STA. 270+00

AS BUILT PLANS

NOTES:
1. CROSS SECTIONS ARE BASED ON SURVEY PERFORMED BETWEEN 11/22/02 AND 1/27/03.
2. NUMBERS BELOW THE EXISTING GROUND ARE THE EXISTING MUDLINE ELEVATIONS IN NAVD 88 FEET.

LEGEND

- ROCK DIKE EL.=2.5'
- PERMANENT DREDGE MATERIAL
- TEMPORARY SPOIL
- FLOATATION CHANNEL
- EXISTING BOTTOM

HORIZONTAL GRAPHIC SCALE
300' 150' 0 300' 600'
VERTICAL GRAPHIC SCALE
10' 5' 0 10' 20'

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.

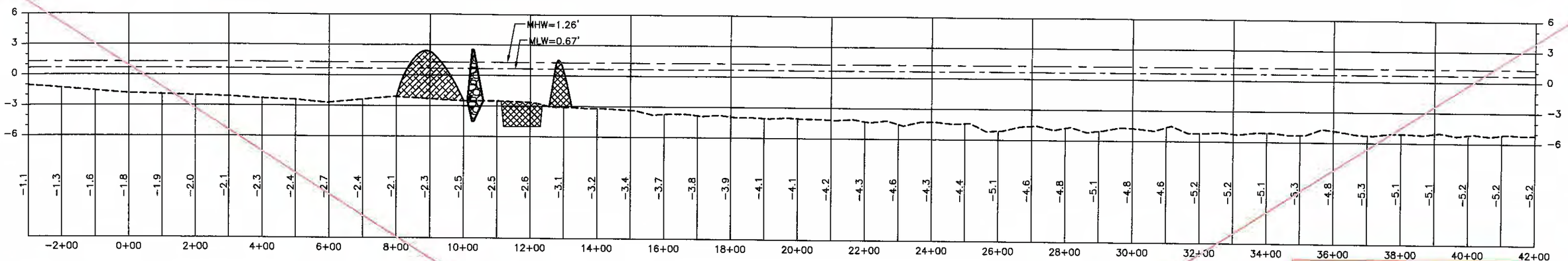
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37
APPROVED BY: LUKE LEBAS, P.E.

ROCK DIKE CROSS SECTIONS

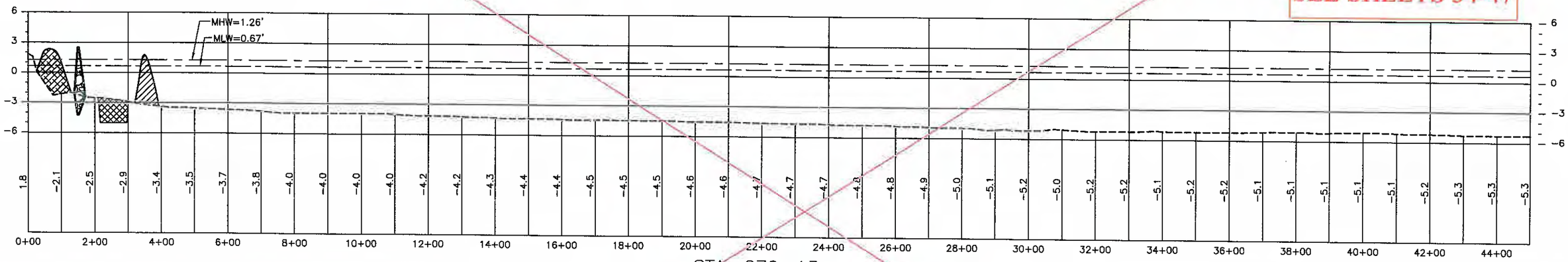
DATE: FEBRUARY 2005
SHEET 25

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A23-26 REV ROCK X-SEC.DWG

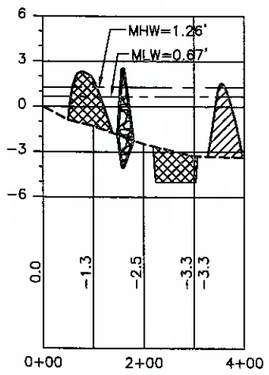


STA. 275+17

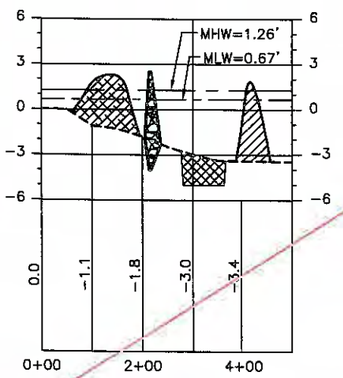
SEE SHEETS 34-47



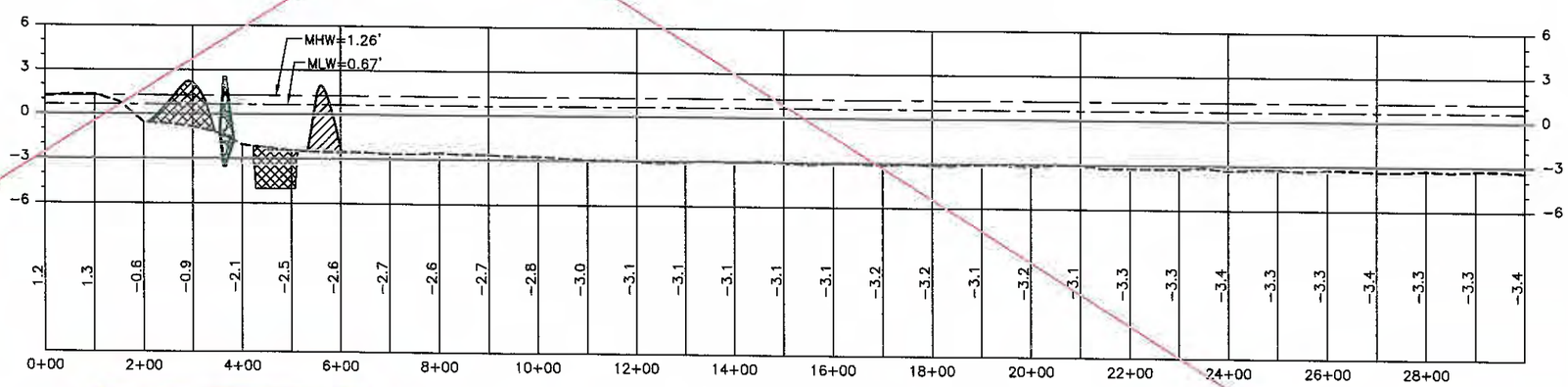
STA. 279+13



STA. 290+00



STA. 300+00



STA. 317+31

AS BUILT PLANS

HORIZONTAL GRAPHIC SCALE
300' 150' 0 300' 600'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND

- ROCK DIKE EL.=2.5'
- PERMANENT DREDGE MATERIAL
- TEMPORARY SPOIL
- FLOATATION CHANNEL
- EXISTING BOTTOM

NOTES:
1. CROSS SECTIONS ARE BASED ON SURVEY PERFORMED BETWEEN 11/22/02 AND 1/27/03.
2. NUMBERS BELOW THE EXISTING GROUND ARE THE EXISTING MUDLINE ELEVATIONS IN NAVD 88 FEET.

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.
APPROVED BY: LUKE LEBAS, P.E.

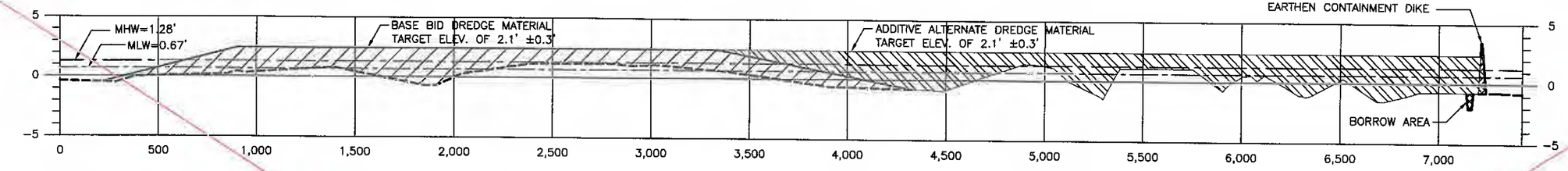
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37

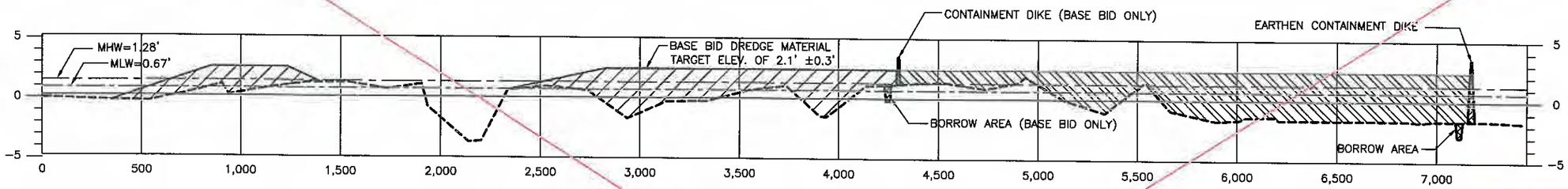
ROCK DIKE CROSS SECTIONS

DATE: FEBRUARY 2005
SHEET 26

V:\CAD\116478\DNR DESIGN PLANS 8-28-08\AS-BUILT-LAND 2007\A23-26 REV ROCK X-SEC.DWG

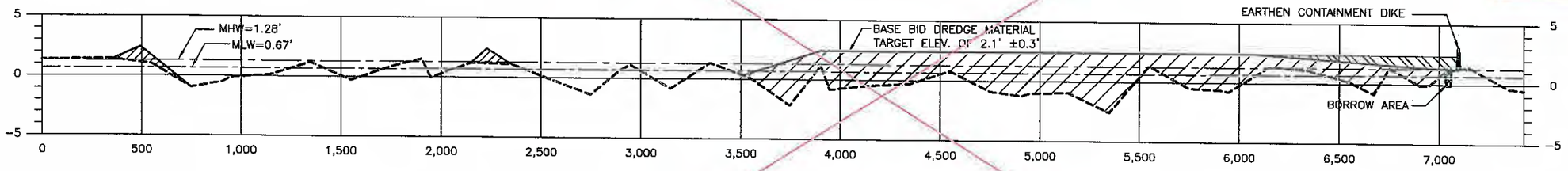


SECTION 1A
LOOKING EAST

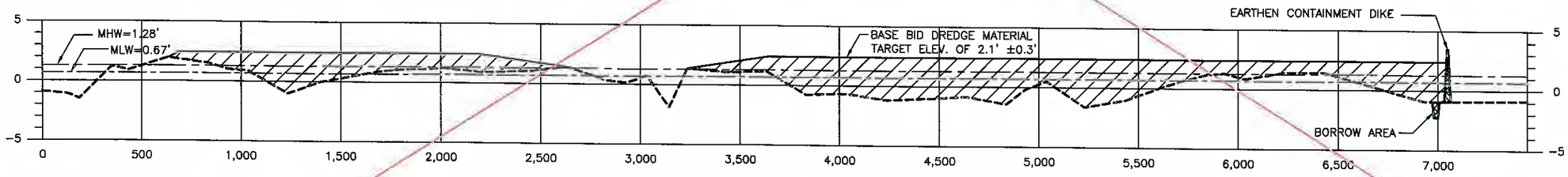


SECTION 1
LOOKING EAST

SEE SHEETS 49-56

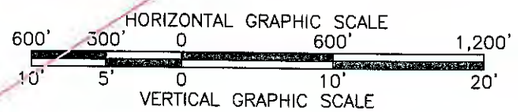


SECTION 2
LOOKING EAST



SECTION 3
LOOKING EAST

AS BUILT PLANS



LEGEND

- BASE BID DREDGE MATERIAL
- ADDITIVE ALTERNATE DREDGE MATERIAL
- BORROW AREA
- EARTHEN CONTAINMENT DIKE
- EXISTING BOTTOM

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WP

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.

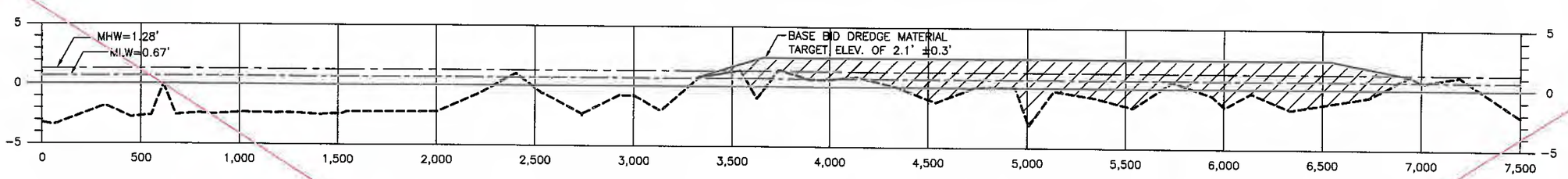
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37
APPROVED BY: LUKE LEBAS, P.E.

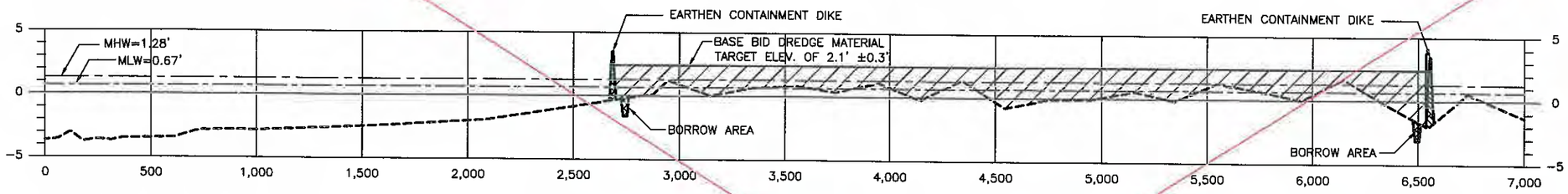
MARSH CREATION CROSS SECTIONS

DATE: FEBRUARY 2005
SHEET 27

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A27-30 MARSH SECTIONS.DWG



SECTION 4
LOOKING EAST



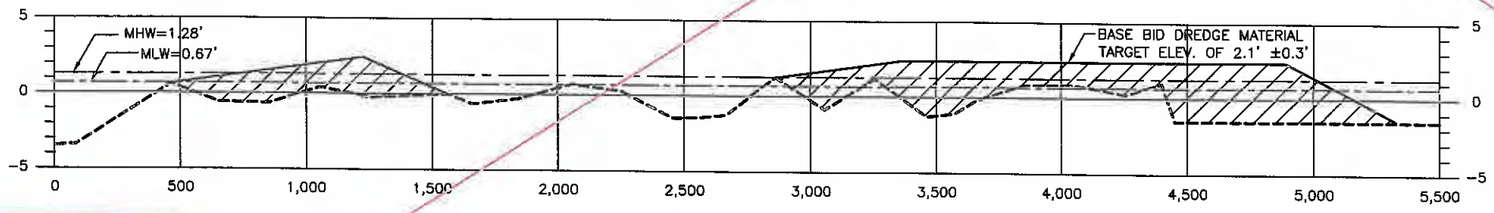
SECTION 5
LOOKING EAST

SEE SHEETS 49-56

SECTION 6
LOOKING EAST

LEGEND

- BASE BID DREDGE MATERIAL
- ADDITIVE ALTERNATE DREDGE MATERIAL
- BORROW AREA
- EARTHEN CONTAINMENT DIKE
- EXISTING BOTTOM



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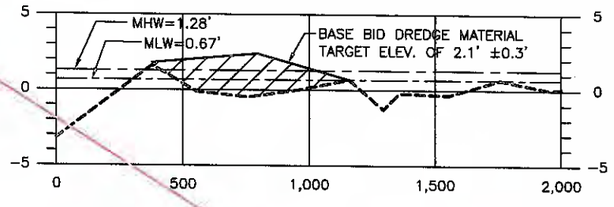


SECTION 8
LOOKING EAST

AS BUILT PLANS

HORIZONTAL GRAPHIC SCALE
600' 300' 0 600' 1,200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WF

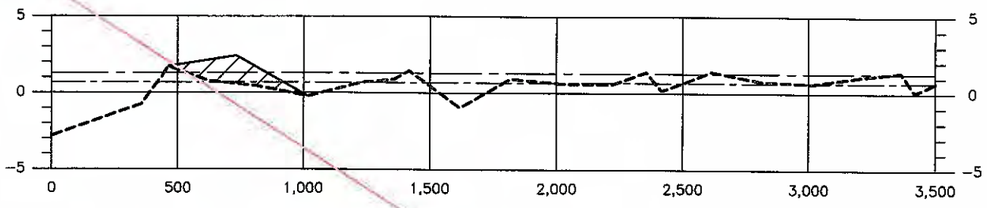
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.
APPROVED BY: LUKE LEBAS, P.E.

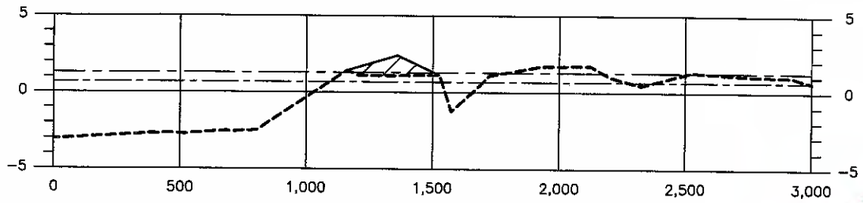
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37

MARSH CREATION CROSS SECTIONS
DATE: FEBRUARY 2005
SHEET 28

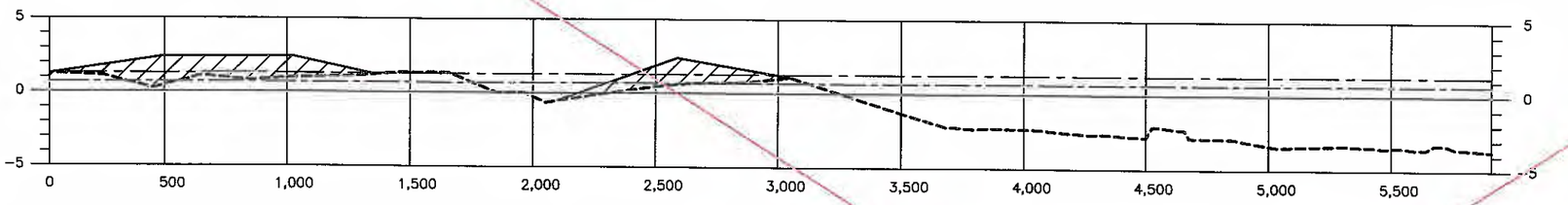
V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A27-30 MARSH SECTIONS.DWG



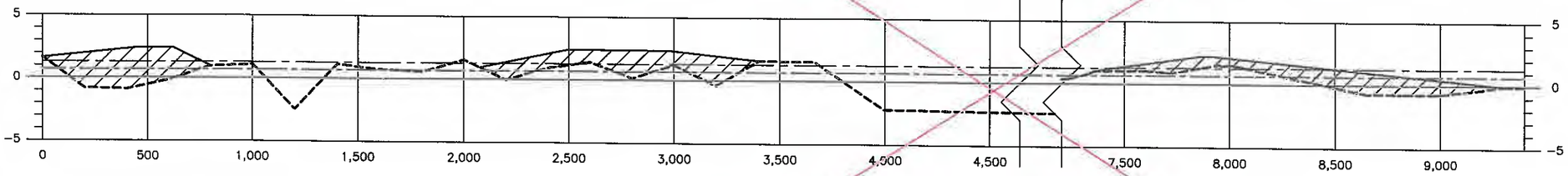
SECTION 9
LOOKING EAST



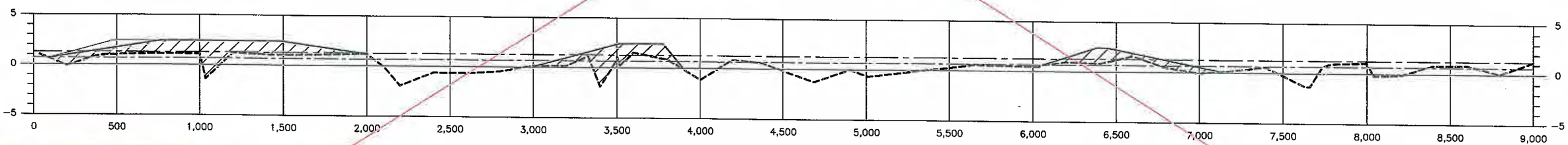
SECTION 10
LOOKING EAST



SECTION 11
LOOKING NORTH



SECTION 12
LOOKING NORTH



SECTION 13
LOOKING NORTH

SEE SHEETS 49-56

AS BUILT PLANS

HORIZONTAL GRAPHIC SCALE
600' 300' 0 600' 1,200'

VERTICAL GRAPHIC SCALE
10' 5' 0 10' 20'

LEGEND

- BASE BID DREDGE MATERIAL
- ADDITIVE ALTERNATE DREDGE MATERIAL
- BORROW AREA
- EARTHEN CONTAINMENT DIKE
- EXISTING BOTTOM

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WP

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.
APPROVED BY: LUKE LEBAS, P.E.

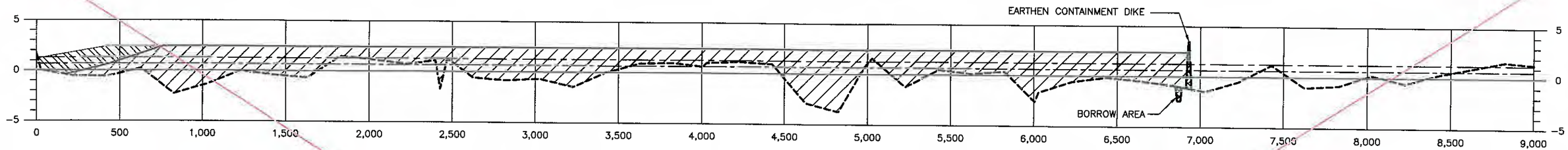
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37

MARSH CREATION CROSS SECTIONS

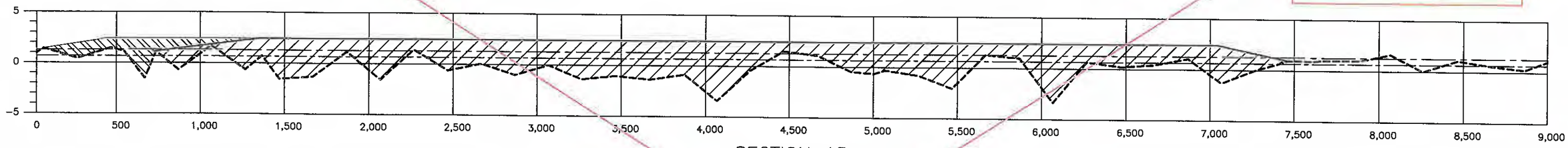
DATE: FEBRUARY 2005
SHEET 29

V:\CAD\118478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A27-30 MARSH SECTIONS.DWG

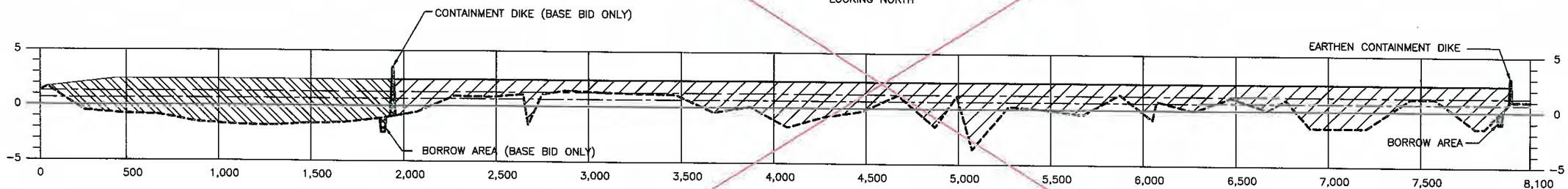


SECTION 14
LOOKING NORTH

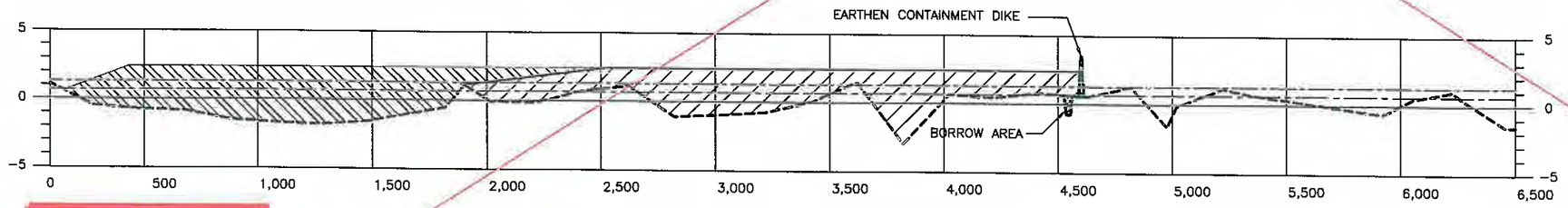
SEE SHEETS 49-56



SECTION 15
LOOKING NORTH



SECTION 16
LOOKING NORTH



SECTION 17
LOOKING NORTH

AS BUILT PLANS

HORIZONTAL GRAPHIC SCALE
600' 300' 0 600' 1,200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND

- BASE BID DREDGE MATERIAL
- ADDITIVE ALTERNATE DREDGE MATERIAL
- BORROW AREA
- EARTHEN CONTAINMENT DIKE
- EXISTING BOTTOM

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WP

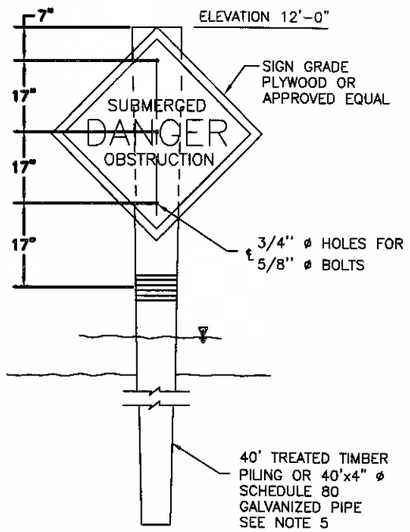
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU
DESIGNED BY: CLARK ALLEN, P.E.
APPROVED BY: LUKE LEBAS, P.E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37

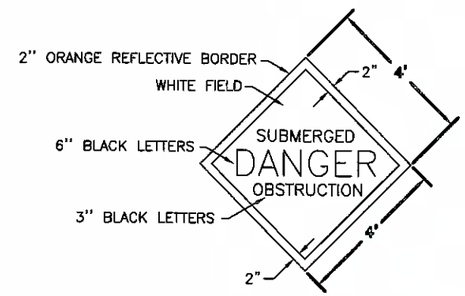
MARSH CREATION CROSS SECTIONS
DATE: FEBRUARY 2005
SHEET 30

V:\CAD\116478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A27-30 MARSH SECTIONS.DWG



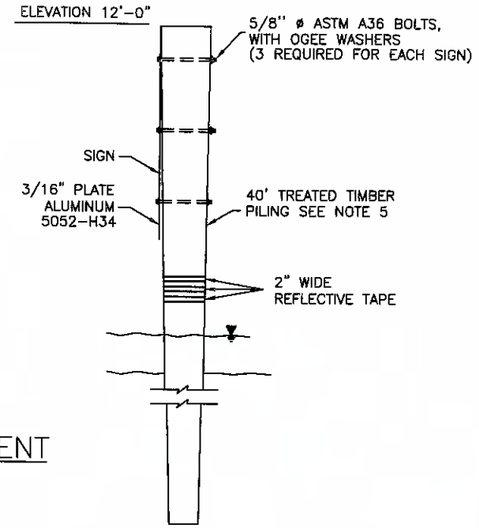
TEMPORARY WARNING SIGN ELEVATION

NOT TO SCALE



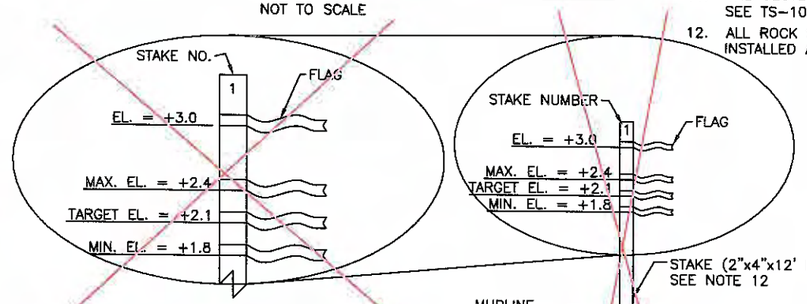
TEMPORARY AND PERMANENT SIGN DETAIL

NOT TO SCALE



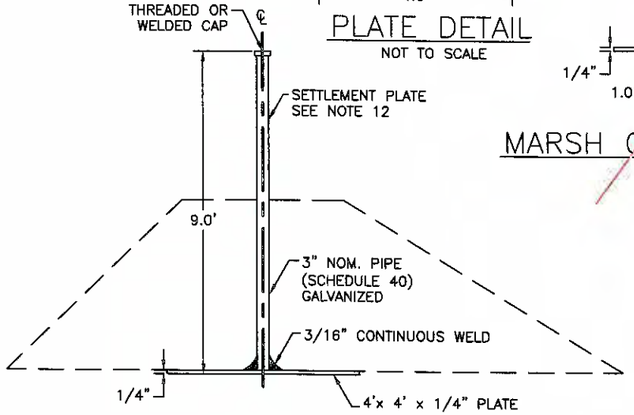
PERMANENT WARNING SIGN SIDE DETAIL

NOT TO SCALE



GRADE STAKE DETAIL

NOT TO SCALE



ROCK DIKE SETTLEMENT PLATE

NOT TO SCALE

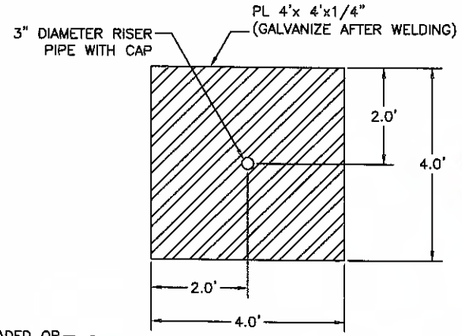
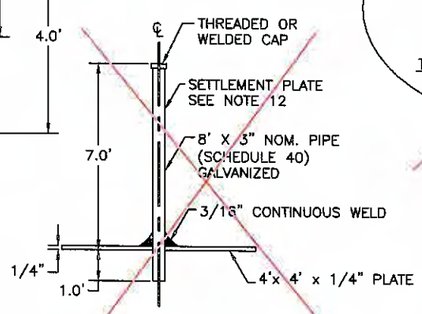


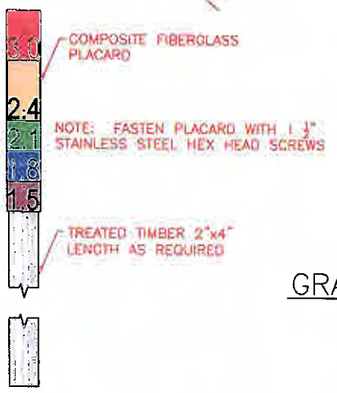
PLATE DETAIL

NOT TO SCALE



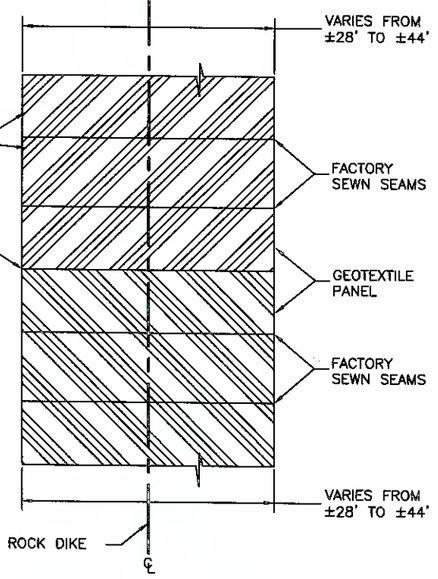
MARSH CREATION SETTLEMENT PLATE

NOT TO SCALE



COMPOSITE FIBERGLASS PLACARD DETAIL

NOT TO SCALE



WOVEN GEOTEXTILE LAYOUT

NOT TO SCALE

GENERAL NOTES:

1. TWENTY-FIVE PERMANENT AND SIXTY-THREE TEMPORARY WARNING SIGNS SHALL BE INSTALLED AT LOCATIONS STATED ON SHEET 19.
2. THE 2" BORDER ON THE WARNING SIGN WILL BE A REFLECTIVE MATERIAL OF ORANGE COLOR. THE LETTERING FIELD WILL BE A REFLECTIVE MATERIAL OF WHITE COLOR. THE LETTERING FOR THE WARNING SIGNS WILL BE BLACK. ALL SIGNS MUST MEET U.S. COAST GUARD STANDARDS; IN ACCORDANCE WITH 33 CFR 330.4 (a) (1) WHICH CAN BE DOWNLOADED AT http://www.access.gpo.gov/nara/cfr/waisidx_02/33cfr330_02.html
3. NEOPRENE WASHERS OR GASKETS SHALL BE PLACED BETWEEN THE SIGN AND CONNECTING HARDWARE AT ALL POINTS OF CONTACT. THE NEOPRENE GASKET SHALL EXTEND PAST THE CONNECTION HARDWARE A MINIMUM OF 1/8".
4. HARDWARE FOR TIMBER CONNECTIONS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SECTION 811.5 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION.
5. ALL PILES SHALL BE TREATED WITH CREOSOTE OR CHROMATED COPPER ARSENATE (CCA). SEE TS-13 "TEMPORARY WARNING SIGNS" OR TS-14 "PERMANENT WARNING SIGNS" FOR TREATMENT REQUIREMENTS. ALL PILING SHALL BE CAPPED ACCORDING TO LA DOTD SPECIFICATION 812.06.
6. THE CONTRACTOR HAS THE OPTION OF USING A 40'x4" ø SCHEDULE 80 GALVANIZED METAL PIPE OR OTHER APPROVED MATERIAL FOR TEMPORARY SIGNS.
7. TIMBER PILING SHALL BE 40-FEET IN LENGTH WITH A NOMINAL 12-INCH DIAMETER BUTT AND 7-INCH MINIMUM DIAMETER AT THE TIP.
8. TEMPORARY WARNING SIGNS SHALL HAVE THE SAME COLORING AND REFLECTIVE TAPE AS PERMANENT SIGNS BUT MAY BE CONSTRUCTED WITH 3/4" SIGN GRADE PLYWOOD.
9. THE SUPPORTS FOR THE TEMPORARY SIGNS SHALL BE REMOVED TO 5' BELOW MUD LINE OR REMOVED COMPLETELY AFTER PERMANENT SIGNS ARE ACCEPTED.
10. THE WOVEN GEOTEXTILE FABRIC SHALL OVERLAP ROCK DIKE EDGE BY A MINIMUM OF 1' ON EACH SIDE. ANY SEAM PARALLEL TO ROCK DIKE CENTERLINE SHALL BE SEWN. THE MINIMUM OVERLAP AT THE ROLL/GEOTEXTILE PANEL ENDS, PERPENDICULAR TO ROCK DIKE CENTERLINE, SHALL BE FIVE (5) FEET UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
11. THE GEOTEXTILE WIDTH SHOWN INCLUDES A 3' EXTENSION ON EACH SIDE OF THE ROCK DIKE. SEE TS-10 "WOVEN GEOTEXTILE FABRIC" FOR ADDITIONAL REQUIREMENTS.
12. ALL ROCK SETTLEMENT PLATES, MARSH SETTLEMENT PLATES, AND GRADE STAKES MUST BE INSTALLED AND MAINTAINED WITHIN 10.5° OF VERTICAL.

SETTLEMENT PLATE NOTES:

1. SETTLEMENT PLATES SHALL BE INSTALLED ALONG THE CENTERLINE OF THE ROCK DIKE AS SHOWN ON SHEETS 10-13.
2. THE SETTLEMENT PLATES SHALL BE SURVEYED WITHIN A DAY OF INSTALLATION AND WITNESSED BY THE DNR INSPECTOR UNTIL THE ROCK IS ACCEPTED.
3. SETTLEMENT PLATES SHALL BE BUILT USING ASTM A36 STEEL AND HOT-DIPPED GALVANIZED AFTER FABRICATION PER SPECIFICATION TS-11 "ROCK SETTLEMENT PLATES".

AS BUILT PLANS

REV.	DATE	DESCRIPTION	BY
1	4/13/05	MOVED THE FLAG ELEVATIONS ON THE GRADING STAKE DETAIL TO THE BOTTOM OF THE FLAGS.	KC
2	4/26/05	ADDED NOTE 12.	KC
3	4/26/05	ADDED AN EXAGGERATED VIEW OF THE FLAGING.	CA
4	5/1/07	REVISED SHEET NUMBER & TEXT	WF

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P.E. | APPROVED BY: LUKE LEBAS, P.E.

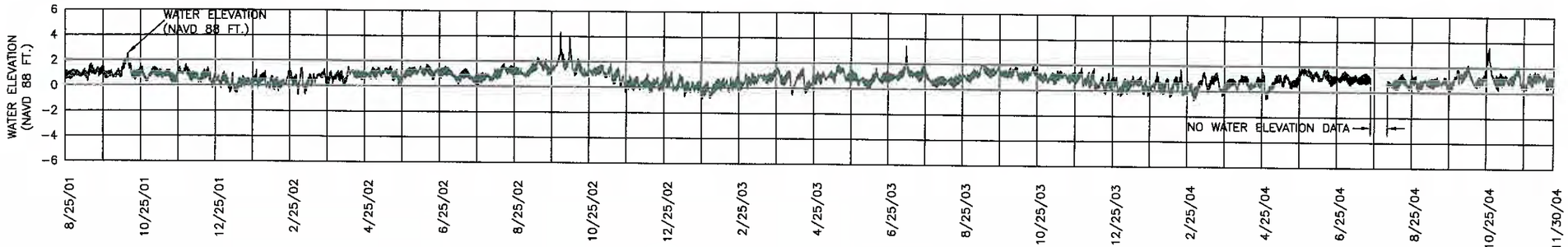
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

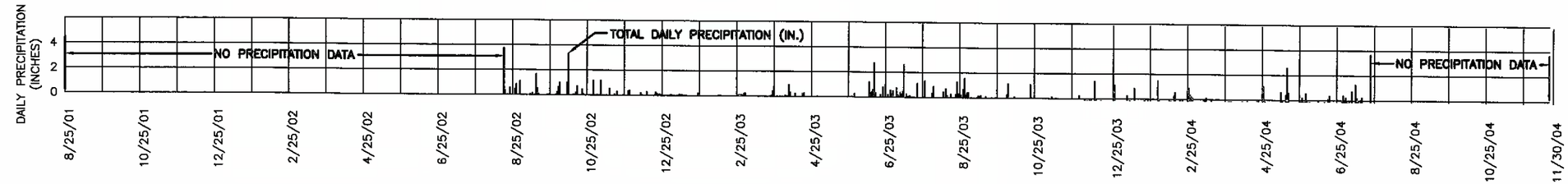
STATE PROJECT NUMBER: BA-37
FEDERAL PROJECT NUMBER: BA-37

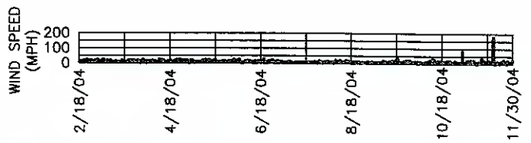
TYPICAL DETAILS

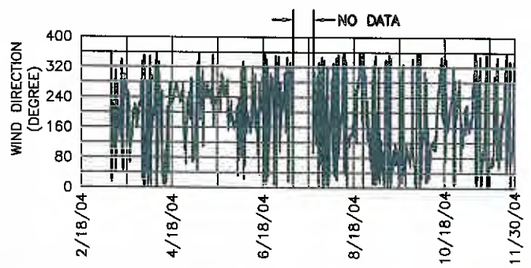
DATE: FEBRUARY 2005
SHEET 31

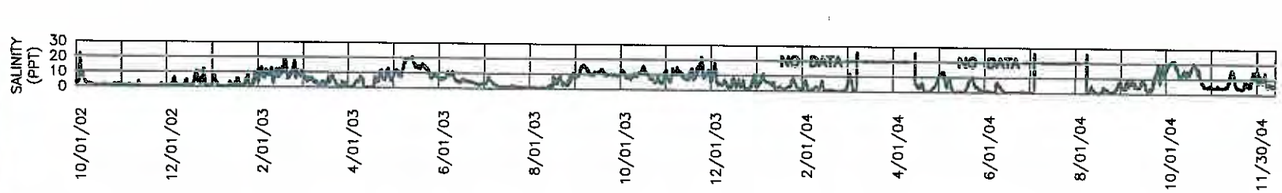
V:\CAD\116478\DNR DESIGN PLANS 8-28-08\AS-BUILT-LAND 2007\A31 TYPICAL DETAILS.DWG

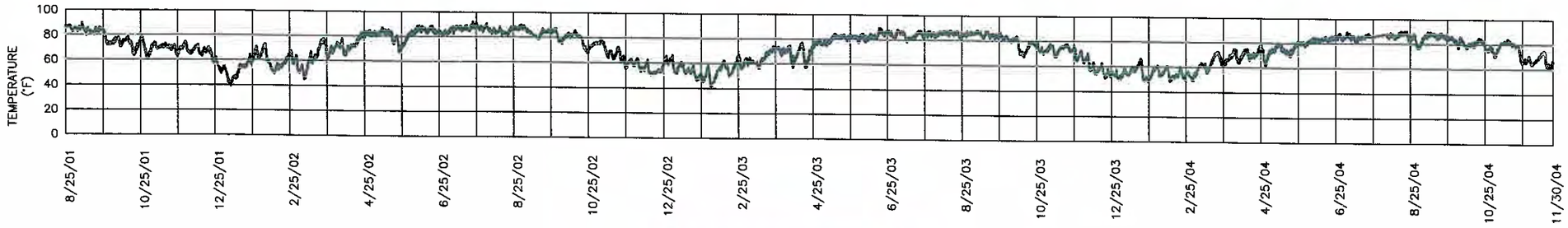












PARAMETER	MINIMUM	AVERAGE	MAXIMUM	PERIOD OF RECORD
WATER ELEV.	−0.87'	0.83'	4.33'	8/25/01 TO 11/30/2004
PRECIPITATION	0.00"	0.01"	1.40"	8/12/2002 TO 7/6/2004
WIND SPEED	0 MPH	11 MPH	118 MPH	2/18/2002 TO 11/30/2004
WIND DIRECTION	N/A	N/A	N/A	3/9/2002 TO 11/30/2004
SALINITY	0.00 PPT	5.33 PPT	23.36 PPT	10/01/2002 TO 11/30/2004
TEMPERATURE	39.2°F	72°F	92°F	8/25/2001 TO 11/30/2004

AS BUILT PLANS

NOTES:
1. ALL DATA SHOWN IS BASED ON THE USGS GAGE 292800090060000 LITTLE LAKE NEAR BAY DOSGRIS E OF ALLIANO, LA.
2. DATA USED TO GENERATE THE GRAPH SHOWN IS AVAILABLE UPON REQUEST.
3. THE WIND DIRECTION REFERENCES THE DIRECTION THE WIND IS BLOWING FROM WITH NORTH BEING ZERO DEGREES.

REV.	DATE	DESCRIPTION	BY
1	5/1/07	REVISED SHEET NUMBER	WI

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P. E.

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

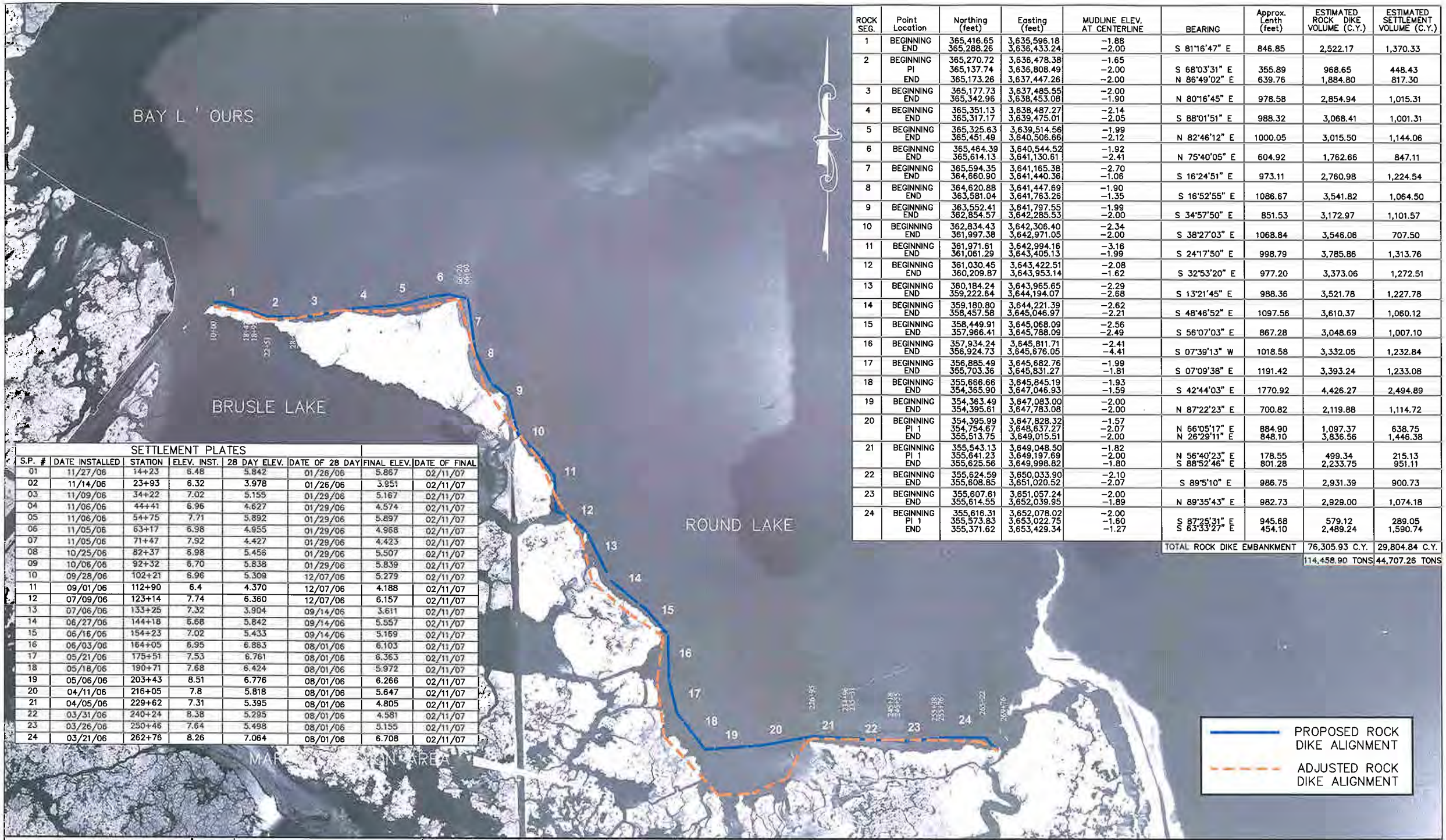
APPROVED BY: LUKE LEBAS, P. E.

WEATHER CONDITIONS IN LITTLE LAKE

DATE: FEBRUARY 2005

SHEET 32

V:\CAD\118478\DNR DESIGN PLANS 8-28-06\AS-BUILT-LAND 2007\A32.DWG



SETTLEMENT PLATES

S.P. #	DATE INSTALLED	STATION	ELEV. INST.	28 DAY ELEV.	DATE OF 28 DAY	FINAL ELEV.	DATE OF FINAL
01	11/27/06	14+23	6.48	5.842	01/26/06	5.867	02/11/07
02	11/14/06	23+93	6.32	3.978	01/26/06	3.951	02/11/07
03	11/09/06	34+22	7.02	5.155	01/29/06	5.167	02/11/07
04	11/06/06	44+41	6.96	4.627	01/29/06	4.574	02/11/07
05	11/06/06	54+75	7.71	5.892	01/29/06	5.897	02/11/07
06	11/05/06	63+17	6.98	4.955	01/29/06	4.968	02/11/07
07	11/05/06	71+47	7.92	4.427	01/29/06	4.423	02/11/07
08	10/25/06	82+37	6.98	5.456	01/29/06	5.507	02/11/07
09	10/06/06	92+32	6.70	5.838	01/29/06	5.839	02/11/07
10	09/28/06	102+21	6.96	5.309	12/07/06	5.279	02/11/07
11	09/01/06	112+90	6.4	4.370	12/07/06	4.188	02/11/07
12	07/09/06	123+14	7.74	6.360	12/07/06	6.157	02/11/07
13	07/06/06	133+25	7.32	3.904	09/14/06	3.611	02/11/07
14	06/27/06	144+18	6.68	5.842	09/14/06	5.557	02/11/07
15	06/16/06	154+23	7.02	5.433	09/14/06	5.169	02/11/07
16	06/03/06	164+05	6.95	6.883	08/01/06	6.103	02/11/07
17	05/21/06	175+51	7.53	6.761	08/01/06	6.363	02/11/07
18	05/18/06	190+71	7.68	6.424	08/01/06	5.972	02/11/07
19	05/06/06	203+43	8.51	6.776	08/01/06	6.266	02/11/07
20	04/11/06	216+05	7.8	5.818	08/01/06	5.647	02/11/07
21	04/05/06	229+62	7.31	5.395	08/01/06	4.805	02/11/07
22	03/31/06	240+24	8.38	5.295	08/01/06	4.581	02/11/07
23	03/26/06	250+46	7.64	5.498	08/01/06	5.155	02/11/07
24	03/21/06	262+76	8.26	7.064	08/01/06	6.708	02/11/07

ROCK SEG.	Point Location	Northing (feet)	Easting (feet)	MUDLINE ELEV. AT CENTERLINE	BEARING	Approx. Lenth (feet)	ESTIMATED ROCK DIKE VOLUME (C.Y.)	ESTIMATED SETTLEMENT VOLUME (C.Y.)
1	BEGINNING	365,416.65	3,635,596.18	−1.88				
	END	365,288.26	3,636,433.24	−2.00	S 81°16'47" E	846.85	2,522.17	1,370.33
2	BEGINNING	365,270.72	3,636,478.38	−1.65				
	PI	365,137.74	3,636,808.49	−2.00	S 68°03'31" E	355.89	968.65	448.43
	END	365,173.26	3,637,447.26	−2.00	N 86°49'02" E	639.76	1,884.80	817.30
3	BEGINNING	365,177.73	3,637,485.55	−2.00				
	END	365,342.96	3,638,453.08	−1.90	N 80°16'45" E	978.58	2,854.94	1,015.31
4	BEGINNING	365,351.13	3,638,487.27	−2.14				
	END	365,317.17	3,639,475.01	−2.05	S 88°01'51" E	988.32	3,068.41	1,001.31
5	BEGINNING	365,325.63	3,639,514.56	−1.99				
	END	365,451.49	3,640,506.66	−2.12	N 82°46'12" E	1000.05	3,015.50	1,144.06
6	BEGINNING	365,464.39	3,640,544.52	−1.92				
	END	365,614.13	3,641,130.61	−2.41	N 75°40'05" E	604.92	1,762.66	847.11
7	BEGINNING	365,594.35	3,641,165.38	−2.70				
	END	364,660.90	3,641,440.36	−1.06	S 16°24'51" E	973.11	2,760.98	1,224.54
8	BEGINNING	364,620.88	3,641,447.69	−1.90				
	END	363,581.04	3,641,763.26	−1.35	S 16°52'55" E	1086.67	3,541.82	1,064.50
9	BEGINNING	363,552.41	3,641,797.55	−1.99				
	END	362,854.57	3,642,285.53	−2.00	S 34°57'50" E	851.53	3,172.97	1,101.57
10	BEGINNING	362,834.43	3,642,306.40	−2.34				
	END	361,997.38	3,642,971.05	−2.00	S 38°27'03" E	1068.84	3,546.06	707.50
11	BEGINNING	361,971.61	3,642,994.16	−3.16				
	END	361,061.29	3,643,405.13	−1.99	S 24°17'50" E	998.79	3,785.86	1,313.76
12	BEGINNING	361,030.45	3,643,422.51	−2.08				
	END	360,209.87	3,643,953.14	−1.62	S 32°53'20" E	977.20	3,373.06	1,272.51
13	BEGINNING	360,184.24	3,643,965.65	−2.29				
	END	359,222.64	3,644,194.07	−2.68	S 13°21'45" E	988.36	3,521.78	1,227.78
14	BEGINNING	359,180.80	3,644,221.39	−2.62				
	END	358,457.58	3,645,046.97	−2.21	S 48°46'52" E	1097.56	3,610.37	1,060.12
15	BEGINNING	358,449.91	3,645,068.09	−2.56				
	END	357,966.41	3,645,788.09	−2.49	S 56°07'03" E	867.28	3,048.69	1,007.10
16	BEGINNING	357,934.24	3,645,811.71	−2.41				
	END	356,924.73	3,645,676.05	−4.41	S 07°39'13" W	1018.58	3,332.05	1,232.84
17	BEGINNING	356,885.49	3,645,682.76	−1.99				
	END	355,703.36	3,645,831.27	−1.81	S 07°09'38" E	1191.42	3,393.24	1,233.08
18	BEGINNING	355,666.66	3,645,845.19	−1.93				
	END	354,365.90	3,647,046.93	−1.59	S 42°44'03" E	1770.92	4,426.27	2,494.89
19	BEGINNING	354,363.49	3,647,083.00	−2.00				
	END	354,395.61	3,647,783.08	−2.00	N 87°22'23" E	700.82	2,119.88	1,114.72
20	BEGINNING	354,395.99	3,647,828.32	−1.57				
	PI 1	354,754.67	3,648,637.27	−2.07	N 66°05'17" E	884.90	1,097.37	638.75
	END	355,513.75	3,649,015.51	−2.00	N 26°29'11" E	848.10	3,836.56	1,446.38
21	BEGINNING	355,543.13	3,649,048.50	−1.82				
	PI 1	355,641.23	3,649,197.69	−2.00	N 56°40'23" E	178.55	499.34	215.13
	END	355,625.56	3,649,998.82	−1.80	S 88°52'46" E	801.28	2,233.75	951.11
22	BEGINNING	355,624.59	3,650,033.90	−2.10				
	END	355,608.85	3,651,020.52	−2.07	S 89°5'10" E	986.75	2,931.39	900.73
23	BEGINNING	355,607.61	3,651,057.24	−2.00				
	END	355,614.55	3,652,039.95	−1.89	N 89°35'43" E	982.73	2,929.00	1,074.18
24	BEGINNING	355,616.31	3,652,078.02	−2.00				
	PI 1	355,573.83	3,653,022.75	−1.60	S 87°25'31" E	945.68	579.12	289.05
	END	355,371.62	3,653,429.34	−1.27	S 63°33'27" E	454.10	2,489.24	1,590.74
TOTAL ROCK DIKE EMBANKMENT							76,305.93 C.Y.	29,804.84 C.Y.
							114,458.90 TONS	44,707.26 TONS

NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
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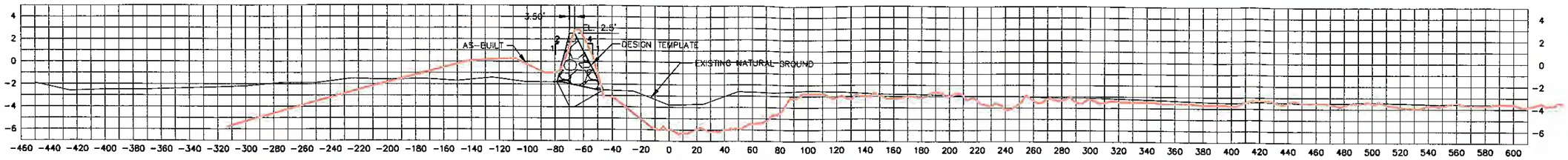
SCALE IN FEET
2,000 1,000 0 2,000

FILE NAME:	051480-P1
TBS NO.:	2005-1480
DATE:	09/29/05
PLOT SCALE:	2000
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

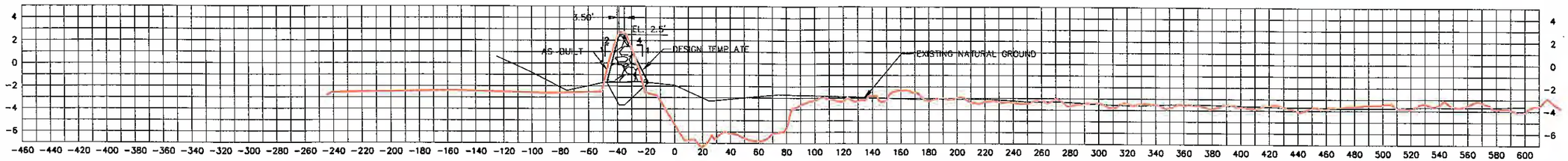
ADJUSTED ROCK DOCK ALIGNMENT PLAN VIEW

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

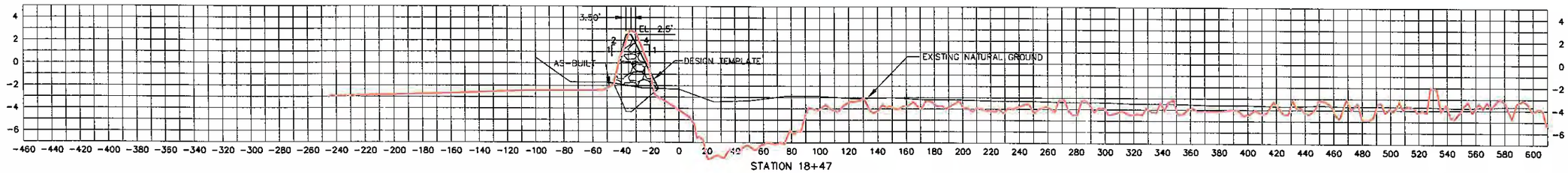
SHEET NO. 1 OF 15



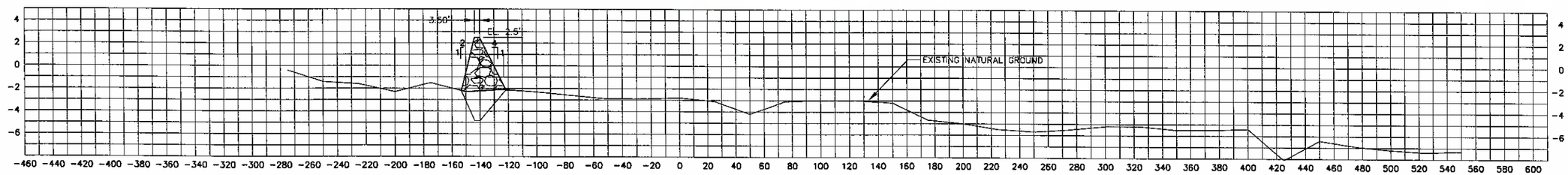
STATION 22+51
SEGMENT 2-PI



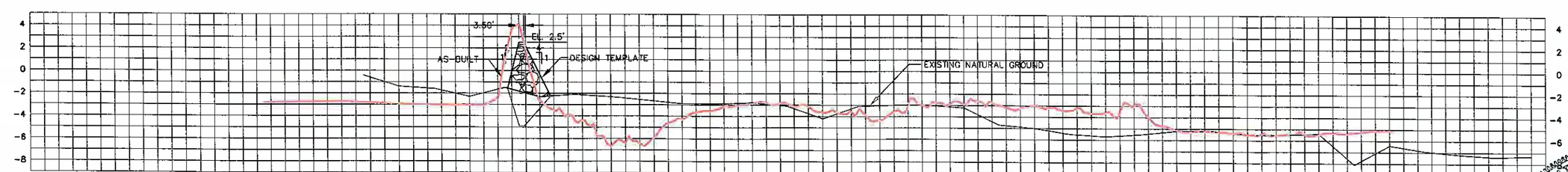
STATION 18+95
SEGMENT 2-BEGIN



STATION 18+47
SEGMENT 1-END



STATION
SEGMENT 1-PI



STATION 10+00
SEGMENT 1-BEGIN

NOTES:

LEGEND:
- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT - 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/06/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/16/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

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SCALE: HORIZ 1"=40'
VERT 1"=5'

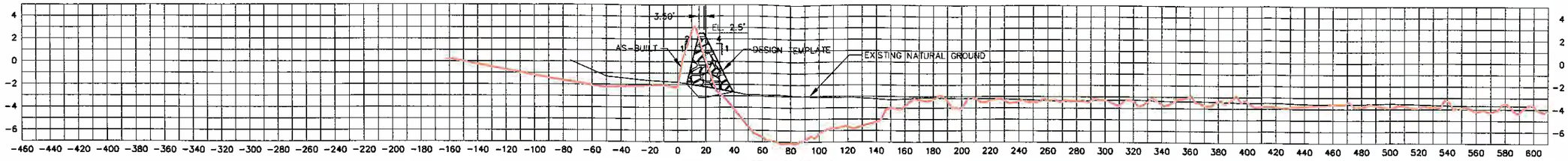
FILE NAME:	AB-XSECS
TBS NO.:	2005.1480
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

ROCK DIKE CROSS SECTIONS

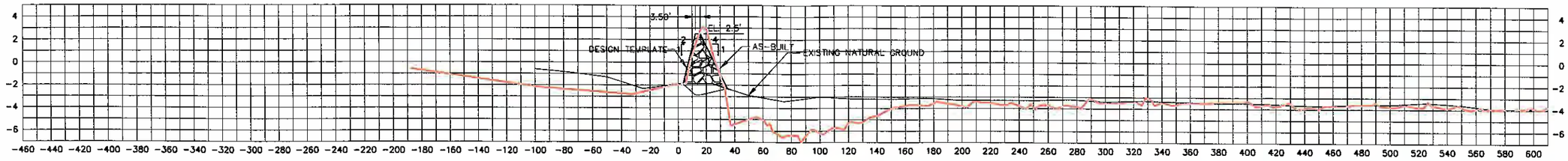
LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

STATE OF LOUISIANA
RONALD M. MADDEN
No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

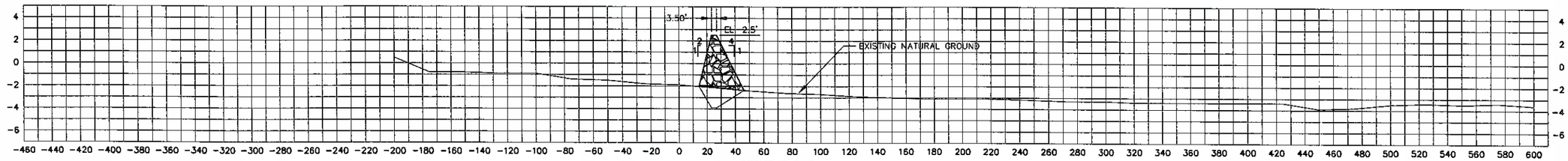
SHEET NO. 2 OF 15



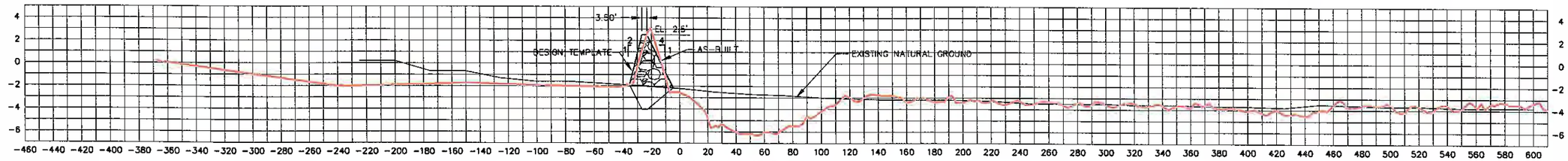
STATION 39+47
SEGMENT 4–BEGIN



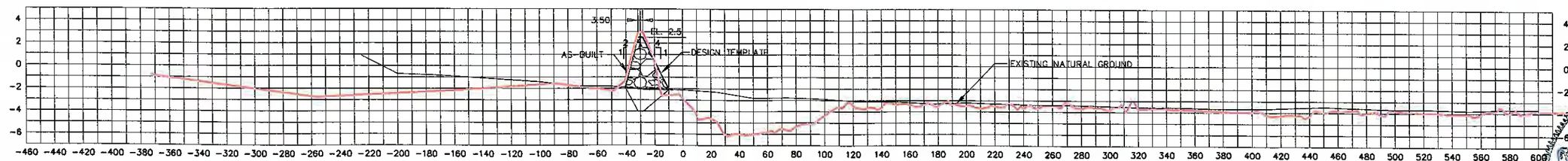
STATION 39+12
SEGMENT 3–END



SEGMENT 3–PI



STATION 29+33
SEGMENT 3–BEGIN



STATION 28+91
SEGMENT 2–END

NOTES:

LEGEND:
- PRE–PROJECT
- DESIGN TEMPLATE
- AS–BUILT
- AS–BUILT – 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

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SCALE: HORIZ 1"=40'
VERT 1"=5'

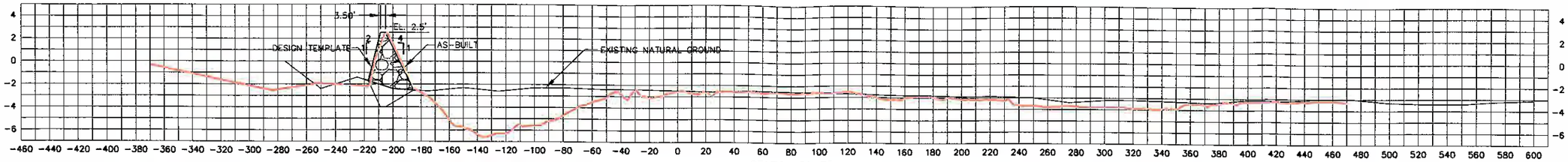
FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

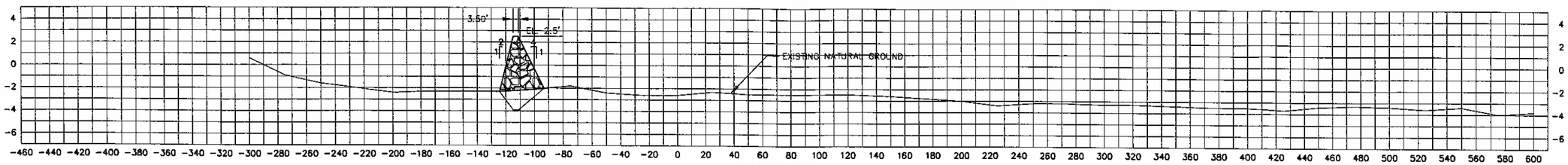
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

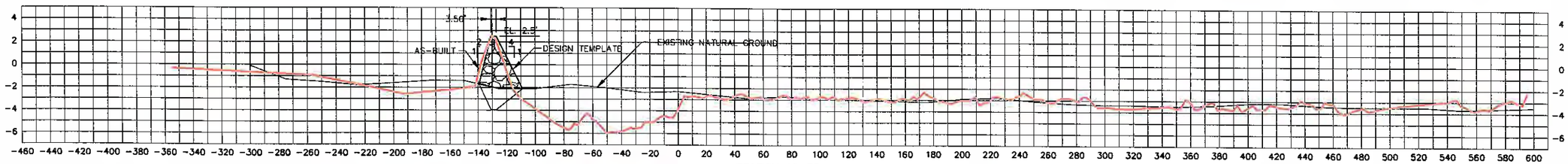
SHEET NO.
15
OF



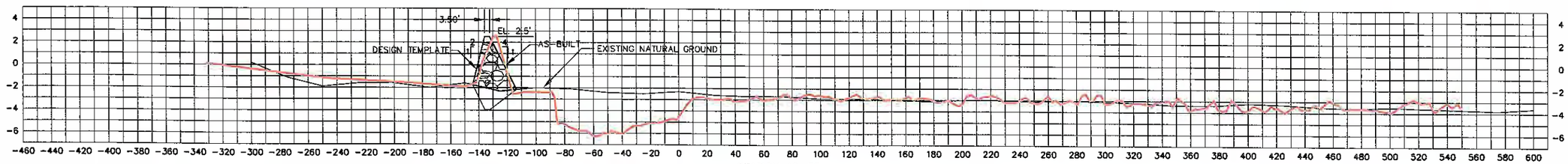
STATION 59+75
SEGMENT 5–END



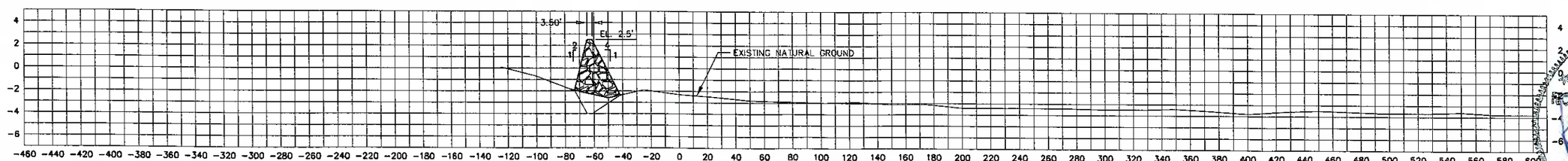
SEGMENT 5–PI



STATION 49+75
SEGMENT 5–BEGIN



STATION 49+35
SEGMENT 4–END



SEGMENT 4–PI

STATE OF LOUISIANA
RONALD M. MADDEN
REG. NO. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

NOTES:

LEGEND:
- PRE–PROJECT
- DESIGN TEMPLATE
- AS–BUILT
- AS–BUILT – 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

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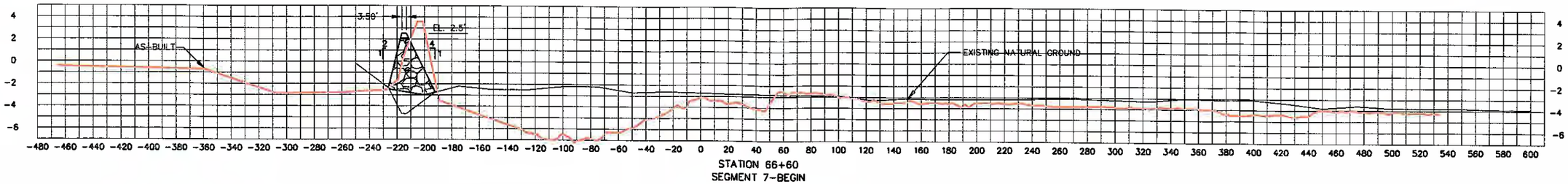
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

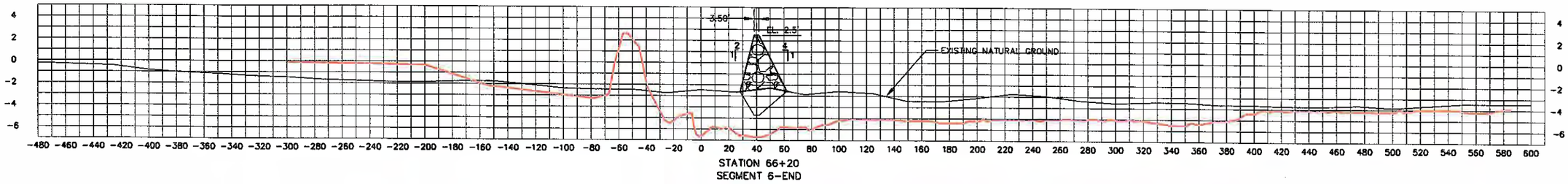
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

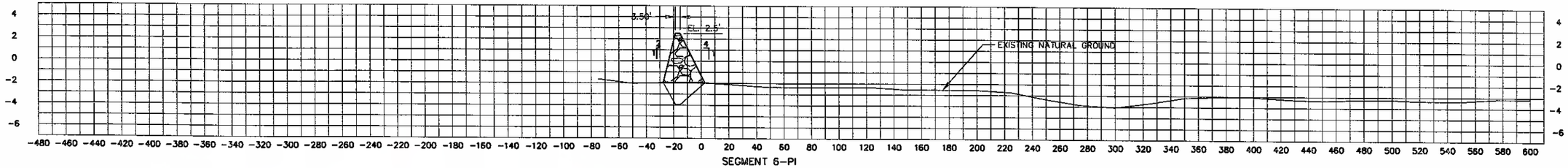
SHEET NO. 4 OF 15



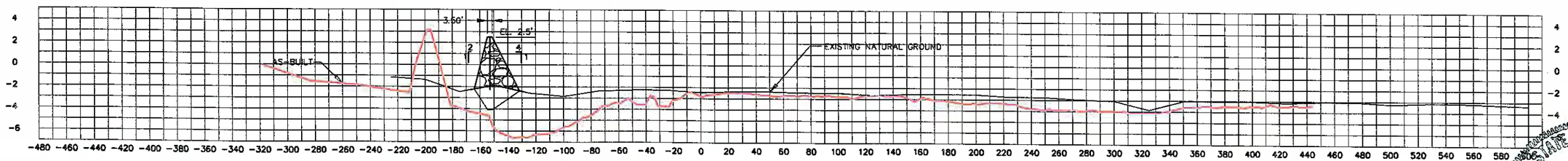
STATION 66+60
SEGMENT 7-BEGIN



STATION 66+20
SEGMENT 6-END



SEGMENT 6-PI



STATION 60+15
SEGMENT 6-BEGIN



NOTES:

LEGEND:

- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT - 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/06	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
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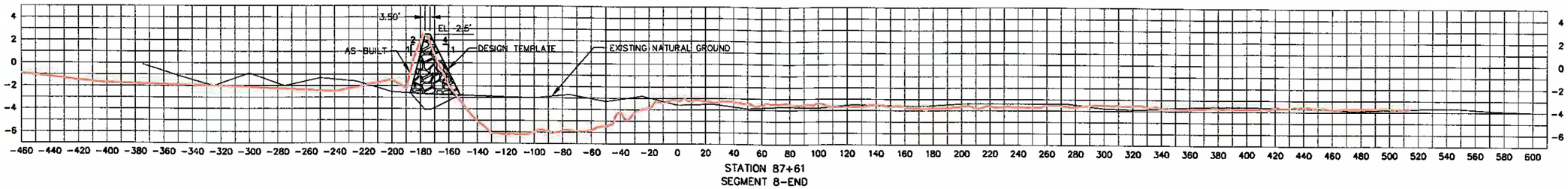
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

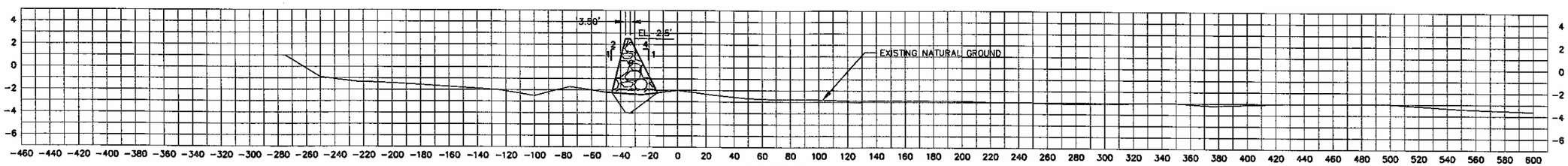
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

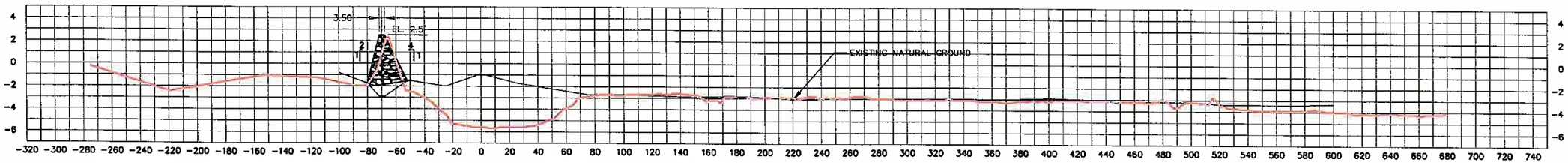
SHEET NO. 5 OF 15



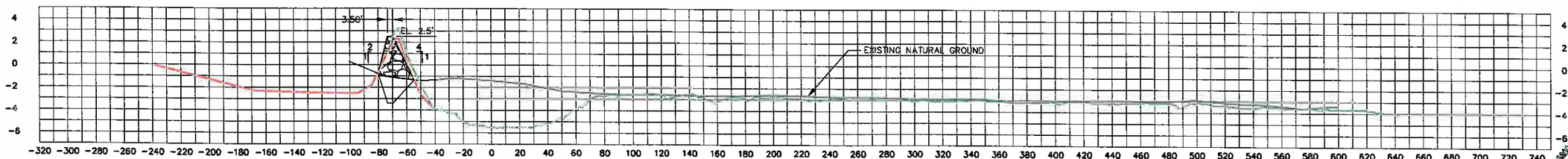
STATION 87+61
SEGMENT 8-END



SEGMENT 8-PI



STATION 76+74
SEGMENT 8-BEGIN



STAION 76+33
SEGMENT 7-END

STATE OF LOUISIANA
RONALD W. MADDEN
Reg. No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

NOTES:

LEGEND:
- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT + 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/06	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

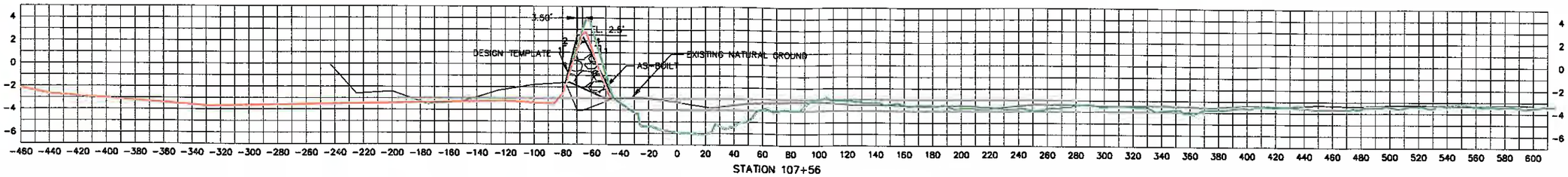
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

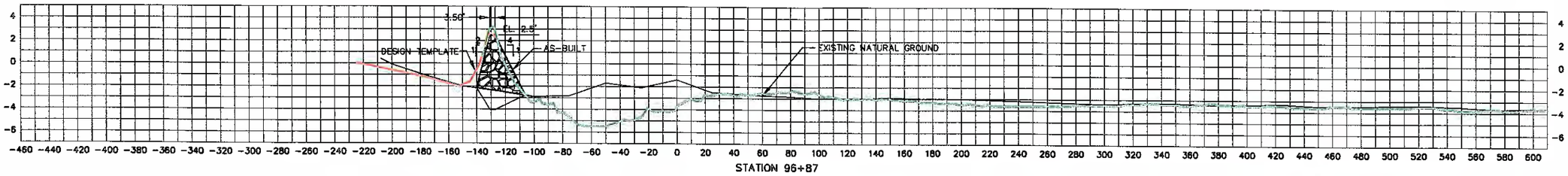
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

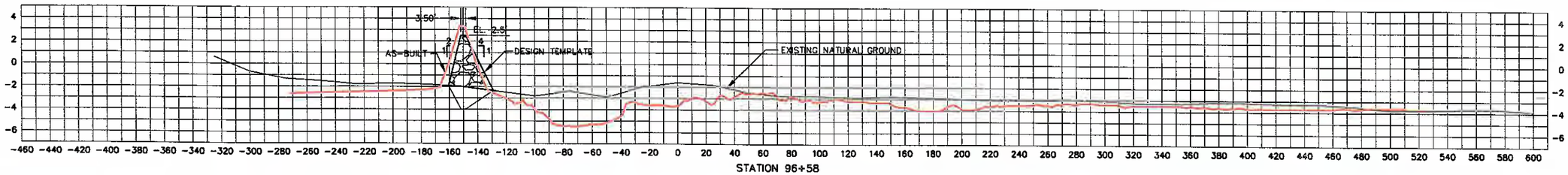
SHEET NO. 6 OF 15



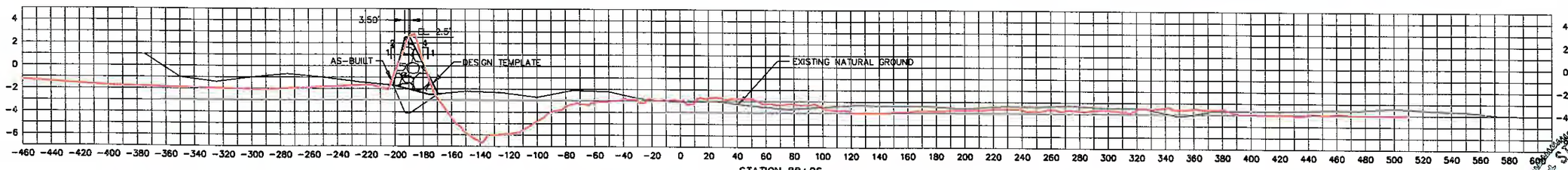
STATION 107+56



STATION 96+87



STATION 96+58
SEGMENT 9-END



STATION 88+06
SEGMENT 9-BEGIN

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

NOTES:

LEGEND:
- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT – 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/19/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

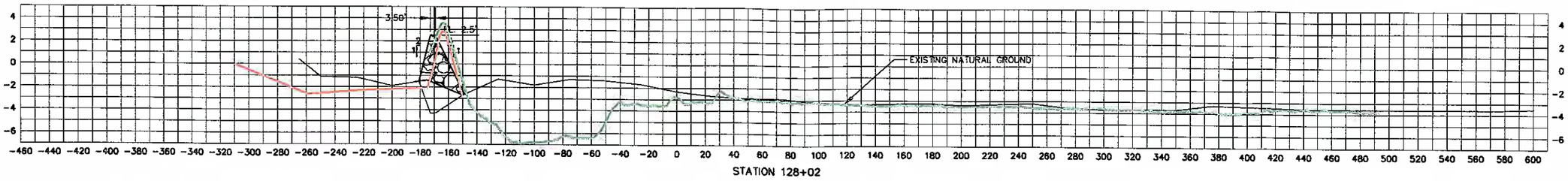
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	08/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

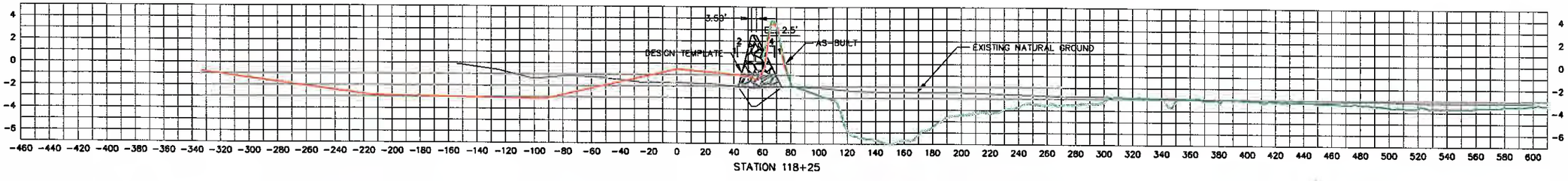
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

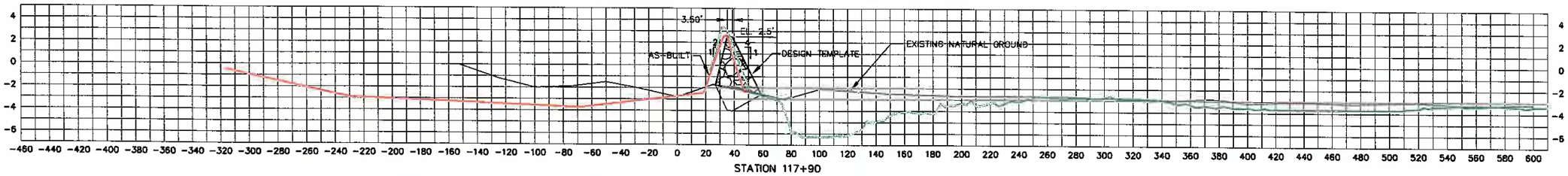
SHEET NO. 7 OF 15



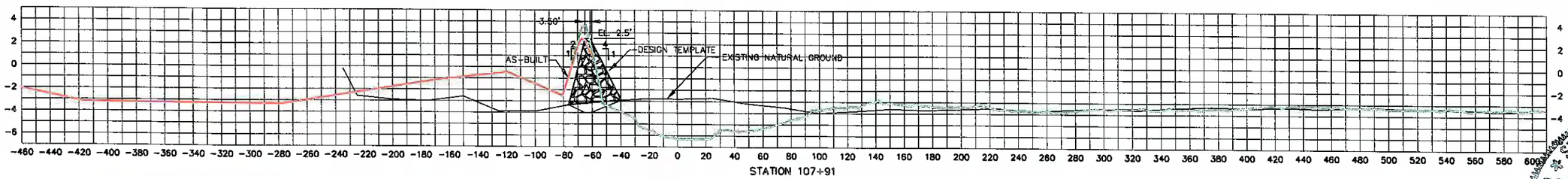
STATION 128+02



STATION 118+25



STATION 117+90



STATION 107+91

STATE OF LOUISIANA
RONALD M. WADDEN
REG. NO. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

NOTES:

LEGEND:
- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT - 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

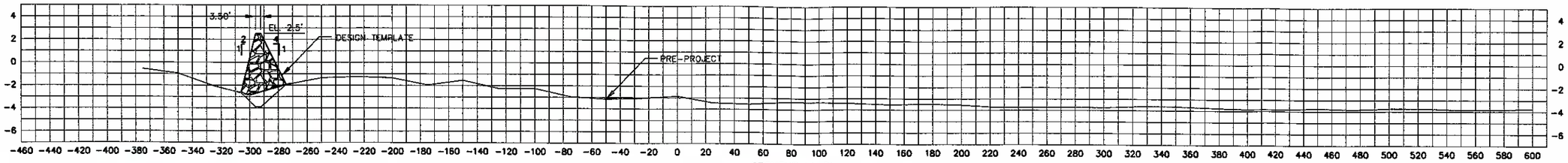
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

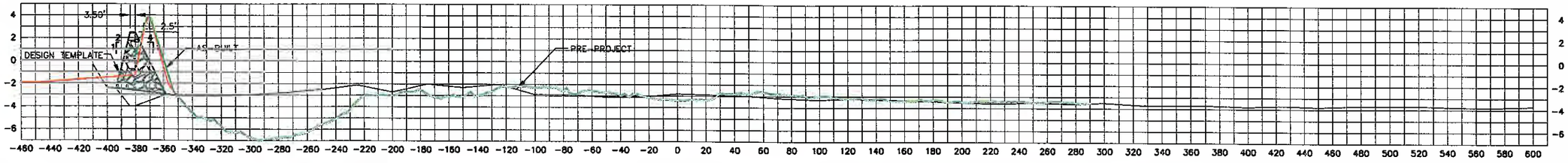
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

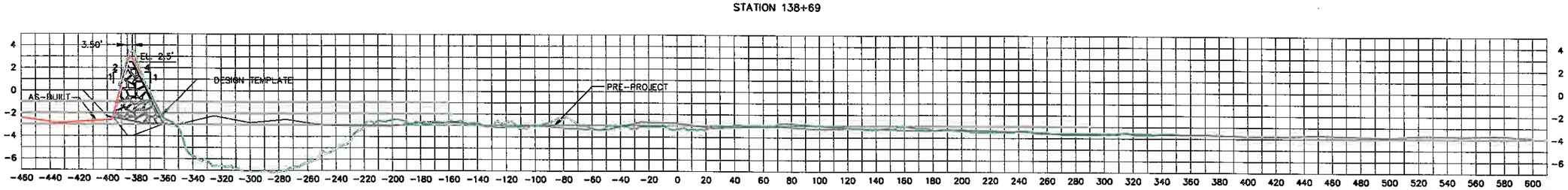
SHEET NO. 8 OF 15



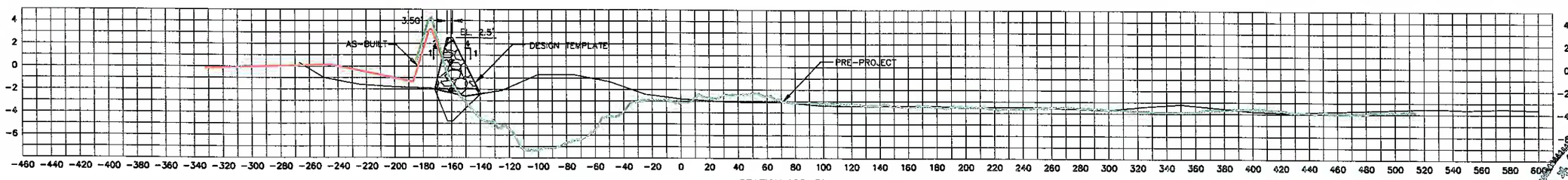
SEGMENT 14-PI



STATION 138+69



STATION 138+19



STATION 128+31

NOTES:

LEGEND:

- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT - 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/06	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

SCALE: HORIZ 1"=40'
VERT 1"=5'

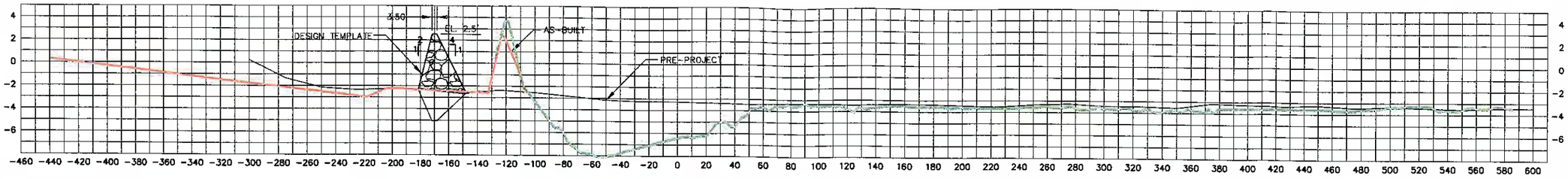
FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

STATE OF LOUISIANA
RONALD M. MADDEN
REG. NO. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

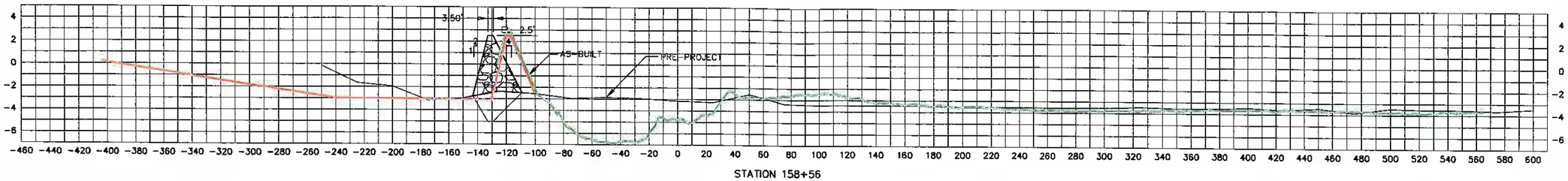
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

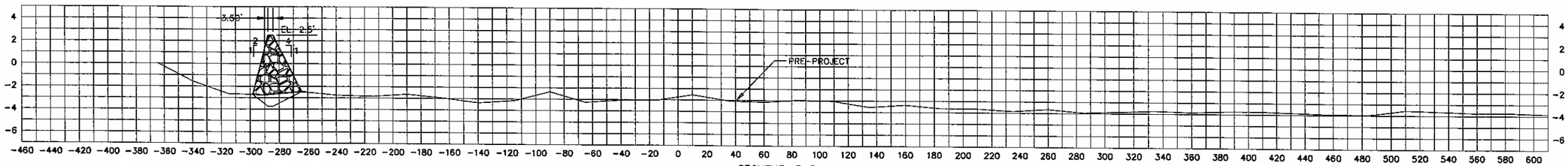
SHEET NO. 9 OF 15



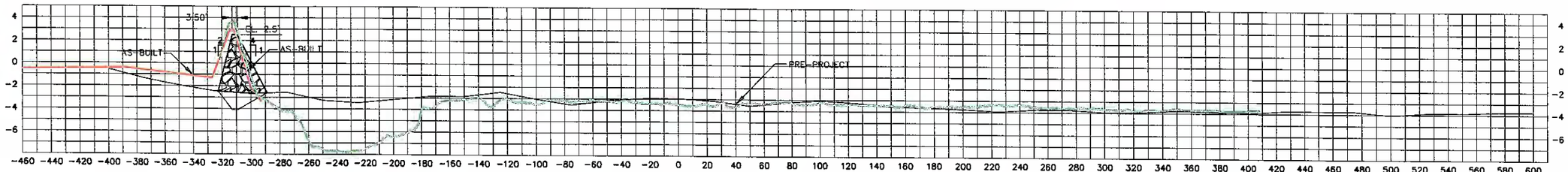
STATION 158+96



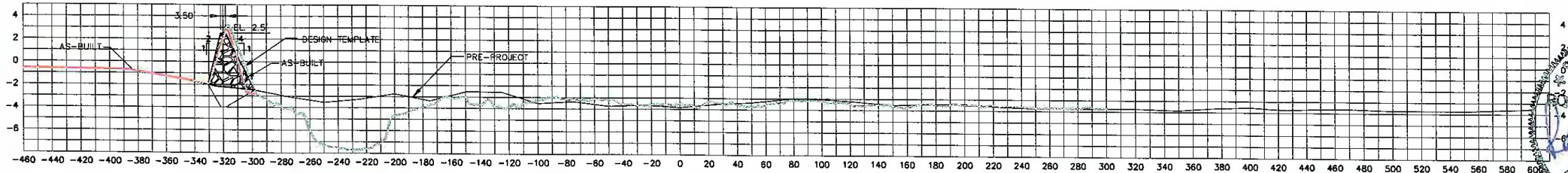
STATION 158+56



SEGMENT 15-PI



STATION 149+89



STATION 149+67

NOTES:

LEGEND:

- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT - 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

SCALE: HORIZ 1"=40'
VERT 1"=5'

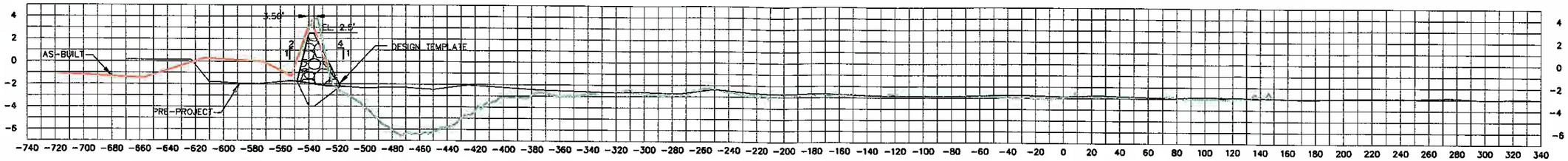
FILE NAME:	AB-XSECS
TBS NO.:	2005.1466
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

STATE OF LOUISIANA
RONALD M. MADDEN
REG. NO. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

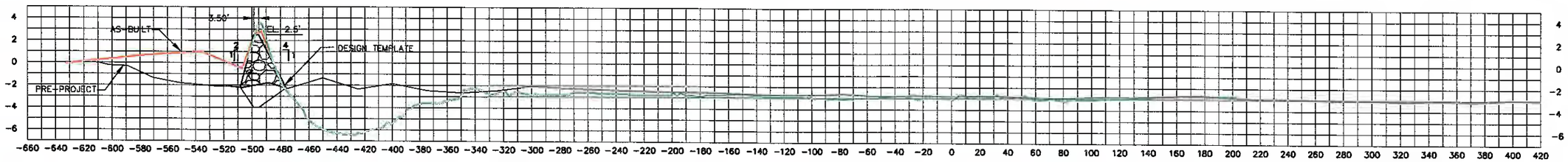
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

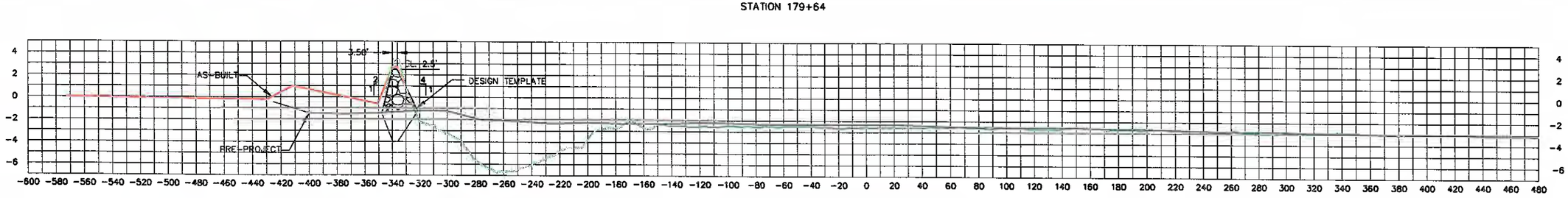
SHEET NO. 10 OF 15



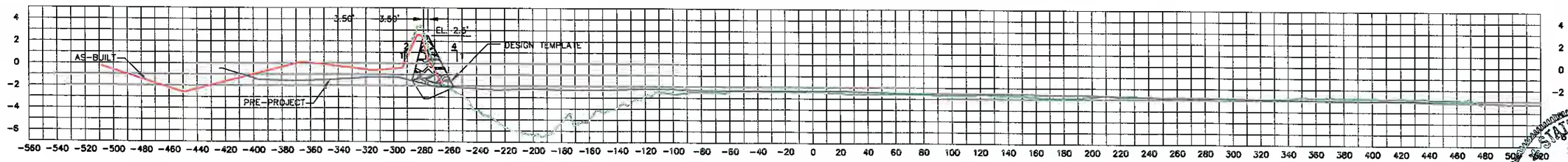
STATION 184+55



STATION 179+64



STATION 174+68



STATION 169+55

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

NOTES:

LEGEND:
- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT – 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

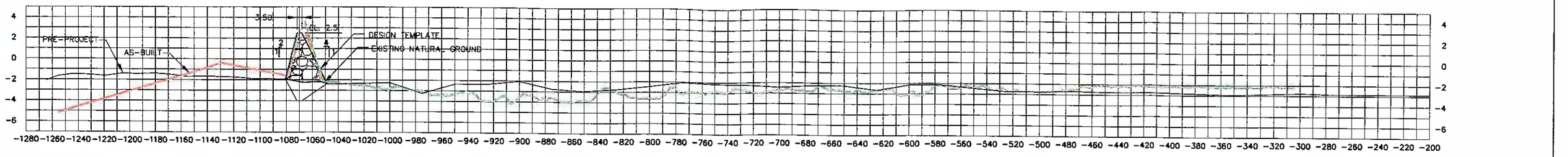
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

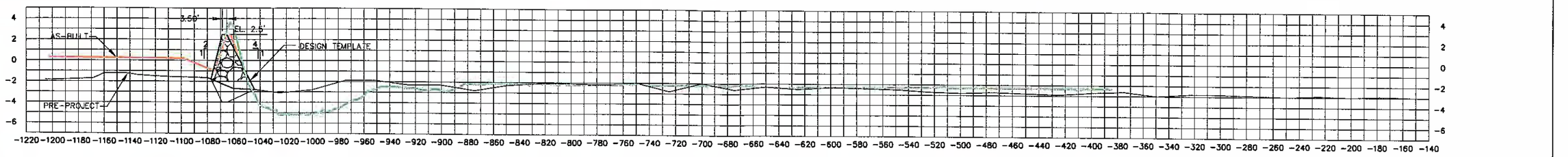
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

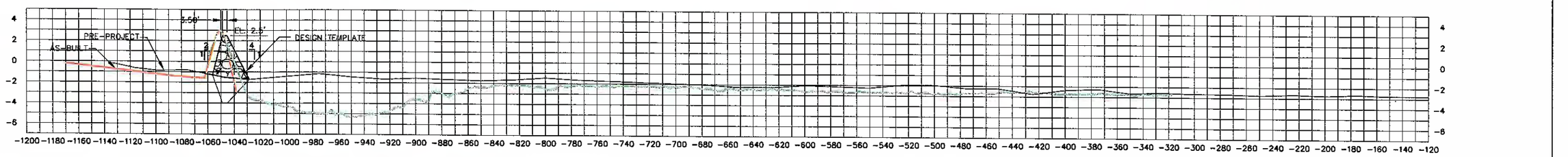
SHEET NO.
11
OF
15



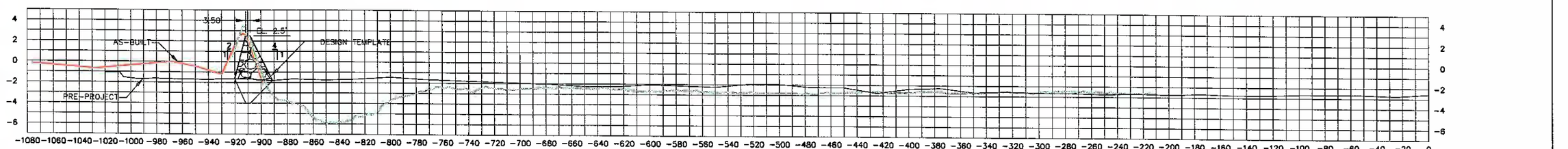
STATION 209+42



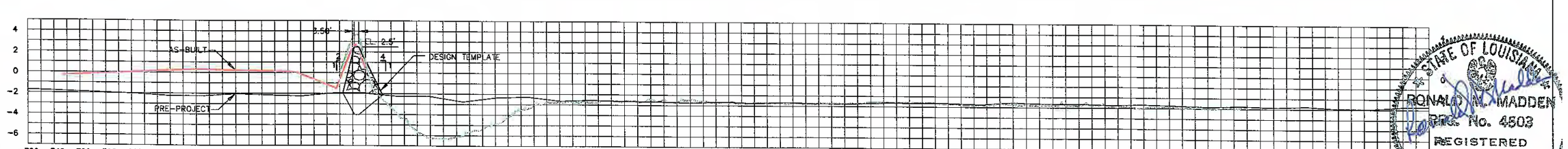
STATION 205+02



STATION 199+31



STATION 194+47



STATION 189+58

NOTES:

LEGEND:
- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT - 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

SCALE: HORIZ 1"=40'
VERT 1"=5'

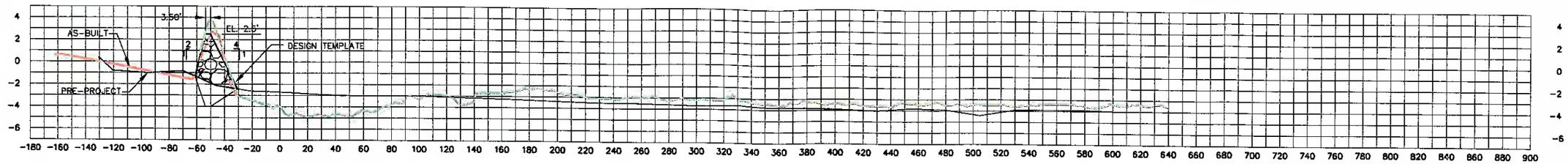
FILE NAME:	AB-XSECS
TBS NO.:	2005.1480
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

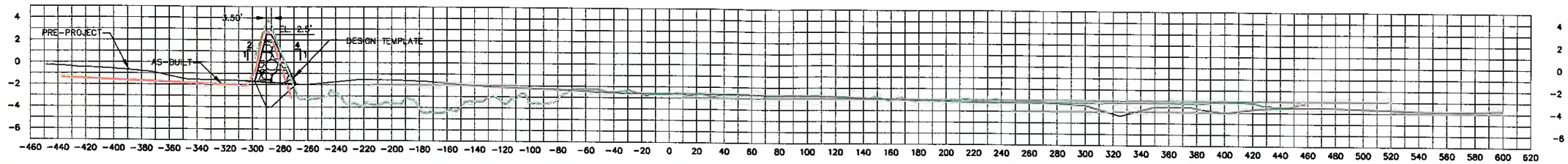
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

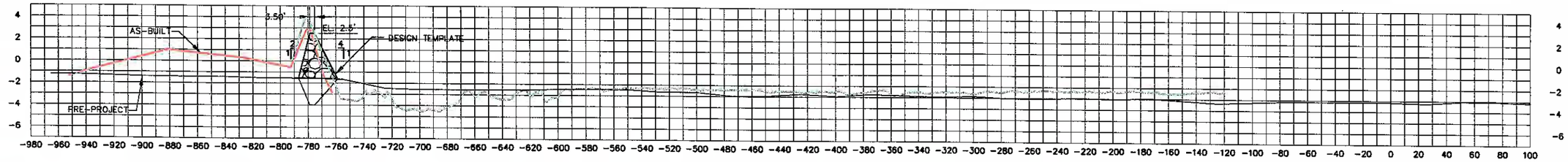
SHEET NO. 12 OF 15



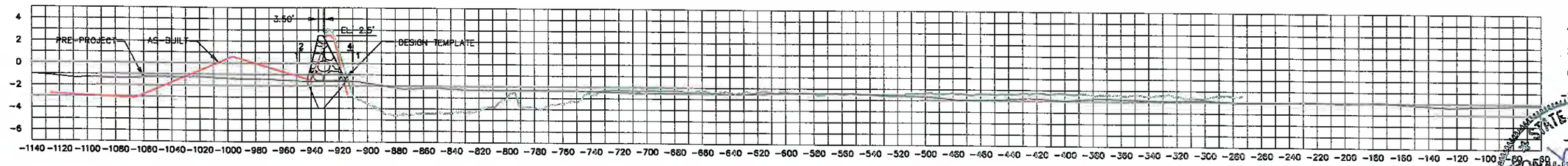
STATION 226+95



STATION 224+47



STATION 219+53



STATION 214+39

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

NOTES:

LEGEND:
- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT – 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

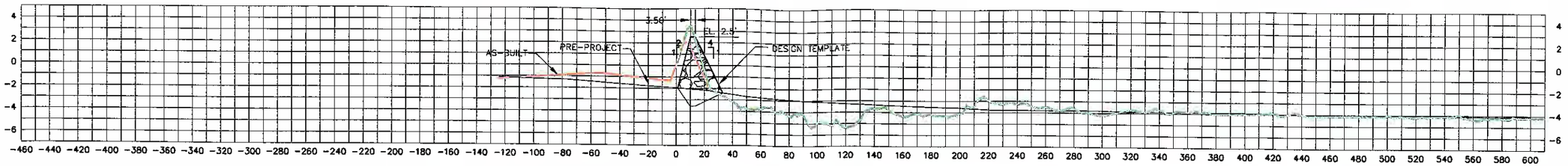
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

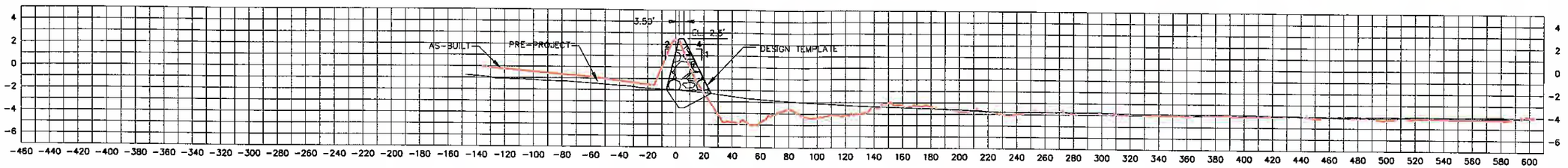
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

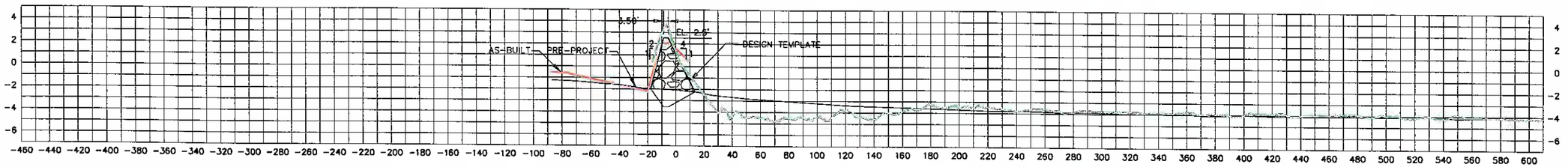
SHEET NO. 13 OF 15



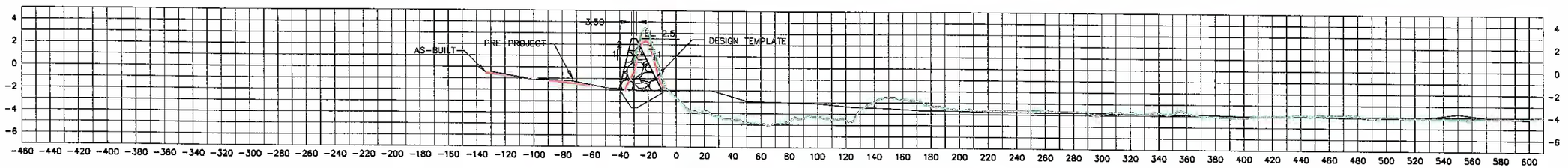
STATION 244+70



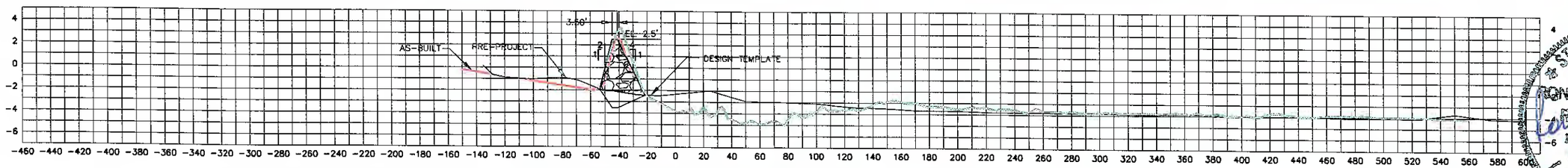
STATION 242+58



STATION 239+60



STATION 234+51



STATION 229+53

NOTES:

LEGEND:

- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT – 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1933
(985) 868-1050 www.tbsmith.com

SCALE: HORIZ 1"=40'
VERT 1"=5'

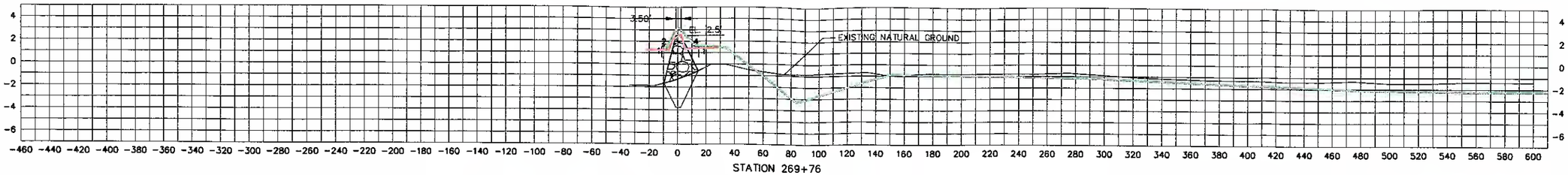
FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

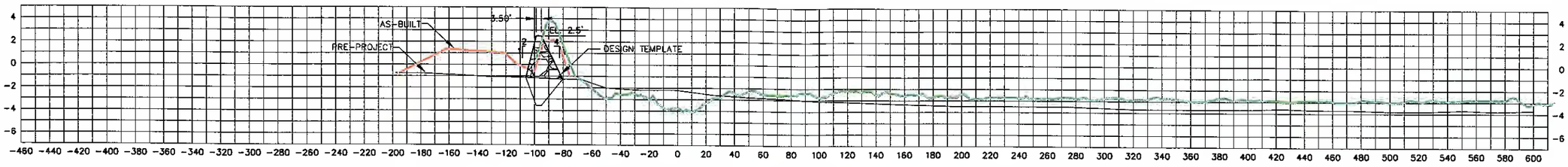
ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

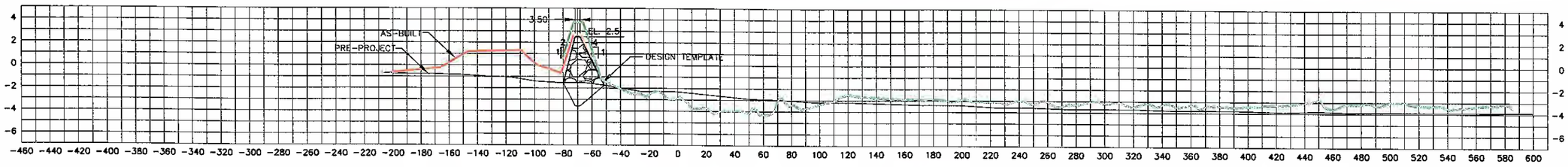
SHEET NO. 14 OF 15



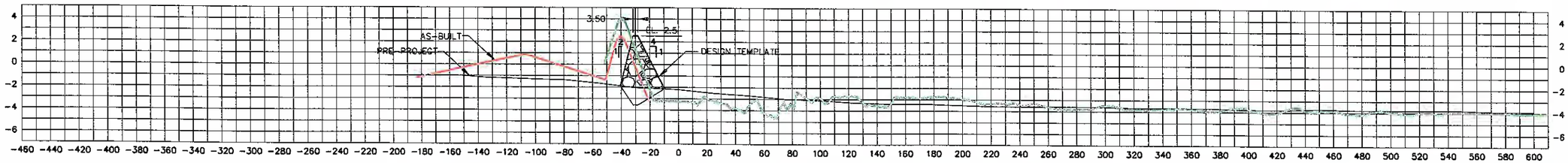
STATION 269+76



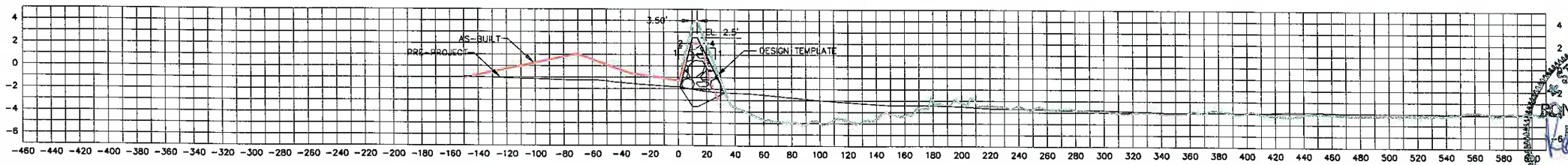
STATION 264+73



STATION 259+71



STATION 254+84



STATION 249+65

STATE OF LOUISIANA
RONALD T. MADDEN
REG. NO. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

NOTES:

LEGEND:
- PRE-PROJECT
- DESIGN TEMPLATE
- AS-BUILT
- AS-BUILT – 3rd LIFT

DATE	REVISIONS	DRAWN BY	APPROVED BY
03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/09/05	REVISED MUDLINE ELVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT

REVISIONS

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

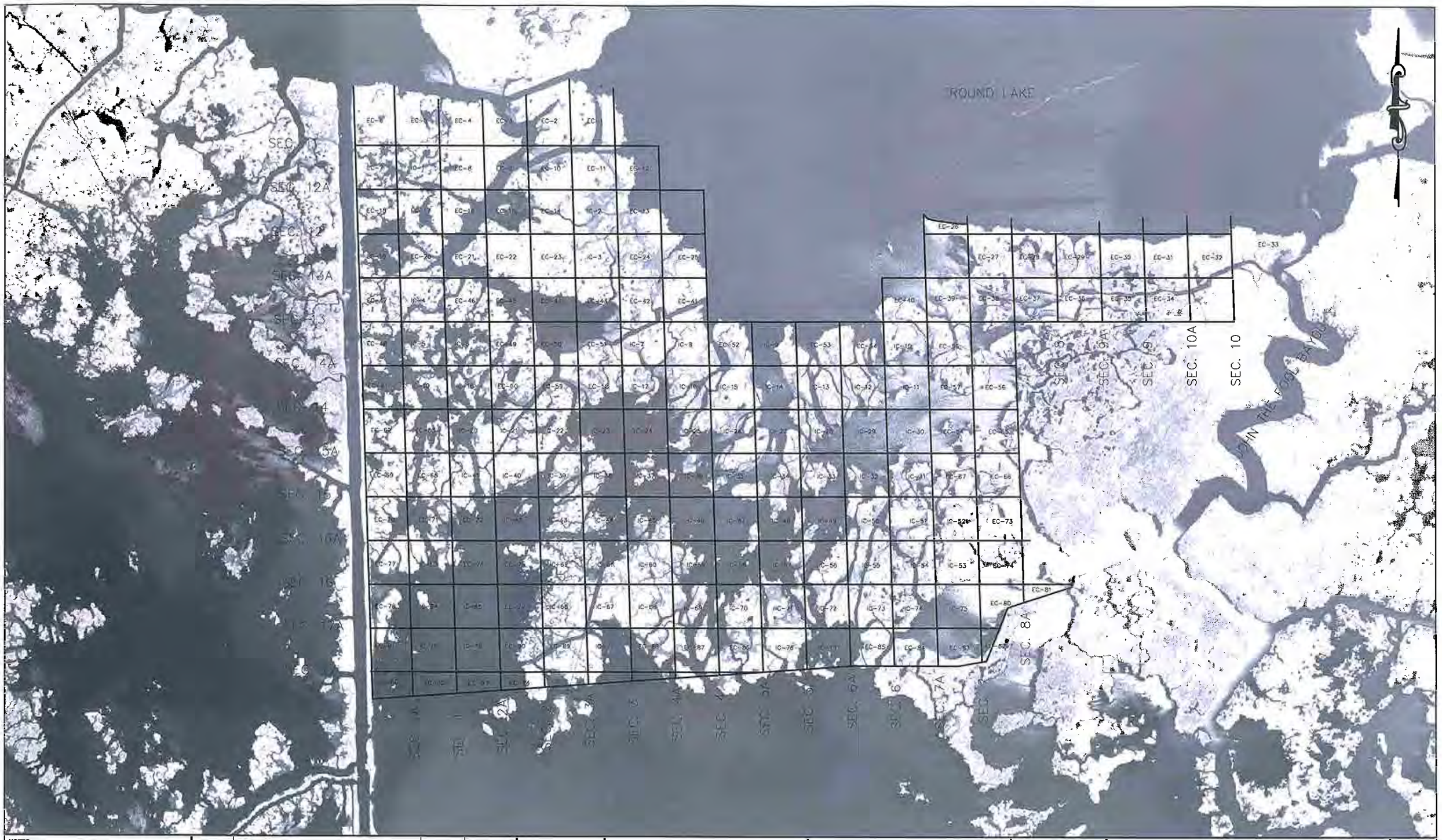
SCALE: HORIZ 1"=40'
VERT 1"=5'

FILE NAME:	AB-XSECS
TBS NO.:	2005.1460
DATE:	09/01/2005
PLOT SCALE:	40
DRAWN BY:	ADP
APPROVED:	PJT
MAP NO.	

ROCK DIKE CROSS SECTIONS

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO. 15 OF 15



NOTES:

AS BUILT PLANS

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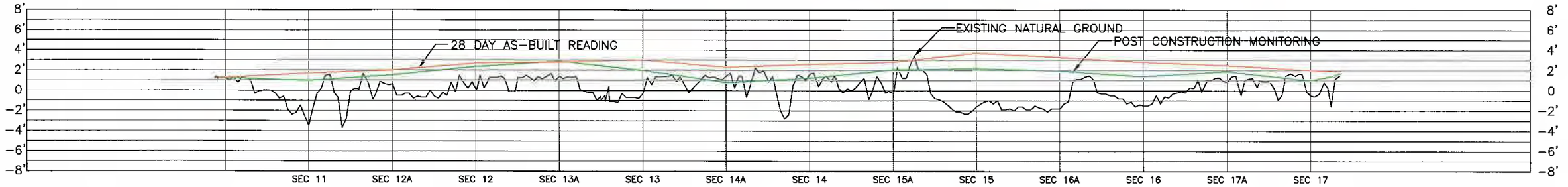
FILE NAME:	051460P01
TBS NO.:	2005.1460
DATE:	1/27/06
PLOT SCALE:	1"=1000'
DRAWN BY:	KSP
APPROVED:	DBR
MAP NO.	

MARSH TRANSECT PLAN VIEW

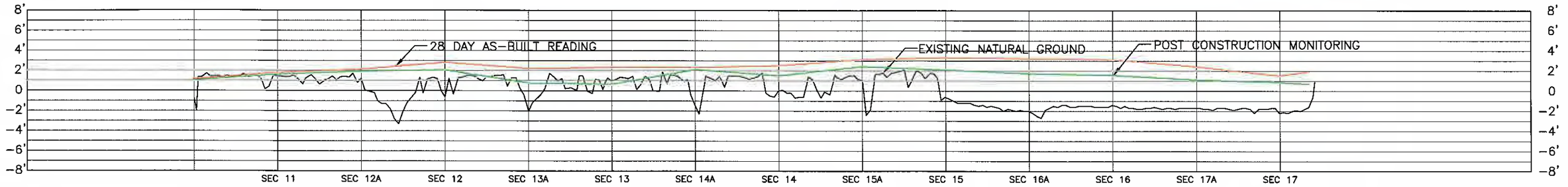
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO.

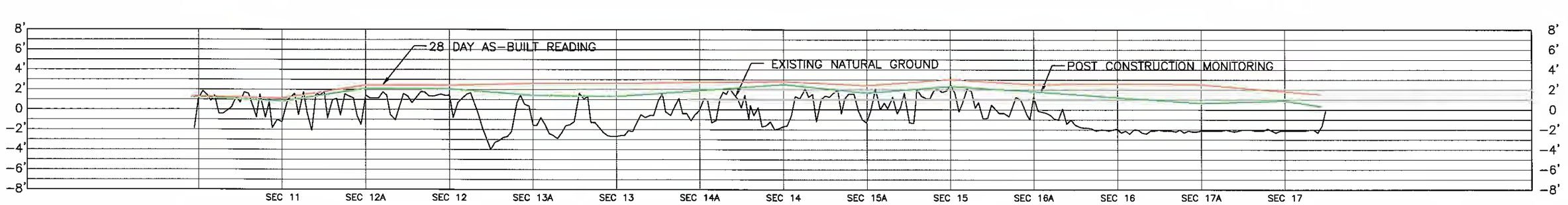
OF



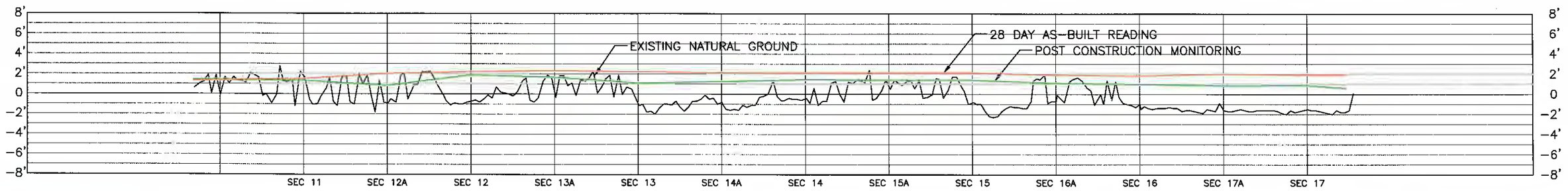
SECTION 2



SECTION 2A



SECTION 1



SECTION 1A

NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
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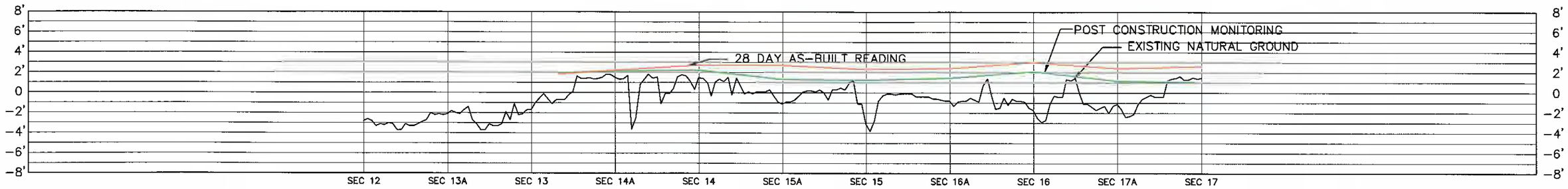
SCALE: HORIZ. 1"=600'
VERT. 1"=10'

FILE NAME:	05.1460-X1
TBS NO.:	S2005-1460
DATE:	1/27/06
PLOT SCALE:	AS SHOWN
DRAWN BY:	STB
APPROVED:	DBR
MAP NO.	

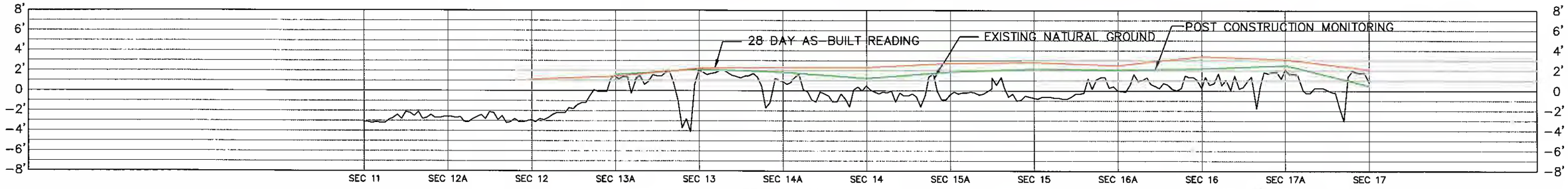
MARSH CROSS SECTIONS
SECTION 1A-2

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

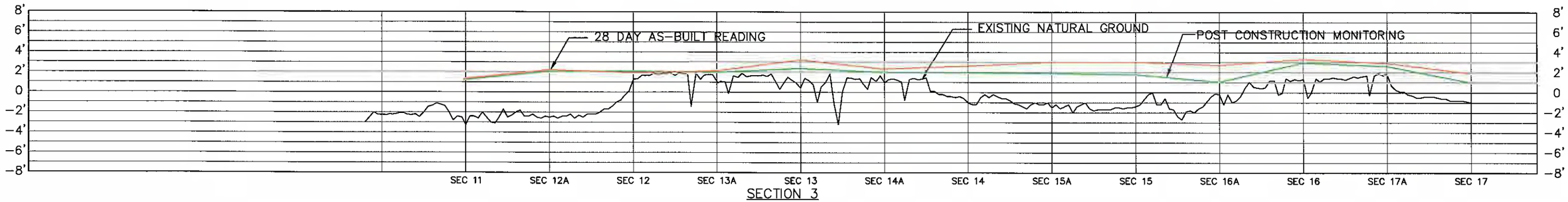
SHEET NO. 1 OF 8



SECTION 4



SECTION 4A



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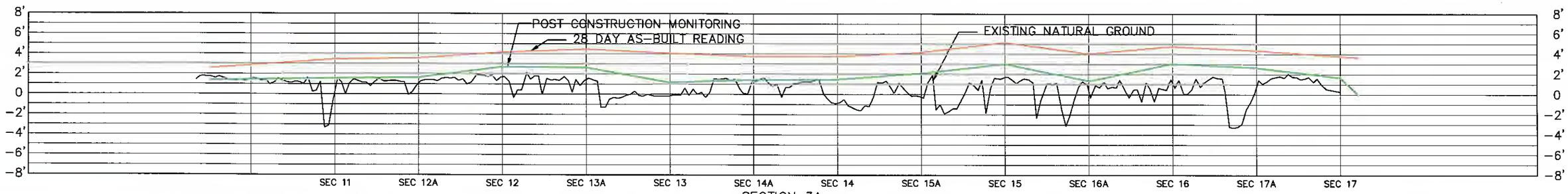


SECTION 3A

NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

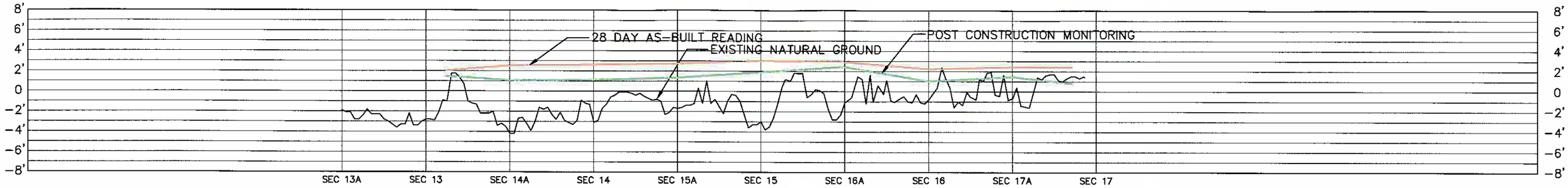
SCALE: HORIZ. 1"=600'
VERT. 1"=10'

FILE NAME:	05-1460X2
TBS NO.:	S2005-1460
DATE:	1/26/06
PLOT SCALE:	AS SHOWN
DRAWN BY:	STB
APPROVED:	DBR
MAP NO.	

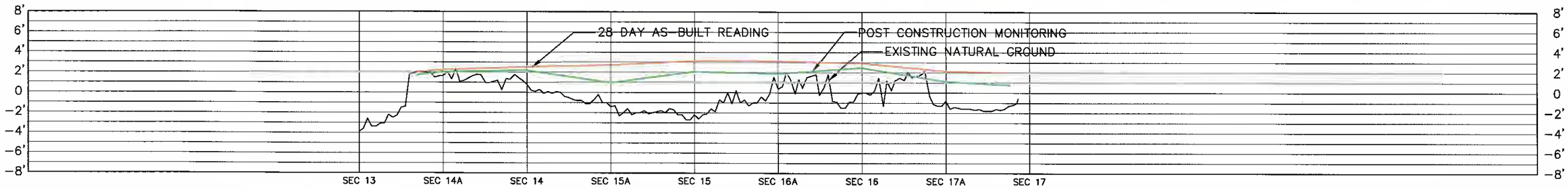
MARSH CROSS SECTIONS
SECTION 3A-4

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

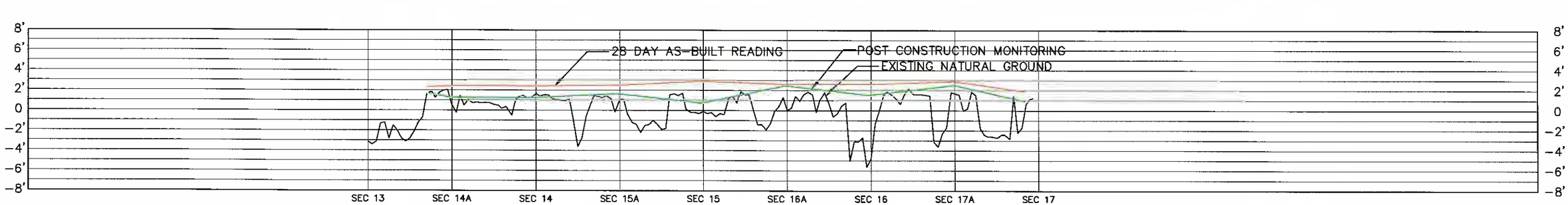
SHEET NO. 2 OF 8



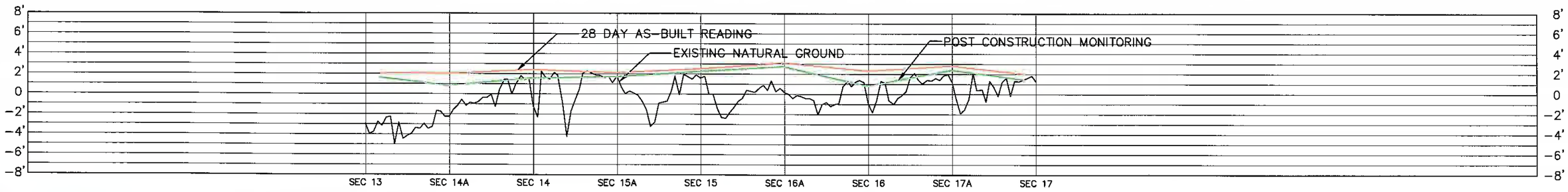
SECTION 6



SECTION 6A



SECTION 5



SECTION 5A

NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
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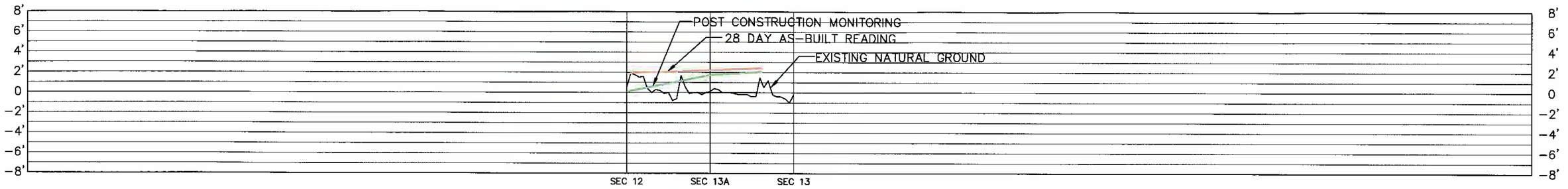
SCALE: HORIZ. 1"=600'
VERT. 1"=10'

FILE NAME:	05-1460X3
TBS NO.:	S2005-1460
DATE:	1/26/06
PLOT SCALE:	AS SHOWN
DRAWN BY:	STB
APPROVED:	DBR
MAP NO.	

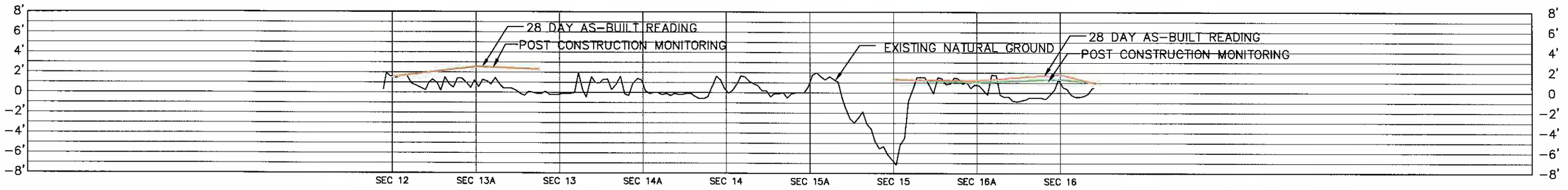
MARSH CROSS SECTIONS
SECTION 5A-6

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

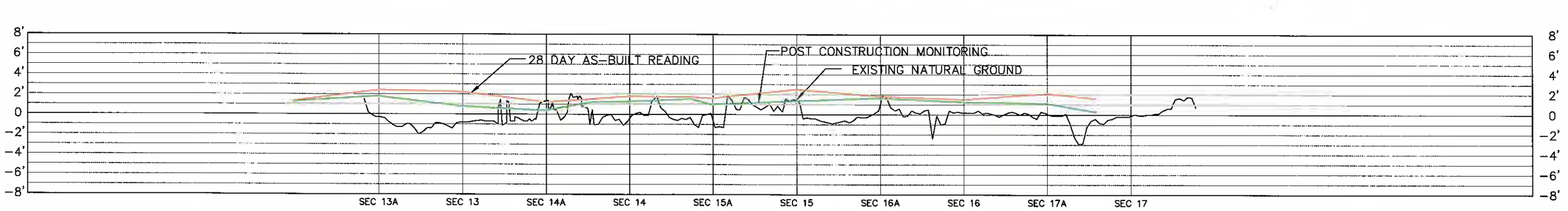
SHEET NO. 3 OF 8



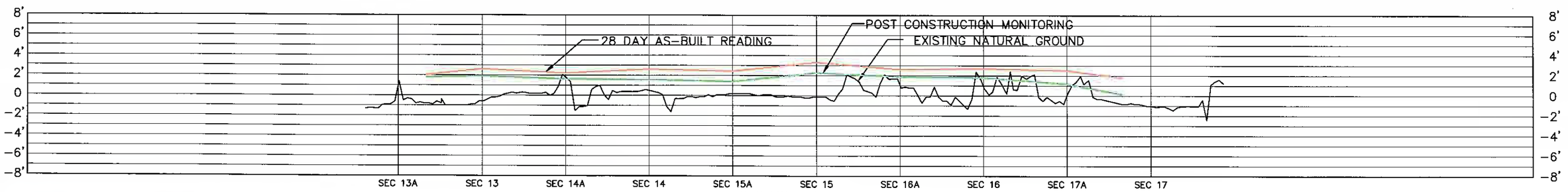
SECTION 8



SECTION 8A



SECTION 7



SECTION 7A

NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
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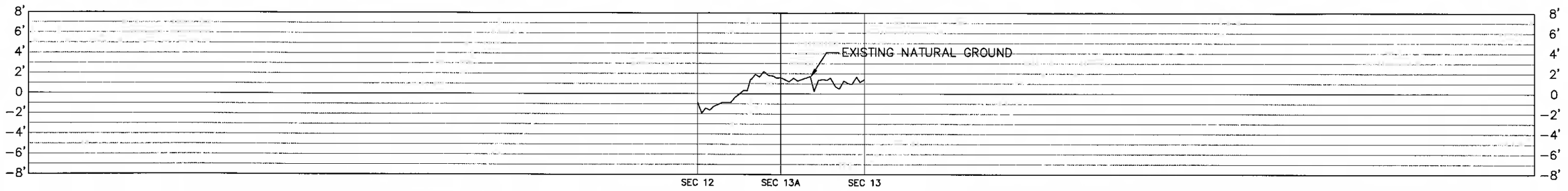
SCALE: HORIZ. 1"=600'
VERT. 1"=10'

FILE NAME:	05-1460X4
TBS NO.:	E2005-1460
DATE:	1/26/06
PLOT SCALE:	AS SHOWN
DRAWN BY:	STB
APPROVED:	DBR
MAP NO.	

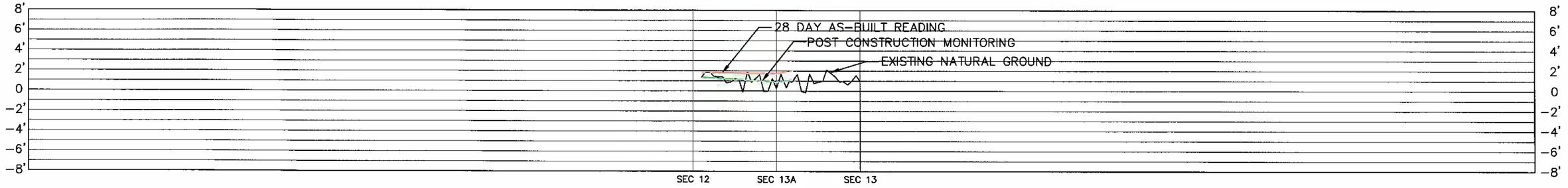
MARSH CROSS SECTIONS
SECTION 7A-8

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

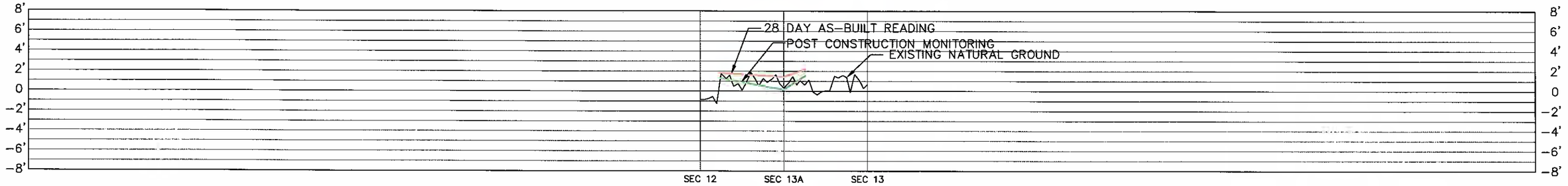
SHEET NO. 4 OF 8



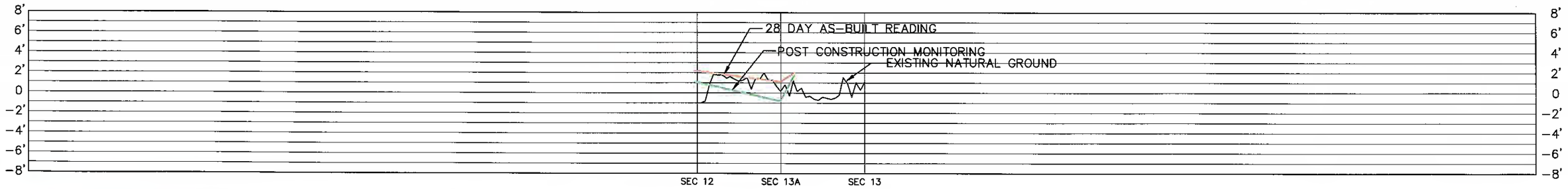
SECTION 10



SECTION 10A



SECTION 9



SECTION 9A

NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
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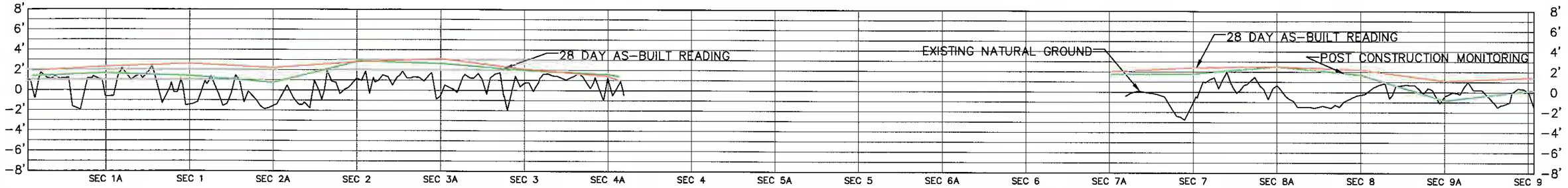
SCALE: HORIZ. 1"=600'
VERT. 1"=10'

FILE NAME:	05-1460X5
TBS NO.:	S2005-1460
DATE:	1/26/06
PLOT SCALE:	AS SHOWN
DRAWN BY:	STB
APPROVED:	DBR
MAP NO.	

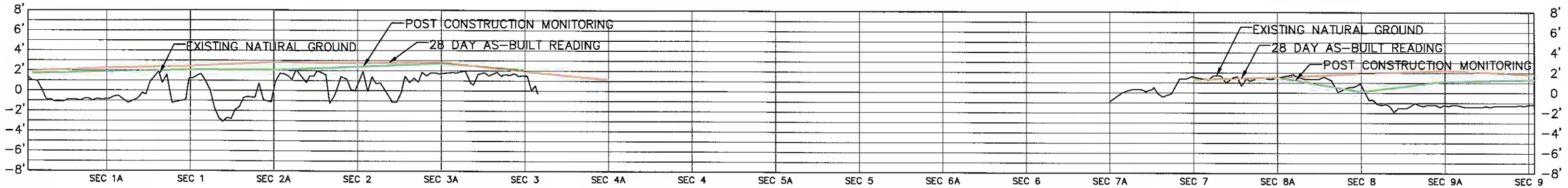
MARSH CROSS SECTIONS
SECTION 9A-10

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

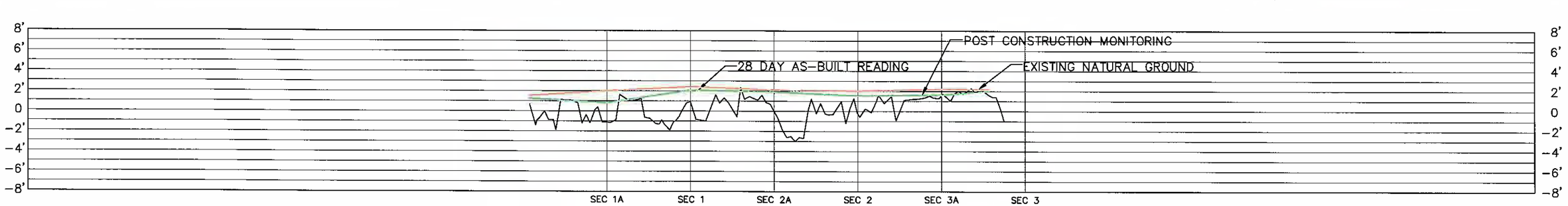
SHEET NO. 5 OF 8



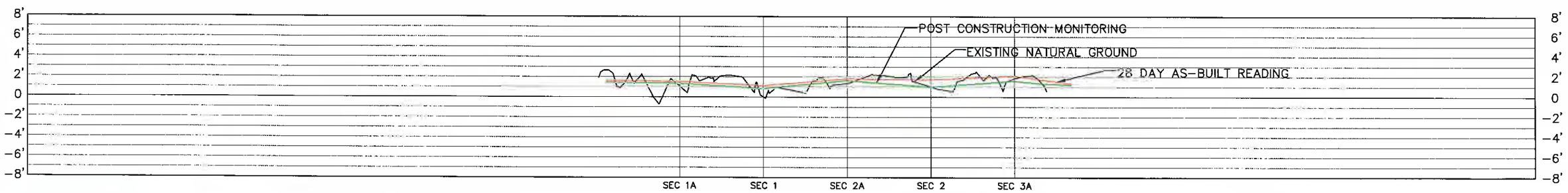
SECTION 13A



SECTION 12



SECTION 12A



SECTION 11

NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
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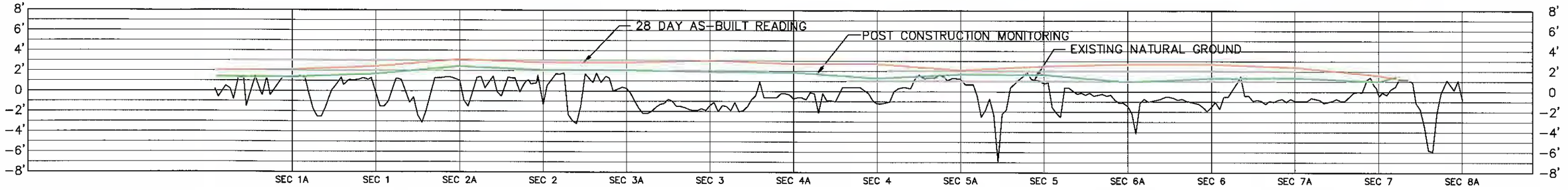
SCALE: HORIZ. 1"=600'
VERT. 1"=10'

FILE NAME:	05-1460X6
TBS NO.:	S2005-1460
DATE:	1/26/06
PLOT SCALE:	AS SHOWN
DRAWN BY:	STB
APPROVED:	DBR
MAP NO.	

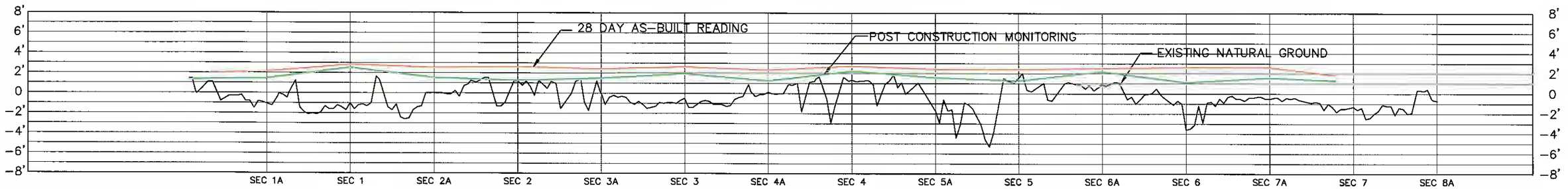
MARSH CROSS SECTIONS
SECTION 11-13A

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

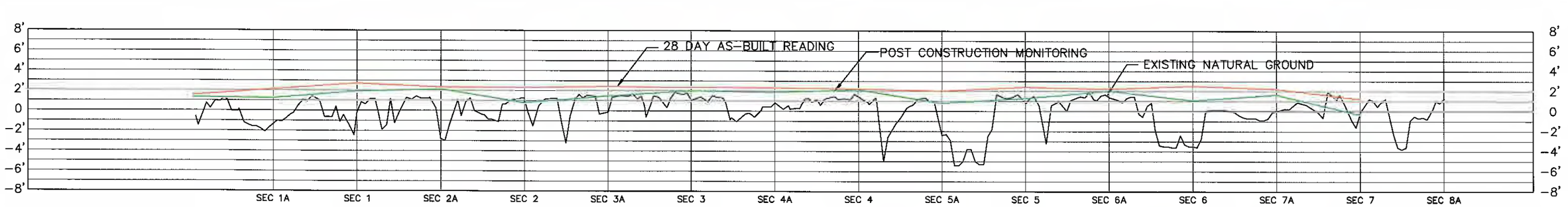
SHEET NO. 6 OF 8



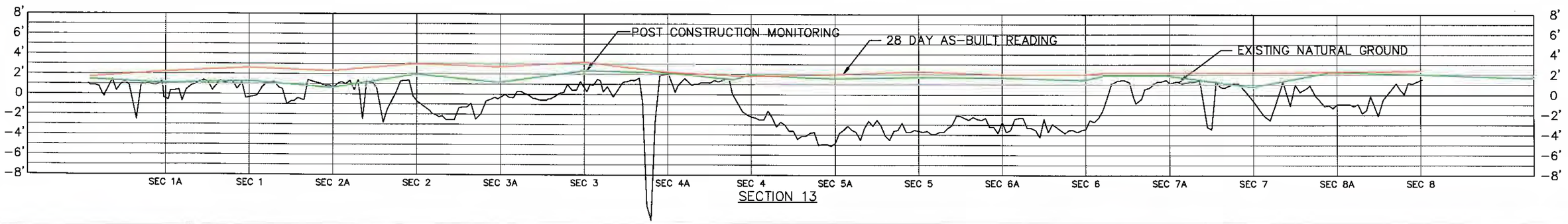
SECTION 15A



SECTION 14



SECTION 14A



SECTION 13

NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

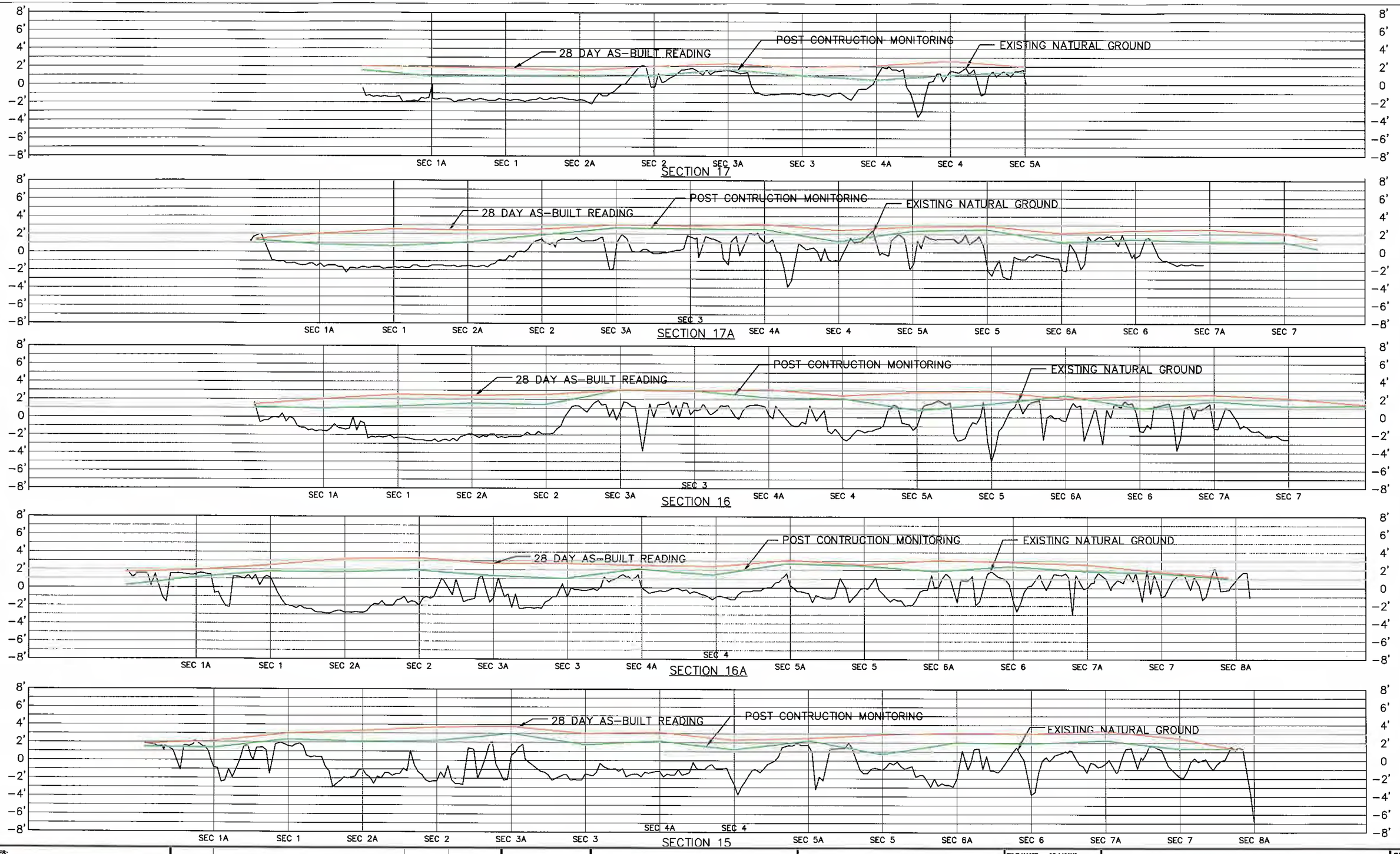
SCALE: HORIZ. 1"=600'
VERT. 1"=10'

FILE NAME:	05-1460X7
TBS NO.:	S2005-1460
DATE:	1/26/06
PLOT SCALE:	AS SHOWN
DRAWN BY:	STB
APPROVED:	DBR
MAP NO.	

MARSH CROSS SECTIONS
SECTION 13-15A

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO. 7 OF 8



NOTES:

AS BUILT PLANS

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

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SCALE: HORIZ. 1"=600'
VERT. 1"=10'

FILE NAME:	05-1460X8
TBS NO.:	S2005-1460
DATE:	1/26/06
PLOT SCALE:	AS SHOWN
DRAWN BY:	STB
APPROVED:	DBR
MAP NO.	

MARSH CROSS SECTIONS
SECTION 15-17

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO. 8 OF 8

APPENDIX G

SURVEY METHODOLOGY

Pine Bluff Sand & Gravel Company

W. Scott McGeorge, Pres.

River Contractors

REVETMENTS **DREDGING** **PILE DIKES**

POST OFFICE BOX 7008
PINE BLUFF, AR. 71611-7008

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREWATION PROJECT

MONUMENT SETUPS FOR SURVEYING SHORELINE PROTECTION

All GPS files used for the entire Little Lake Project has been based off of BA-37-SM01. Using the RTK unit, TBM3 was established by setting the base unit on BA-37-SM01 and taking an observation point on TBM3 camp site control. This was used to set the base unit on a daily bases closer to the entire job. The following GPS files were shot with the base station set on TBM3.

1. LLAKE ROCK DIKE 05-23-06.CSV
2. LLAKE ROCK DIKE 06-01-06.CSV
3. ROCK DIKE FINAL 07-14-06.CSV
4. ROCK DIKE FINAL 08-01-06.CSV
5. ROCK DIKE FINAL 09-14-06.CSV
6. ROCK DIKE FINAL 12-08-06.CSV
7. ROCK DIKE FINAL 02-02-07.CSV
8. ROCK DIKE FINAL MOD 02-02-07.CSV
9. ROCK DIKE FINAL MOD 02-11-07.CSV

All of the remaining files were acquired by taking GPS shots and Sounding along the pre-determined line and are base off of BA-37-SM01.

1. lake01.txt
2. lake02.txt
3. lake03.txt
4. rock1.txt
5. access_3.txt

*** TBM3 "CAMP SITE CONTROL"**
N= 349,553.881
E= 3,642,771.687
ELEVATION 3.685

APPENDIX H

MAGNETOMETER SURVEYS

BORROW AREA

N= 366,289.36
E= 3,642,789.75
LAT= 29°30'08.17"
LONG= 90°11'43.74"

N= 366,289.36
E= 3,657,225.92
LAT= 29°30'06.73"
LONG= 90°09'00.38"

N90°00'00E 14,436.17'

2,307.94'
N00°00'00W

N= 363,981.42
E= 3,642,789.75
LAT= 29°29'45.33"
LONG= 90°11'44.01"

N77°34'46.40"E 15,191.06'

5,589.57'
S00°00'00E

N= 363,981.42
E= 3,642,789.75
LAT= 29°29'11.49"
LONG= 90°08'56.52"

LEGEND:

- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -5 NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -3.5' NAVD '88 CONTOURS
- DENOTES -3 NAVD '88 CONTOURS
- DENOTES -2.5' NAVD '88 CONTOURS
- DENOTES -2' NAVD '88 CONTOURS
- DENOTES -1.5' NAVD '88 CONTOURS
- DENOTES -1 NAVD '88 CONTOURS
- DENOTES -0.5' NAVD '88 CONTOURS

℄ ACCESS ROUTE 2

℄ ACCESS ROUTE 3

℄ ACCESS ROUTE 4

MAG HIT 325 GAMA DIPOLAR
LAT. 29°29'07.41" (NAD83)
LONG. 90°10'30.88" (NAD 83)
N= 365,599
E= 3,662,681
(PULLED MAG @ 150' AND 300' RADIUS ON 12/6/05) AND RECEIVED NO HITS)

LOUISIANA COORDINATE SYSTEM (SOUTH ZONE)
1983 DDATUM

SCALE IN FEET

1000' 500' 0 1000' 2000' 3000' 4000'

STATE OF LOUISIANA
DAVID L. MARTINEZ
REG. No. 4614
REGISTERED PROFESSIONAL LAND SURVEYOR

APPROVED: _____
DAVID L. MARTINEZ
LA. LAND SURVEYOR REG. NO. 4614

NOTES:

10 11 Denotes trackilnes run.

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1952
(985) 868-1050 www.tbsmith.com

FILE NAME:	051460A-borrow
TBS NO.:	2005.1460
DATE:	12/14/05
PLOT SCALE:	1"=1000'
DRAWN BY:	PJT
APPROVED:	DLM
MAP NO.	

BORROW AREA
PLAN VIEW

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
T18S-R22E, T18S-R23E, AND T19S-R23E

LAFOURCHE PARISH, LOUISIANA

SHEET NO. 1 OF 1

Louisiana Coordinate System (South Zone)
(1983 Datum)

ROCK ALIGNMENT

(NAD '83)
LAT.= 29°29'59.39"
LONG.= 90°12'28.38"
N= 365,362
E= 3,638,854

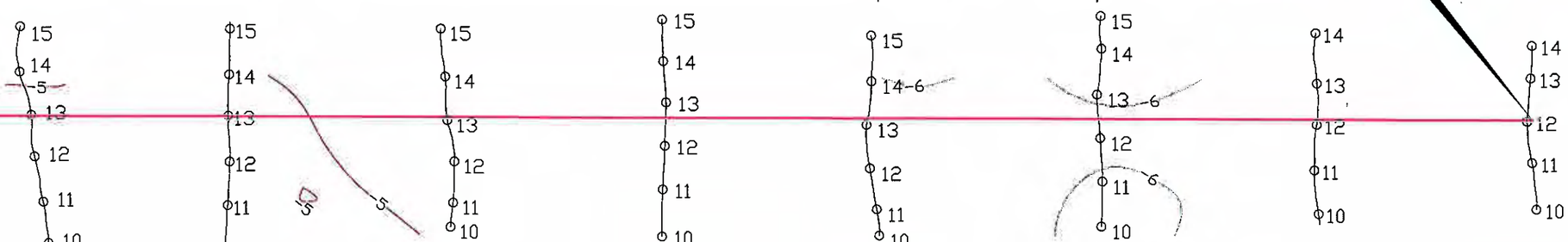
ACCESS ROUTE 1

±500'

(NAD '83)
LAT.= 29°30'38.99"
LONG.= 90°12'27.93"
N= 369,362
E= 3,638,854

±500'

EXISTING MARSH



±4000'

NO SUBSTANTIAL MAG HITS

STATE OF LOUISIANA
DAVID L. MARTINEZ
REG. No. 4614
REGISTERED PROFESSIONAL LAND SURVEYOR

APPROVED:
DAVID L. MARTINEZ
LA. LAND SURVEYOR REG. NO. 4614

SCALE IN FEET

300′ 150′ 0 300′ 600′ 900′ 1200′

ROCK ALIGNMENT

LEGEND:

- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -5 NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -3.5' NAVD '88 CONTOURS
- DENOTES -3 NAVD '88 CONTOURS
- DENOTES -2.5' NAVD '88 CONTOURS
- DENOTES -2' NAVD '88 CONTOURS
- DENOTES -1.5' NAVD '88 CONTOURS
- DENOTES -1 NAVD '88 CONTOURS
- DENOTES -0.5' NAVD '88 CONTOURS

NOTES:

10 11 Denotes tracklines run.

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1952
(985) 868-1050 www.tbsmith.com

FILE NAME:	051460A1
TBS NO.:	2005.1460
DATE:	12/14/05
PLOT SCALE:	1"=300'
DRAWN BY:	PJT
APPROVED:	DLM
MAP NO.	

ACCESS ROUTE 1
PLAN VIEW

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
T18S-R22E, T18S-R23E, AND T19S-R23E

LAFOURCHE PARISH, LOUISIANA

SHEET NO. 1 OF 1

ROCK ALIGNMENT

EXISTING MARSH

(NAD '83)
LAT.= 29°29'07.95"
LONG.= 90°11'31.33"
N= 360,217
E= 3,643,948

ACCESS ROUTE 2

±500'

(NAD '83)
LAT.= 29°29'32.98"
LONG.= 90°10'42.79"
N= 362,787
E= 3,648,212

BORROW AREA

Louisiana Coordinate System (South Zone)
Datum 1983

±500'

BORROW AREA

±4500'

NO SUBSTANTIAL MAG HITS

ROCK ALIGNMENT

LEGEND:

- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -5 NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -3.5' NAVD '88 CONTOURS
- DENOTES -3 NAVD '88 CONTOURS
- DENOTES -2.5' NAVD '88 CONTOURS
- DENOTES -2' NAVD '88 CONTOURS
- DENOTES -1.5' NAVD '88 CONTOURS
- DENOTES -1 NAVD '88 CONTOURS
- DENOTES -0.5' NAVD '88 CONTOURS

STATE OF LOUISIANA
DAVID L. MARTINEZ
REG. No. 4614
REGISTERED PROFESSIONAL LAND SURVEYOR

APPROVED: _____
DAVID L. MARTINEZ
LA. LAND SURVEYOR REG. NO. 4614

SCALE IN FEET

600′ 300′ 0 600′ 1200′ 1800′ 2400′

NOTES:

10 11 Denotes tracklines run.

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

FILE NAME:	051460A2
TBS NO.:	2005.1460
DATE:	12/14/05
PLOT SCALE:	1"=600'
DRAWN BY:	PJT
APPROVED:	DLM
MAP NO.	

ACCESS ROUTE 2
PLAN VIEW

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
T18S-R22E, T18S-R23E, AND T19S-R23E

LAFOURCHE PARISH, LOUISIANA

SHEET NO. 1 OF 1

MARSH CREATION AREA

ROCK ALIGNMENT

(NAD '83)
LAT.= 29°28'22.58"
LONG.= 90°10'45.05"
N= 355,675
E= 3,648,084

ACCESS ROUTE 3

±500'

(NAD '83)
LAT.= 29°29'29.74"
LONG.= 90°10'27.32"
N= 362,475
E= 3,649,581

BORROW AREA

±500'

±7000'

MAG HIT 325 GAMA DIPOLAR
LAT.= 29°29'07.41" (NAD83)
LONG.= 90°10'30.88" (NAD 83)
N= 365,599
E= 3,662,681

(PULLED MAG @ 150' AND 300' RADIUS ON 12/6/05) AND RECEIVED NO HITS)

ROCK ALIGNMENT

MARSH CREATION AREA

BORROW AREA

Louisiana Coordinate System (South Zone)
Datum 1983

LEGEND:

- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -5 NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -3.5' NAVD '88 CONTOURS
- DENOTES -3 NAVD '88 CONTOURS
- DENOTES -2.5' NAVD '88 CONTOURS
- DENOTES -2' NAVD '88 CONTOURS
- DENOTES -1.5' NAVD '88 CONTOURS
- DENOTES -1 NAVD '88 CONTOURS
- DENOTES -0.5' NAVD '88 CONTOURS

APPROVED: _____
DAVID L. MARTINEZ
LA. LAND SURVEYOR REG. NO. 4614

STATE OF LOUISIANA
DAVID L. MARTINEZ
REG. No. 4614
REGISTERED PROFESSIONAL LAND SURVEYOR

SCALE IN FEET

600' 300' 0 600' 1200' 1800' 2400'

NOTES:

10 11 Denotes tracklines run.

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH

FILE NAME:	051460A3
TBS NO.:	2005.1480
DATE:	12/06/05
PLOT SCALE:	1"=600'
DRAWN BY:	PJT
APPROVED:	DLM
MAP NO.	

ACCESS ROUTE 3
PLAN VIEW

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
T18S-R22E, T18S-R23E, AND T19S-R23E

LAFOURCHE PARISH, LOUISIANA

SHEET NO. 1 OF 1

Louisiana Coordinate System (South Zone)
(1983 Datum)

MARSH CREATION AREA

ROCK ALIGNMENT

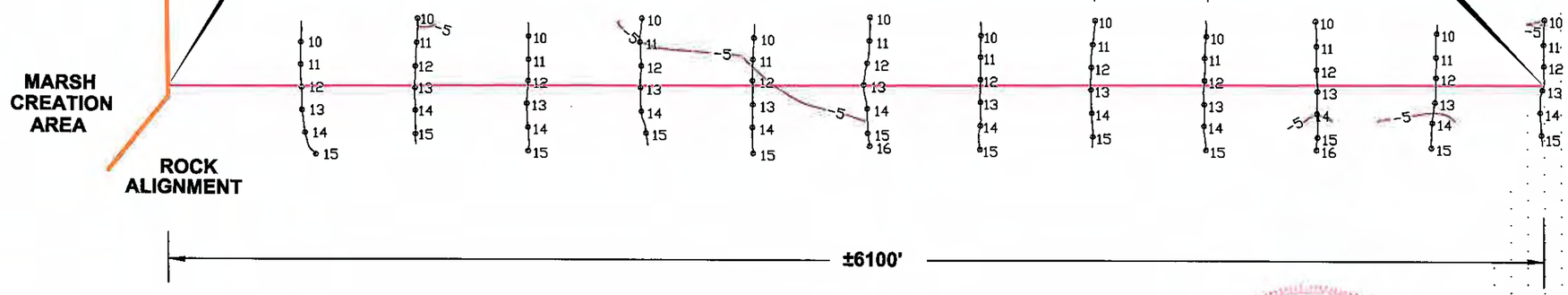
(NAD '83)
LAT.= 29°28'21.66"
LONG.= 90°09'48.94"
N= 355,633
E= 3,653,044

ACCESS ROUTE 4

±500'

(NAD '83)
LAT.= 29°29'21.95"
LONG.= 90°09'48.22"
N= 361,722
E= 3,653,044

BORROW AREA



BORROW AREA

NO SUBSTANTIAL MAG HITS

APPROVED:

DAVID L. MARTINEZ
LA. LAND SURVEYOR REG. NO. 4614

STATE OF LOUISIANA
DAVID L. MARTINEZ
REG. No. 4614
REGISTERED PROFESSIONAL LAND SURVEYOR

SCALE IN FEET

600' 300' 0 600' 1200' 1800' 2400'

LEGEND:

- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -5 NAVD '88 CONTOURS
- DENOTES -4' NAVD '88 CONTOURS
- DENOTES -3.5' NAVD '88 CONTOURS
- DENOTES -3 NAVD '88 CONTOURS
- DENOTES -2.5' NAVD '88 CONTOURS
- DENOTES -2' NAVD '88 CONTOURS
- DENOTES -1.5' NAVD '88 CONTOURS
- DENOTES -1 NAVD '88 CONTOURS
- DENOTES -0.5' NAVD '88 CONTOURS

NOTES:

10 11 Denotes trackline run.

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1915
(985) 868-1050 www.tbsmith.com

FILE NAME:	051460A4
TBS NO.:	2005.1460
DATE:	12/06/05
PLOT SCALE:	1"=600'
DRAWN BY:	PJT
APPROVED:	DLM
MAP NO.	

ACCESS ROUTE 4
PLAN VIEW

LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
T18S-R22E, T18S-R23E, AND T19S-R23E

LAFOURCHE PARISH, LOUISIANA

SHEET NO. 1 OF 1

LOUISIANA COORDINATE SYSTEM (SOUTH ZONE)
1983 DATUM

LITTLE LAKE

T 18 S – R 22 E

BAY L'OURS

SECTION 22

SECTION 23

SECTION 24

SECTION 25

SECTION 26

SECTION 27

BRUSLE LAKE

SUPERIOR CANAL

℄ ACCESS ROUTE 1

30" MARDI GRAS PIPELINE

24" BP DAM PIPELINE

12" TGP PIPELINE

℄ FLOATATION CHANNEL

EXISTING MARSH

BORROW AREA

MATCHLINE

LOCATION OF MAG HIT
LAT= 29°30'03.10"
LONG= 90°13'04.69" (NAD '83)
N= 365,707 (NAD '83)
E= 3,635,642

MAG HIT

ROCK SEGMENT 1

ROCK SEGMENT 2

ROCK SEGMENT 3

ROCK SEGMENT 4

ROCK SEGMENT 5

ROCK SEGMENT 6

ROCK SEGMENT 7

ROCK SEGMENT 8

ROCK SEGMENT 9

ROCK SEGMENT 10

ROCK SEGMENT 11

LOCATION OF MAG HIT
LAT= 29°29'35.09"
LONG= 90°11'49.16" (NAD '83)
N= 362,943 (NAD '83)
E= 3,642,344

MAG HIT

LOCATION OF MAG HIT
LAT= 29°29'33.55"
LONG= 90°11'49.19" (NAD '83)
N= 362,787 (NAD '83)
E= 3,642,343

MAG HIT

TRACT LINE POSITIONS (NAD '83)

TRACT LINE	LAT	LONG	NORTH	EAST
1 BEGIN	29 30 02.028	90 13 04.661	365,738	3,635,645
1 END	29 29 56.653	90 13 05.840	365,095	3,635,547
2 BEGIN	29 30 02.735	90 12 59.031	365,687	3,636,143
2 END	29 29 58.282	90 13 00.307	364,995	3,636,037
3 BEGIN	29 30 02.518	90 12 52.641	365,555	3,636,709
3 END	29 29 57.580	90 12 55.677	364,906	3,636,447
4 BEGIN	29 30 02.445	90 12 48.765	365,502	3,637,052
4 END	29 29 58.758	90 12 48.512	365,027	3,637,079
5 BEGIN	29 30 03.020	90 12 43.567	365,537	3,637,511
5 END	29 29 58.848	90 12 42.436	364,921	3,637,617
6 BEGIN	29 30 03.600	90 12 37.979	365,621	3,638,004
6 END	29 29 59.273	90 12 36.987	365,079	3,638,097
7 BEGIN	29 30 04.780	90 12 31.566	365,698	3,638,570
7 END	29 29 59.977	90 12 31.797	365,248	3,638,554
8 BEGIN	29 29 58.111	90 12 25.921	365,681	3,639,069
8 END	29 29 57.029	90 12 26.169	365,182	3,639,052
9 BEGIN	29 29 53.345	90 12 20.897	365,678	3,639,513
9 END	29 29 52.063	90 12 20.395	365,306	3,639,561
10 BEGIN	29 29 48.609	90 12 15.277	365,741	3,640,009
10 END	29 29 46.799	90 12 14.713	365,320	3,640,063
11 BEGIN	29 29 43.863	90 12 10.144	365,804	3,640,462
11 END	29 29 42.331	90 12 08.936	365,368	3,640,573
12 BEGIN	29 29 40.576	90 12 04.653	365,928	3,640,946
12 END	29 29 36.663	90 12 03.304	365,444	3,641,070
13 BEGIN	29 29 36.489	90 11 57.010	365,261	3,641,628
13 END	29 29 34.118	90 12 01.357	365,148	3,641,245
14 BEGIN	29 29 32.758	90 11 55.468	364,781	3,641,769
14 END	29 29 30.021	90 12 00.632	364,647	3,641,314
15 BEGIN	29 29 28.856	90 11 53.937	364,304	3,641,909
15 END	29 29 24.604	90 12 00.997	364,115	3,641,287
16 BEGIN	29 29 23.779	90 11 52.339	363,826	3,642,055
16 END	29 29 20.991	90 11 58.320	363,666	3,641,528
17 BEGIN	29 29 19.255	90 11 50.011	363,496	3,642,264
17 END	29 29 16.660	90 11 56.551	363,095	3,641,690
18 BEGIN	29 29 36.489	90 11 46.821	363,086	3,642,550
18 END	29 29 34.118	90 11 50.786	362,843	3,642,202
19 BEGIN	29 29 32.758	90 11 43.480	362,712	3,642,849
19 END	29 29 30.021	90 11 47.505	362,432	3,642,496
20 BEGIN	29 29 28.856	90 11 39.993	362,321	3,643,161
20 END	29 29 24.604	90 11 46.254	361,886	3,642,612
21 BEGIN	29 29 23.779	90 11 36.781	361,811	3,643,450
21 END	29 29 20.991	90 11 44.032	361,523	3,642,812
22 BEGIN	29 29 19.255	90 11 34.501	361,356	3,643,656
22 END	29 29 16.660	90 11 41.230	361,088	3,643,064

PIPELINE DATA

PT	LAT (NAD '83)	LONG (NAD '83)	NORTH (NAD '83)	EAST (NAD '83)	PIPE ELEV. (NAVD '88)	MUD COVER	WATER (WATER D.O. NAVD '88)
1	29 30 01.61	90 13 07.84	365,553	3,635,366	-14.7	9.4	5.3
2	29 30 03.75	90 13 05.68	365,771	3,635,555	-11.9	6.0	5.9
3	29 30 05.92	90 13 03.47	365,992	3,635,748	-12.7	6.2	6.5
4	29 30 07.86	90 13 01.70	366,190	3,635,902	-13.9	7.5	6.4
5	29 30 10.10	90 12 59.89	366,417	3,636,060	-14.6	8.7	5.9
6	29 30 12.21	90 12 58.38	366,632	3,636,191	-13.7	8.1	5.6
7	29 30 14.51	90 12 56.78	366,866	3,636,330	-16.5	10.3	6.2
8	29 30 17.00	90 12 55.00	367,119	3,636,485	-14.7	9.0	5.7
9	29 30 19.53	90 12 53.29	367,376	3,636,634	-16.7	11.5	5.2
10	29 30 22.09	90 12 51.33	367,636	3,636,805	-13.7	8.6	5.1
11	29 30 24.83	90 12 49.41	367,914	3,636,971	-15.6	10.9	4.7
12	29 30 00.86	90 13 06.69	365,478	3,635,468	-3.4	0.0	3.4
13	29 30 03.10	90 13 04.60	365,706	3,635,651	-3.5	0.0	3.5
14	29 30 05.11	90 13 02.78	365,911	3,635,810	-7.7	2.9	4.8
15	29 30 07.31	90 13 01.34	366,134	3,635,935	-7.3	2.5	4.8
16	29 30 09.27	90 12 59.60	366,334	3,636,086	-8.9	3.9	5.0
17	29 30 11.36	90 12 57.80	366,546	3,636,243	-10.4	5.0	5.4
18	29 30 13.62	90 12 55.97	366,776	3,636,403	-11.2	5.5	5.7
19	29 30 16.16	90 12 54.11	367,035	3,636,565	-10.2	4.2	6.0
20	29 30 18.51	90 12 52.00	367,274	3,636,749	-10.3	4.2	6.1
21	29 30 21.24	90 12 50.00	367,551	3,636,923	-13.3	7.2	6.1
22	29 30 23.74	90 12 48.00	367,805	3,637,097	-15.0	8.6	6.4
23	29 30 26.11	90 12 46.04	368,047	3,637,268	-14.3	10.0	4.3
24	29 30 28.39	90 12 44.23	368,278	3,637,426	-15.0	9.5	5.5
25	29 29 29.03	90 11 49.05	362,331	3,642,361	-12.6	10.7	1.9
26	29 29 30.54	90 11 49.11	362,483	3,642,354	-11.2	8.6	2.6
27	29 29 32.24	90 11 49.16	362,655	3,642,348	-12.5	9.9	2.6
28	29 29 33.99	90 11 49.21	362,831	3,642,341	-11.0	7.9	3.1
29	29 29 35.61	90 11 49.13	363,015	3,642,347	-11.2	7.9	3.3
30	29 29 37.63	90 11 49.17	363,199	3,642,341	-11.9	8.8	3.1
31	29 29 39.59	90 11 49.13	363,397	3,642,343	-12.6	9.0	3.6
32	29 29 41.41	90 11 49.19	363,581	3,642,336	-12.0	8.0	4.0
33	29 29 43.44	90 11 49.28	363,786	3,642,326	-12.9	8.8	4.1
34	29 29 45.80	90 11 49.35	364,024	3,642,317	-12.8	8.8	4.0
35	29 29 47.85	90 11 49.39	364,231	3,642,312	-12.9	9.0	3.9
36	29 29 50.18	90 11 49.39	364,467	3,642,309	-12.9	9.1	3.8
37	29 29 52.24	90 11 49.48	364,675	3,642,299	-12.7	8.8	3.9
38	29 29 54.44	90 11 49.58	364,897	3,642,288	-14.0	9.9	4.1
39	29 29 56.90	90 11 49.55	365,145	3,642,288	-12.9	8.8	4.1
40	29 29 59.13	90 11 49.67	365,370	3,642,276	-13.8	9.7	4.1
41	29 30 01.54	90 11 49.76	365,614	3,642,265	-13.5	9.3	4.2
42	29 30 03.76	90 11 49.76	365,838	3,642,263	-14.4	9.9	4.5
43	29 30 06.20	90 11 49.80	366,084	3,642,257	-13.5	8.8	4.7
44	29 30 08.78	90 11 49.82	366,345	3,642,253	-12.3	7.6	4.7
45	29 30 11.10	90 11 49.89	366,579	3,642,244	-12.8	8.0	4.8
46	29 30 13.62	90 11 49.90	366,834	3,642,241	-12.9	8.2	4.7

LEGEND:
- DENOTES –4' NAVD '88 CONTOURS
- DENOTES –4' NAVD '88 CONTOURS
- DENOTES –5 NAVD '88 CONTOURS
- DENOTES –4' NAVD '88 CONTOURS
- DENOTES –3.5" NAVD '88 CONTOURS
- DENOTES –3 NAVD '88 CONTOURS
- DENOTES –2.5" NAVD '88 CONTOURS
- DENOTES –2" NAVD '88 CONTOURS
- DENOTES –1.5" NAVD '88 CONTOURS
- DENOTES –1 NAVD '88 CONTOURS
- DENOTES –0.5" NAVD '88 CONTOURS
- DENOTES MAG HIT ON PIPELINE
- DENOTES PIPELINE

SCALE IN FEET
500' 250' 0 500' 1000' 1500'

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

STATE OF LOUISIANA
DAVID L. MARTINEZ
REG. No. 4614
REGISTERED
PROFESSIONAL
LAND SURVEYOR

TBS T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

APPROVED: DAVID L. MARTINEZ
LA. LAND SURVEYOR REG. NO. 4614

FILE NAME:	051460RAMAG1
TBS NO.:	2005.1460
DATE:	01/25/06
PLOT SCALE:	1"=500'
DRAWN BY:	P.J.T.
APPROVED:	D.L.M.
MAP NO.	

MAG SURVEY OF
ROCK ALIGNMENT AND FLOATATION CHANNEL
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION
T18S-R22E, T18S-R23E, AND T19S-R23E
LAFOURCHE PARISH, LOUISIANA

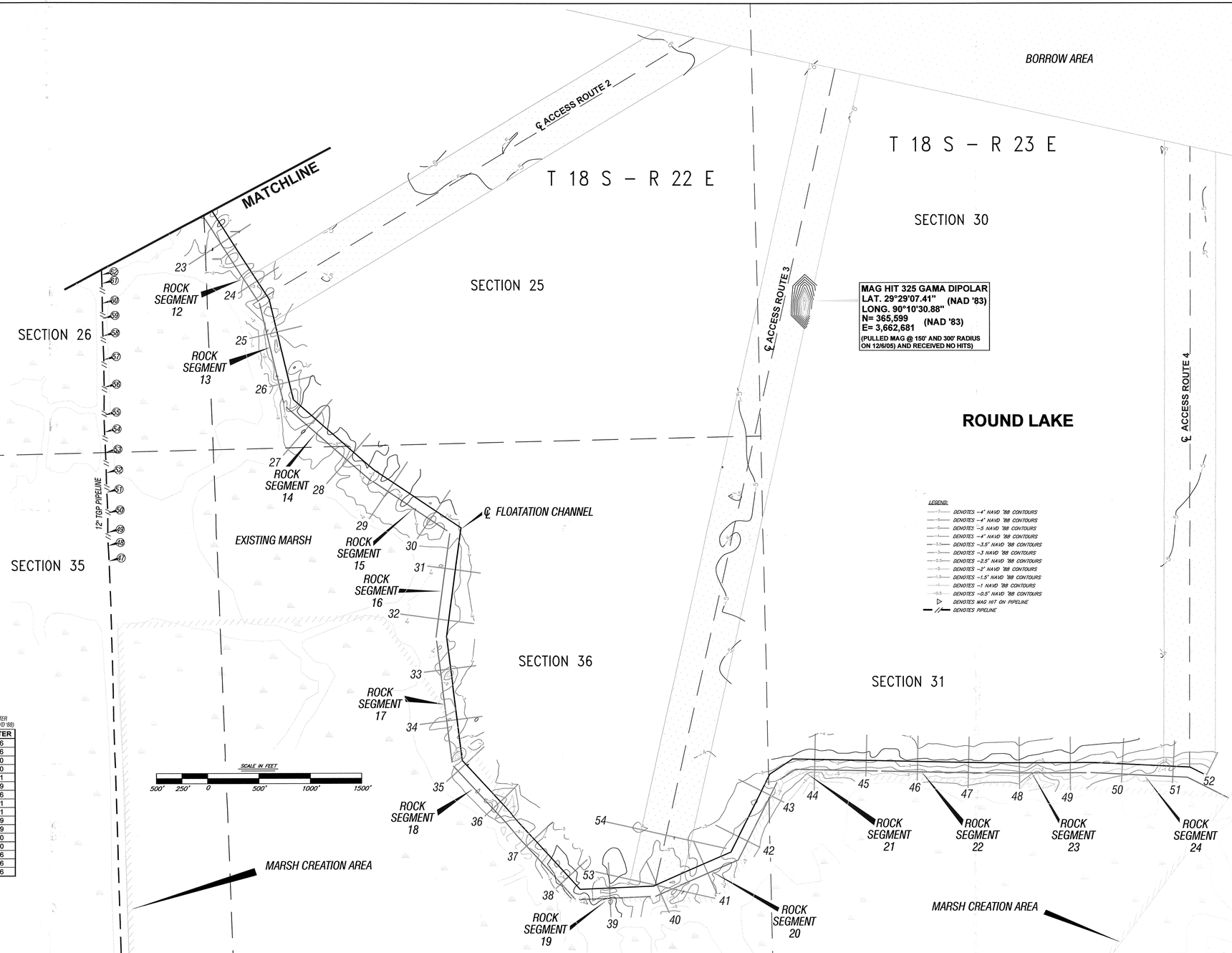
SHEET NO. 1 OF 2

TRACT LINE POSITIONS

TRACT LINE	LAT (NAD '83)	LONG (NAD '83)	NORTH (NAD '83)	EAST
23 BEGIN	29 29 15.39	90 11 32.02	360,968	3,643,879
23 END	29 29 11.55	90 11 38.94	360,574	3,643,271
24 BEGIN	29 29 11.20	90 11 28.99	360,548	3,644,151
24 END	29 29 08.69	90 11 33.53	360,290	3,643,752
25 BEGIN	29 29 05.48	90 11 26.51	359,972	3,644,376
25 END	29 29 04.32	90 11 32.30	359,850	3,643,865
26 BEGIN	29 29 00.65	90 11 25.26	359,485	3,644,491
26 END	29 28 59.66	90 11 30.23	359,381	3,644,053
27 BEGIN	29 28 58.36	90 11 23.31	359,256	3,644,666
27 END	29 28 52.83	90 11 28.96	358,692	3,644,172
28 BEGIN	29 28 55.07	90 11 19.09	358,927	3,645,042
28 END	29 28 50.08	90 11 24.18	358,419	3,644,597
29 BEGIN	29 28 52.26	90 11 15.06	358,647	3,645,401
29 END	29 28 46.55	90 11 19.54	358,066	3,645,011
30 BEGIN	29 28 49.47	90 11 10.40	358,369	3,645,816
30 END	29 28 44.57	90 11 14.23	357,871	3,645,482
31 BEGIN	29 28 41.36	90 11 07.13	357,553	3,646,113
31 END	29 28 42.11	90 11 13.00	357,623	3,645,593
32 BEGIN	29 28 36.47	90 11 07.93	357,058	3,646,047
32 END	29 28 37.49	90 11 16.05	357,154	3,645,328
33 BEGIN	29 28 32.41	90 11 07.77	356,648	3,646,065
33 END	29 28 31.82	90 11 13.67	356,583	3,645,544
34 BEGIN	29 28 27.49	90 11 07.13	356,152	3,646,127
34 END	29 28 26.78	90 11 14.15	356,074	3,645,507
35 BEGIN	29 28 24.58	90 11 06.96	355,858	3,646,145
35 END	29 28 21.08	90 11 11.36	355,501	3,645,759
36 BEGIN	29 28 20.90	90 11 03.16	355,490	3,646,484
36 END	29 28 17.75	90 11 07.15	355,168	3,646,135
37 BEGIN	29 28 17.24	90 10 59.37	355,123	3,646,823
37 END	29 28 14.25	90 11 03.14	354,818	3,646,493
38 BEGIN	29 28 13.57	90 10 55.57	354,756	3,647,163
38 END	29 28 10.58	90 10 59.35	354,451	3,646,832
39 BEGIN	29 28 13.26	90 10 53.24	354,727	3,647,369
39 END	29 28 07.82	90 10 53.01	354,178	3,647,395
40 BEGIN	29 28 13.35	90 10 49.02	354,740	3,647,742
40 END	29 28 08.13	90 10 46.44	354,215	3,647,975
41 BEGIN	29 28 15.32	90 10 43.83	354,943	3,648,199
41 END	29 28 09.87	90 10 41.14	354,395	3,648,442
42 BEGIN	29 28 16.80	90 10 41.36	355,095	3,648,415
42 END	29 28 14.55	90 10 36.32	354,872	3,648,863
43 BEGIN	29 28 21.20	90 10 38.79	355,542	3,648,638
43 END	29 28 18.95	90 10 33.75	355,319	3,649,086
44 BEGIN	29 28 25.53	90 10 30.22	355,987	3,649,391
44 END	29 28 20.10	90 10 30.41	355,438	3,649,380
45 BEGIN	29 28 25.39	90 10 24.57	355,978	3,649,891
45 END	29 28 21.19	90 10 24.72	355,553	3,649,882
46 BEGIN	29 28 25.25	90 10 18.93	355,969	3,650,389
46 END	29 28 20.80	90 10 19.06	355,519	3,650,382
47 BEGIN	29 28 25.12	90 10 13.28	355,961	3,650,889
47 END	29 28 20.18	90 10 13.43	355,461	3,650,881
48 BEGIN	29 28 25.07	90 10 07.71	355,960	3,651,381
48 END	29 28 19.87	90 10 07.73	355,435	3,651,385
49 BEGIN	29 28 25.04	90 10 02.05	355,963	3,651,881
49 END	29 28 19.85	90 10 02.07	355,438	3,651,885
50 BEGIN	29 28 24.88	90 09 56.20	355,952	3,652,399
50 END	29 28 20.43	90 09 56.47	355,502	3,652,379
51 BEGIN	29 28 24.62	90 09 50.54	355,930	3,652,899
51 END	29 28 20.41	90 09 50.81	355,505	3,652,880
52 BEGIN	29 28 23.45	90 09 45.80	355,817	3,653,319
52 END	29 28 21.25	90 09 47.08	355,593	3,653,208
53 BEGIN	29 28 12.37	90 10 54.70	354,636	3,647,241
53 END	29 28 09.70	90 10 41.47	354,378	3,648,413
54 BEGIN	29 28 17.20	90 10 53.43	355,125	3,647,348
54 END	29 28 14.53	90 10 40.20	354,867	3,648,520

PIPELINE DATA

PT	LAT (NAD '83)	LONG (NAD '83)	NORTH (NAVD '88)	EAST (NAVD '88)	PIPE ELEV.	MUD COVER	WATER (WATER 0.0 NAVD '88)
47	29 28 42.93	90 11 48.14	357,675	3,642,487	-12.8	11.2	1.6
48	29 28 44.42	90 11 48.19	357,825	3,642,481	-12.8	11.2	1.6
49	29 28 45.71	90 11 48.19	357,956	3,642,480	-13.7	11.7	2.0
50	29 28 47.61	90 11 48.23	358,148	3,642,474	-13.8	11.8	2.0
51	29 28 49.61	90 11 48.29	358,349	3,642,467	-12.9	9.8	3.1
52	29 28 51.51	90 11 48.30	358,541	3,642,464	-13.2	5.3	7.9
53	29 28 53.49	90 11 48.37	358,741	3,642,456	-12.6	5.0	7.6
54	29 28 55.45	90 11 48.42	358,939	3,642,450	-12.6	6.5	6.1
55	29 28 57.07	90 11 48.47	359,103	3,642,444	-13.9	6.8	7.1
56	29 28 59.76	90 11 48.42	359,375	3,642,446	-12.6	5.7	6.9
57	29 29 02.42	90 11 48.42	359,643	3,642,443	-12.8	5.9	6.9
58	29 29 04.71	90 11 48.49	359,875	3,642,434	-12.4	5.4	7.0
59	29 29 06.38	90 11 48.50	360,043	3,642,432	-12.2	5.2	7.0
60	29 29 07.86	90 11 48.49	360,193	3,642,431	-11.3	3.7	7.6
61	29 29 09.77	90 11 48.51	360,386	3,642,428	-14.8	10.2	4.6
62	29 29 10.61	90 11 48.53	360,470	3,642,425	-14.2	12.6	1.6



NOTES:

DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		

STATE OF LOUISIANA
DAVID L. MARTINEZ
REG. No. 4614
REGISTERED PROFESSIONAL
LAND SURVEYOR

T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

APPROVED: DAVID L. MARTINEZ
LA. LAND SURVEYOR REG. NO. 4614

FILE NAME:	051460RAMAG2
TBS NO.:	2005.1460
DATE:	01/25/06
PLOT SCALE:	1"=500'
DRAWN BY:	P.J.T.
APPROVED:	D.L.M.
MAP NO.	

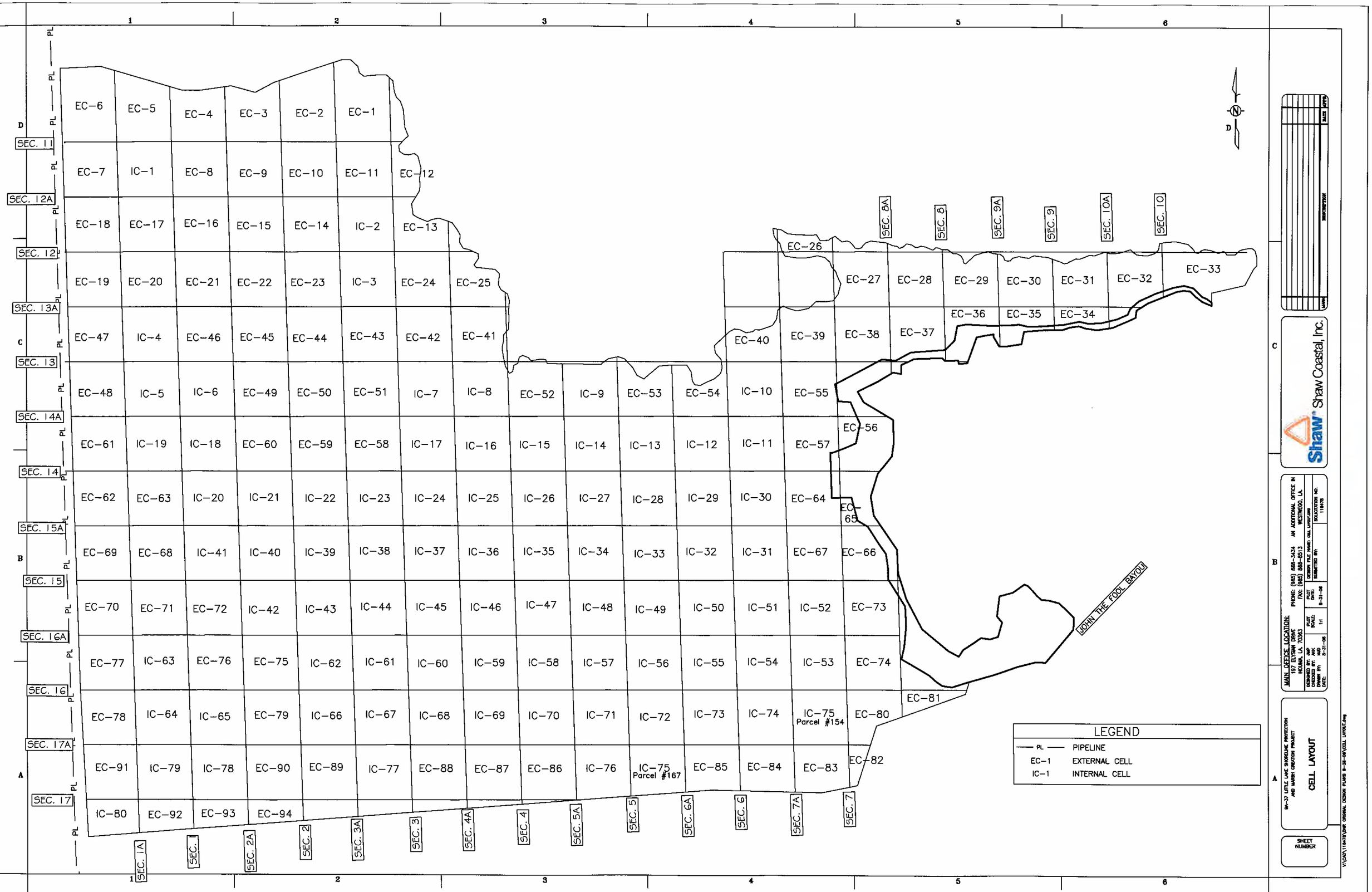
MAG SURVEY OF ROCK ALIGNMENT AND FLOATATION CHANNEL

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION T18S-R22E, T18S-R23E, AND T19S-R23E LAFOURCHE PARISH, LOUISIANA

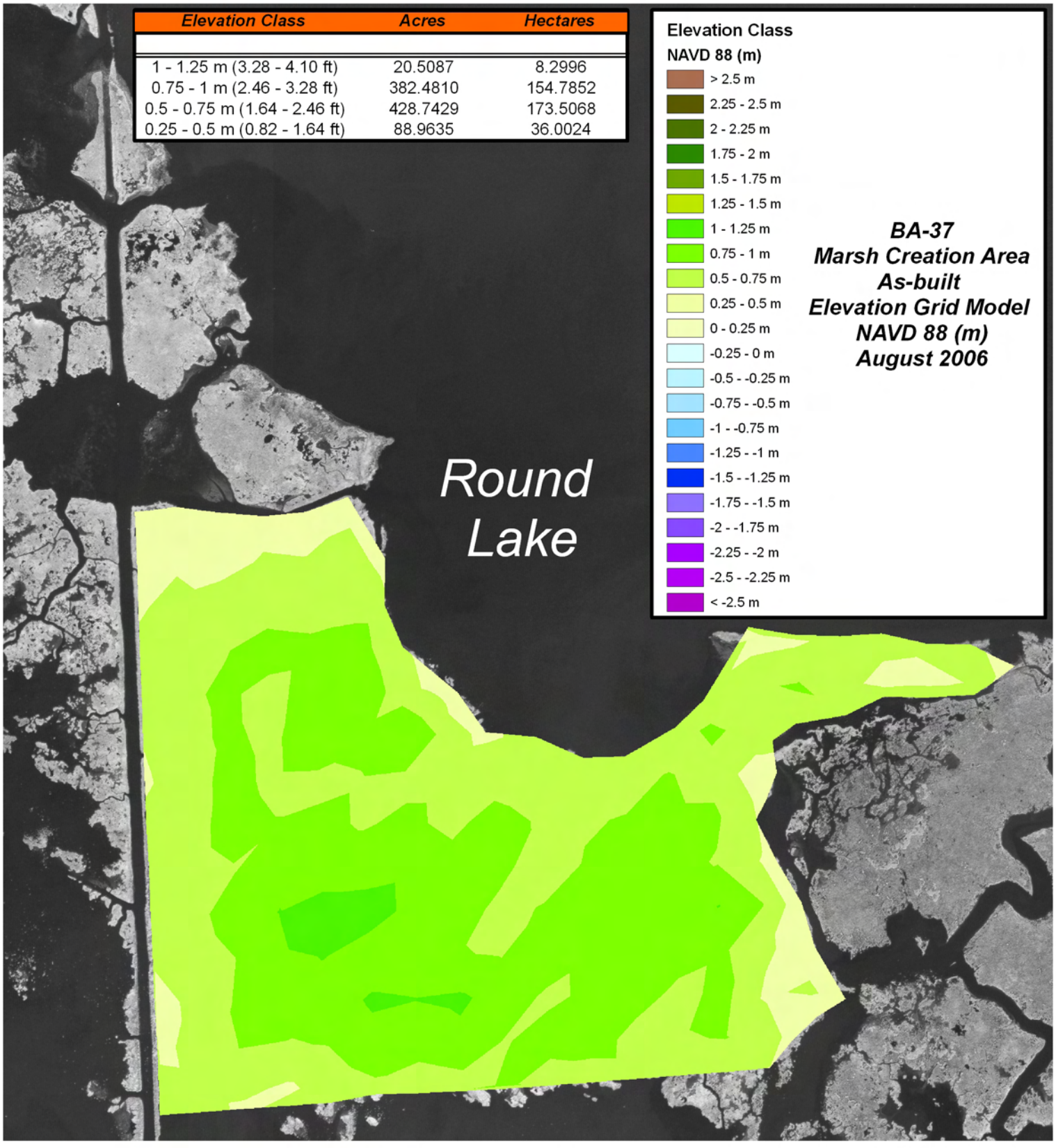
SHEET NO. 2 OF 2

APPENDIX I

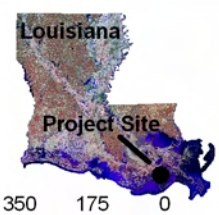
CELL SHEETS



EC-6 EC-5 EC-4 EC-3 EC-2 EC-1
EC-7 IC-1 EC-8 EC-9 EC-10 EC-11 EC-12
EC-18 EC-17 EC-16 EC-15 EC-14 IC-2 EC-13
EC-19 EC-20 EC-21 EC-22 EC-23 IC-3 EC-24 EC-25
EC-47 IC-4 EC-46 EC-45 EC-44 EC-43 EC-42 EC-41
EC-48 IC-5 IC-6 EC-49 EC-50 EC-51 IC-7 IC-8 EC-52 IC-9 EC-53 EC-54 IC-10 EC-55
EC-61 IC-19 IC-18 EC-60 EC-59 EC-58 IC-17 IC-16 IC-15 IC-14 IC-13 IC-12 IC-11 EC-57 EC-56
EC-62 EC-63 IC-20 IC-21 IC-22 IC-23 IC-24 IC-25 IC-26 IC-27 IC-28 IC-29 IC-30 EC-64 EC-65
EC-69 EC-68 IC-41 IC-40 IC-39 IC-38 IC-37 IC-36 IC-35 IC-34 IC-33 IC-32 IC-31 EC-67 EC-66
EC-70 EC-71 EC-72 IC-42 IC-43 IC-44 IC-45 IC-46 IC-47 IC-48 IC-49 IC-50 IC-51 IC-52 EC-73
EC-77 IC-63 EC-76 EC-75 IC-62 IC-61 IC-60 IC-59 IC-58 IC-57 IC-56 IC-55 IC-54 IC-53 EC-74
EC-78 IC-64 IC-65 EC-79 IC-66 IC-67 IC-68 IC-69 IC-70 IC-71 IC-72 IC-73 IC-74 IC-75 Parcel #154 EC-80 EC-81
EC-91 IC-79 IC-78 EC-90 EC-89 IC-77 EC-88 EC-87 EC-86 IC-76 IC-75 Parcel #167 EC-85 EC-84 EC-83 EC-82
IC-80 EC-92 EC-93 EC-94
EC-26 EC-27 EC-28 EC-29 EC-30 EC-31 EC-32 EC-33
EC-36 EC-35 EC-34
EC-40 EC-39 EC-38 EC-37
SEC. 11 SEC. 12A SEC. 12 SEC. 13A SEC. 13 SEC. 14A SEC. 14 SEC. 15A SEC. 15 SEC. 16A SEC. 16 SEC. 17A SEC. 17
SEC. 1A SEC. 1 SEC. 2A SEC. 2 SEC. 3A SEC. 3 SEC. 4A SEC. 4 SEC. 5A SEC. 5 SEC. 6A SEC. 6 SEC. 7A SEC. 7
SEC. 8A SEC. 8 SEC. 9A SEC. 9 SEC. 10A SEC. 10
JOHN THE FOOL BAYOU
LEGEND
PL PIPELINE
EC-1 EXTERNAL CELL
IC-1 INTERNAL CELL
Shaw Coastal, Inc.
MAIN OFFICE LOCATION:
197 ELYSIAN DRIVE
HOUMA, LA. 70363
PHONE: (985) 868-3434
FAX: (985) 868-8513
AN ADDITIONAL OFFICE IN WESTWEGO, LA.
CELL LAYOUT
SHEET NUMBER



Elevation Class	Acres	Hectares
1 - 1.25 m (3.28 - 4.10 ft)	20.5087	8.2996
0.75 - 1 m (2.46 - 3.28 ft)	382.4810	154.7852
0.5 - 0.75 m (1.64 - 2.46 ft)	428.7429	173.5068
0.25 - 0.5 m (0.82 - 1.64 ft)	88.9635	36.0024



N
W E
S

350 175 0 350 700 1,050 Feet

390 195 0 390 780 1,170 Meters

Data Source:
LA Dept. of Natural Resources
Coastal Restoration Division
Biological Monitoring Section

2005 DOQQ

Date: February 22, 2007
Map ID: 2007-TFO-004

Grid Statistics (m)

Cell Size: 2.0 (6.6 ft)
Maximum: 1.16 (3.79 ft)
Minimum: 0.26 (0.86 ft)
Standard Deviation: 0.15 (0.50 ft)
Mean: 0.72 (2.36 ft)

LITTLE LAKE CELL PAY ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
5/11/06	IC-64	1.8	2.4	2.4	2.0	2.2	36,441	36,441
5/11/06	IC-65	2.4	2.4	2.4	2.4	2.4	40,681	77,122
5/11/06	IC-78	2.4	2.4	1.5	1.8	2.0	35,160	112,282
5/11/06	EC-78	1.4	1.8	2.0	1.4	1.7	15,996	128,278
5/11/06	IC-79	2.0	2.4	1.8	1.9	2.0	34,702	162,980
5/11/06	IC-80	2.0	1.9	1.9	1.8	1.9	11,700	174,680
5/11/06	EC-91	1.4	2.0	1.9	2.0	1.8	18,396	193,076
5/11/06	EC-92	1.9	1.8	1.5	1.9	1.8	10,719	203,795
5/11/06	EC-93	1.8	1.5	1.9	1.5	1.7	14,460	218,255
6/18/06	IC-59	2.4	2.4	2.4	2.4	2.4	24,100	242,355
6/18/06	IC-60	2.4	2.4	2.4	2.4	2.4	16,702	259,057
6/18/06	IC-61	2.4	2.4	2.4	2.4	2.4	21,412	280,469
6/18/06	IC-62	2.4	2.4	2.4	2.4	2.4	21,838	302,307
6/18/06	IC-66	2.4	2.4	2.4	2.4	2.4	17,989	320,296
6/18/06	IC-67	2.4	2.4	2.4	2.4	2.4	17,251	337,547
6/18/06	IC-68	2.4	2.4	2.4	2.4	2.4	12,444	349,991
6/18/06	IC-69	2.4	2.4	2.4	2.4	2.4	22,907	372,898
6/18/06	IC-77	2.4	2.4	1.9	2.3	2.3	20,496	393,394
6/18/06	EC-75	2.4	2.4	2.4	2.4	2.4	36,199	429,593
6/18/06	EC-79	2.4	2.4	2.4	2.4	2.4	32,694	462,287
6/18/06	EC-87	2.4	2.4	2.4	2.1	2.3	19,194	481,481
6/18/06	EC-88	2.4	2.4	2.1	1.9	2.2	19,629	501,110
6/18/06	EC-89	2.4	2.4	2.3	2.0	2.3	11,967	513,077
6/18/06	EC-90	2.4	2.4	2.0	1.5	2.1	23,782	536,859
6/18/06	EC-94	1.5	2.0	1.9	1.9	1.8	8,083	544,942
6/27/06	IC-34	2.1	2.4	2.4	2.4	2.3	22,213	567,155
6/27/06	IC-35	2.4	2.1	2.4	2.3	2.3	20,767	587,922
6/27/06	IC-36	2.4	2.4	2.3	2.4	2.4	26,562	614,484
6/27/06	IC-37	2.4	2.4	2.4	2.4	2.4	31,151	645,635
6/27/06	IC-38	2.4	2.4	2.4	2.4	2.4	30,734	676,369
6/27/06	IC-39	2.4	2.4	2.4	2.4	2.4	24,053	700,422
6/27/06	IC-40	2.4	2.4	2.4	2.4	2.4	22,430	722,852
6/27/06	IC-41	2.4	2.4	2.4	2.4	2.4	18,512	741,364
6/27/06	IC-42	2.4	2.4	2.4	2.4	2.4	37,497	778,861
6/27/06	IC-43	2.4	2.4	2.4	2.4	2.4	27,671	806,532
6/27/06	IC-44	2.4	2.4	2.4	2.4	2.4	28,322	834,854
6/27/06	IC-45	2.4	2.4	2.4	2.4	2.4	27,022	861,876
	AVG.	2.2	2.3	2.2	2.2	2.2		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE CELL PAY ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 2		2.2	2.3	2.2	2.2	2.2	861,876	861,876
6/27/06	IC-46	2.4	2.3	2.4	2.4	2.4	28,058	889,934
6/27/06	IC-47	2.3	2.4	2.4	2.4	2.4	25,322	915,256
6/27/06	IC-63	1.9	2.4	2.4	1.8	2.1	24,637	939,893
6/27/06	EC-68	2.1	2.4	2.4	2.1	2.3	17,008	956,901
6/27/06	EC-69	2.0	2.1	2.1	1.8	2.0	9,108	966,009
6/27/06	EC-70	1.8	2.1	1.9	1.7	1.9	10,290	976,299
6/27/06	EC-71	2.1	2.4	2.4	1.9	2.2	19,508	995,807
6/27/06	EC-72	2.4	2.4	2.4	2.4	2.4	30,981	1,026,788
6/27/06	EC-76	2.4	2.4	2.4	2.4	2.4	40,016	1,066,804
6/27/06	EC-77	1.7	1.9	1.8	1.4	1.7	10,423	1,077,227
6/28/06	IC-20	2.4	2.4	2.4	2.4	2.4	22,399	1,099,626
6/28/06	IC-21	2.4	2.4	2.4	2.4	2.4	17,704	1,117,330
6/28/06	IC-22	2.4	2.4	2.4	2.4	2.4	18,033	1,135,363
6/28/06	IC-23	2.4	2.4	2.4	2.4	2.4	30,112	1,165,475
6/28/06	IC-24	2.4	2.3	2.4	2.4	2.4	28,533	1,194,008
6/28/06	IC-33	2.4	2.4	2.4	2.4	2.4	31,988	1,225,996
6/28/06	IC-48	2.4	2.4	2.4	2.4	2.4	23,291	1,249,287
6/28/06	IC-49	2.4	2.4	2.4	2.4	2.4	28,800	1,278,087
6/28/06	IC-56	2.4	2.4	2.4	2.4	2.4	24,734	1,302,821
6/28/06	IC-57	2.4	2.4	2.4	2.3	2.4	25,979	1,328,800
6/28/06	IC-58	2.4	2.4	2.3	2.4	2.4	27,190	1,355,990
6/28/06	IC-70	2.4	2.3	2.4	2.4	2.4	23,389	1,379,379
6/28/06	IC-71	2.3	2.4	2.4	2.4	2.4	18,072	1,397,451
6/28/06	IC-72	2.4	2.4	2.1	2.4	2.3	22,418	1,419,869
6/28/06	IC-75(167)	2.4	2.1	2.0	1.9	2.1	25,239	1,445,108
6/28/06	IC-76	2.4	2.4	1.9	2.0	2.2	16,043	1,461,151
6/28/06	EC-62	1.9	2.1	2.1	2.0	2.0	11,216	1,472,367
6/28/06	EC-63	2.1	2.4	2.4	2.1	2.3	21,081	1,493,448
6/28/06	EC-86	2.4	2.4	2.0	2.4	2.3	15,691	1,509,139
6/30/06	EC-64	2.4	1.8	1.6	2.4	2.1	20,099	1,529,238
6/30/06	EC-65	1.7	0.0	1.3	1.6	1.5	2,338	1,531,576
6/30/06	EC-66	1.6	1.3	1.3	2.4	1.7	12,518	1,544,094
6/30/06	EC-67	2.4	1.6	2.4	2.4	2.2	18,630	1,562,724
6/30/06	EC-73	2.4	1.3	1.2	1.8	1.7	12,744	1,575,468
6/30/06	EC-74	1.8	1.2	1.8	1.5	1.6	16,333	1,591,801
6/30/06	EC-80	1.5	1.8	0.9	2.1	1.6	17,608	1,609,409
6/30/06	EC-81	1.8	0.8	0.0	0.9	1.2	5,547	1,614,956
	AVG.	2.2	2.2	2.1	2.1	2.1		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE CELL PAY ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 3		2.2	2.2	2.1	2.1	2.1	1,614,956	1,614,956
6/30/06	EC-82	2.1	1.4	0.0	1.6	1.7	4,641	1,619,597
6/30/06	EC-83	2.4	2.1	1.6	1.8	2.0	21,085	1,640,682
6/30/06	EC-84	2.4	2.4	1.8	2.4	2.3	19,462	1,660,144
6/30/06	EC-85	2.1	2.4	2.4	2.0	2.2	18,278	1,678,422
6/30/06	IC-29	2.4	2.4	2.4	2.4	2.4	29,409	1,707,831
6/30/06	IC-30	2.4	2.4	2.4	2.4	2.4	28,675	1,736,506
6/30/06	IC-31	2.4	2.4	2.4	2.4	2.4	26,010	1,762,516
6/30/06	IC-32	2.4	2.4	2.4	2.4	2.4	32,998	1,795,514
6/30/06	IC-50	2.4	2.4	2.4	2.4	2.4	24,990	1,820,504
6/30/06	IC-51	2.4	2.4	2.4	2.4	2.4	24,071	1,844,575
6/30/06	IC-52	2.4	2.4	1.8	2.4	2.3	19,243	1,863,818
6/30/06	IC-53	2.4	1.8	1.5	2.4	2.0	17,792	1,881,610
6/30/06	IC-54	2.4	2.4	2.4	2.2	2.4	20,810	1,902,420
6/30/06	IC-55	2.4	2.4	2.2	2.4	2.4	20,194	1,922,614
6/30/06	IC-73	2.4	2.2	2.4	2.1	2.3	17,756	1,940,370
6/30/06	IC-74	2.2	2.4	2.4	2.4	2.4	22,923	1,963,293
6/30/06	IC-75(154)	2.4	1.5	2.1	2.4	2.1	26,420	1,989,713
7/3/06	IC-10	2.0	2.4	2.4	2.4	2.3	22,796	2,012,509
7/3/06	IC-11	2.4	2.2	2.4	2.4	2.4	32,787	2,045,296
7/3/06	IC-12	2.2	2.4	2.4	2.4	2.4	28,619	2,073,915
7/3/06	IC-13	2.4	2.2	2.4	2.4	2.4	14,279	2,088,194
7/3/06	IC-28	2.4	2.4	2.4	2.4	2.4	21,811	2,110,005
7/3/06	EC-26	0.0	1.6	1.3	0.0	1.5	1,931	2,111,936
7/3/06	EC-27	1.3	1.5	2.4	2.4	1.9	7,636	2,119,572
7/3/06	EC-28	1.5	1.9	2.2	2.4	2.0	14,520	2,134,092
7/3/06	EC-29	1.9	2.2	1.1	2.2	1.9	12,545	2,146,637
7/3/06	EC-30	2.2	1.8	1.4	1.1	1.6	7,417	2,154,054
7/3/06	EC-31	1.8	1.8	1.7	1.4	1.7	9,062	2,163,116
7/3/06	EC-32	1.8	1.3	1.8	1.7	1.7	5,418	2,168,534
7/3/06	EC-34	1.4	1.7	2.0	2.2	1.8	4,339	2,172,873
7/3/06	EC-35	1.1	1.4	2.2	2.0	1.7	4,656	2,177,529
7/3/06	EC-36	2.2	1.1	2.0	2.4	1.9	4,576	2,182,105
7/3/06	EC-37	2.4	2.2	2.4	2.3	2.3	9,360	2,191,465
7/3/06	EC-38	2.4	2.4	2.3	2.2	2.3	19,897	2,211,362
7/3/06	EC-39	2.0	2.4	2.2	2.4	2.3	20,375	2,231,737
7/3/06	EC-40	0.0	2.0	2.4	2.2	2.2	4,735	2,236,472
	AVG.	2.2	2.1	2.1	2.1	2.1		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE CELL PAY ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 4		2.2	2.1	2.1	2.1	2.1	2,236,472	2,236,472
7/3/06	EC-53	2.3	2.0	2.2	2.4	2.2	4,251	2,240,723
7/3/06	EC-54	2.0	2.0	2.4	2.2	2.2	14,764	2,255,487
7/3/06	EC-55	2.4	2.2	1.2	2.2	2.0	15,674	2,271,161
7/3/06	EC-56	1.2	1.2	0.0	1.5	1.3	1,603	2,272,764
7/3/06	EC-57	2.2	1.2	1.8	2.4	1.9	18,072	2,290,836
7/11/06	IC-25	2.3	2.4	2.4	2.4	2.4	21,898	2,312,734
7/11/06	IC-26	2.4	2.1	2.4	2.4	2.3	16,220	2,328,954
7/11/06	IC-27	2.4	2.4	2.4	2.1	2.3	22,414	2,351,368
7/20/06	IC-5	2.2	2.4	2.4	2.1	2.3	24,948	2,376,316
7/20/06	IC-6	2.4	2.3	2.3	2.4	2.4	20,593	2,396,909
7/20/06	IC-7	2.4	2.2	2.3	2.3	2.3	17,289	2,414,198
7/20/06	IC-8	2.2	1.8	2.2	2.3	2.1	12,441	2,426,639
7/20/06	IC-16	2.3	2.2	2.4	2.3	2.3	17,436	2,444,075
7/20/06	IC-17	2.3	2.3	2.3	2.4	2.3	21,649	2,465,724
7/20/06	IC-18	2.4	2.3	2.4	2.4	2.4	22,606	2,488,330
7/20/06	IC-19	2.1	2.4	2.4	2.1	2.3	25,871	2,514,201
7/20/06	EC-48	1.7	2.2	2.1	1.5	1.9	15,390	2,529,591
7/20/06	EC-49	2.3	2.4	2.3	2.3	2.3	16,448	2,546,039
7/20/06	EC-50	2.4	2.4	2.4	2.3	2.4	21,163	2,567,202
7/20/06	EC-51	2.4	2.4	2.3	2.4	2.4	16,888	2,584,090
7/20/06	EC-58	2.4	2.3	2.4	2.4	2.4	18,785	2,602,875
7/20/06	EC-59	2.3	2.4	2.4	2.4	2.4	16,222	2,619,097
7/20/06	EC-60	2.3	2.3	2.4	2.4	2.4	18,261	2,637,358
7/20/06	EC-61	1.5	2.1	2.1	1.9	1.9	15,234	2,652,592
7/24/06	IC-1	1.5	1.1	2.4	2.0	1.8	12,452	2,665,044
7/24/06	IC-4	2.3	2.4	2.4	2.2	2.3	21,064	2,686,108
7/24/06	EC-7	1.6	1.5	2.0	1.5	1.7	9,017	2,695,125
7/24/06	EC-8	1.1	1.8	2.1	2.4	1.9	8,393	2,703,518
7/24/06	EC-16	2.4	2.1	2.4	2.4	2.3	19,849	2,723,367
7/24/06	EC-17	2.0	2.4	2.4	2.2	2.3	19,321	2,742,688
7/24/06	EC-18	1.5	2.0	2.2	1.9	1.9	13,915	2,756,603
7/24/06	EC-19	1.9	2.2	2.3	1.9	2.1	13,852	2,770,455
7/24/06	EC-20	2.2	2.4	2.4	2.3	2.3	21,647	2,792,102
7/24/06	EC-21	2.4	2.4	2.2	2.4	2.4	24,866	2,816,968
7/24/06	EC-46	2.4	2.2	2.3	2.4	2.3	22,467	2,839,435
7/24/06	EC-47	1.9	2.3	2.2	1.7	2.0	9,440	2,848,875
	AVG.	2.1	2.1	2.2	2.2	2.2		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE CELL PAY ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 5		2.1	2.1	2.2	2.2	2.2	2,848,875	2,848,875
8/1/06	IC- 2	2.2	2.2	1.9	2.4	2.2	7,426	2,856,301
8/1/06	IC- 3	2.4	1.9	2.1	2.4	2.2	8,815	2,865,116
8/1/06	IC- 9	2.0	2.3	2.4	2.0	2.2	19,227	2,884,343
8/1/06	IC-14	2.0	2.4	2.4	2.4	2.3	28,336	2,912,679
8/1/06	IC-15	2.2	2.0	2.4	2.4	2.3	18,953	2,931,632
8/1/06	EC- 1	1.2	0.0	1.3	2.1	1.5	12,332	2,943,964
8/1/06	EC- 2	1.2	1.2	2.1	1.7	1.6	8,612	2,952,576
8/1/06	EC- 3	1.1	1.2	1.7	1.8	1.5	6,698	2,959,274
8/1/06	EC- 4	1.3	1.1	1.8	1.1	1.3	4,049	2,963,323
8/1/06	EC- 5	1.3	1.3	1.1	1.5	1.3	4,391	2,967,714
8/1/06	EC- 6	1.3	1.3	1.5	1.6	1.4	1,374	2,969,088
8/1/06	EC- 9	1.8	1.7	2.0	2.1	1.9	12,335	2,981,423
8/1/06	EC-10	1.7	2.1	2.2	2.0	2.0	12,056	2,993,479
8/1/06	EC-11	2.1	1.3	2.2	2.2	2.0	5,188	2,998,667
8/1/06	EC-13	0.0	0.0	0.0	1.9	1.9	500	2,999,167
8/1/06	EC-14	2.0	2.2	2.4	2.4	2.3	12,150	3,011,317
8/1/06	EC-15	2.1	2.0	2.4	2.4	2.2	20,600	3,031,917
8/1/06	EC-22	2.4	2.4	2.4	2.2	2.4	15,563	3,047,480
8/1/06	EC-23	2.4	2.4	2.4	2.4	2.4	12,718	3,060,198
8/1/06	EC-24	1.9	0.0	1.4	2.1	1.8	5,865	3,066,063
8/1/06	EC-25	1.1	0.0	1.0	1.4	1.2	871	3,066,934
8/1/06	EC-41	1.4	1.0	1.4	2.2	1.5	6,662	3,073,596
8/1/06	EC-42	2.1	1.4	2.2	2.4	2.0	13,282	3,086,878
8/1/06	EC-43	2.4	2.1	2.4	2.4	2.3	16,337	3,103,215
8/1/06	EC-44	2.4	2.4	2.4	2.4	2.4	23,367	3,126,582
8/1/06	EC-45	2.2	2.4	2.4	2.3	2.3	20,288	3,146,870
8/1/06	EC-52	1.8	2.0	2.0	2.2	2.0	18,251	3,165,121
	AVG.	1.9	1.9	2.0	2.1	1.9		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE IN PLACE CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
5/11/06	IC-64	1.8	2.6	2.5	2.0	2.2	36,441	36,441
5/11/06	IC-65	2.6	3.1	2.4	2.5	2.7	43,465	79,906
5/11/06	IC-78	2.5	2.4	1.5	1.8	2.1	36,084	115,990
5/11/06	EC-78	1.4	1.8	2.0	1.4	1.7	15,996	131,986
5/11/06	IC-79	2.0	2.5	1.8	1.9	2.1	35,623	167,609
5/11/06	IC-80	2.0	1.9	1.9	1.8	1.9	11,700	179,309
5/11/06	EC-91	1.4	2.0	1.9	2.0	1.8	18,396	197,705
5/11/06	EC-92	1.9	1.8	1.5	1.9	1.8	10,719	208,424
5/11/06	EC-93	1.8	1.5	1.9	1.5	1.7	14,460	222,884
6/18/06	IC-59	2.5	2.4	3.0	3.4	2.8	27,805	250,689
6/18/06	IC-60	2.7	2.5	3.4	3.3	3.0	22,260	272,949
6/18/06	IC-61	2.7	2.7	3.3	3.4	3.0	26,970	299,919
6/18/06	IC-62	3.3	2.7	3.4	2.8	3.1	28,323	328,242
6/18/06	IC-66	2.8	3.4	3.0	2.5	2.9	22,621	350,863
6/18/06	IC-67	3.4	3.3	2.9	3.0	3.2	24,661	375,524
6/18/06	IC-68	3.3	3.4	3.1	2.9	3.2	19,854	395,378
6/18/06	IC-69	3.4	3.0	2.4	3.1	3.0	28,465	423,843
6/18/06	IC-77	3.0	2.9	1.9	2.3	2.5	22,345	446,188
6/18/06	EC-75	3.2	3.3	2.8	3.1	3.1	42,672	488,860
6/18/06	EC-79	3.1	2.8	2.5	2.4	2.7	35,468	524,328
6/18/06	EC-87	3.1	2.4	2.6	2.1	2.6	21,972	546,300
6/18/06	EC-88	2.9	3.1	2.1	1.9	2.5	22,404	568,704
6/18/06	EC-89	2.5	3.0	2.3	2.0	2.5	13,814	582,518
6/18/06	EC-90	2.4	2.5	2.0	1.5	2.1	23,782	606,300
6/18/06	EC-94	1.5	2.0	1.9	1.9	1.8	8,083	614,383
6/27/06	IC-34	2.1	2.5	2.9	2.5	2.5	24,066	638,449
6/27/06	IC-35	2.7	2.1	2.5	2.3	2.4	21,693	660,142
6/27/06	IC-36	2.7	2.7	2.3	2.8	2.6	28,415	688,557
6/27/06	IC-37	3.0	2.7	2.8	3.0	2.9	35,783	724,340
6/27/06	IC-38	2.8	3.0	3.0	3.8	3.2	38,144	762,484
6/27/06	IC-39	2.8	2.8	3.8	3.7	3.3	32,390	794,874
6/27/06	IC-40	3.1	2.8	3.7	3.3	3.2	29,831	824,705
6/27/06	IC-41	2.4	3.1	3.3	3.0	3.0	24,077	848,782
6/27/06	IC-42	3.3	3.7	3.3	3.2	3.4	46,746	895,528
6/27/06	IC-43	3.7	3.8	2.7	3.3	3.4	36,934	932,462
6/27/06	IC-44	3.8	3.0	2.7	2.7	3.1	34,806	967,268
6/27/06	IC-45	3.0	2.8	2.5	2.7	2.8	30,727	997,995
	AVG.	2.7	2.7	2.6	2.6	2.6		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE IN PLACE CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 2		2.2	2.3	2.2	2.2	2.2	997,995	997,995
6/27/06	IC-46	2.8	2.3	2.4	2.5	2.5	28,984	1,026,979
6/27/06	IC-47	2.3	2.5	3.1	2.4	2.6	27,175	1,054,154
6/27/06	IC-63	1.9	2.5	2.6	1.8	2.2	25,563	1,079,717
6/27/06	EC-68	2.1	2.4	3.0	2.1	2.4	17,935	1,097,652
6/27/06	EC-69	2.0	2.1	2.1	1.8	2.0	9,108	1,106,760
6/27/06	EC-70	1.8	2.1	1.9	1.7	1.9	10,290	1,117,050
6/27/06	EC-71	2.1	3.0	2.5	1.9	2.4	21,361	1,138,411
6/27/06	EC-72	3.0	3.3	3.2	2.5	3.0	36,547	1,174,958
6/27/06	EC-76	2.5	3.2	3.1	2.6	2.9	44,656	1,219,614
6/27/06	EC-77	1.7	1.9	1.8	1.4	1.7	10,423	1,230,037
6/28/06	IC-20	2.8	2.5	3.1	2.4	2.7	25,181	1,255,218
6/28/06	IC-21	2.5	2.6	2.8	3.1	2.8	21,406	1,276,624
6/28/06	IC-22	2.6	2.4	2.8	2.8	2.7	20,812	1,297,436
6/28/06	IC-23	2.4	2.6	3.0	2.8	2.7	32,891	1,330,327
6/28/06	IC-24	2.6	2.3	2.7	3.0	2.7	31,312	1,361,639
6/28/06	IC-33	2.5	2.7	3.1	2.9	2.8	35,685	1,397,324
6/28/06	IC-48	2.5	2.9	2.6	3.1	2.8	26,996	1,424,320
6/28/06	IC-49	2.9	3.1	3.1	2.6	2.9	33,424	1,457,744
6/28/06	IC-56	2.6	3.1	2.9	2.6	2.8	28,435	1,486,179
6/28/06	IC-57	3.1	2.6	2.6	2.3	2.7	28,758	1,514,937
6/28/06	IC-58	2.4	2.4	2.3	2.4	2.4	27,190	1,542,127
6/28/06	IC-70	3.0	2.3	2.8	2.4	2.6	25,241	1,567,368
6/28/06	IC-71	2.3	2.6	2.9	2.8	2.7	20,851	1,588,219
6/28/06	IC-72	2.6	2.9	2.1	2.9	2.6	25,196	1,613,415
6/28/06	IC-75(167)	2.9	2.1	2.0	1.9	2.2	27,347	1,640,762
6/28/06	IC-76	2.8	2.9	1.9	2.0	2.4	17,834	1,658,596
6/28/06	EC-62	1.9	2.1	2.1	2.0	2.0	11,216	1,669,812
6/28/06	EC-63	2.1	2.8	2.4	2.1	2.4	22,007	1,691,819
6/28/06	EC-86	2.4	2.8	2.0	2.6	2.5	17,543	1,709,362
6/30/06	EC-64	2.6	1.8	1.6	2.4	2.1	20,099	1,729,461
6/30/06	EC-65	1.7	0.0	1.3	1.6	1.5	2,338	1,731,799
6/30/06	EC-66	1.6	1.3	1.3	2.5	1.7	12,518	1,744,317
6/30/06	EC-67	2.4	1.6	2.5	3.3	2.5	21,409	1,765,726
6/30/06	EC-73	2.5	1.3	1.2	1.8	1.7	12,744	1,778,470
6/30/06	EC-74	1.8	1.2	1.8	1.5	1.6	16,333	1,794,803
6/30/06	EC-80	1.5	1.8	0.9	2.1	1.6	17,608	1,812,411
6/30/06	EC-81	1.8	0.8	0.0	0.9	1.2	5,547	1,817,958
	AVG.	2.3	2.4	2.4	2.3	2.3		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE IN PLACE CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 3		2.2	2.2	2.1	2.1	2.1	1,817,958	1,817,958
6/30/06	EC-82	2.1	1.4	0.0	1.6	1.7	4,641	1,822,599
6/30/06	EC-83	2.5	2.1	1.6	1.8	2.0	21,085	1,843,684
6/30/06	EC-84	2.4	2.5	1.8	2.4	2.3	19,462	1,863,146
6/30/06	EC-85	2.1	2.4	2.4	2.0	2.2	18,278	1,881,424
6/30/06	IC-29	2.5	2.6	2.7	2.7	2.6	31,267	1,912,691
6/30/06	IC-30	2.6	2.6	2.4	2.7	2.6	30,527	1,943,218
6/30/06	IC-31	2.7	2.4	3.3	3.0	2.9	30,642	1,973,860
6/30/06	IC-32	2.7	2.7	3.0	3.1	2.9	37,640	2,011,500
6/30/06	IC-50	3.1	3.0	2.9	3.1	3.0	30,556	2,042,056
6/30/06	IC-51	3.0	3.3	2.6	2.9	3.0	29,629	2,071,685
6/30/06	IC-52	3.3	2.5	1.8	2.6	2.6	22,022	2,093,707
6/30/06	IC-53	2.6	1.8	1.5	2.7	2.2	19,645	2,113,352
6/30/06	IC-54	2.9	2.6	2.7	2.2	2.6	22,663	2,136,015
6/30/06	IC-55	3.1	2.9	2.2	2.9	2.8	23,903	2,159,918
6/30/06	IC-73	2.9	2.2	2.4	2.1	2.4	18,682	2,178,600
6/30/06	IC-74	2.2	2.7	2.5	2.4	2.5	23,850	2,202,450
6/30/06	IC-75(154)	2.7	1.5	2.1	2.5	2.2	27,347	2,229,797
7/3/06	IC-10	2.2	2.6	2.2	2.5	2.4	23,687	2,253,484
7/3/06	IC-11	2.5	2.2	2.6	2.6	2.5	33,713	2,287,197
7/3/06	IC-12	2.2	2.5	2.6	2.5	2.5	29,549	2,316,746
7/3/06	IC-13	2.4	2.2	2.5	2.4	2.4	14,279	2,331,025
7/3/06	IC-28	2.4	2.5	2.7	2.5	2.5	22,734	2,353,759
7/3/06	EC-26	0.0	1.6	1.3	0.0	1.5	1,931	2,355,690
7/3/06	EC-27	1.3	1.5	2.5	2.4	1.9	7,636	2,363,326
7/3/06	EC-28	1.5	1.9	2.2	2.5	2.0	14,520	2,377,846
7/3/06	EC-29	1.9	2.2	1.1	2.2	1.9	12,545	2,390,391
7/3/06	EC-30	2.2	1.8	1.4	1.1	1.6	7,417	2,397,808
7/3/06	EC-31	1.8	1.8	1.7	1.4	1.7	9,062	2,406,870
7/3/06	EC-32	1.8	1.3	1.8	1.7	1.7	5,418	2,412,288
7/3/06	EC-34	1.4	1.7	2.0	2.2	1.8	4,339	2,416,627
7/3/06	EC-35	1.1	1.4	2.2	2.0	1.7	4,656	2,421,283
7/3/06	EC-36	2.2	1.1	2.0	2.4	1.9	4,576	2,425,859
7/3/06	EC-37	2.5	2.2	2.4	2.3	2.4	9,728	2,435,587
7/3/06	EC-38	2.4	2.5	2.3	2.2	2.4	20,797	2,456,384
7/3/06	EC-39	2.0	2.4	2.2	2.6	2.3	20,375	2,476,759
7/3/06	EC-40	0.0	2.0	2.6	2.2	2.3	5,039	2,481,798
	AVG.	2.3	2.2	2.2	2.3	2.3		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE IN PLACE CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 4		2.2	2.1	2.1	2.1	2.1	2,481,798	2,481,798
7/3/06	EC-53	2.3	2.0	2.2	2.4	2.2	4,251	2,486,049
7/3/06	EC-54	2.0	2.0	2.5	2.2	2.2	14,764	2,500,813
7/3/06	EC-55	2.6	2.2	1.2	2.2	2.1	16,582	2,517,395
7/3/06	EC-56	1.2	1.2	0.0	1.5	1.3	1,603	2,518,998
7/3/06	EC-57	2.2	1.2	1.8	2.6	2.0	18,998	2,537,996
7/11/06	IC-25	2.3	2.7	2.7	2.7	2.6	23,751	2,561,747
7/11/06	IC-26	2.7	2.4	2.1	2.7	2.5	18,072	2,579,819
7/11/06	IC-27	2.4	2.4	2.5	2.1	2.4	23,340	2,603,159
7/20/06	IC-5	2.2	2.6	2.7	2.1	2.4	25,874	2,629,033
7/20/06	IC-6	2.6	2.3	2.3	2.7	2.5	21,519	2,650,552
7/20/06	IC-7	3.2	2.2	2.3	2.3	2.5	19,142	2,669,694
7/20/06	IC-8	2.2	1.8	2.2	2.3	2.1	12,441	2,682,135
7/20/06	IC-16	2.3	2.2	2.7	2.3	2.4	18,362	2,700,497
7/20/06	IC-17	2.3	2.3	2.3	2.6	2.4	22,576	2,723,073
7/20/06	IC-18	2.7	2.3	2.5	2.8	2.6	24,460	2,747,533
7/20/06	IC-19	2.1	2.7	2.8	2.1	2.4	26,798	2,774,331
7/20/06	EC-48	1.7	2.2	2.1	1.5	1.9	15,390	2,789,721
7/20/06	EC-49	2.3	3.0	2.3	2.3	2.5	18,299	2,808,020
7/20/06	EC-50	3.0	2.7	2.4	2.3	2.6	23,015	2,831,035
7/20/06	EC-51	2.7	3.2	2.3	2.4	2.7	19,667	2,850,702
7/20/06	EC-58	2.4	2.3	2.6	2.4	2.4	18,785	2,869,487
7/20/06	EC-59	2.3	2.4	2.4	2.6	2.4	16,222	2,885,709
7/20/06	EC-60	2.3	2.3	2.6	2.5	2.4	18,261	2,903,970
7/20/06	EC-61	1.5	2.1	2.1	1.9	1.9	15,234	2,919,204
7/24/06	IC-1	1.5	1.1	2.4	2.0	1.8	12,452	2,931,656
7/24/06	IC-4	2.3	2.6	2.6	2.2	2.4	21,990	2,953,646
7/24/06	EC-7	1.6	1.5	2.0	1.5	1.7	9,017	2,962,663
7/24/06	EC-8	1.1	1.8	2.1	2.4	1.9	8,393	2,971,056
7/24/06	EC-16	2.4	2.1	2.8	2.4	2.4	20,780	2,991,836
7/24/06	EC-17	2.0	2.4	2.4	2.2	2.3	19,321	3,011,157
7/24/06	EC-18	1.5	2.0	2.2	1.9	1.9	13,915	3,025,072
7/24/06	EC-19	1.9	2.2	2.3	1.9	2.1	13,852	3,038,924
7/24/06	EC-20	2.2	2.4	2.6	2.3	2.4	22,573	3,061,497
7/24/06	EC-21	2.4	2.8	2.2	2.6	2.5	25,793	3,087,290
7/24/06	EC-46	2.6	2.2	2.3	2.6	2.4	23,393	3,110,683
7/24/06	EC-47	1.9	2.3	2.2	1.7	2.0	9,440	3,120,123
	AVG.	2.2	2.2	2.3	2.3	2.2		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE IN PLACE CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 5		2.1	2.1	2.2	2.2	2.2	3,120,123	3,120,123
8/1/06	IC- 2	2.2	2.2	1.9	2.8	2.3	8,257	3,128,380
8/1/06	IC- 3	2.8	1.9	2.1	3.1	2.5	11,594	3,139,974
8/1/06	IC- 9	2.0	2.3	2.4	2.0	2.2	19,227	3,159,201
8/1/06	IC-14	2.0	2.4	2.4	2.4	2.3	28,336	3,187,537
8/1/06	IC-15	2.2	2.0	2.4	2.7	2.3	18,953	3,206,490
8/1/06	EC- 1	1.2	0.0	1.3	2.1	1.5	12,332	3,218,822
8/1/06	EC- 2	1.2	1.2	2.1	1.7	1.6	8,612	3,227,434
8/1/06	EC- 3	1.1	1.2	1.7	1.8	1.5	6,698	3,234,132
8/1/06	EC- 4	1.3	1.1	1.8	1.1	1.3	4,049	3,238,181
8/1/06	EC- 5	1.3	1.3	1.1	1.5	1.3	4,391	3,242,572
8/1/06	EC- 6	1.3	1.3	1.5	1.6	1.4	1,374	3,243,946
8/1/06	EC- 9	1.8	1.7	2.0	2.1	1.9	12,335	3,256,281
8/1/06	EC-10	1.7	2.1	2.2	2.0	2.0	12,056	3,268,337
8/1/06	EC-11	2.1	1.3	2.2	2.2	2.0	5,188	3,273,525
8/1/06	EC-13	2.2	0.0	1.1	1.9	1.9	500	3,274,025
8/1/06	EC-14	2.0	2.2	2.8	2.7	2.4	13,021	3,287,046
8/1/06	EC-15	2.1	2.0	2.7	2.8	2.4	22,460	3,309,506
8/1/06	EC-22	2.8	2.7	2.8	2.2	2.6	17,415	3,326,921
8/1/06	EC-23	2.7	2.8	3.1	2.8	2.9	17,350	3,344,271
8/1/06	EC-24	1.9	1.1	1.4	2.1	1.8	5,865	3,350,136
8/1/06	EC-25	1.1	0.0	1.0	1.4	1.2	871	3,351,007
8/1/06	EC-41	1.4	1.0	1.4	2.2	1.5	6,662	3,357,669
8/1/06	EC-42	2.1	1.4	2.2	3.2	2.2	15,135	3,372,804
8/1/06	EC-43	3.1	2.1	3.2	2.7	2.8	20,969	3,393,773
8/1/06	EC-44	2.8	3.1	2.7	3.0	2.9	27,999	3,421,772
8/1/06	EC-45	2.2	2.8	3.0	2.3	2.6	23,066	3,444,838
8/1/06	EC-52	1.8	2.0	2.0	2.2	2.0	18,251	3,463,089
	AVG.	1.9	1.9	2.1	2.2	2.0		

*Cell Quanities taken from Master Quanity Calculation Sheet!

LITTLE LAKE 9 MONTH POST CONSTRUCTION MONITORING CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
5/11/07	IC-64	1.0	1.2	0.6	0.8	0.9	24,399	24,399
5/11/07	IC-65	1.2	1.6	1.1	0.6	1.1	28,615	53,014
5/11/07	IC-78	0.6	1.1	0.8	0.9	0.9	24,995	78,009
5/11/07	EC-78	1.1	1.0	0.8	1.3	1.1	10,852	88,861
5/11/07	IC-79	0.8	0.6	0.9	0.9	0.8	24,569	113,430
5/11/07	IC-80	1.6	0.9	0.6	0.6	0.9	6,669	120,099
5/11/07	EC-91	1.3	0.8	0.9	1.6	1.1	12,432	132,531
5/11/07	EC-92	0.9	0.9	0.3	0.6	0.7	6,384	138,915
5/11/07	EC-93	0.9	0.8	0.7	0.3	0.7	11,114	150,029
5/11/07	IC-59	2.1	1.4	2.1	2.2	2.0	20,395	170,424
5/11/07	IC-60	1.0	2.1	2.2	2.9	2.1	13,923	184,347
	IC-61	1.4	1.0	2.9	3.1	2.1	18,633	202,980
3/20/07	IC-62	2.0	1.4	3.1	1.4	1.9	17,207	220,187
5/11/07	IC-66	1.4	3.1	2.7	1.9	2.3	17,063	237,250
5/11/07	IC-67	3.1	2.9	2.6	2.7	2.8	20,956	258,206
5/11/07	IC-68	2.9	2.2	2.5	2.6	2.6	14,296	272,502
5/11/07	IC-69	2.2	2.1	1.2	2.5	2.0	19,202	291,704
5/11/07	IC-77	2.7	2.6	1.0	1.7	2.0	17,723	309,427
3/20/07	EC-75	1.7	2.0	1.4	1.6	1.7	29,726	339,153
5/11/07	EC-79	1.6	1.4	1.9	1.1	1.5	24,374	363,527
5/11/07	EC-87	2.5	1.2	1.1	0.5	1.3	9,935	373,462
5/11/07	EC-88	2.6	2.5	0.5	1.0	1.6	14,078	387,540
5/11/07	EC-89	1.9	2.7	1.7	1.0	1.8	7,349	394,889
5/11/07	EC-90	1.1	1.9	1.0	0.8	1.2	15,495	410,384
5/11/07	EC-94	0.8	1.0	1.4	0.7	1.0	5,266	415,650
5/11/07	IC-34	1.7	1.7	0.7	2.2	1.6	15,729	431,379
5/11/07	IC-35	1.3	1.7	2.2	1.2	1.6	14,283	445,662
5/11/07	IC-36	1.9	1.3	1.2	2.2	1.6	19,152	464,814
5/11/07	IC-37	1.9	1.9	2.2	1.8	1.9	26,519	491,333
5/11/07	IC-38	2.1	1.9	1.8	3.0	2.2	28,881	520,214
5/11/07	IC-39	2.1	2.1	3.0	2.2	2.3	23,127	543,341
5/11/07	IC-40	2.4	2.1	2.2	2.1	2.2	20,580	563,921
5/11/07	IC-41	1.7	2.4	2.1	2.3	2.1	15,730	579,651
5/11/07	IC-42	2.1	2.2	2.0	1.7	2.0	33,797	613,448
5/11/07	IC-43	2.2	3.0	1.4	2.0	2.1	24,892	638,340
5/11/07	IC-44	3.0	1.8	1.0	1.4	1.8	22,764	661,104
5/11/07	IC-45	1.8	2.2	2.1	1.0	1.8	21,464	682,568
	AVG.	1.7	1.7	1.6	1.6	1.7		

*Cell Quanities taken from Master Quanity Calculation Sheet

LITTLE LAKE 9 MONTH POST CONSTRUCTION MONITORING CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 2		1.7	1.7	1.6	1.6	1.7	682,568	682,568
5/11/07	IC-46	2.2	1.2	1.4	2.1	1.7	21,574	704,142
5/11/07	IC-47	1.2	2.2	2.7	1.4	1.9	20,691	724,833
3/20/07	IC-63	1.1	1.8	1.2	1.0	1.3	17,227	742,060
5/11/07	EC-68	1.4	1.7	2.3	1.4	1.7	11,451	753,511
5/11/07	EC-69	1.4	1.4	1.4	1.5	1.4	3,964	757,475
5/11/07	EC-70	1.5	1.4	1.1	0.2	1.0	2,573	760,048
5/11/07	EC-71	1.4	2.3	1.8	1.1	1.6	13,951	773,999
5/11/07	EC-72	2.3	2.1	1.7	1.8	2.0	27,270	801,269
3/20/07	EC-76	1.8	1.7	1.6	1.2	1.6	32,592	833,861
	EC-77	0.2	1.1	1.0	1.1	0.8	3,564	837,425
5/11/07	IC-20	2.5	1.5	2.4	1.7	2.0	18,690	856,115
5/11/07	IC-21	1.5	1.2	2.1	2.4	1.8	12,152	868,267
5/11/07	IC-22	1.2	1.5	2.1	2.1	1.7	11,549	879,816
5/11/07	IC-23	1.5	1.9	1.9	2.1	1.8	24,554	904,370
5/11/07	IC-24	1.9	1.2	1.9	1.9	1.7	22,048	926,418
5/11/07	IC-33	1.7	0.9	2.0	0.7	1.3	21,822	948,240
5/11/07	IC-48	2.2	0.7	2.5	2.7	2.0	19,586	967,826
5/11/07	IC-49	0.7	2.0	1.9	2.5	1.8	23,251	991,077
5/11/07	IC-56	2.5	1.9	2.5	1.5	2.1	21,957	1,013,034
5/11/07	IC-57	2.7	2.5	1.5	0.8	1.9	21,347	1,034,381
5/11/07	IC-58	1.4	2.7	0.8	2.1	1.8	21,632	1,056,013
5/11/07	IC-70	2.1	0.8	2.4	1.2	1.6	15,978	1,071,991
5/11/07	IC-71	0.8	1.5	2.5	2.4	1.8	12,514	1,084,505
5/11/07	IC-72	1.5	2.5	1.1	2.5	1.9	18,714	1,103,219
5/11/07	IC-75(167)	2.5	1.1	0.7	0.9	1.3	18,589	1,121,808
5/11/07	IC-76	2.4	2.5	0.9	1.4	1.8	12,465	1,134,273
5/11/07	EC-62	1.3	1.4	1.4	1.4	1.4	6,072	1,140,345
5/11/07	EC-63	1.4	2.5	1.7	1.4	1.7	15,523	1,155,868
5/11/07	EC-86	1.2	2.4	1.4	1.1	1.5	8,280	1,164,148
5/16/07	EC-64	1.6	1.3	1.0	1.4	1.3	13,115	1,177,263
5/16/07	EC-65	1.5	0.0	1.5	1.0	1.3	1,961	1,179,224
5/16/07	EC-66	1.0	1.5	1.3	1.3	1.3	9,645	1,188,869
5/16/07	EC-67	1.4	1.0	1.3	2.3	1.5	12,146	1,201,015
5/16/07	EC-73	1.3	1.3	1.0	1.7	1.3	9,066	1,210,081
5/11/07	EC-74	1.7	1.0	1.3	1.3	1.3	13,554	1,223,635
5/11/07	EC-80	1.3	1.3	1.0	1.1	1.2	14,801	1,238,436
5/11/07	EC-81	1.3	0.2	0.0	1.0	0.8	4,806	1,243,242
	AVG.	1.6	1.6	1.6	1.5	1.6		

*Cell Quanities taken from Master Quanity Calculation Sheet

LITTLE LAKE 9 MONTH POST CONSTRUCTION MONITORING CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION				CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
		A	B	C	D			
SHEET 3		1.6	1.6	1.6	1.5	1.6	1,243,242	1,243,242
5/11/07	EC-82	1.1	0.4	0.0	-0.3	0.4	3,141	1,246,383
5/11/07	EC-83	1.2	1.1	-0.3	0.1	0.5	12,501	1,258,884
5/11/07	EC-84	1.4	1.2	0.1	0.8	0.9	8,235	1,267,119
5/11/07	EC-85	1.1	1.4	0.8	0.7	1.0	8,683	1,275,802
5/11/07	IC-29	2.2	1.1	1.3	0.9	1.4	20,118	1,295,920
5/16/07	IC-30	1.1	1.6	1.4	1.3	1.3	18,485	1,314,405
5/16/07	IC-31	1.3	1.4	2.3	1.9	1.7	19,526	1,333,931
5/11/07	IC-32	0.9	1.3	1.9	2.0	1.6	25,570	1,359,501
5/11/07	IC-50	2.0	1.9	2.4	1.9	2.1	22,206	1,381,707
5/16/07	IC-51	1.9	2.3	1.9	2.4	2.1	21,292	1,402,999
5/16/07	IC-52	2.3	1.3	1.7	1.9	1.8	14,612	1,417,611
5/11/07	IC-53	1.9	1.7	1.3	1.8	1.6	14,087	1,431,698
5/11/07	IC-54	2.4	1.9	1.8	1.0	1.8	15,252	1,446,950
5/11/07	IC-55	1.9	2.4	1.0	2.5	1.9	15,558	1,462,508
5/11/07	IC-73	2.5	1.0	1.4	1.1	1.5	10,343	1,472,851
5/11/07	IC-74	1.0	1.8	1.2	1.4	1.3	12,734	1,485,585
5/11/07	IC-75(154)	1.8	1.3	1.1	1.2	1.3	19,010	1,504,595
	IC-10	1.9	1.9	1.6	1.0	1.6	16,560	1,521,155
5/16/07	IC-11	1.0	1.6	1.6	1.1	1.3	22,598	1,543,753
5/11/07	IC-12	1.0	1.0	1.1	2.2	1.3	18,393	1,562,146
5/11/07	IC-13	1.3	2.0	2.2	1.3	1.7	7,819	1,569,965
5/11/07	IC-28	1.3	2.2	0.9	1.7	1.5	13,498	1,583,463
	EC-26	0.0	1.6	1.3	0.0	1.4	1,783	1,585,246
5/16/07	EC-27	1.3	1.5	2.5	1.8	1.8	6,818	1,592,064
5/16/07	EC-28	1.5	0.1	1.7	2.5	1.5	9,889	1,601,953
5/16/07	EC-29	0.1	1.1	-0.8	1.7	0.5	3,565	1,605,518
5/16/07	EC-30	1.1	1.3	0.1	-0.8	0.4	1,935	1,607,453
5/16/07	EC-31	1.3	1.3	0.9	0.1	0.9	2,861	1,610,314
5/16/07	EC-32	1.3	0.0	1.0	0.9	0.8	919	1,611,233
5/16/07	EC-34	0.1	0.9	1.0	1.5	0.9	1,963	1,613,196
5/16/07	EC-35	-0.8	0.1	1.5	1.8	0.6	2,309	1,615,505
5/16/07	EC-36	1.7	-0.8	1.8	2.0	1.2	2,691	1,618,196
5/16/07	EC-37	2.5	1.7	2.0	2.3	2.1	8,625	1,626,821
5/16/07	EC-38	1.8	2.5	2.3	0.8	1.8	15,396	1,642,217
5/16/07	EC-39	1.8	1.8	0.8	1.9	1.6	14,246	1,656,463
5/16/07	EC-40	0.0	1.8	1.9	1.9	1.9	3,822	1,660,285
	AVG.	1.4	1.4	1.3	1.4	1.4		

*Cell Quanities taken from Master Quanity Calculation Sheet

LITTLE LAKE 9 MONTH POST CONSTRUCTION MONITORING CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION				CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
		A	B	C	D			
SHEET 4		1.4	1.4	1.3	1.4	1.4	1,660,285	1,660,285
	EC-53	1.7	1.7	2.0	1.3	1.7	2,440	1,662,725
	EC-54	1.7	1.5	1.0	2.0	1.5	11,094	1,673,819
	EC-55	1.9	0.8	-0.4	1.6	1.0	6,589	1,680,408
5/16/07	EC-56	-0.4	-0.3	0.0	1.2	0.2	792	1,681,200
5/16/07	EC-57	1.6	-0.4	1.3	1.6	1.0	9,735	1,690,935
5/11/07	IC-25	1.2	2.2	1.3	1.9	1.7	15,414	1,706,349
5/11/07	IC-26	2.2	1.6	1.7	1.3	1.7	10,662	1,717,011
5/11/07	IC-27	1.6	1.3	1.7	1.7	1.5	15,003	1,732,014
	IC-5	1.1	1.3	1.9	1.2	1.4	16,611	1,748,625
	IC-6	1.3	0.6	2.1	1.9	1.5	12,251	1,760,876
	IC-7	2.4	2.1	1.9	2.0	2.1	15,436	1,776,312
	IC-8	2.1	1.5	2.1	1.9	1.9	10,588	1,786,900
5/11/07	IC-16	1.9	2.1	2.2	1.2	1.9	13,730	1,800,630
5/11/07	IC-17	2.0	1.9	1.2	1.9	1.7	16,092	1,816,722
5/11/07	IC-18	1.9	2.1	1.5	2.5	2.0	18,898	1,835,620
5/11/07	IC-19	1.2	1.9	2.5	1.4	1.8	21,240	1,856,860
	EC-48	1.5	1.1	1.2	1.3	1.3	10,246	1,867,106
	EC-49	0.6	2.0	0.8	2.1	1.4	8,116	1,875,222
	EC-50	2.0	1.2	1.5	0.8	1.3	10,973	1,886,195
	EC-51	1.2	2.4	2.0	1.5	1.7	404	1,886,599
5/11/07	EC-58	1.5	2.0	1.9	1.5	1.7	12,301	1,898,900
5/11/07	EC-59	0.8	1.5	1.5	1.2	1.2	5,106	1,904,006
5/11/07	EC-60	2.1	0.8	1.2	1.5	1.4	9,005	1,913,011
5/11/07	EC-61	1.3	1.2	1.4	1.3	1.3	10,090	1,923,101
5/16/07	IC-1	1.3	0.8	2.1	0.8	1.3	7,820	1,930,921
5/16/07	IC-4	1.7	1.4	1.3	1.1	1.4	12,727	1,943,648
5/16/07	EC-7	1.4	1.3	0.8	1.2	1.2	4,730	1,948,378
5/16/07	EC-8	0.8	1.6	1.9	2.1	1.6	5,616	1,953,994
5/16/07	EC-16	2.1	1.9	2.0	2.0	2.0	17,055	1,971,049
5/16/07	EC-17	0.8	2.1	2.0	1.9	1.7	13,725	1,984,774
5/16/07	EC-18	1.2	0.8	1.9	1.7	1.4	9,592	1,994,366
5/16/07	EC-19	1.7	1.9	1.7	1.4	1.6	9,566	2,003,932
5/16/07	EC-20	1.9	2.0	1.4	1.7	1.7	16,089	2,020,021
5/16/07	EC-21	2.0	2.0	0.7	1.4	1.6	17,455	2,037,476
5/16/07	EC-46	1.4	0.7	0.6	1.3	1.0	10,420	2,047,896
5/16/07	EC-47	1.4	1.7	1.1	1.5	1.4	4,296	2,052,192
	AVG.	1.5	1.4	1.5	1.5	1.5		

*Cell Quanities taken from Master Quanity Calculation Sheet

LITTLE LAKE 9 MONTH POST CONSTRUCTION MONITORING CELL ELEVATIONS

DATE	CELL NAME	POINT ELEVATION A	B	C	D	CELL AVERAGE	C.Y. QUANITY	ACCUMULATED C.Y. QUANITY
SHEET 5		1.5	1.4	1.5	1.5	1.5	2,052,192	2,052,192
5/16/07	IC- 2	1.6	2.0	2.1	2.7	2.1	6,596	2,058,788
5/16/07	IC- 3	2.7	2.1	2.0	2.6	2.3	9,741	2,068,529
	IC- 9	1.6	1.7	1.3	0.8	1.3	14,693	2,083,222
5/11/07	IC-14	0.8	1.3	1.3	1.6	1.2	18,146	2,101,368
5/11/07	IC-15	2.1	0.8	1.6	2.2	1.7	13,395	2,114,763
5/16/07	EC- 1	1.4	0.0	1.3	1.6	1.4	11,514	2,126,277
5/16/07	EC- 2	0.9	1.4	1.6	1.0	1.2	3,689	2,129,966
5/16/07	EC- 3	1.0	0.9	1.0	1.6	1.1	2,600	2,132,566
5/16/07	EC- 4	1.3	1.0	1.6	0.8	1.2	3,074	2,135,640
5/16/07	EC- 5	1.4	1.3	0.8	1.3	1.2	3,240	2,138,880
5/16/07	EC- 6	1.2	1.4	1.5	1.6	1.4	1,374	2,140,254
5/16/07	EC- 9	1.6	1.0	1.5	1.9	1.5	8,628	2,148,882
5/16/07	EC-10	1.0	1.6	1.6	1.5	1.4	6,498	2,155,380
5/16/07	EC-11	1.6	1.1	2.0	1.6	1.6	2,708	2,158,088
5/16/07	EC-13	2.0	0.0	1.1	2.1	2.1	561	2,158,649
5/16/07	EC-14	1.5	1.6	2.7	2.4	2.1	10,409	2,169,058
5/16/07	EC-15	1.9	1.5	2.4	2.0	2.0	18,740	2,187,798
5/16/07	EC-22	2.0	2.4	2.9	0.7	2.0	11,858	2,199,656
5/16/07	EC-23	2.4	2.7	2.6	2.9	2.6	14,571	2,214,227
5/16/07	EC-24	2.1	1.1	1.6	2.0	1.9	6,592	2,220,819
5/16/07	EC-25	1.1	0.0	1.4	1.6	1.4	1,035	2,221,854
5/16/07	EC-41	1.6	1.4	1.5	2.1	1.7	7,942	2,229,796
5/16/07	EC-42	2.0	1.4	2.1	2.4	2.0	13,282	2,243,078
5/16/07	EC-43	2.6	2.0	2.4	1.2	2.0	13,558	2,256,636
5/16/07	EC-44	2.9	2.6	1.2	2.0	2.2	21,514	2,278,150
5/16/07	EC-45	0.7	2.9	2.0	0.6	1.6	13,806	2,291,956
	EC-52	1.9	1.6	0.8	2.1	1.6	15,506	2,307,462
	AVG.	1.7	1.6	1.7	1.7	1.7		

*Cell Quanities taken from Master Quanity Calculation Sheet

Little Lake Stake Elevations

NAME	INITIAL DATE	ELEVATION	14 DAY DATE	ELEVATION	28 DAY DATE	ELEVATION
CORNER NORTH	7/4/06	1.4	7/18/06	1.4	8/1/06	1.3
BL,11	6/26/06	1.9	7/10/06	1.9	7/24/06	1.6
BL,12A	6/26/06	1.8	7/10/06	1.6	7/24/06	1.5
BL,12	6/26/06	2.5	7/10/06	2.2	7/24/06	1.9
BL,13A	6/26/06	2.5	7/10/06	2.2	7/24/06	1.9
BL,13	6/22/06	1.7	7/6/06	1.8	7/20/06	1.7
BL,14A	6/22/06	2.0	7/6/06	1.8	7/20/06	1.5
BL,14	5/31/06	1.2	6/14/06	1.3	6/28/06	1.9
BL,15A	5/30/06	2.1	6/13/06	1.9	6/27/06	2.0
BL,15	5/30/06	1.8	6/13/06	1.8	6/27/06	1.8
BL,16A	5/30/06	1.0	6/13/06	1.2	6/27/06	1.7
BL,16	4/13/06	1.5	4/27/06	1.5	5/11/06	1.4
BL,17A	4/13/06	1.4	4/27/06	1.4	5/11/06	1.4
BL,17	4/13/06	2.4	4/27/06	2.2	5/11/06	2.0
CORNER SOUTH	4/13/06	2.4	4/27/06	1.9	5/11/06	1.8
LINE 1A NORTH	7/4/06	1.4	7/18/06	1.0	8/1/06	1.3
1A,11	6/26/06	1.9	7/10/06	1.9	7/24/06	1.5
1A,12A	6/26/06	2.1	7/10/06	2.0	7/24/06	2.0
1A,12	6/26/06	3.2	7/10/06	2.8	7/24/06	2.2
1A,13A	6/26/06	2.6	7/10/06	2.6	7/24/06	2.3
1A,13	6/22/06	2.6	7/6/06	2.4	7/20/06	2.2
1A,14A	6/22/06	2.4	7/6/06	2.3	7/20/06	2.1
1A,14	5/31/06	2.2	6/14/06	2.0	6/28/06	2.1
1A,15A	5/30/06	2.3	6/13/06	2.1	6/27/06	2.1
1A,15	5/30/06	2.4	6/13/06	2.1	6/27/06	2.1
1A,16A	5/30/06	1.6	6/13/06	2.1	6/27/06	1.9
1A,16	4/13/06	2.4	4/27/06	2.0	5/11/06	1.8
1A,17A	4/13/06	2.7	4/27/06	2.3	5/11/06	2.0
1A,17	4/13/06	2.4	4/27/06	2.3	5/11/06	1.9
LINE 1A SOUTH	4/13/06	NONE	4/27/06	1.9	5/11/06	1.9
LINE 1 NORTH	7/4/06	1.3	7/18/06	1.2	8/1/06	1.3
1,11	6/26/06	1.3	7/10/06	1.3	7/24/06	1.1
1,12A	6/26/06	3.0	7/10/06	2.7	7/24/06	2.4
1,12	6/26/06	3.2	7/10/06	2.9	7/24/06	2.4
1,13A	6/26/06	3.2	7/10/06	2.9	7/24/06	2.6
1,13	6/22/06	3.8	7/6/06	3.2	7/20/06	2.6
1,14A	6/22/06	3.3	7/6/06	3.0	7/20/06	2.7
1,14	5/31/06	3.2	6/14/06	3.2	6/28/06	2.8
1,15A	5/30/06	3.1	6/13/06	2.8	6/27/06	2.4
1,15	5/30/06	3.5	6/13/06	3.4	6/27/06	3.0
1,16A	5/30/06	3.1	6/13/06	2.9	6/27/06	2.5
1,16	4/13/06	3.3	4/27/06	3.0	5/11/06	2.6
1,17A	4/13/06	3.0	4/27/06	2.8	5/11/06	2.5
1,17	4/13/06	2.5	4/27/06	2.2	5/11/06	1.8
LINE 1 SOUTH	4/13/06	NONE	4/27/06	2.1	5/11/06	1.5

NAME	INITIAL DATE	ELEVATION	14 DAY DATE	ELEVATION	28 DAY DATE	ELEVATION
LINE 2A NORTH	7/4/06	1.3	7/18/06	1.1	8/1/06	1.1
2A,11	6/26/06	2.0	7/10/06	2.0	7/24/06	1.8
2A,12A	6/26/06	2.2	7/10/06	2.3	7/24/06	2.1
2A,12	6/26/06	3.2	7/10/06	3.0	7/24/06	2.8
2A,13A	6/26/06	3.0	7/10/06	2.6	7/24/06	2.2
2A,13	6/22/06	3.1	7/6/06	2.8	7/20/06	2.3
2A,14A	6/22/06	3.5	7/6/06	3.0	7/20/06	2.3
2A,14	5/31/06	2.7	6/14/06	2.8	6/28/06	2.5
2A,15A	5/30/06	3.4	6/13/06	3.2	6/27/06	3.1
2A,15	5/30/06	4.1	6/13/06	3.7	6/27/06	3.3
2A,16A	5/21/06	4.0	6/4/06	3.7	6/18/06	3.2
2A,16	4/13/06	3.8	4/27/06	3.5	5/11/06	3.1
2A,17A	4/13/06	3.0	4/27/06	2.8	5/11/06	2.4
2A,17	4/13/06	2.4	4/27/06	2.1	5/11/06	1.5
LINE 2A SOUTH	4/13/06	NONE	4/27/06	1.7	5/11/06	1.9
LINE 2 NORTH	7/4/06	1.6	7/18/06	1.5	8/1/06	1.2
2,11	7/4/06	2.3	7/18/06	1.8	8/1/06	1.7
2,12A	7/4/06	2.6	7/18/06	2.3	8/1/06	2.0
2,12	7/4/06	3.1	7/18/06	2.9	8/1/06	2.7
2,13A	7/4/06	3.5	7/18/06	3.5	8/1/06	2.8
2,13	6/22/06	3.5	7/6/06	3.2	7/20/06	3.0
2,14A	6/22/06	2.6	7/6/06	2.4	7/20/06	2.3
2,14	5/31/06	3.0	6/14/06	2.8	6/28/06	2.6
2,15A	5/30/06	3.4	6/13/06	3.0	6/27/06	2.8
2,15	5/30/06	4.3	6/13/06	3.9	6/27/06	3.7
2,16A	5/21/06	4.0	6/4/06	3.6	6/18/06	3.3
2,16	5/21/06	3.4	6/4/06	3.0	6/18/06	2.8
2,17A	5/21/06	3.1	6/4/06	2.9	6/18/06	2.5
2,17	5/21/06	1.6	6/4/06	1.7	6/18/06	2.0
LINE 2 SOUTH	5/21/06	1.9	6/4/06	1.9	6/18/06	1.9
LINE 3A NORTH	7/4/06	1.4	7/18/06	1.5	8/1/06	1.2
3A,11	7/4/06	2.5	7/18/06	2.2	8/1/06	2.1
3A,12A	7/4/06	2.6	7/18/06	2.4	8/1/06	2.2
3A,12	7/4/06	3.2	7/18/06	3.1	8/1/06	2.8
3A,13A	7/4/06	3.5	7/18/06	3.3	8/1/06	3.1
3A,13	6/22/06	3.4	7/6/06	3.0	7/20/06	2.7
3A,14A	6/22/06	2.6	7/6/06	2.4	7/20/06	2.4
3A,14	5/31/06	2.8	6/14/06	2.8	6/28/06	2.4
3A,15A	5/30/06	3.5	6/13/06	3.3	6/27/06	2.8
3A,15	5/30/06	4.4	6/13/06	4.2	6/27/06	3.8
3A,16A	5/21/06	3.9	6/4/06	3.2	6/18/06	2.7
3A,16	5/21/06	4.1	6/4/06	4.0	6/18/06	3.4
3A,17A	5/21/06	3.4	6/4/06	3.3	6/18/06	3.0
3A,17	5/21/06	2.2	6/4/06	2.1	6/18/06	2.3

NAME	INITIAL DATE	ELEVATION	14 DAY DATE	ELEVATION	28 DAY DATE	ELEVATION
LINE 11 EC-1,11	7/4/06	1.8	7/18/06	1.5	8/1/06	1.3
LINE 12A EC-11	7/4/06	2.4	7/18/06	2.3	8/1/06	2.2
LINE 3 NORTH	none	none				
LINE 12 EC-13	none	none				
3,12	7/4/06	2.6	7/18/06	2.5	8/1/06	1.9
3,13A	7/4/06	2.6	7/18/06	2.4	8/1/06	2.1
3,13	6/22/06	2.5	7/6/06	3.0	7/20/06	3.2
3,14A	6/22/06	2.6	7/6/06	2.6	7/20/06	2.3
3,14	5/31/06	3.6	6/14/06	3.4	6/28/06	2.6
3,15A	5/30/06	4.3	6/13/06	3.6	6/27/06	3.0
3,15	5/30/06	3.7	6/13/06	3.4	6/27/06	3.0
3,16A	5/21/06	3.4	6/4/06	2.9	6/18/06	2.7
3,16	5/21/06	4.7	6/4/06	3.5	6/18/06	3.3
3,17A	5/21/06	3.5	6/4/06	3.3	6/18/06	2.9
3,17	5/21/06	1.4	6/4/06	1.9	6/18/06	1.9
LINE 4A NORTH	7/4/06	1.7	7/18/06	1.4	8/1/06	1.1
LINE 13A EC-25	7/4/06	1.7	7/18/06	1.6	8/1/06	1.0
4A,13A	7/4/06	2.1	7/18/06	1.7	8/1/06	1.4
4A,13	6/22/06	1.8	7/6/06	2.0	7/20/06	2.2
4A,14A	6/22/06	2.4	7/6/06	2.4	7/20/06	2.3
4A,14	5/31/06	2.6	6/14/06	2.5	6/28/06	2.3
4A,15A	5/30/06	3.5	6/13/06	3.3	6/27/06	2.7
4A,15	5/30/06	3.6	6/13/06	3.4	6/27/06	2.8
4A,16A	5/21/06	3.2	6/4/06	2.9	6/18/06	2.5
4A,16	5/21/06	3.6	6/4/06	3.4	6/18/06	3.4
4A,17A	5/21/06	3.3	6/4/06	3.2	6/18/06	3.1
4A,17	5/21/06	2.3	6/4/06	2.1	6/18/06	2.1
LINE 13 IC-8	7/4/06	1.9	7/18/06	1.8	8/1/06	1.4
LINE 4 NORTH	6/22/06	2.3	7/6/06	2.2	7/20/06	1.8
4,14A	6/22/06	2.6	7/6/06	2.4	7/20/06	2.2
4,14	6/13/06	3.0	6/27/06	2.8	7/11/06	2.7
4,15A	5/30/06	3.4	6/13/06	3.2	6/27/06	2.7
4,15	5/30/06	2.5	6/13/06	2.4	6/27/06	2.3
4,16A	5/21/06	2.7	6/4/06	3.0	6/18/06	2.4
4,16	5/21/06	3.5	6/4/06	3.0	6/18/06	3.0
4,17A	5/21/06	2.9	6/4/06	2.7	6/18/06	2.4
4,17	5/21/06	3.0	6/4/06	2.9	6/18/06	2.6
LINE 5A NORTH	7/4/06	2.6	7/18/06	2.3	8/1/06	2.0
5A,14A	7/4/06	2.7	7/18/06	2.3	8/1/06	2.0
5A,14	6/13/06	2.1	6/27/06	2.1	7/11/06	2.4
5A,15A	5/30/06	2.1	6/13/06	2.1	6/27/06	2.1
5A,15	5/30/06	2.7	6/13/06	2.6	6/27/06	2.5
5A,16A	5/31/06	4.1	6/14/06	3.8	6/28/06	3.1

NAME	INITIAL DATE	ELEVATION	14 DAY DATE	ELEVATION	28 DAY DATE	ELEVATION
5A,16	5/31/06	2.2	6/14/06	2.4	6/28/06	2.3
5A,17A	5/31/06	3.3	6/14/06	3.2	6/28/06	2.8
LINE 5A SOUTH	5/31/06	2.2	6/14/06	2.2	6/28/06	2.0
LINE 5 NORTH	6/5/06	1.8	6/19/06	2.2	7/3/06	2.3
5,14A	6/5/06	1.9	6/19/06	1.9	7/3/06	2.4
5,14	6/5/06	1.9	6/19/06	1.9	7/3/06	2.4
5,15A	5/30/06	2.6	6/13/06	2.6	6/27/06	2.5
5,15	5/31/06	3.2	6/14/06	3.0	6/28/06	2.9
5,16A	5/31/06	2.9	6/14/06	2.8	6/28/06	2.6
5,16	5/31/06	2.8	6/14/06	2.8	6/28/06	2.6
5,17A	5/31/06	3.4	6/14/06	3.3	6/28/06	2.9
LINE 5 SOUTH	5/31/06	1.8	6/14/06	1.8	6/28/06	1.9
LINE 6A NORTH	6/5/06	1.8	6/19/06	1.8	7/3/06	2.0
6A,14A	6/5/06	2.1	6/19/06	2.1	7/3/06	2.2
6A,14	6/2/06	3.0	6/16/06	2.8	6/30/06	2.5
6A,15A	6/2/06	3.3	6/16/06	2.8	6/30/06	2.7
6A,15	5/31/06	3.2	6/14/06	3.0	6/28/06	3.1
6A,16A	5/31/06	3.7	6/14/06	3.6	6/28/06	3.1
6A,16	5/31/06	3.6	6/14/06	3.4	6/28/06	2.9
6A,17A	5/31/06	2.2	6/14/06	2.2	6/28/06	2.1
LINE 6A SOUTH	5/31/06	2.3	6/14/06	2.3	6/28/06	2.0
LINE 6 NORTH	6/5/06	2.2	6/19/06	2.1	7/3/06	2.0
6,14A	6/5/06	2.8	6/19/06	2.5	7/3/06	2.5
6,14	6/2/06	3.2	6/16/06	2.8	6/3/06	2.6
6,15A	6/2/06	3.5	6/16/06	2.9	6/3/06	2.7
6,15	6/2/06	3.6	6/16/06	3.2	6/3/06	3.0
6,16A	6/2/06	3.6	6/16/06	3.2	6/3/06	2.9
6,16	6/2/06	2.8	6/16/06	2.6	6/3/06	2.2
6,17A	6/2/06	3.1	6/16/06	2.8	6/3/06	2.4
LINE 6 SOUTH	6/2/06	3.0	6/16/06	2.6	6/3/06	2.4
LINE 7A NORTH	6/5/06	2.0	6/19/06	2.0	7/3/06	2.0
LINE 13 EC-40	6/5/06	2.4	6/19/06	2.4	7/3/06	2.2
7A,13	6/5/06	3.1	6/19/06	2.9	7/3/06	2.6
7A,14A	6/5/06	2.8	6/19/06	2.5	7/3/06	2.2
7A,14	6/2/06	2.9	6/16/06	2.8	6/30/06	2.6
7A,15A	6/2/06	2.8	6/16/06	2.6	6/30/06	2.4
7A,15	6/2/06	3.4	6/16/06	2.8	6/30/06	3.3
7A,16A	6/2/06	2.8	6/16/06	2.8	6/30/06	2.6
7A,16	6/2/06	3.0	6/16/06	2.8	6/30/06	2.7
7A,17A	6/2/06	3.0	6/16/06	2.9	6/30/06	2.5
LINE 7A SOUTH	6/2/06	2.1	6/16/06	2.1	6/30/06	1.8

NAME	INITIAL DATE	ELEVATION	14 DAY DATE	ELEVATION	28 DAY DATE	ELEVATION
LINE 7 EC-26	6/5/06	1.5	6/19/06	1.7	7/3/06	1.6
7,12	6/5/06	1.5	6/19/06	1.5	7/3/06	1.3
7,13A	6/5/06	2.8	6/19/06	2.5	7/3/06	2.4
7,13	6/5/06	2.8	6/19/06	2.2	7/3/06	2.2
7,14A	6/5/06	1.1	6/19/06	1.1	7/3/06	1.2
LINE 14A EC-56	6/5/06	1.4	6/19/06	1.4	7/3/06	1.2
LINE 7 EC-56	6/5/06	1.5	6/19/06	1.5	7/3/06	1.5
LINE 7 EC-65	6/2/06	1.9	6/16/06	1.8	6/30/06	1.7
7,15A	6/2/06	1.9	6/16/06	1.9	6/30/06	1.6
LINE 15A EC-65	6/2/06	2.0	6/16/06	2.0	6/30/06	1.3
7,15	6/2/06	2.4	6/16/06	2.4	6/30/06	2.5
LINE 15 EC-66	6/2/06	1.8	6/16/06	1.6	6/30/06	1.3
7,16A	6/2/06	2.2	6/16/06	2.1	6/30/06	1.8
7,16	6/2/06	2.0	6/16/06	1.9	6/30/06	1.5
7,17A	6/2/06	2.5	6/16/06	2.2	6/30/06	2.1
LINE 17A EC-82	6/2/06	2.3	6/16/06	1.9	6/30/06	1.4
LINE 7 SOUTH	6/2/06	2.3	6/16/06	1.9	6/30/06	1.6
8A,12	6/5/06	1.8	6/19/06	1.7	7/3/06	1.5
8A,13A	6/5/06	3.1	6/19/06	2.7	7/3/06	2.5
LINE 8A EC-38,37	6/5/06	2.7	6/19/06	2.9	7/3/06	2.3
LINE 16A EC-73,74	6/2/06	1.3	6/16/06	1.3	6/30/06	1.2
8A,16	6/2/06	1.4	6/16/06	1.5	6/30/06	1.8
LINE 8A SOUTH	6/2/06	1.5	6/16/06	1.5	6/30/06	0.9
LINE 16 EC-81	6/2/06	1.3	6/16/06	1.3	6/30/06	0.8
LINE 8 NORTH	6/5/06	1.8	6/19/06	1.8	7/3/06	1.9
8,13A	6/5/06	2.7	6/19/06	2.4	7/3/06	2.2
LINE 8 SOUTH	6/5/06	2.3	6/19/06	2.3	7/3/06	2.4
LINE 9A NORTH	6/5/06	2.2	6/19/06	2.1	7/3/06	2.2
9A,13A	6/5/06	2.5	6/19/06	1.3	7/3/06	1.1
LINE 9A SOUTH	6/5/06	2.2	6/19/06	2.4	7/3/06	2.0
LINE 9 NORTH	6/5/06	1.8	6/19/06	1.7	7/3/06	1.8
9,13A	6/5/06	2.6	6/19/06	1.0	7/3/06	1.4
LINE 9 SOUTH	6/5/06	2.0	6/19/06	2.2	7/3/06	2.2
LINE 10A NORTH	6/5/06	1.8	6/19/06	1.8	7/3/06	1.8
10A,13A	6/5/06	1.5	6/19/06	1.5	7/3/06	1.7
LINE 10A SOUTH	6/5/06	1.9	6/19/06	1.7	7/3/06	2.0
LINE 13A EC-32	6/5/06	2.7	6/19/06	2.4	7/3/06	1.8
LINE 10 EC-32	6/5/06	1.4	6/19/06	1.4	7/3/06	1.3

Little Lake Shoreline Protection and Marsh Creation Project
Marsh Fill Volume Calculations
With No-Fill Zone Being Filled

Parcel	Cell	Avg. Elevation (FT.)	Area (S.F.)	Marsh Fill to +0.9' (C.Y.)	Marsh Fill to +1.0' (C.Y.)	Marsh Fill to +1.1' (C.Y.)	Marsh Fill to +1.2' (C.Y.)	Marsh Fill to +1.3' (C.Y.)	Marsh Fill to +1.4' (C.Y.)	Marsh Fill to +1.5' (C.Y.)	Marsh Fill to +1.6' (C.Y.)	Marsh Fill to +1.7' (C.Y.)	Marsh Fill to +1.8' (C.Y.)	Marsh Fill to +1.9' (C.Y.)	Marsh Fill to +2.0' (C.Y.)	Marsh Fill to +2.1 (C.Y.)	Marsh Fill to +2.2 (C.Y.)	Marsh Fill to +2.3 (C.Y.)
3	EC-1	-0.0080	220,801	7,425	8,243	9,061	9,878	10,696	11,514	12,332	13,150	13,967	14,785	15,603	16,421	17,238	18,056	18,874
4	EC-2	0.9002	332,252	0	1,228	2,459	3,689	4,920	6,150	7,381	8,612	9,842	11,073	12,303	13,534	14,764	15,995	17,225
5	EC-3	0.8462	276,612	551	1,576	2,600	3,625	4,649	5,674	6,698	7,723	8,747	9,772	10,796	11,821	12,845	13,870	14,894
6	EC-4	0.8847	263,296	149	1,124	2,099	3,074	4,049	5,025	6,000	6,975	7,950	8,925	9,900	10,876	11,851	12,826	13,801
7	EC-5	0.9186	310,872	0	937	2,089	3,240	4,391	5,543	6,694	7,846	8,997	10,148	11,300	12,451	13,602	14,754	15,905
8	EC-6	1.2809	311,478	0	0	0	0	220	1,374	2,528	3,681	4,835	5,988	7,142	8,296	9,449	10,603	11,757
9	EC-7	0.6483	231,482	2,158	3,015	3,873	4,730	5,587	6,445	7,302	8,159	9,017	9,874	10,731	11,589	12,446	13,303	14,161
10	IC-1	0.4558	250,103	4,115	5,041	5,968	6,894	7,820	8,747	9,673	10,599	11,525	12,452	13,378	14,304	15,231	16,157	17,083
11	EC-8	0.9936	250,014	0	60	986	1,912	2,838	3,764	4,690	5,616	6,542	7,467	8,393	9,319	10,245	11,171	12,097
12	EC-9	0.5688	250,188	3,069	3,995	4,922	5,848	6,775	7,702	8,628	9,555	10,482	11,408	12,335	13,261	14,188	15,115	16,041
13	EC-10	0.6985	250,103	1,867	2,793	3,719	4,646	5,572	6,498	7,425	8,351	9,277	10,203	11,130	12,056	12,982	13,909	14,835
14	EC-11	1.1633	167,419	0	0	0	228	848	1,468	2,088	2,708	3,328	3,948	4,568	5,188	5,808	6,428	7,048
	EC-12			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	EC-18	0.2905	233,437	5,270	6,134	6,999	7,863	8,728	9,592	10,457	11,322	12,186	13,051	13,915	14,780	15,645	16,509	17,374
16	EC-17	0.2286	251,844	6,263	7,195	8,128	9,061	9,994	10,926	11,859	12,792	13,725	14,657	15,590	16,523	17,456	18,388	19,321
17	EC-16	0.1685	251,430	6,812	7,743	8,674	9,605	10,536	11,468	12,399	13,330	14,261	15,193	16,124	17,055	17,986	18,917	19,849
18	EC-15	-0.0150	251,100	8,510	9,440	10,370	11,300	12,230	13,160	14,090	15,020	15,950	16,880	17,810	18,740	19,670	20,600	21,530
19	EC-14	0.9044	235,060	0	833	1,703	2,574	3,444	4,315	5,185	6,056	6,927	7,797	8,668	9,538	10,409	11,280	12,150
20	IC-2	1.3057	224,215	0	0	0	0	0	783	1,613	2,444	3,274	4,105	4,935	5,765	6,596	7,426	8,257
21	EC-13	0.2446	8,162	198	228	259	289	319	349	380	410	440	470	500	531	561	591	621
22	EC-26	0.1972	40,028	1,042	1,190	1,338	1,487	1,635	1,783	1,931	2,080	2,228	2,376	2,524	2,673	2,821	2,969	3,117
23	EC-19	0.4842	231,477	3,564	4,422	5,279	6,136	6,994	7,851	8,708	9,566	10,423	11,280	12,138	12,995	13,852	14,710	15,567
24	EC-20	-0.0369	250,100	8,679	9,605	10,531	11,458	12,384	13,310	14,237	15,163	16,089	17,016	17,942	18,868	19,794	20,721	21,647
25	EC-21	-0.2841	250,133	10,970	11,896	12,823	13,749	14,676	15,602	16,529	17,455	18,381	19,308	20,234	21,161	22,087	23,013	23,940
26	EC-22	0.7197	250,072	1,670	2,596	3,522	4,448	5,375	6,301	7,227	8,153	9,079	10,006	10,932	11,858	12,784	13,710	14,637
27	EC-23	1.0270	250,104	0	0	676	1,602	2,529	3,455	4,381	5,308	6,234	7,160	8,087	9,013	9,939	10,866	11,792
28	IC-3	1.2484	250,104	0	0	0	0	478	1,404	2,331	3,257	4,183	5,109	6,036	6,962	7,888	8,815	9,741
29	EC-24	0.9936	196,356	0	47	774	1,501	2,228	2,956	3,683	4,410	5,137	5,865	6,592	7,319	8,046	8,774	9,501
30	EC-25	0.1422	22,228	624	706	789	871	953	1,035	1,118	1,200	1,282	1,365	1,447	1,529	1,612	1,694	1,776
31	EC-27	0.9666	220,889	0	273	1,091	1,910	2,728	3,546	4,364	5,182	6,000	6,818	7,636	8,454	9,273	10,091	10,909
32	EC-28	0.4322	250,058	4,332	5,258	6,184	7,110	8,037	8,963	9,889	10,815	11,741	12,667	13,593	14,520	15,446	16,372	17,298
33	EC-29	0.5029	242,434	3,565	4,463	5,361	6,259	7,157	8,055	8,953	9,851	10,749	11,647	12,545	13,442	14,340	15,238	16,136
34	EC-30	0.6530	211,475	1,935	2,718	3,501	4,284	5,068	5,851	6,634	7,417	8,201	8,984	9,767	10,550	11,334	12,117	12,900
35	EC-31	0.5309	209,298	2,861	3,636	4,411	5,186	5,962	6,737	7,512	8,287	9,062	9,837	10,613	11,388	12,163	12,938	13,713
36	EC-32	0.7365	151,848	919	1,482	2,044	2,606	3,169	3,731	4,294	4,856	5,418	5,981	6,543	7,106	7,668	8,230	8,793
	EC-33	-0.1983	285,322	11,606	12,663	13,720	14,776	15,833	16,890	17,947	19,003	20,060	21,117	22,174	23,230	24,287	25,344	26,401
37	EC-47	0.8989	231,478	9	866	1,724	2,581	3,438	4,296	5,153	6,010	6,868	7,725	8,582	9,440	10,297	11,154	12,012
38	IC-4	0.0261	250,104	8,095	9,022	9,948	10,874	11,801	12,727	13,653	14,580	15,506	16,432	17,359	18,285	19,211	20,137	21,064
39	EC-46	-0.1245	250,196	9,494	10,420	11,347	12,274	13,200	14,127	15,054	15,980	16,907	17,834	18,760	19,687	20,614	21,540	22,467
40	EC-45	0.1090	250,018	7,324	8,250	9,176	10,102	11,028	11,954	12,880	13,806	14,732	15,658	16,584	17,510	18,436	19,362	20,288
41	EC-44	-0.1226	250,107	9,472	10,399	11,325	12,251	13,178	14,104	15,030	15,957	16,883	17,809	18,736	19,662	20,588	21,514	22,441
42	EC-43	0.5363	250,105	3,369	4,295	5,221	6,148	7,074	8,000	8,926	9,853	10,779	11,705	12,632	13,558	14,484	15,411	16,337
43	EC-42	0.5661	250,106	3,093	4,019	4,945	5,872	6,798	7,724	8,650	9,577	10,503	11,429	12,356	13,282	14,208	15,135	16,061
44	EC-41	0.4584	172,704	2,824	3,464	4,104	4,743	5,383	6,023	6,662	7,302	7,942	8,581	9,221	9,860	10,500	11,140	11,779
45	EC-39	-0.0271	236,395	8,117	8,993	9,868	10,744	11,619	12,495	13,370	14,246	15,121	15,997	16,872	17,748	18,623	19,499	20,375
46	EC-38	0.0897	243,057	7,294	8,194	9,095	9,995	10,895	11,795	12,695	13,596	14,496	15,396	16,296	17,196	18,097	18,997	19,897
47	EC-37	-0.2474	99,210	4,216	4,583	4,951	5,318	5,686	6,053	6,421	6,788	7,155	7,523	7,890	8,258	8,625	8,993	9,360
48	EC-36	0.2013	72,739	1,882	2,152	2,421	2,691	2,960	3,229	3,499	3,768	4,038	4,307	4,576	4,846	5,115	5,385	5,654
49	EC-35	0.1132	79,222	2,309	2,602	2,895	3,189	3,482	3,776	4,069	4,363	4,656	4,949	5,243	5,536	5,830	6,123	6,416
50	EC-34	0.1561	71,266	1,963	2,227	2,491	2,755	3,019	3,283	3,547	3,811	4,075	4,339	4,603	4,867	5,131	5,395	5,659
51	EC-40	0.6439	82,155	779	1,083	1,388	1,692	1,996	2,301	2,605	2,909	3,213	3,518	3,822	4,126	4,430	4,735	5,039
52	EC-48	0.1049	231,484	6,817	7,674	8,532	9,389	10,246	11,104	11,961	12,818	13,676	14,533	15,390	16,248	17,105	17,963	18,820
53	IC-5	-0.3933	250,098	11,980	12,906	13,832	14,759	15,685	16,611	17,538	18,464	19,390	20,316	21,243	22,169	23,095	24,022	24,948
54	IC-6	0.1782	250,251	6,690	7,617	8,543	9,470	10,397	11,324	12,251	13,178	14,105	15,031	15,958	16,885	17,812	18,739	19,666
55	EC-49	0.5233	249,957	3,487	4,413	5,339	6,264	7,190	8,116	9,042	9,967	10,893	11,819	12,745	13,670	14,596	15,522	16,448
56	EC-50	0.1154	250,104	7,268	8,194	9,121	10,047	10,973	11,900	12,826	13,752	14,679	15,605	16,531	17,458	18,384	19,310	20,236
57	EC-51	0.5768	250,103	2,993	3,920	4,846	5,772	6,699	7,625	8,551	9,478	10,404	11,330	12,256	13,183	14,109	15,035	15,962
58	IC-7	0.4336	250,106	4,321	5,247	6,173	7,100	8,026	8,952	9,879	10,805	11,731	12,657	13,584	14,510	15,436	16,363	17,289
59	IC-8	0.7569	250,103	1,325	2,251	3,178	4,104	5,030	5,957	6,883	7,809	8,736	9,662	10,588	11,515	12,441	13,367	14,293
60	EC-52	-0.6594	185,297	10,702	11,388	12,074	12,761	13,447	14,133	14,819	15,506	16,192	16,878	17,565	18,251	18,937	19,623	20,310
61	IC-9	-1.6169	136,009	12,678	13,182	13,686	14,190	14,693	15,197	15,701	16,204	16,708	17,212	17,716	18,219	18,723	19,227	19,731
62	EC-53	1.0263	97,798	0	0	267	629	991	1,354	1,716	2,078	2,440	2,803	3,165	3,527	3,889	4,251	4,614
63	EC-54	-0.6156	141,584	7,947	8,472	8,996	9,521	10,045	10,569	11,094	11,618	12,143	12,667	13,191	13,716	14,240	14,764	15,289
64	IC-10	-0.2589	240,532	10,324	11,215	12,106	12,997	13,887	14,778	15,669	16,560	17,451	18,342	19,233	20,123	21,014	21,905	22,796
65	EC-55	0.2747	245,292	5,680	6,589	7,497	8,406	9,314	10,223	11,131	12,040	12,948	13,857	14,765	15,674	16,582	17,491	18,399
66	EC-61	0.1231	231,490	6,661	7,518	8,375	9,233	10,090	10,947	11,805	12,662	13,520	14,377	15,234	16,092	16,949	17,806	18,664
67	IC-19	-0.4930	250,102	12,903	13,829	14,756	15,682	16,608	17,534	18,461	19,387	20,313	21,240	22,166	23,092	24,019	24,945	25,871
68	IC-18	-0.0384	250,314	8,700	9,627	10,554	11,481	12,408	13,335	14,263	15,190	16,117	17,044	17,971	18,898	19,825	20,752	21,679
69	EC-60	0.4271	249,903	4,377	5,303	6,228	7,154	8,079	9,005	9,931	10,856	11,782	12,707	13,633	14,558	15,484	16,410	17,335
70	EC-59	0.6487	250,107	2,327	3,254	4,180	5,106	6,033	6,959	7,885	8,812	9,738	10,664	11,591	12,517	13,443	14,370	15,296
71	EC-58	0.3721	250,105	4,890	5,817	6,743	7,669	8,596	9,522	10,448	11,374	12,301	13,227	14,153	15,080	16,006	16,932	17,859
72	IC-17	-0.0371	250,107	8,681	9,607	10,534	11,460	12,386	13,313	14,239	15,165	16,092	17,018	17,944	18,871	19,797	20,723	21,649
73	IC-16	0.4177	250,102	4,467	5,394	6,320	7,246	8,173	9,099	10,025	10,951	11,878	12,804	13,730	14,657	15,583	16,509	17,436

Little Lake Shoreline Protection and Marsh Creation Project
Marsh Fill Volume Calculations
With No-Fill Zone Being Filled

Parcel	Cell	Avg. Elevation (FT.)	Area (S.F.)	Marsh Fill to +0.9' (C.Y.)	Marsh Fill to +1.0' (C.Y.)	Marsh Fill to +1.1' (C.Y.)	Marsh Fill to +1.2' (C.Y.)	Marsh Fill to +1.3' (C.Y.)	Marsh Fill to +1.4' (C.Y.)	Marsh Fill to +1.5' (C.Y.)	Marsh Fill to +1.6' (C.Y.)	Marsh Fill to +1.7' (C.Y.)	Marsh Fill to +1.8' (C.Y.)	Marsh Fill to +1.9' (C.Y.)	Marsh Fill to +2.0' (C.Y.)	Marsh Fill to +2.1 (C.Y.)	Marsh Fill to +2.2 (C.Y.)	Marsh Fill to +2.3 (C.Y.)
74	IC-15	0.2539	250,104	5,985	6,911	7,837	8,764	9,690	10,616	11,543	12,469	13,395	14,322	15,248	16,174	17,101	18,027	18,953
75	IC-14	-0.7589	250,105	15,367	16,293	17,220	18,146	19,072	19,999	20,925	21,851	22,778	23,704	24,630	25,557	26,483	27,409	28,336
76	IC-13	0.8529	249,197	435	1,358	2,281	3,204	4,127	5,050	5,973	6,896	7,819	8,741	9,664	10,587	11,510	12,433	13,356
77	IC-12	-0.6785	251,008	14,674	15,604	16,534	17,463	18,393	19,323	20,252	21,182	22,112	23,041	23,971	24,901	25,830	26,760	27,689
78	IC-11	-1.1395	250,105	18,892	19,819	20,745	21,671	22,598	23,524	24,450	25,377	26,303	27,229	28,156	29,082	30,008	30,935	31,861
79	EC-57	-0.0509	250,103	8,809	9,735	10,661	11,587	12,514	13,440	14,366	15,293	16,219	17,145	18,072	18,998	19,924	20,851	21,777
80	EC-56	0.5097	54,751	792	994	1,197	1,400	1,603	1,805	2,008	2,211	2,414	2,617	2,819	3,022	3,225	3,428	3,630
81	EC-62	0.6918	231,484	1,785	2,642	3,500	4,357	5,214	6,072	6,929	7,786	8,644	9,501	10,358	11,216	12,073	12,931	13,788
82	EC-63	0.0242	250,095	8,113	9,039	9,965	10,891	11,818	12,744	13,670	14,597	15,523	16,449	17,375	18,302	19,228	20,154	21,081
83	IC-20	-0.0155	250,369	8,490	9,417	10,344	11,271	12,199	13,126	14,053	14,981	15,908	16,835	17,762	18,690	19,617	20,544	21,472
84	IC-21	0.4867	249,841	3,824	4,750	5,675	6,600	7,526	8,451	9,376	10,302	11,227	12,152	13,078	14,003	14,928	15,854	16,779
85	IC-22	0.4532	250,104	4,138	5,065	5,991	6,917	7,844	8,770	9,696	10,623	11,549	12,475	13,402	14,328	15,254	16,180	17,107
86	IC-23	-0.8507	250,103	16,217	17,144	18,070	18,996	19,922	20,849	21,775	22,701	23,628	24,554	25,480	26,407	27,333	28,259	29,186
87	IC-24	-0.6802	250,107	14,638	15,564	16,491	17,417	18,343	19,269	20,196	21,122	22,048	22,975	23,901	24,827	25,754	26,680	27,606
88	IC-25	0.0360	250,102	8,003	8,930	9,856	10,782	11,709	12,635	13,561	14,488	15,414	16,340	17,267	18,193	19,119	20,045	20,972
89	IC-26	0.5490	250,105	3,251	4,178	5,104	6,030	6,957	7,883	8,809	9,736	10,662	11,588	12,515	13,441	14,367	15,293	16,220
90	IC-27	-0.1197	250,107	9,445	10,372	11,298	12,224	13,151	14,077	15,003	15,930	16,856	17,782	18,709	19,635	20,561	21,488	22,414
91	IC-28	0.0385	249,365	7,957	8,881	9,804	10,728	11,651	12,575	13,498	14,422	15,346	16,269	17,193	18,116	19,040	19,963	20,887
92	IC-29	-0.7654	250,846	15,473	16,402	17,331	18,260	19,189	20,118	21,047	21,976	22,905	23,834	24,763	25,693	26,622	27,551	28,480
93	IC-30	-0.6955	250,108	14,780	15,706	16,633	17,559	18,485	19,411	20,338	21,264	22,190	23,117	24,043	24,969	25,896	26,822	27,748
94	EC-64	-0.2022	235,721	9,623	10,496	11,369	12,242	13,115	13,988	14,861	15,734	16,607	17,480	18,353	19,226	20,099	20,972	21,845
95	EC-65	0.2602	50,928	1,207	1,395	1,584	1,773	1,961	2,150	2,338	2,527	2,716	2,904	3,093	3,282	3,470	3,659	3,847
96	EC-69	0.9376	231,487	0	535	1,392	2,250	3,107	3,964	4,822	5,679	6,536	7,394	8,251	9,108	9,966	10,823	11,680
97	EC-68	0.4638	250,098	4,040	4,967	5,893	6,819	7,746	8,672	9,598	10,524	11,451	12,377	13,303	14,230	15,156	16,082	17,008
98	IC-41	0.4041	250,431	4,599	5,527	6,455	7,382	8,310	9,237	10,165	11,092	12,020	12,947	13,875	14,802	15,730	16,657	17,585
99	IC-40	-0.0245	249,787	8,553	9,478	10,404	11,329	12,254	13,179	14,104	15,029	15,954	16,880	17,805	18,730	19,655	20,580	21,505
100	IC-39	-0.1966	250,108	10,158	11,085	12,011	12,937	13,864	14,790	15,716	16,643	17,569	18,495	19,421	20,348	21,274	22,200	23,127
101	IC-38	-0.9178	250,106	16,839	17,765	18,692	19,618	20,544	21,471	22,397	23,323	24,250	25,176	26,102	27,028	27,955	28,881	29,807
102	IC-37	-0.9628	250,111	17,256	18,182	19,109	20,035	20,961	21,888	22,814	23,740	24,667	25,593	26,519	27,446	28,372	29,298	30,225
103	IC-36	-0.4675	250,106	12,667	13,594	14,520	15,446	16,373	17,299	18,225	19,152	20,078	21,004	21,930	22,857	23,783	24,709	25,636
104	IC-35	0.0582	250,109	7,798	8,725	9,651	10,577	11,504	12,430	13,356	14,283	15,209	16,135	17,062	17,988	18,914	19,841	20,767
105	IC-34	-0.0980	250,111	9,245	10,171	11,097	12,024	12,950	13,876	14,803	15,729	16,655	17,582	18,508	19,434	20,361	21,287	22,213
106	IC-33	-1.0612	249,534	18,125	19,049	19,974	20,898	21,822	22,746	23,670	24,595	25,519	26,443	27,367	28,291	29,216	30,140	31,064
107	IC-32	-1.1540	250,685	19,071	19,999	20,928	21,856	22,785	23,713	24,642	25,570	26,499	27,427	28,356	29,284	30,213	31,141	32,069
108	IC-31	-0.4078	250,114	12,115	13,041	13,968	14,894	15,820	16,747	17,673	18,600	19,526	20,452	21,379	22,305	23,231	24,158	25,084
109	EC-67	0.1889	250,113	6,588	7,514	8,440	9,367	10,293	11,219	12,146	13,072	13,998	14,925	15,851	16,777	17,704	18,630	19,556
110	EC-66	-0.0427	193,940	6,772	7,490	8,208	8,926	9,645	10,363	11,081	11,800	12,518	13,236	13,954	14,673	15,391	16,109	16,828
111	EC-70	0.6998	231,485	1,716	2,573	3,431	4,288	5,145	6,003	6,860	7,717	8,575	9,432	10,290	11,147	12,004	12,862	13,719
112	EC-71	0.0939	250,093	7,467	8,393	9,319	10,246	11,172	12,098	13,024	13,951	14,877	15,803	16,730	17,656	18,582	19,508	20,435
113	EC-72	-0.9394	250,486	17,065	17,992	18,920	19,848	20,776	21,703	22,631	23,559	24,486	25,414	26,342	27,270	28,197	29,125	30,053
114	IC-42	-1.6541	249,724	23,623	24,548	25,473	26,398	27,323	28,248	29,172	30,097	31,022	31,947	32,872	33,797	34,722	35,647	36,572
115	IC-43	-0.5873	250,102	13,777	14,703	15,629	16,555	17,482	18,408	19,334	20,261	21,187	22,113	23,040	23,966	24,892	25,819	26,745
116	IC-44	-0.6576	250,099	14,428	15,354	16,280	17,206	18,133	19,059	19,985	20,912	21,838	22,764	23,690	24,617	25,543	26,469	27,396
117	IC-45	-0.5171	250,104	13,127	14,053	14,980	15,906	16,832	17,759	18,685	19,611	20,538	21,464	22,390	23,316	24,243	25,169	26,095
118	IC-46	-0.6291	250,097	14,164	15,090	16,016	16,943	17,869	18,795	19,722	20,648	21,574	22,500	23,427	24,353	25,279	26,206	27,132
119	IC-47	-0.3337	250,100	11,428	12,354	13,280	14,207	15,133	16,059	16,985	17,912	18,838	19,764	20,691	21,617	22,543	23,470	24,396
120	IC-48	-0.1144	250,101	9,397	10,323	11,249	12,176	13,102	14,028	14,954	15,881	16,807	17,733	18,660	19,586	20,512	21,439	22,365
121	IC-49	-0.7143	249,687	14,928	15,853	16,778	17,703	18,627	19,552	20,477	21,402	22,326	23,251	24,176	25,101	26,025	26,950	27,875
122	IC-50	-0.2934	250,508	11,072	12,000	12,928	13,856	14,784	15,712	16,639	17,567	18,495	19,423	20,351	21,278	22,206	23,134	24,062
123	IC-51	-0.1986	250,102	10,177	11,103	12,029	12,955	13,882	14,808	15,734	16,661	17,587	18,513	19,440	20,366	21,292	22,218	23,145
124	IC-52	0.2226	250,098	6,275	7,201	8,128	9,054	9,980	10,906	11,833	12,759	13,685	14,612	15,538	16,464	17,390	18,317	19,243
125	EC-73	0.3138	248,226	5,389	6,308	7,228	8,147	9,066	9,986	10,905	11,824	12,744	13,663	14,583	15,502	16,421	17,341	18,260
126	EC-77	0.4843	231,489	3,564	4,421	5,279	6,136	6,993	7,851	8,708	9,565	10,423	11,280	12,137	12,995	13,852	14,710	15,567
127	IC-63	-0.5598	250,097	13,522	14,448	15,374	16,300	17,227	18,153	19,079	20,006	20,932	21,858	22,784	23,711	24,637	25,563	26,490
128	EC-76	-1.9123	250,549	26,097	27,025	27,953	28,880	29,808	30,736	31,664	32,592	33,520	34,448	35,376	36,304	37,232	38,160	39,088
129	EC-75	-1.5147	249,671	22,329	23,253	24,178	25,103	26,027	26,952	27,877	28,801	29,726	30,651	31,576	32,500	33,425	34,350	35,274
130	IC-62	0.0425	250,107	7,943	8,870	9,796	10,722	11,649	12,575	13,501	14,428	15,354	16,280	17,207	18,133	19,059	19,986	20,912
131	IC-61	0.0885	250,103	7,517	8,444	9,370	10,296	11,223	12,149	13,075	14,001	14,928	15,854	16,780	17,707	18,633	19,559	20,486
132	IC-60	0.5970	250,109	2,807	3,733	4,660	5,586	6,512	7,439	8,365	9,291	10,218	11,144	12,070	12,997	13,923	14,849	15,776
133	IC-59	-0.2018	250,101	10,206	11,132	12,058	12,984	13,911	14,837	15,763	16,690	17,616	18,542	19,469	20,395	21,321	22,247	23,174
134	IC-58	-0.5352	250,105	13,295	14,221	15,147	16,074	17,000	17,926	18,853	19,779	20,705	21,632	22,558	23,484	24,411	25,337	26,263
135	IC-57	-0.4045	250,106	12,084	13,010	13,937	14,863	15,789	16,715	17,642	18,568	19,494	20,421	21,347	22,273	23,200	24,126	25,052
136	IC-56	-0.2727	249,857	10,853	11,778	12,703	13,629	14,554	15,480	16,405	17,330	18,256	19,181	20,107	21,032	21,957	22,883	23,808
137	IC-55	0.2220	250,347	6,286	7,213	8,140	9,068	9,995	10,922	11,849	12,777	13,704	14,631	15,558	16,485	17,413	18,340	19,267
138	IC-54	0.1535	250,105	6,915	7,842	8,768	9,694	10,621	11,547	12,473	13,400	14,326	15,252	16,179	17,105	18,031	18,957	19,884
139	IC-53	0.0792	250,103	7,603	8,529	9,455	10,382	11,308	12,234	13,161	14,087	15,013	15,939	16,866	17,792	18,718	19,645	20,571
140	EC-74	-0.1632	250,098	9,849	10,775	11,701	12,628	13,554	14,480	15,406	16,333	17,259	18,185	19,112	20,038	20,964	21,890	22,817
141	EC-78	-0.1658	231,484	9,137	9,995	10,852	11,709	12,567	13,424	14,281	15,139	15,996	16,853	17,711	18,568	19,425	20,283	21,140
142	IC-64	-1.7341	250,091	24,399	25,325	26,252	27,178	28,104	29,030	29,957	30,883	31,809	32,735	33,662	34,588	35,514	36,441	37,367
143	IC-65	-1.9829	250,605	26,758	27,687	28,615	29,543	30,471	31,399	32,327	33,256	34,184	35,112	36,040	36,968	37,896	38,825	39,753
144	EC-79	-1.1365	249,611	18,827	19,751	20,676	21,600	22,525	23,449	24,374	25,298	26,223	27,147	28,072	28,996	29,921	30,845	31,770
145	IC-66	0.4580	250,105	4,094	5,021	5,947	6,873	7,800	8,726	9,652	10,579	11,505	12,431	13,357	14,284	15,210	16,136	17,063

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Parcel	Cell	Avg. Elevation (FT.)	Area (S.F.)	Marsh Fill to +0.9' (C.Y.)	Marsh Fill to +1.0' (C.Y.)	Marsh Fill to +1.1' (C.Y.)	Marsh Fill to +1.2' (C.Y.)	Marsh Fill to +1.3' (C.Y.)	Marsh Fill to +1.4' (C.Y.)	Marsh Fill to +1.5' (C.Y.)	Marsh Fill to +1.6' (C.Y.)	Marsh Fill to +1.7' (C.Y.)	Marsh Fill to +1.8' (C.Y.)	Marsh Fill to +1.9' (C.Y.)	Marsh Fill to +2.0' (C.Y.)	Marsh Fill to +2.1 (C.Y.)	Marsh Fill to +2.2 (C.Y.)	Marsh Fill to +2.3 (C.Y.)
146	IC-67	0.5377	250,102	3,356	4,282	5,209	6,135	7,061	7,988	8,914	9,840	10,767	11,693	12,619	13,545	14,472	15,398	16,324
147	IC-68	1.0567	250,109	0	0	401	1,328	2,254	3,180	4,107	5,033	5,959	6,886	7,812	8,738	9,665	10,591	11,517
148	IC-69	-0.0730	250,101	9,013	9,939	10,865	11,792	12,718	13,644	14,571	15,497	16,423	17,350	18,276	19,202	20,128	21,055	21,981
149	IC-70	-0.1249	250,106	9,494	10,420	11,347	12,273	13,199	14,125	15,052	15,978	16,904	17,831	18,757	19,683	20,610	21,536	22,462
150	IC-71	0.4491	250,108	4,177	5,103	6,029	6,956	7,882	8,808	9,735	10,661	11,587	12,514	13,440	14,366	15,293	16,219	17,145
151	IC-72	-0.1209	250,025	9,454	10,380	11,306	12,232	13,158	14,084	15,010	15,936	16,862	17,788	18,714	19,640	20,566	21,492	22,418
152	IC-73	0.3838	250,185	4,783	5,710	6,636	7,563	8,490	9,416	10,343	11,269	12,196	13,123	14,049	14,976	15,903	16,829	17,756
153	IC-74	-0.0747	250,109	9,028	9,955	10,881	11,807	12,734	13,660	14,586	15,513	16,439	17,365	18,292	19,218	20,144	21,071	21,997
154	IC-75	-0.7522	250,108	15,304	16,231	17,157	18,083	19,010	19,936	20,862	21,789	22,715	23,641	24,568	25,494	26,420	27,347	28,273
155	EC-80	-0.9098	189,416	12,697	13,398	14,100	14,801	15,503	16,204	16,906	17,608	18,309	19,011	19,712	20,414	21,115	21,817	22,518
	EC-81	-1.0467	66,659	4,806	5,053	5,300	5,547	5,794	6,040	6,287	6,534	6,781	7,028	7,275	7,522	7,769	8,016	8,262
157	EC-91	-0.3592	230,033	10,728	11,580	12,432	13,284	14,136	14,988	15,840	16,692	17,544	18,396	19,248	20,100	20,952	21,804	22,656
158	IC-79	-1.7671	248,724	24,569	25,490	26,411	27,333	28,254	29,175	30,096	31,017	31,939	32,860	33,781	34,702	35,623	36,545	37,466
159	IC-78	-1.8048	249,505	24,995	25,919	26,843	27,767	28,691	29,615	30,540	31,464	32,388	33,312	34,236	35,160	36,084	37,008	37,932
160	EC-90	-0.4829	248,606	12,733	13,654	14,574	15,495	16,416	17,337	18,257	19,178	20,099	21,020	21,940	22,861	23,782	24,703	25,624
161	EC-89	1.0043	249,369	0	0	884	1,807	2,731	3,654	4,578	5,502	6,425	7,349	8,272	9,196	10,120	11,043	11,967
162	IC-77	0.0826	249,575	7,555	8,480	9,404	10,329	11,253	12,177	13,102	14,026	14,950	15,875	16,799	17,723	18,648	19,572	20,496
163	EC-88	0.0783	249,793	7,602	8,527	9,452	10,377	11,303	12,228	13,153	14,078	15,003	15,928	16,853	17,779	18,704	19,629	20,554
164	EC-87	0.2270	249,995	6,232	7,157	8,083	9,009	9,935	10,861	11,787	12,713	13,639	14,565	15,491	16,417	17,342	18,268	19,194
165	EC-86	0.6061	250,106	2,722	3,649	4,575	5,501	6,428	7,354	8,280	9,207	10,133	11,059	11,986	12,912	13,838	14,765	15,691
166	IC-76	0.4066	241,529	4,414	5,308	6,203	7,098	7,992	8,887	9,781	10,676	11,570	12,465	13,359	14,254	15,148	16,043	16,938
167	IC-75	-0.9364	224,433	15,264	16,096	16,927	17,758	18,589	19,421	20,252	21,083	21,914	22,746	23,577	24,408	25,239	26,070	26,902
168	EC-85	-0.0860	215,877	7,884	8,683	9,483	10,282	11,082	11,882	12,681	13,481	14,280	15,080	15,879	16,679	17,478	18,278	19,077
169	EC-84	-0.1269	216,524	8,235	9,037	9,839	10,641	11,443	12,245	13,047	13,849	14,651	15,453	16,255	17,057	17,859	18,660	19,462
170	EC-83	-0.7020	210,689	12,501	13,281	14,062	14,842	15,622	16,403	17,183	17,963	18,744	19,524	20,304	21,085	21,865	22,645	23,425
171	EC-82	-0.7750	50,631	3,141	3,329	3,516	3,704	3,891	4,079	4,266	4,454	4,641	4,829	5,016	5,204	5,391	5,579	5,766
172	IC-80	-0.4256	135,840	6,669	7,172	7,676	8,179	8,682	9,185	9,688	10,191	10,694	11,197	11,700	12,204	12,707	13,210	13,713
173	EC-92	-0.4256	130,038	6,384	6,866	7,348	7,829	8,311	8,793	9,274	9,756	10,237	10,719	11,201	11,682	12,164	12,646	13,127
174	EC-93	-1.7571	112,929	11,114	11,532	11,950	12,368	12,787	13,205	13,623	14,041	14,460	14,878	15,296	15,714	16,133	16,551	16,969
175	EC-94	-0.4956	95,065	4,914	5,266	5,618	5,970	6,322	6,674	7,026	7,378	7,730	8,083	8,435	8,787	9,139	9,491	9,843
		Total:	**39,495,346**	**1,337,221**	**1,474,163**	**1,616,001**	**1,758,977**	**1,903,044**	**2,049,276**	**2,195,555**	**2,341,834**	**2,488,113**	**2,634,392**	**2,780,671**	**2,926,950**	**3,073,229**	**3,219,508**	**3,365,787**

Little Lake Shoreline Protection and Marsh Creati
Marsh Fill Volume Calculations
With No-Fill Zone Being Filled

Parcel	Cell	Avg. Elevation (FT.)	Area (S.F.)	Marsh Fill to +2.4 (C.Y.)	Marsh Fill to +2.5(C.Y.)	Marsh Fill to +2.6 (C.Y.)	Marsh Fill to +2.7(C.Y.)	Marsh Fill to +2.8 (C.Y.)	Marsh Fill to +2.9 (C.Y.)	Marsh Fill to +3.0 (C.Y.)	Marsh Fill to +3.1 (C.Y.)	Marsh Fill to +3.2 (C.Y.)	Marsh Fill to +3.3 (C.Y.)	Marsh Fill to +3.4 (C.Y.)	Marsh Fill to +3.5 (C.Y.)	Marsh Fill to +3.6 (C.Y.)	Marsh Fill to +3.7 (C.Y.)	Marsh Fill to +3.8 (C.Y.)
3	EC-1	-0.0080	220,801	19,692	20,510	21,327	22,145	22,963	23,781	24,598	25,416	26,234	27,052	27,870	28,687	29,505	30,323	31,141
4	EC-2	0.9002	332,252	18,456	19,687	20,917	22,148	23,378	24,609	25,839	27,070	28,301	29,531	30,762	31,992	33,223	34,453	35,684
5	EC-3	0.8462	276,612	15,919	16,943	17,968	18,992	20,017	21,041	22,066	23,090	24,115	25,139	26,164	27,188	28,213	29,237	30,262
6	EC-4	0.8847	263,296	14,776	15,752	16,727	17,702	18,677	19,652	20,627	21,603	22,578	23,553	24,528	25,503	26,478	27,454	28,429
7	EC-5	0.9186	310,872	17,057	18,208	19,359	20,511	21,662	22,813	23,965	25,116	26,268	27,419	28,570	29,722	30,873	32,025	33,176
8	EC-6	1.2809	311,478	12,910	14,064	15,217	16,371	17,525	18,678	19,832	20,985	22,139	23,293	24,446	25,600	26,754	27,907	29,061
9	EC-7	0.6483	231,482	15,018	15,875	16,733	17,590	18,447	19,305	20,162	21,019	21,877	22,734	23,591	24,449	25,306	26,163	27,021
10	IC-1	0.4558	250,103	18,010	18,936	19,862	20,789	21,715	22,641	23,567	24,494	25,420	26,346	27,273	28,199	29,125	30,052	30,978
11	EC-8	0.9936	250,014	13,023	13,949	14,875	15,801	16,727	17,653	18,579	19,505	20,431	21,357	22,283	23,209	24,135	25,061	25,987
12	EC-9	0.5688	250,188	16,968	17,895	18,821	19,748	20,674	21,601	22,528	23,454	24,381	25,308	26,234	27,161	28,087	29,014	29,941
13	EC-10	0.6985	250,103	15,761	16,688	17,614	18,540	19,467	20,393	21,319	22,245	23,172	24,098	25,024	25,951	26,877	27,803	28,730
14	EC-11	1.1633	167,419	7,668	8,288	8,909	9,529	10,149	10,769	11,389	12,009	12,629	13,249	13,869	14,489	15,109	15,729	16,349
	EC-12			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	EC-18	0.2905	233,437	18,238	19,103	19,967	20,832	21,697	22,561	23,426	24,290	25,155	26,020	26,884	27,749	28,613	29,478	30,342
16	EC-17	0.2286	251,844	20,254	21,187	22,119	23,052	23,985	24,918	25,850	26,783	27,716	28,649	29,581	30,514	31,447	32,380	33,313
17	EC-16	0.1685	251,430	20,780	21,711	22,642	23,574	24,505	25,436	26,367	27,298	28,230	29,161	30,092	31,023	31,955	32,886	33,817
18	EC-15	-0.0150	251,100	22,460	23,390	24,320	25,250	26,180	27,110	28,040	28,970	29,900	30,830	31,760	32,690	33,620	34,550	35,480
19	EC-14	0.9044	235,060	13,021	13,891	14,762	15,633	16,503	17,374	18,244	19,115	19,986	20,856	21,727	22,597	23,468	24,339	25,209
20	IC-2	1.3057	224,215	9,087	9,918	10,748	11,578	12,409	13,239	14,070	14,900	15,731	16,561	17,391	18,222	19,052	19,883	20,713
21	EC-13	0.2446	8,162	652	682	712	742	772	803	833	863	893	924	954	984	1,014	1,045	1,075
22	EC-26	0.1972	40,028	3,266	3,414	3,562	3,710	3,859	4,007	4,155	4,303	4,452	4,600	4,748	4,896	5,045	5,193	5,341
23	EC-19	0.4842	231,477	16,424	17,282	18,139	18,996	19,854	20,711	21,568	22,426	23,283	24,140	24,998	25,855	26,712	27,569	28,427
24	EC-20	-0.0369	250,100	22,573	23,500	24,426	25,352	26,278	27,205	28,131	29,057	29,984	30,910	31,836	32,763	33,689	34,615	35,541
25	EC-21	-0.2841	250,133	24,866	25,793	26,719	27,646	28,572	29,498	30,425	31,351	32,278	33,204	34,131	35,057	35,983	36,910	37,836
26	EC-22	0.7197	250,072	15,563	16,489	17,415	18,341	19,268	20,194	21,120	22,046	22,972	23,898	24,825	25,751	26,677	27,603	28,529
27	EC-23	1.0270	250,104	12,718	13,644	14,571	15,497	16,423	17,350	18,276	19,202	20,129	21,055	21,981	22,908	23,834	24,760	25,686
28	IC-3	1.2484	250,104	10,667	11,594	12,520	13,446	14,373	15,299	16,225	17,152	18,078	19,004	19,930	20,857	21,783	22,709	23,636
29	EC-24	0.9936	196,356	10,228	10,955	11,683	12,410	13,137	13,864	14,592	15,319	16,046	16,773	17,500	18,228	18,955	19,682	20,409
30	EC-25	0.1422	22,228	1,859	1,941	2,023	2,106	2,188	2,270	2,353	2,435	2,517	2,600	2,682	2,764	2,847	2,929	3,011
31	EC-27	0.9666	220,889	11,727	12,545	13,363	14,181	14,999	15,817	16,635	17,454	18,272	19,090	19,908	20,726	21,544	22,362	23,180
32	EC-28	0.4322	250,058	18,224	19,150	20,076	21,003	21,929	22,855	23,781	24,707	25,633	26,559	27,486	28,412	29,338	30,264	31,190
33	EC-29	0.5029	242,434	17,034	17,932	18,830	19,728	20,626	21,524	22,421	23,319	24,217	25,115	26,013	26,911	27,809	28,707	29,605
34	EC-30	0.6530	211,475	13,683	14,467	15,250	16,033	16,816	17,600	18,383	19,166	19,949	20,733	21,516	22,299	23,082	23,865	24,649
35	EC-31	0.5309	209,298	14,488	15,264	16,039	16,814	17,589	18,364	19,140	19,915	20,690	21,465	22,240	23,015	23,791	24,566	25,341
36	EC-32	0.7365	151,848	9,355	9,918	10,480	11,042	11,605	12,167	12,730	13,292	13,854	14,417	14,979	15,542	16,104	16,666	17,229
	EC-33	-0.1983	285,322	27,457	28,514	29,571	30,628	31,684	32,741	33,798	34,855	35,911	36,968	38,025	39,082	40,138	41,195	42,252
37	EC-47	0.8989	231,478	12,869	13,726	14,584	15,441	16,298	17,156	18,013	18,870	19,728	20,585	21,442	22,300	23,157	24,014	24,872
38	IC-4	0.0261	250,104	21,990	22,916	23,843	24,769	25,695	26,622	27,548	28,474	29,401	30,327	31,253	32,180	33,106	34,032	34,958
39	EC-46	-0.1245	250,196	23,393	24,320	25,247	26,173	27,100	28,027	28,953	29,880	30,807	31,733	32,660	33,587	34,513	35,440	36,367
40	EC-45	0.1090	250,018	21,214	22,140	23,066	23,992	24,918	25,844	26,770	27,696	28,622	29,548	30,474	31,400	32,326	33,252	34,178
41	EC-44	-0.1226	250,107	23,367	24,293	25,220	26,146	27,072	27,999	28,925	29,851	30,778	31,704	32,630	33,557	34,483	35,409	36,336
42	EC-43	0.5363	250,105	17,263	18,190	19,116	20,042	20,969	21,895	22,821	23,748	24,674	25,600	26,526	27,453	28,379	29,305	30,232
43	EC-42	0.5661	250,106	16,987	17,914	18,840	19,766	20,693	21,619	22,545	23,472	24,398	25,324	26,251	27,177	28,103	29,029	29,956
44	EC-41	0.4584	172,704	12,419	13,059	13,698	14,338	14,978	15,617	16,257	16,897	17,536	18,176	18,815	19,455	20,095	20,734	21,374
45	EC-39	-0.0271	236,395	21,250	22,126	23,001	23,877	24,752	25,628	26,503	27,379	28,254	29,130	30,005	30,881	31,757	32,632	33,508
46	EC-38	0.0897	243,057	20,797	21,698	22,598	23,498	24,398	25,298	26,199	27,099	27,999	28,899	29,799	30,700	31,600	32,500	33,400
47	EC-37	-0.2474	99,210	9,728	10,095	10,462	10,830	11,197	11,565	11,932	12,300	12,667	13,035	13,402	13,769	14,137	14,504	14,872
48	EC-36	0.2013	72,739	5,923	6,193	6,462	6,732	7,001	7,270	7,540	7,809	8,079	8,348	8,617	8,887	9,156	9,426	9,695
49	EC-35	0.1132	79,222	6,710	7,003	7,297	7,590	7,884	8,177	8,470	8,764	9,057	9,351	9,644	9,937	10,231	10,524	10,818
50	EC-34	0.1561	71,266	5,923	6,187	6,451	6,714	6,978	7,242	7,506	7,770	8,034	8,298	8,562	8,826	9,090	9,354	9,618
51	EC-40	0.6439	82,155	5,343	5,648	5,952	6,256	6,560	6,865	7,169	7,473	7,778	8,082	8,386	8,690	8,995	9,299	9,603
52	EC-48	0.1049	231,484	19,677	20,535	21,392	22,249	23,107	23,964	24,821	25,679	26,536	27,393	28,251	29,108	29,965	30,823	31,680
53	IC-5	-0.3933	250,098	25,874	26,801	27,727	28,653	29,579	30,506	31,432	32,358	33,285	34,211	35,137	36,063	36,990	37,916	38,842
54	IC-6	0.1782	250,251	20,593	21,519	22,446	23,373	24,300	25,227	26,154	27,081	28,007	28,934	29,861	30,788	31,715	32,642	33,569
55	EC-49	0.5233	249,957	17,373	18,299	19,225	20,151	21,077	22,002	22,928	23,854	24,780	25,705	26,631	27,557	28,483	29,408	30,334
56	EC-50	0.1154	250,104	21,163	22,089	23,015	23,942	24,868	25,794	26,721	27,647	28,573	29,500	30,426	31,352	32,279	33,205	34,131
57	EC-51	0.5768	250,103	16,888	17,814	18,741	19,667	20,593	21,520	22,446	23,372	24,298	25,225	26,151	27,077	28,004	28,930	29,856
58	IC-7	0.4336	250,106	18,215	19,142	20,068	20,994	21,921	22,847	23,773	24,700	25,626	26,552	27,479	28,405	29,331	30,258	31,184
59	IC-8	0.7569	250,103	15,220	16,146	17,072	17,999	18,925	19,851	20,778	21,704	22,630	23,557	24,483	25,409	26,335	27,262	28,188
60	EC-52	-0.6594	185,297	20,996	21,682	22,369	23,055	23,741	24,427	25,114	25,800	26,486	27,173	27,859	28,545	29,231	29,918	30,604
61	IC-9	-1.6169	136,009	20,234	20,738	21,242	21,746	22,249	22,753	23,257	23,761	24,264	24,768	25,272	25,775	26,279	26,783	27,287
62	EC-53	1.0263	97,798	4,976	5,338	5,700	6,062	6,425	6,787	7,149	7,511	7,874	8,236	8,598	8,960	9,322	9,685	10,047
63	EC-54	-0.6156	141,584	15,813	16,338	16,862	17,386	17,911	18,435	18,960	19,484	20,008	20,533	21,057	21,581	22,106	22,630	23,155
64	IC-10	-0.2589	240,532	23,687	24,578	25,469	26,359	27,250	28,141	29,032	29,923	30,814	31,705	32,595	33,486	34,377	35,268	36,159
65	EC-55	0.2747	245,292	19,308	20,216	21,125	22,033	22,942	23,850	24,759	25,667	26,576	27,484	28,393	29,301	30,210	31,118	32,027
66	EC-61	0.1231	231,490	19,521	20,379	21,236	22,093	22,951	23,808	24,665	25,523	26,380	27,238	28,095	28,952	29,810	30,667	31,524
67	IC-19	-0.4930	250,102	26,798	27,724	28,650	29,576	30,503	31,429	32,355	33,282	34,208	35,134	36,061	36,987	37,913	38,839	39,766
68	IC-18	-0.0384	250,314	22,606	23,533	24,460	25,388	26,315	27,242	28,169	29,096	30,023	30,950	31,877	32,804	33,731	34,658	35,586
69	EC-60	0.4271	249,903	18,261	19,186	20,112	21,037	21,963	22,888	23,814	24,740	25,665	26,591	27,516	28,442	29,367	30,293	31,219
70	EC-59	0.6487	250,107	16,222	17,149	18,075	19,001	19,928	20,854	21,780	22,707	23,633	24,559	25,485	26,412	27,338	28,264	29,191
71	EC-58	0.3721	250,105	18,785	19,711	20,638	21,564	22,490	23,417	24,343	25,269	26,196	27,122	28,048	28,974	29,901	30,827	31,753
72	IC-17	-0.0371	250,107	22,576	23,502	24,428	25,355	26,281	27,207	28,134	29,060	29,986	30,913	31,839	32,765	33,692	34,618	35,544
73	IC-16	0.4177	250,102	18,362	19,288	20,214	21,141	22,067	22,993	23,920	24,846	25,772	26,699	27,625	28,551	29,478	30,404	31,330

Little Lake Shoreline Protection and Marsh Creati
Marsh Fill Volume Calculations
With No-Fill Zone Being Filled

Parcel	Cell	Avg. Elevation (FT.)	Area (S.F.)	Marsh Fill to +2.4 (C.Y.)	Marsh Fill to +2.5(C.Y.)	Marsh Fill to +2.6 (C.Y.)	Marsh Fill to +2.7(C.Y.)	Marsh Fill to +2.8 (C.Y.)	Marsh Fill to +2.9 (C.Y.)	Marsh Fill to +3.0 (C.Y.)	Marsh Fill to +3.1 (C.Y.)	Marsh Fill to +3.2 (C.Y.)	Marsh Fill to +3.3 (C.Y.)	Marsh Fill to +3.4 (C.Y.)	Marsh Fill to +3.5 (C.Y.)	Marsh Fill to +3.6 (C.Y.)	Marsh Fill to +3.7 (C.Y.)	Marsh Fill to +3.8 (C.Y.)
74	IC-15	0.2539	250,104	19,879	20,806	21,732	22,658	23,585	24,511	25,437	26,364	27,290	28,216	29,143	30,069	30,995	31,922	32,848
75	IC-14	-0.7589	250,105	29,262	30,188	31,114	32,041	32,967	33,893	34,820	35,746	36,672	37,599	38,525	39,451	40,378	41,304	42,230
76	IC-13	0.8529	249,197	14,279	15,202	16,125	17,048	17,971	18,894	19,817	20,740	21,663	22,586	23,509	24,432	25,355	26,278	27,201
77	IC-12	-0.6785	251,008	28,619	29,549	30,478	31,408	32,338	33,267	34,197	35,127	36,056	36,986	37,916	38,845	39,775	40,705	41,634
78	IC-11	-1.1395	250,105	32,787	33,713	34,640	35,566	36,492	37,419	38,345	39,271	40,198	41,124	42,050	42,977	43,903	44,829	45,756
79	EC-57	-0.0509	250,103	22,703	23,629	24,556	25,482	26,408	27,335	28,261	29,187	30,114	31,040	31,966	32,893	33,819	34,745	35,671
80	EC-56	0.5097	54,751	3,833	4,036	4,239	4,442	4,644	4,847	5,050	5,253	5,456	5,658	5,861	6,064	6,267	6,469	6,672
81	EC-62	0.6918	231,484	14,645	15,503	16,360	17,217	18,075	18,932	19,789	20,647	21,504	22,361	23,219	24,076	24,933	25,791	26,648
82	EC-63	0.0242	250,095	22,007	22,933	23,859	24,786	25,712	26,638	27,564	28,491	29,417	30,343	31,270	32,196	33,122	34,048	34,975
83	IC-20	-0.0155	250,369	22,399	23,326	24,254	25,181	26,108	27,035	27,963	28,890	29,817	30,745	31,672	32,599	33,526	34,454	35,381
84	IC-21	0.4867	249,841	17,704	18,630	19,555	20,480	21,406	22,331	23,256	24,182	25,107	26,032	26,958	27,883	28,808	29,734	30,659
85	IC-22	0.4532	250,104	18,033	18,959	19,886	20,812	21,738	22,665	23,591	24,517	25,444	26,370	27,296	28,223	29,149	30,075	31,001
86	IC-23	-0.8507	250,103	30,112	31,038	31,964	32,891	33,817	34,743	35,670	36,596	37,522	38,449	39,375	40,301	41,228	42,154	43,080
87	IC-24	-0.6802	250,107	28,533	29,459	30,385	31,312	32,238	33,164	34,091	35,017	35,943	36,870	37,796	38,722	39,649	40,575	41,501
88	IC-25	0.0360	250,102	21,898	22,824	23,751	24,677	25,603	26,530	27,456	28,382	29,308	30,235	31,161	32,087	33,014	33,940	34,866
89	IC-26	0.5490	250,105	17,146	18,072	18,999	19,925	20,851	21,778	22,704	23,630	24,557	25,483	26,409	27,336	28,262	29,188	30,114
90	IC-27	-0.1197	250,107	23,340	24,267	25,193	26,119	27,045	27,972	28,898	29,824	30,751	31,677	32,603	33,530	34,456	35,382	36,309
91	IC-28	0.0385	249,365	21,811	22,734	23,658	24,581	25,505	26,428	27,352	28,276	29,199	30,123	31,046	31,970	32,893	33,817	34,741
92	IC-29	-0.7654	250,846	29,409	30,338	31,267	32,196	33,125	34,054	34,983	35,912	36,841	37,770	38,699	39,628	40,557	41,487	42,416
93	IC-30	-0.6955	250,108	28,675	29,601	30,527	31,454	32,380	33,306	34,233	35,159	36,085	37,012	37,938	38,864	39,791	40,717	41,643
94	EC-64	-0.2022	235,721	22,718	23,591	24,464	25,337	26,210	27,083	27,956	28,830	29,703	30,576	31,449	32,322	33,195	34,068	34,941
95	EC-65	0.2602	50,928	4,036	4,225	4,413	4,602	4,791	4,979	5,168	5,356	5,545	5,734	5,922	6,111	6,300	6,488	6,677
96	EC-69	0.9376	231,487	12,538	13,395	14,253	15,110	15,967	16,825	17,682	18,539	19,397	20,254	21,111	21,969	22,826	23,684	24,541
97	EC-68	0.4638	250,098	17,935	18,861	19,787	20,714	21,640	22,566	23,492	24,419	25,345	26,271	27,198	28,124	29,050	29,976	30,903
98	IC-41	0.4041	250,431	18,512	19,440	20,367	21,295	22,222	23,150	24,077	25,005	25,932	26,860	27,788	28,715	29,643	30,570	31,498
99	IC-40	-0.0245	249,787	22,430	23,356	24,281	25,206	26,131	27,056	27,981	28,906	29,831	30,757	31,682	32,607	33,532	34,457	35,382
100	IC-39	-0.1966	250,108	24,053	24,979	25,906	26,832	27,758	28,685	29,611	30,537	31,464	32,390	33,316	34,243	35,169	36,095	37,022
101	IC-38	-0.9178	250,106	30,734	31,660	32,586	33,513	34,439	35,365	36,292	37,218	38,144	39,071	39,997	40,923	41,850	42,776	43,702
102	IC-37	-0.9628	250,111	31,151	32,077	33,004	33,930	34,856	35,783	36,709	37,635	38,562	39,488	40,414	41,341	42,267	43,193	44,120
103	IC-36	-0.4675	250,106	26,562	27,488	28,415	29,341	30,267	31,194	32,120	33,046	33,973	34,899	35,825	36,752	37,678	38,604	39,531
104	IC-35	0.0582	250,109	21,693	22,620	23,546	24,472	25,399	26,325	27,251	28,177	29,104	30,030	30,956	31,883	32,809	33,735	34,662
105	IC-34	-0.0980	250,111	23,140	24,066	24,992	25,919	26,845	27,771	28,698	29,624	30,550	31,477	32,403	33,329	34,256	35,182	36,108
106	IC-33	-1.0612	249,534	31,988	32,912	33,837	34,761	35,685	36,609	37,533	38,458	39,382	40,306	41,230	42,154	43,079	44,003	44,927
107	IC-32	-1.1540	250,685	32,998	33,926	34,855	35,783	36,712	37,640	38,569	39,497	40,426	41,354	42,283	43,211	44,139	45,068	45,996
108	IC-31	-0.4078	250,114	26,010	26,937	27,863	28,789	29,716	30,642	31,568	32,495	33,421	34,347	35,274	36,200	37,126	38,053	38,979
109	EC-67	0.1889	250,113	20,483	21,409	22,335	23,262	24,188	25,114	26,041	26,967	27,893	28,820	29,746	30,672	31,599	32,525	33,452
110	EC-66	-0.0427	193,940	17,546	18,264	18,983	19,701	20,419	21,137	21,856	22,574	23,292	24,011	24,729	25,447	26,166	26,884	27,602
111	EC-70	0.6998	231,485	14,576	15,434	16,291	17,148	18,006	18,863	19,720	20,578	21,435	22,292	23,150	24,007	24,865	25,722	26,579
112	EC-71	0.0939	250,093	21,361	22,287	23,213	24,140	25,066	25,992	26,919	27,845	28,771	29,697	30,624	31,550	32,476	33,402	34,329
113	EC-72	-0.9394	250,486	30,981	31,908	32,836	33,764	34,691	35,619	36,547	37,475	38,402	39,330	40,258	41,186	42,113	43,041	43,969
114	IC-42	-1.6541	249,724	37,497	38,421	39,346	40,271	41,196	42,121	43,046	43,971	44,896	45,821	46,746	47,671	48,595	49,520	50,445
115	IC-43	-0.5873	250,102	27,671	28,597	29,524	30,450	31,376	32,303	33,229	34,155	35,082	36,008	36,934	37,860	38,787	39,713	40,639
116	IC-44	-0.6576	250,099	28,322	29,248	30,175	31,101	32,027	32,953	33,880	34,806	35,732	36,659	37,585	38,511	39,437	40,364	41,290
117	IC-45	-0.5171	250,104	27,022	27,948	28,874	29,801	30,727	31,653	32,580	33,506	34,432	35,358	36,285	37,211	38,137	39,064	39,990
118	IC-46	-0.6291	250,097	28,058	28,984	29,911	30,837	31,763	32,690	33,616	34,542	35,468	36,395	37,321	38,247	39,174	40,100	41,026
119	IC-47	-0.3337	250,100	25,322	26,248	27,175	28,101	29,027	29,954	30,880	31,806	32,733	33,659	34,585	35,511	36,438	37,364	38,290
120	IC-48	-0.1144	250,101	23,291	24,217	25,144	26,070	26,996	27,923	28,849	29,775	30,702	31,628	32,554	33,480	34,407	35,333	36,259
121	IC-49	-0.7143	249,687	28,800	29,725	30,649	31,574	32,499	33,424	34,348	35,273	36,198	37,123	38,047	38,972	39,897	40,822	41,746
122	IC-50	-0.2934	250,508	24,990	25,917	26,845	27,773	28,701	29,629	30,556	31,484	32,412	33,340	34,268	35,195	36,123	37,051	37,979
123	IC-51	-0.1986	250,102	24,071	24,997	25,924	26,850	27,776	28,703	29,629	30,555	31,482	32,408	33,334	34,260	35,187	36,113	37,039
124	IC-52	0.2226	250,098	20,169	21,096	22,022	22,948	23,874	24,801	25,727	26,653	27,580	28,506	29,432	30,359	31,285	32,211	33,137
125	EC-73	0.3138	248,226	19,179	20,099	21,018	21,937	22,857	23,776	24,695	25,615	26,534	27,453	28,373	29,292	30,212	31,131	32,050
126	EC-77	0.4843	231,489	16,424	17,282	18,139	18,996	19,854	20,711	21,568	22,426	23,283	24,141	24,998	25,855	26,713	27,570	28,427
127	IC-63	-0.5598	250,097	27,416	28,342	29,268	30,195	31,121	32,047	32,974	33,900	34,826	35,752	36,679	37,605	38,531	39,458	40,384
128	EC-76	-1.9123	250,549	40,016	40,944	41,872	42,800	43,728	44,656	45,584	46,512	47,440	48,368	49,296	50,224	51,151	52,079	53,007
129	EC-75	-1.5147	249,671	36,199	37,124	38,049	38,973	39,898	40,823	41,747	42,672	43,597	44,522	45,446	46,371	47,296	48,220	49,145
130	IC-62	0.0425	250,107	21,838	22,765	23,691	24,617	25,544	26,470	27,396	28,323	29,249	30,175	31,101	32,028	32,954	33,880	34,807
131	IC-61	0.0885	250,103	21,412	22,338	23,265	24,191	25,117	26,043	26,970	27,896	28,822	29,749	30,675	31,601	32,528	33,454	34,380
132	IC-60	0.5970	250,109	16,702	17,628	18,555	19,481	20,407	21,334	22,260	23,186	24,113	25,039	25,965	26,892	27,818	28,744	29,671
133	IC-59	-0.2018	250,101	24,100	25,026	25,953	26,879	27,805	28,732	29,658	30,584	31,510	32,437	33,363	34,289	35,216	36,142	37,068
134	IC-58	-0.5352	250,105	27,190	28,116	29,042	29,969	30,895	31,821	32,747	33,674	34,600	35,526	36,453	37,379	38,305	39,232	40,158
135	IC-57	-0.4045	250,106	25,979	26,905	27,831	28,758	29,684	30,610	31,537	32,463	33,389	34,316	35,242	36,168	37,094	38,021	38,947
136	IC-56	-0.2727	249,857	24,734	25,659	26,584	27,510	28,435	29,360	30,286	31,211	32,137	33,062	33,987	34,913	35,838	36,764	37,689
137	IC-55	0.2220	250,347	20,194	21,121	22,049	22,976	23,903	24,830	25,757	26,685	27,612	28,539	29,466	30,394	31,321	32,248	33,175
138	IC-54	0.1535	250,105	20,810	21,736	22,663	23,589	24,515	25,442	26,368	27,294	28,221	29,147	30,073	31,000	31,926	32,852	33,779
139	IC-53	0.0792	250,103	21,497	22,424	23,350	24,276	25,203	26,129	27,055	27,981	28,908	29,834	30,760	31,687	32,613	33,539	34,466
140	EC-74	-0.1632	250,098	23,743	24,669	25,596	26,522	27,448	28,375	29,301	30,227	31,153	32,080	33,006	33,932	34,859	35,785	36,711
141	EC-78	-0.1658	231,484	21,997	22,855	23,712	24,569	25,427	26,284	27,142	27,999	28,856	29,714	30,571	31,428	32,286	33,143	34,000
142	IC-64	-1.7341	250,091	38,293	39,219	40,146	41,072	41,998	42,924	43,851	44,777	45,703	46,629	47,556	48,482	49,408	50,334	51,261
143	IC-65	-1.9829	250,605	40,681	41,609	42,537	43,465	44,394	45,322	46,250	47,178	48,106	49,034	49,963	50,891	51,819	52,747	53,675
144	EC-79	-1.1365	249,611	32,694	33,619	34,543	35,468	36,392	37,317	38,241	39,166	40,090	41,015	41,939	42,864	43,788	44,713	45,637
145	IC-66	0.4580	250,105	17,989	18,915	19,842	20,768	21,694	22,621	23,547	24,473	25,400	26,326	27,252	28,178	29,105	30,031	30,957

Little Lake Shoreline Protection and Marsh Creati
Marsh Fill Volume Calculations
With No-Fill Zone Being Filled

Parcel	Cell	Avg. Elevation (FT.)	Area (S.F.)	Marsh Fill to +2.4 (C.Y.)	Marsh Fill to +2.5(C.Y.)	Marsh Fill to +2.6 (C.Y.)	Marsh Fill to +2.7(C.Y.)	Marsh Fill to +2.8 (C.Y.)	Marsh Fill to +2.9 (C.Y.)	Marsh Fill to +3.0 (C.Y.)	Marsh Fill to +3.1 (C.Y.)	Marsh Fill to +3.2 (C.Y.)	Marsh Fill to +3.3 (C.Y.)	Marsh Fill to +3.4 (C.Y.)	Marsh Fill to +3.5 (C.Y.)	Marsh Fill to +3.6 (C.Y.)	Marsh Fill to +3.7 (C.Y.)	Marsh Fill to +3.8 (C.Y.)
146	IC-67	0.5377	250,102	17,251	18,177	19,103	20,030	20,956	21,882	22,808	23,735	24,661	25,587	26,514	27,440	28,366	29,293	30,219
147	IC-68	1.0567	250,109	12,444	13,370	14,296	15,223	16,149	17,075	18,002	18,928	19,854	20,781	21,707	22,633	23,560	24,486	25,412
148	IC-69	-0.0730	250,101	22,907	23,834	24,760	25,686	26,613	27,539	28,465	29,391	30,318	31,244	32,170	33,097	34,023	34,949	35,876
149	IC-70	-0.1249	250,106	23,389	24,315	25,241	26,168	27,094	28,020	28,947	29,873	30,799	31,726	32,652	33,578	34,504	35,431	36,357
150	IC-71	0.4491	250,108	18,072	18,998	19,924	20,851	21,777	22,703	23,630	24,556	25,482	26,409	27,335	28,261	29,188	30,114	31,040
151	IC-72	-0.1209	250,025	23,344	24,270	25,196	26,122	27,048	27,974	28,900	29,826	30,752	31,678	32,604	33,530	34,456	35,382	36,308
152	IC-73	0.3838	250,185	18,682	19,609	20,536	21,462	22,389	23,315	24,242	25,169	26,095	27,022	27,948	28,875	29,802	30,728	31,655
153	IC-74	-0.0747	250,109	22,923	23,850	24,776	25,702	26,629	27,555	28,481	29,408	30,334	31,260	32,187	33,113	34,039	34,966	35,892
154	IC-75	-0.7522	250,108	29,199	30,126	31,052	31,978	32,905	33,831	34,757	35,684	36,610	37,536	38,462	39,389	40,315	41,241	42,168
155	EC-80	-0.9098	189,416	23,220	23,921	24,623	25,325	26,026	26,728	27,429	28,131	28,832	29,534	30,235	30,937	31,638	32,340	33,041
	EC-81	-1.0467	66,659	8,509	8,756	9,003	9,250	9,497	9,744	9,991	10,238	10,484	10,731	10,978	11,225	11,472	11,719	11,966
157	EC-91	-0.3592	230,033	23,508	24,360	25,212	26,064	26,916	27,768	28,620	29,472	30,324	31,176	32,027	32,879	33,731	34,583	35,435
158	IC-79	-1.7671	248,724	38,387	39,308	40,229	41,151	42,072	42,993	43,914	44,835	45,757	46,678	47,599	48,520	49,441	50,363	51,284
159	IC-78	-1.8048	249,505	38,856	39,781	40,705	41,629	42,553	43,477	44,401	45,325	46,249	47,173	48,097	49,021	49,946	50,870	51,794
160	EC-90	-0.4829	248,606	26,544	27,465	28,386	29,307	30,227	31,148	32,069	32,990	33,910	34,831	35,752	36,673	37,593	38,514	39,435
161	EC-89	1.0043	249,369	12,890	13,814	14,738	15,661	16,585	17,508	18,432	19,355	20,279	21,203	22,126	23,050	23,973	24,897	25,821
162	IC-77	0.0826	249,575	21,421	22,345	23,269	24,194	25,118	26,043	26,967	27,891	28,816	29,740	30,664	31,589	32,513	33,437	34,362
163	EC-88	0.0783	249,793	21,479	22,404	23,330	24,255	25,180	26,105	27,030	27,955	28,881	29,806	30,731	31,656	32,581	33,506	34,431
164	EC-87	0.2270	249,995	20,120	21,046	21,972	22,898	23,824	24,750	25,676	26,602	27,527	28,453	29,379	30,305	31,231	32,157	33,083
165	EC-86	0.6061	250,106	16,617	17,543	18,470	19,396	20,322	21,249	22,175	23,101	24,028	24,954	25,880	26,807	27,733	28,659	29,586
166	IC-76	0.4066	241,529	17,832	18,727	19,621	20,516	21,410	22,305	23,199	24,094	24,989	25,883	26,778	27,672	28,567	29,461	30,356
167	IC-75	-0.9364	224,433	27,733	28,564	29,395	30,227	31,058	31,889	32,720	33,552	34,383	35,214	36,045	36,876	37,708	38,539	39,370
168	EC-85	-0.0860	215,877	19,877	20,676	21,476	22,276	23,075	23,875	24,674	25,474	26,273	27,073	27,872	28,672	29,471	30,271	31,071
169	EC-84	-0.1269	216,524	20,264	21,066	21,868	22,670	23,472	24,274	25,076	25,878	26,680	27,482	28,284	29,086	29,888	30,690	31,492
170	EC-83	-0.7020	210,689	24,206	24,986	25,766	26,547	27,327	28,107	28,888	29,668	30,448	31,229	32,009	32,789	33,570	34,350	35,130
171	EC-82	-0.7750	50,631	5,954	6,141	6,329	6,516	6,704	6,891	7,079	7,266	7,454	7,642	7,829	8,017	8,204	8,392	8,579
172	IC-80	-0.4256	135,840	14,216	14,719	15,222	15,725	16,228	16,732	17,235	17,738	18,241	18,744	19,247	19,750	20,253	20,756	21,260
173	EC-92	-0.4256	130,038	13,609	14,090	14,572	15,054	15,535	16,017	16,498	16,980	17,462	17,943	18,425	18,907	19,388	19,870	20,351
174	EC-93	-1.7571	112,929	17,387	17,806	18,224	18,642	19,061	19,479	19,897	20,315	20,734	21,152	21,570	21,988	22,407	22,825	23,243
175	EC-94	-0.4956	95,065	10,195	10,547	10,899	11,251	11,603	11,956	12,308	12,660	13,012	13,364	13,716	14,068	14,420	14,772	15,124
	Total:		**39,495,346**	**3,512,066**	**3,658,345**	**3,804,624**	**3,950,903**	**4,097,182**	**4,243,461**	**4,389,740**	**4,536,020**	**4,682,299**	**4,828,578**	**4,974,857**	**5,121,136**	**5,267,415**	**5,413,694**	**5,559,973**

Little Lake Shoreline Protection and Marsh Creati
Marsh Fill Volume Calculations
With No-Fill Zone Being Filled

Parcel	Cell	Avg. Elevation (FT.)	Area (S.F.)	Marsh Fill to +3.9 (C.Y.)	Marsh Fill to +4.0(C.Y.)	Marsh Fill to +4.1 (C.Y.)	Marsh Fill to +4.2 (C.Y.)	Marsh Fill to +4.3 (C.Y.)	Marsh Fill to +4.4 (C.Y.)	Marsh Fill to +4.5 (C.Y.)
3	EC-1	-0.0080	220,801	31,959	32,776	33,594	34,412	35,230	36,047	36,865
4	EC-2	0.9002	332,252	36,914	38,145	39,376	40,606	41,837	43,067	44,298
5	EC-3	0.8462	276,612	31,286	32,310	33,335	34,359	35,384	36,408	37,433
6	EC-4	0.8847	263,296	29,404	30,379	31,354	32,329	33,305	34,280	35,255
7	EC-5	0.9186	310,872	34,327	35,479	36,630	37,781	38,933	40,084	41,236
8	EC-6	1.2809	311,478	30,214	31,368	32,522	33,675	34,829	35,983	37,136
9	EC-7	0.6483	231,482	27,878	28,735	29,593	30,450	31,307	32,165	33,022
10	IC-1	0.4558	250,103	31,904	32,831	33,757	34,683	35,609	36,536	37,462
11	EC-8	0.9936	250,014	26,913	27,839	28,765	29,691	30,617	31,543	32,469
12	EC-9	0.5688	250,188	30,867	31,794	32,720	33,647	34,574	35,500	36,427
13	EC-10	0.6985	250,103	29,656	30,582	31,509	32,435	33,361	34,287	35,214
14	EC-11	1.1633	167,419	16,969	17,590	18,210	18,830	19,450	20,070	20,690
	EC-12			0	0	0	0	0	0	0
15	EC-18	0.2905	233,437	31,207	32,072	32,936	33,801	34,665	35,530	36,395
16	EC-17	0.2286	251,844	34,245	35,178	36,111	37,044	37,976	38,909	39,842
17	EC-16	0.1685	251,430	34,748	35,679	36,611	37,542	38,473	39,404	40,336
18	EC-15	-0.0150	251,100	36,410	37,340	38,270	39,200	40,130	41,060	41,990
19	EC-14	0.9044	235,060	26,080	26,950	27,821	28,691	29,562	30,433	31,303
20	IC-2	1.3057	224,215	21,543	22,374	23,204	24,035	24,865	25,696	26,526
21	EC-13	0.2446	8,162	1,105	1,135	1,165	1,196	1,226	1,256	1,286
22	EC-26	0.1972	40,028	5,489	5,638	5,786	5,934	6,082	6,231	6,379
23	EC-19	0.4842	231,477	29,284	30,141	30,999	31,856	32,713	33,571	34,428
24	EC-20	-0.0369	250,100	36,468	37,394	38,320	39,247	40,173	41,099	42,026
25	EC-21	-0.2841	250,133	38,763	39,689	40,615	41,542	42,468	43,395	44,321
26	EC-22	0.7197	250,072	29,456	30,382	31,308	32,234	33,160	34,087	35,013
27	EC-23	1.0270	250,104	26,613	27,539	28,465	29,392	30,318	31,244	32,171
28	IC-3	1.2484	250,104	24,562	25,488	26,415	27,341	28,267	29,194	30,120
29	EC-24	0.9936	196,356	21,137	21,864	22,591	23,318	24,046	24,773	25,500
30	EC-25	0.1422	22,228	3,094	3,176	3,258	3,341	3,423	3,505	3,588
31	EC-27	0.9666	220,889	23,998	24,817	25,635	26,453	27,271	28,089	28,907
32	EC-28	0.4322	250,058	32,116	33,042	33,969	34,895	35,821	36,747	37,673
33	EC-29	0.5029	242,434	30,503	31,400	32,298	33,196	34,094	34,992	35,890
34	EC-30	0.6530	211,475	25,432	26,215	26,998	27,782	28,565	29,348	30,131
35	EC-31	0.5309	209,298	26,116	26,891	27,666	28,442	29,217	29,992	30,767
36	EC-32	0.7365	151,848	17,791	18,354	18,916	19,478	20,041	20,603	21,166
	EC-33	-0.1983	285,322	43,309	44,365	45,422	46,479	47,536	48,592	49,649
37	EC-47	0.8989	231,478	25,729	26,586	27,444	28,301	29,158	30,015	30,873
38	IC-4	0.0261	250,104	35,885	36,811	37,737	38,664	39,590	40,516	41,443
39	EC-46	-0.1245	250,196	37,293	38,220	39,147	40,073	41,000	41,926	42,853
40	EC-45	0.1090	250,018	35,104	36,030	36,956	37,882	38,808	39,734	40,660
41	EC-44	-0.1226	250,107	37,262	38,188	39,115	40,041	40,967	41,894	42,820
42	EC-43	0.5363	250,105	31,158	32,084	33,011	33,937	34,863	35,790	36,716
43	EC-42	0.5661	250,106	30,882	31,808	32,735	33,661	34,587	35,514	36,440
44	EC-41	0.4584	172,704	22,014	22,653	23,293	23,933	24,572	25,212	25,852
45	EC-39	-0.0271	236,395	34,383	35,259	36,134	37,010	37,885	38,761	39,636
46	EC-38	0.0897	243,057	34,300	35,201	36,101	37,001	37,901	38,802	39,702
47	EC-37	-0.2474	99,210	15,239	15,607	15,974	16,342	16,709	17,076	17,444
48	EC-36	0.2013	72,739	9,964	10,234	10,503	10,773	11,042	11,311	11,581
49	EC-35	0.1132	79,222	11,111	11,404	11,698	11,991	12,285	12,578	12,872
50	EC-34	0.1561	71,266	9,882	10,146	10,410	10,674	10,938	11,202	11,466
51	EC-40	0.6439	82,155	9,907	10,212	10,516	10,820	11,125	11,429	11,733
52	EC-48	0.1049	231,484	32,537	33,395	34,252	35,109	35,967	36,824	37,682
53	IC-5	-0.3933	250,098	39,769	40,695	41,621	42,547	43,474	44,400	45,326
54	IC-6	0.1782	250,251	34,495	35,422	36,349	37,276	38,203	39,130	40,056
55	EC-49	0.5233	249,957	31,260	32,186	33,112	34,037	34,963	35,889	36,815
56	EC-50	0.1154	250,104	35,057	35,984	36,910	37,836	38,763	39,689	40,615
57	EC-51	0.5768	250,103	30,783	31,709	32,635	33,562	34,488	35,414	36,340
58	IC-7	0.4336	250,106	32,110	33,036	33,963	34,889	35,815	36,742	37,668
59	IC-8	0.7569	250,103	29,114	30,041	30,967	31,893	32,820	33,746	34,672
60	EC-52	-0.6594	185,297	31,290	31,977	32,663	33,349	34,035	34,722	35,408
61	IC-9	-1.6169	136,009	27,790	28,294	28,798	29,302	29,805	30,309	30,813
62	EC-53	1.0263	97,798	10,409	10,771	11,133	11,496	11,858	12,220	12,582
63	EC-54	-0.6156	141,584	23,679	24,203	24,728	25,252	25,777	26,301	26,825
64	IC-10	-0.2589	240,532	37,050	37,941	38,831	39,722	40,613	41,504	42,395
65	EC-55	0.2747	245,292	32,935	33,844	34,752	35,661	36,569	37,478	38,386
66	EC-61	0.1231	231,490	32,382	33,239	34,096	34,954	35,811	36,669	37,526
67	IC-19	-0.4930	250,102	40,692	41,618	42,545	43,471	44,397	45,324	46,250
68	IC-18	-0.0384	250,314	36,513	37,440	38,367	39,294	40,221	41,148	42,075
69	EC-60	0.4271	249,903	32,144	33,070	33,995	34,921	35,846	36,772	37,698
70	EC-59	0.6487	250,107	30,117	31,043	31,970	32,896	33,822	34,749	35,675
71	EC-58	0.3721	250,105	32,680	33,606	34,532	35,459	36,385	37,311	38,238
72	IC-17	-0.0371	250,107	36,471	37,397	38,323	39,250	40,176	41,102	42,029
73	IC-16	0.4177	250,102	32,256	33,183	34,109	35,035	35,962	36,888	37,814

Little Lake Shoreline Protection and Marsh Creati
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Parcel	Cell	Avg. Elevation (FT.)	Area (S.F.)	Marsh Fill to +3.9 (C.Y.)	Marsh Fill to +4.0(C.Y.)	Marsh Fill to +4.1 (C.Y.)	Marsh Fill to +4.2 (C.Y.)	Marsh Fill to +4.3 (C.Y.)	Marsh Fill to +4.4 (C.Y.)	Marsh Fill to +4.5 (C.Y.)
74	IC-15	0.2539	250,104	33,774	34,700	35,627	36,553	37,479	38,406	39,332
75	IC-14	-0.7589	250,105	43,157	44,083	45,009	45,935	46,862	47,788	48,714
76	IC-13	0.8529	249,197	28,123	29,046	29,969	30,892	31,815	32,738	33,661
77	IC-12	-0.6785	251,008	42,564	43,494	44,423	45,353	46,283	47,212	48,142
78	IC-11	-1.1395	250,105	46,682	47,608	48,534	49,461	50,387	51,313	52,240
79	EC-57	-0.0509	250,103	36,598	37,524	38,450	39,377	40,303	41,229	42,156
80	EC-56	0.5097	54,751	6,875	7,078	7,281	7,483	7,686	7,889	8,092
81	EC-62	0.6918	231,484	27,505	28,363	29,220	30,077	30,935	31,792	32,650
82	EC-63	0.0242	250,095	35,901	36,827	37,754	38,680	39,606	40,532	41,459
83	IC-20	-0.0155	250,369	36,308	37,236	38,163	39,090	40,017	40,945	41,872
84	IC-21	0.4867	249,841	31,584	32,510	33,435	34,360	35,286	36,211	37,136
85	IC-22	0.4532	250,104	31,928	32,854	33,780	34,707	35,633	36,559	37,486
86	IC-23	-0.8507	250,103	44,006	44,933	45,859	46,785	47,712	48,638	49,564
87	IC-24	-0.6802	250,107	42,428	43,354	44,280	45,207	46,133	47,059	47,985
88	IC-25	0.0360	250,102	35,793	36,719	37,645	38,572	39,498	40,424	41,350
89	IC-26	0.5490	250,105	31,041	31,967	32,893	33,820	34,746	35,672	36,599
90	IC-27	-0.1197	250,107	37,235	38,161	39,088	40,014	40,940	41,867	42,793
91	IC-28	0.0385	249,365	35,664	36,588	37,511	38,435	39,359	40,282	41,206
92	IC-29	-0.7654	250,846	43,345	44,274	45,203	46,132	47,061	47,990	48,919
93	IC-30	-0.6955	250,108	42,570	43,496	44,422	45,349	46,275	47,201	48,128
94	EC-64	-0.2022	235,721	35,814	36,687	37,560	38,433	39,306	40,179	41,052
95	EC-65	0.2602	50,928	6,865	7,054	7,243	7,431	7,620	7,809	7,997
96	EC-69	0.9376	231,487	25,398	26,256	27,113	27,970	28,828	29,685	30,542
97	EC-68	0.4638	250,098	31,829	32,755	33,682	34,608	35,534	36,460	37,387
98	IC-41	0.4041	250,431	32,425	33,353	34,280	35,208	36,135	37,063	37,990
99	IC-40	-0.0245	249,787	36,307	37,233	38,158	39,083	40,008	40,933	41,858
100	IC-39	-0.1966	250,108	37,948	38,874	39,801	40,727	41,653	42,580	43,506
101	IC-38	-0.9178	250,106	44,629	45,555	46,481	47,407	48,334	49,260	50,186
102	IC-37	-0.9628	250,111	45,046	45,972	46,899	47,825	48,751	49,678	50,604
103	IC-36	-0.4675	250,106	40,457	41,383	42,309	43,236	44,162	45,088	46,015
104	IC-35	0.0582	250,109	35,588	36,514	37,441	38,367	39,293	40,220	41,146
105	IC-34	-0.0980	250,111	37,035	37,961	38,887	39,814	40,740	41,666	42,593
106	IC-33	-1.0612	249,534	45,851	46,775	47,700	48,624	49,548	50,472	51,396
107	IC-32	-1.1540	250,685	46,925	47,853	48,782	49,710	50,639	51,567	52,496
108	IC-31	-0.4078	250,114	39,906	40,832	41,758	42,685	43,611	44,537	45,464
109	EC-67	0.1889	250,113	34,378	35,304	36,231	37,157	38,083	39,010	39,936
110	EC-66	-0.0427	193,940	28,320	29,039	29,757	30,475	31,194	31,912	32,630
111	EC-70	0.6998	231,485	27,437	28,294	29,151	30,009	30,866	31,723	32,581
112	EC-71	0.0939	250,093	35,255	36,181	37,107	38,034	38,960	39,886	40,813
113	EC-72	-0.9394	250,486	44,896	45,824	46,752	47,680	48,607	49,535	50,463
114	IC-42	-1.6541	249,724	51,370	52,295	53,220	54,145	55,070	55,995	56,920
115	IC-43	-0.5873	250,102	41,566	42,492	43,418	44,345	45,271	46,197	47,123
116	IC-44	-0.6576	250,099	42,216	43,143	44,069	44,995	45,922	46,848	47,774
117	IC-45	-0.5171	250,104	40,916	41,843	42,769	43,695	44,622	45,548	46,474
118	IC-46	-0.6291	250,097	41,952	42,879	43,805	44,731	45,658	46,584	47,510
119	IC-47	-0.3337	250,100	39,217	40,143	41,069	41,995	42,922	43,848	44,774
120	IC-48	-0.1144	250,101	37,186	38,112	39,038	39,965	40,891	41,817	42,743
121	IC-49	-0.7143	249,687	42,671	43,596	44,521	45,446	46,370	47,295	48,220
122	IC-50	-0.2934	250,508	38,907	39,835	40,762	41,690	42,618	43,546	44,474
123	IC-51	-0.1986	250,102	37,966	38,892	39,818	40,745	41,671	42,597	43,523
124	IC-52	0.2226	250,098	34,064	34,990	35,916	36,843	37,769	38,695	39,621
125	EC-73	0.3138	248,226	32,970	33,889	34,808	35,728	36,647	37,566	38,486
126	EC-77	0.4843	231,489	29,285	30,142	31,000	31,857	32,714	33,572	34,429
127	IC-63	-0.5598	250,097	41,310	42,236	43,163	44,089	45,015	45,942	46,868
128	EC-76	-1.9123	250,549	53,935	54,863	55,791	56,719	57,647	58,575	59,503
129	EC-75	-1.5147	249,671	50,070	50,994	51,919	52,844	53,769	54,693	55,618
130	IC-62	0.0425	250,107	35,733	36,659	37,586	38,512	39,438	40,365	41,291
131	IC-61	0.0885	250,103	35,307	36,233	37,159	38,085	39,012	39,938	40,864
132	IC-60	0.5970	250,109	30,597	31,523	32,450	33,376	34,302	35,229	36,155
133	IC-59	-0.2018	250,101	37,995	38,921	39,847	40,773	41,700	42,626	43,552
134	IC-58	-0.5352	250,105	41,084	42,011	42,937	43,863	44,790	45,716	46,642
135	IC-57	-0.4045	250,106	39,873	40,800	41,726	42,652	43,579	44,505	45,431
136	IC-56	-0.2727	249,857	38,614	39,540	40,465	41,391	42,316	43,241	44,167
137	IC-55	0.2220	250,347	34,102	35,030	35,957	36,884	37,811	38,738	39,666
138	IC-54	0.1535	250,105	34,705	35,631	36,557	37,484	38,410	39,336	40,263
139	IC-53	0.0792	250,103	35,392	36,318	37,245	38,171	39,097	40,023	40,950
140	EC-74	-0.1632	250,098	37,637	38,564	39,490	40,416	41,343	42,269	43,195
141	EC-78	-0.1658	231,484	34,858	35,715	36,572	37,430	38,287	39,144	40,002
142	IC-64	-1.7341	250,091	52,187	53,113	54,040	54,966	55,892	56,818	57,745
143	IC-65	-1.9829	250,605	54,603	55,532	56,460	57,388	58,316	59,244	60,172
144	EC-79	-1.1365	249,611	46,561	47,486	48,410	49,335	50,259	51,184	52,108
145	IC-66	0.4580	250,105	31,884	32,810	33,736	34,663	35,589	36,515	37,442

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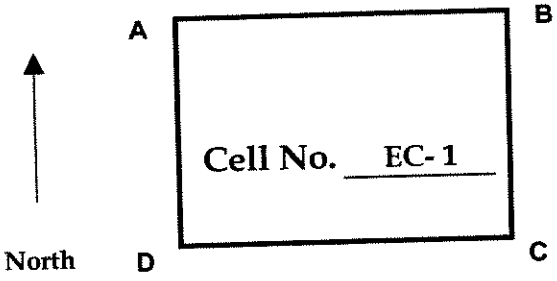
146	IC-67	0.5377	250,102	31,145	32,072	32,998	33,924	34,850	35,777	36,703
147	IC-68	1.0567	250,109	26,339	27,265	28,191	29,118	30,044	30,970	31,897
148	IC-69	-0.0730	250,101	36,802	37,728	38,654	39,581	40,507	41,433	42,360
149	IC-70	-0.1249	250,106	37,283	38,210	39,136	40,062	40,989	41,915	42,841
150	IC-71	0.4491	250,108	31,967	32,893	33,819	34,746	35,672	36,598	37,525
151	IC-72	-0.1209	250,025	37,234	38,160	39,086	40,012	40,938	41,864	42,790
152	IC-73	0.3838	250,185	32,582	33,508	34,435	35,361	36,288	37,215	38,141
153	IC-74	-0.0747	250,109	36,818	37,745	38,671	39,597	40,524	41,450	42,376
154	IC-75	-0.7522	250,108	43,094	44,020	44,947	45,873	46,799	47,726	48,652
155	EC-80	-0.9098	189,416	33,743	34,445	35,146	35,848	36,549	37,251	37,952
	EC-81	-1.0467	66,659	12,213	12,459	12,706	12,953	13,200	13,447	13,694
157	EC-91	-0.3592	230,033	36,287	37,139	37,991	38,843	39,695	40,547	41,399
158	IC-79	-1.7671	248,724	52,205	53,126	54,047	54,969	55,890	56,811	57,732
159	IC-78	-1.8048	249,505	52,718	53,642	54,566	55,490	56,414	57,338	58,262
160	EC-90	-0.4829	248,606	40,356	41,276	42,197	43,118	44,039	44,960	45,880
161	EC-89	1.0043	249,369	26,744	27,668	28,591	29,515	30,439	31,362	32,286
162	IC-77	0.0826	249,575	35,286	36,210	37,135	38,059	38,983	39,908	40,832
163	EC-88	0.0783	249,793	35,357	36,282	37,207	38,132	39,057	39,982	40,908
164	EC-87	0.2270	249,995	34,009	34,935	35,861	36,787	37,712	38,638	39,564
165	EC-86	0.6061	250,106	30,512	31,438	32,365	33,291	34,217	35,144	36,070
166	IC-76	0.4066	241,529	31,250	32,145	33,040	33,934	34,829	35,723	36,618
167	IC-75	-0.9364	224,433	40,201	41,033	41,864	42,695	43,526	44,358	45,189
168	EC-85	-0.0860	215,877	31,870	32,670	33,469	34,269	35,068	35,868	36,667
169	EC-84	-0.1269	216,524	32,293	33,095	33,897	34,699	35,501	36,303	37,105
170	EC-83	-0.7020	210,689	35,911	36,691	37,471	38,252	39,032	39,812	40,593
171	EC-82	-0.7750	50,631	8,767	8,954	9,142	9,329	9,517	9,704	9,892
172	IC-80	-0.4256	135,840	21,763	22,266	22,769	23,272	23,775	24,278	24,781
173	EC-92	-0.4256	130,038	20,833	21,315	21,796	22,278	22,760	23,241	23,723
174	EC-93	-1.7571	112,929	23,661	24,080	24,498	24,916	25,334	25,753	26,171
175	EC-94	-0.4956	95,065	15,477	15,829	16,181	16,533	16,885	17,237	17,589
	Total:		**39,495,346**	**5,706,252**	**5,852,531**	**5,998,810**	**6,145,089**	**6,291,368**	**6,437,647**	**6,583,926**

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 3A	14	357,145.25	3,645,068.79	5.25		5.25	3.9	5/9/2006
B:									
C:	LINE 11	14	356,407.60	3,645,246.22	5.32		5.32	5.4	5/9/2006
D:	3A,11	14	356,407.07	3,645,092.18	5.02		5.02	4	5/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 3A	14	357,145.25	3,645,068.79	5.25		1.4	5/9/06	7/4/06
B:									
C:	LINE 11	14	356,407.60	3,645,246.22	5.32		1.8	5/9/06	7/4/06
D:	3A,11	14	356,407.42	3,645,091.92	5.1		2.5	7/4/06	7/4/06 R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 3A	14	357,145.25	3,645,068.79	5.25		1.5	5/9/06	7/18/06
B:									
C:	LINE 11	14	356,407.60	3,645,246.22	5.32		1.5	5/9/06	7/18/06
D:	3A,11	14	356,407.42	3,645,091.92	5.1		2.2	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 3A	14	357,145.25	3,645,068.79	5.25		1.2	1.2	5/9/06	8/1/06
B:										
C:	LINE 11	14	356,407.60	3,645,246.22	5.32		1.3	1.3	5/9/06	8/1/06
D:	3A,11	14	356,407.42	3,645,091.92	5.1		2.1	2.1	7/4/06	8/1/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.
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Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
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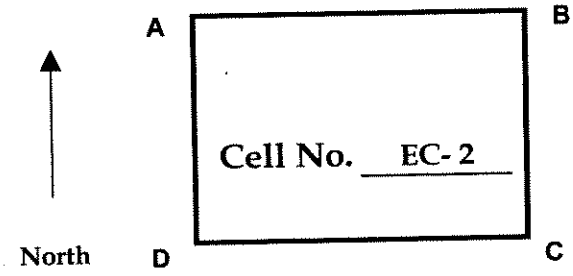

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 2	14	356,959.59	3,644,573.61	5.48		5.48	4.2	5/9/2006
B:	LINE 3A	14	357,145.25	3,645,068.79	5.25		5.25	3.9	5/9/2006
C:	3A,11	14	356,407.07	3,645,092.18	5.02		5.02	4	5/9/2006
D:	2,11	16	356,404.51	3,644,590.68	4.21		4.21	5	6/17/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 2	14	356,937.57	3,644,574.57	5.26		1.6	7/6/06	7/4/06	R
B:	LINE 3A	14	357,145.25	3,645,068.79	5.25		1.4	5/9/06	7/4/06	
C:	3A,11	14	356,407.42	3,645,091.92	5.1		2.5	7/4/06	7/4/06	R
D:	2,11	14	356,405.74	3,644,591.40	5.15		2.3	7/4/06	7/4/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 2	14	356,937.57	3,644,574.57	5.26		1.5	7/6/06	7/18/06
B:	LINE 3A	14	357,145.25	3,645,068.79	5.25		1.5	5/9/06	7/18/06
C:	3A,11	14	356,407.42	3,645,091.92	5.1		2.2	7/4/06	7/18/06
D:	2,11	14	356,405.74	3,644,591.40	5.15		1.8	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 2	14	356,937.57	3,644,574.57	5.26		1.2	1.2	7/6/06	8/1/06
B:	LINE 3A	14	357,145.25	3,645,068.79	5.25		1.2	1.2	5/9/06	8/1/06
C:	3A,11	14	356,407.42	3,645,091.92	5.1		2.1	2.1	7/4/06	8/1/06
D:	2,11	14	356,405.74	3,644,591.40	5.15		1.7	1.7	7/4/06	8/1/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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JAB
Contractor Signature

Registered Land Surveyor

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REG. No. 4503
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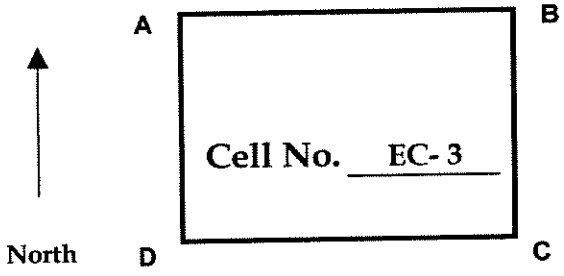
Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 2A	12	356,916.76	3,644,075.29	3.62		3.62	3.3	4/9/2006
B:	LINE 2	14	356,959.59	3,644,573.61	5.48		5.48	4.2	5/9/2006
C:	2,11	16	356,404.51	3,644,590.68	4.21		4.21	5	6/17/2006
D:	2A,11	12	356,404.17	3,644,091.78	4.09		4.09	2.7	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 2A	12	356,916.76	3,644,075.29	3.62		1.3	4/9/06	7/4/06	
B:	LINE 2	14	356,937.57	3,644,574.57	5.26		1.6	7/4/06	7/4/06	R
C:	2,11	14	356,405.74	3,644,591.40	5.15		2.3	7/4/06	7/4/06	R
D:	2A,11	14	356,404.79	3,644,092.14	5.29		2.0	6/26/06	6/26/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 2A	12	356,916.76	3,644,075.29	3.62		1.1	4/9/06	7/18/06
B:	LINE 2	14	356,937.57	3,644,574.57	5.26		1.5	7/4/06	7/18/06
C:	2,11	14	356,405.74	3,644,591.40	5.15		1.8	7/4/06	7/18/06
D:	2A,11	14	356,404.79	3,644,092.14	5.29		2.0	6/26/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 2A	12	356,916.76	3,644,075.29	3.62		1.1	1.1	4/9/06	8/1/06
B:	LINE 2	14	356,937.57	3,644,574.57	5.26		1.2	1.2	7/4/06	8/1/06
C:	2,11	14	356,405.74	3,644,591.40	5.15		1.7	1.7	7/4/06	8/1/06
D:	2A,11	14	356,404.79	3,644,092.14	5.29		1.8	1.8	6/26/06	7/24/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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All elevations and distances are in feet.

JAB

Contractor Signature

Registered Land Surveyor

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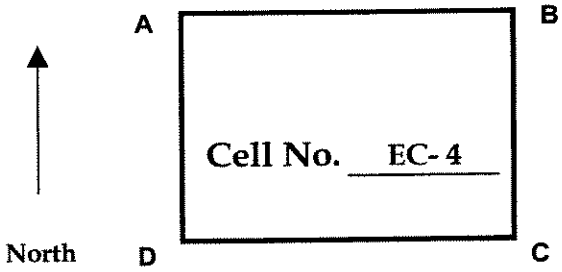
Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 1	12	356,948.25	3,643,573.56	3.8		3.8	2.6	4/9/2006
B:	LINE 2A	12	356,916.76	3,644,075.29	3.62		3.62	3.3	4/9/2006
C:	2A,11	12	356,404.17	3,644,091.78	4.09		4.09	2.7	4/9/2006
D:	1,11	12	356,404.57	3,643,590.10	3.85		3.85	2.6	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 1	12	356,948.25	3,643,573.56	3.8		1.3	4/9/06	7/4/06	
B:	LINE 2A	12	356,916.76	3,644,075.29	3.62		1.3	4/9/06	7/4/06	
C:	2A,11	12	356,404.79	3,644,092.14	5.29		2.0	6/26/06	6/26/06	R
D:	1,11	12	356,404.57	3,643,590.10	3.85		1.3	4/9/06	6/26/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 1	12	356,948.25	3,643,573.56	3.8		1.2	4/9/06	7/18/06
B:	LINE 2A	12	356,916.76	3,644,075.29	3.62		1.1	4/9/06	7/18/06
C:	2A,11	12	356,404.79	3,644,092.14	5.29		2.0	6/26/06	7/10/06
D:	1,11	12	356,404.57	3,643,590.10	3.85		1.3	4/9/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 1	12	356,948.25	3,643,573.56	3.8		1.3	1.3	4/9/06	8/1/06
B:	LINE 2A	12	356,916.76	3,644,075.29	3.62		1.1	1.1	4/9/06	8/1/06
C:	2A,11	12	356,404.79	3,644,092.14	5.29		1.8	1.8	6/26/06	7/24/06
D:	1,11	12	356,404.57	3,643,590.10	3.85		1.1	1.1	4/9/06	7/24/06

NOTE: * NAD 83 US. FT.

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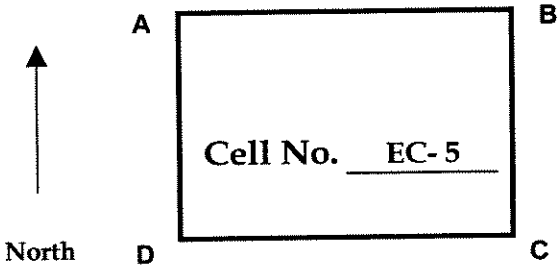

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 1A	12	357,060.31	3,643,071.51	3.67		3.67	2.9	4/9/2006
B:	LINE 1	12	356,948.25	3,643,573.56	3.8		3.8	2.6	4/9/2006
C:	1,11	12	356,404.57	3,643,590.10	3.85		3.85	2.6	4/9/2006
D:	1A,11	12	356,401.99	3,643,091.27	4.25		4.25	3.6	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 1A	12	357,060.31	3,643,071.51	3.67		1.4	4/9/06	7/4/06	
B:	LINE 1	12	356,948.25	3,643,573.56	3.8		1.3	4/9/06	7/4/06	
C:	1,11	12	356,404.57	3,643,590.10	3.85		1.3	4/9/06	6/26/06	
D:	1A,11	14	356,401.63	3,643,091.69	4.38		1.9	6/26/06	6/26/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 1A	12	357,060.31	3,643,071.51	3.67		1.0	4/9/06	7/18/06
B:	LINE 1	12	356,948.25	3,643,573.56	3.8		1.2	4/9/06	7/18/06
C:	1,11	12	356,404.57	3,643,590.10	3.85		1.3	4/9/06	7/10/06
D:	1A,11	14	356,401.63	3,643,091.69	4.38		1.9	6/26/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 1A	12	357,060.31	3,643,071.51	3.67		1.3	1.3	4/9/06	8/1/06
B:	LINE 1	12	356,948.25	3,643,573.56	3.8		1.3	1.3	4/9/06	8/1/06
C:	1,11	12	356,404.57	3,643,590.10	3.85		1.1	1.1	4/9/06	7/24/06
D:	1A,11	14	356,401.63	3,643,091.69	4.38		1.5	1.5	6/26/06	7/24/06

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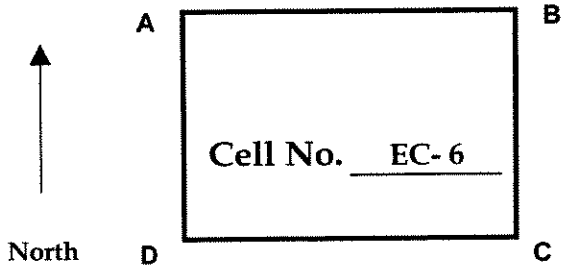

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	CORNER	14	356,985.08	3,642,638.22	4.89		4.89	5.6	4/27/2006
B:	LINE 1A	12	357,060.31	3,643,071.51	3.67		3.67	2.9	4/9/2006
C:	1A,11	12	356,401.99	3,643,091.27	4.25		4.25	3.6	4/9/2006
D:	BL,11	12	356,402.96	3,642,653.93	4.15		4.15	3.2	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	CORNER	14	356,985.08	3,642,638.22	4.89		1.4	4/9/06	7/6/06	
B:	LINE 1A	12	357,060.31	3,643,071.51	3.67		1.4	4/9/06	7/6/06	
C:	1A,11	14	356,401.63	3,643,091.69	4.39		1.9	6/26/06	6/26/06	R
D:	BL,11	12	356,402.96	3,642,653.93	4.15		1.9	4/9/06	6/26/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	CORNER	14	356,985.08	3,642,638.22	4.89		1.4	4/9/06	7/18/06
B:	LINE 1A	12	357,060.31	3,643,071.51	3.67		1.0	4/9/06	7/18/06
C:	1A,11	14	356,401.63	3,643,091.69	4.39		1.9	6/26/06	7/10/06
D:	BL,11	12	356,402.96	3,642,653.93	4.15		1.9	4/9/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	CORNER	14	356,985.08	3,642,638.22	4.89		1.3	1.3	4/9/06	8/1/06
B:	LINE 1A	12	357,060.31	3,643,071.51	3.67		1.3	1.3	4/9/06	8/1/06
C:	1A,11	14	356,401.63	3,643,091.69	4.39		1.5	1.5	6/26/06	7/24/06
D:	BL,11	12	356,402.96	3,642,653.93	4.15		1.6	1.6	4/9/06	7/24/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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REG. No. 4503
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Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
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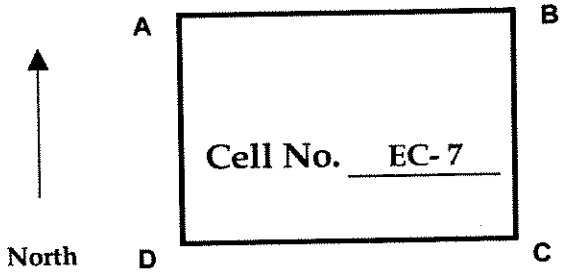

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,11	12	356,402.96	3,642,653.93	4.15		4.15	3.2	4/9/2006
B:	1A,11	12	356,401.99	3,643,091.27	4.25		4.25	3.6	4/9/2006
C:	1A,12A	12	355,902.06	3,643,106.48	4.09		4.09	4.4	4/9/2006
D:	BL,12A	12	355,903.15	3,642,644.82	5.11		5.11	5.2	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	BL,11	12	356,402.96	3,642,653.93	4.15		1.9	4/9/06	6/26/06	
B:	1A,11	14	356,401.63	3,643,091.69	4.38		1.9	6/26/06	6/26/06	R
C:	1A,12A	14	355,902.62	3,643,107.27	4.10		2.1	6/26/06	6/26/06	R
D:	BL,12A	12	355,903.15	3,642,644.82	5.11		1.8	4/9/06	6/26/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,11	12	356,402.96	3,642,653.93	4.15		1.9	4/9/06	7/10/06
B:	1A,11	14	356,401.63	3,643,091.69	4.38		1.9	6/26/06	7/10/06
C:	1A,12A	14	355,902.62	3,643,107.27	4.10		2.0	6/26/06	7/10/06
D:	BL,12A	12	355,903.15	3,642,644.82	5.11		1.6	4/9/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,11	12	356,402.96	3,642,653.93	4.15		**1.6**	1.6	4/9/06	**7/24/2006**
B:	1A,11	14	356,401.63	3,643,091.69	4.38		**1.5**	1.5	6/26/06	**7/24/2006**
C:	1A,12A	14	355,902.62	3,643,107.27	4.10		**2**	2.0	6/26/06	**7/24/2006**
D:	BL,12A	12	355,903.15	3,642,644.82	5.11		**1.5**	1.5	4/9/06	**7/24/2006**

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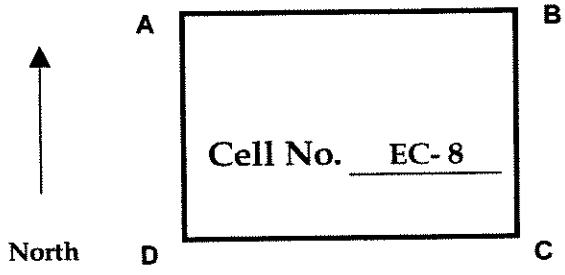

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,11	12	356,404.57	3,643,590.10	3.85		3.85	2.6	4/9/2006
B:	2A,11	12	356,404.17	3,644,091.78	4.09		4.09	2.7	4/9/2006
C:	2A,12A	12	355,904.91	3,644,106.75	3.84		3.84	2.6	4/9/2006
D:	1,12A	12	355,904.01	3,643,607.39	4		4	4	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,11	12	356,404.57	3,643,590.10	3.85		1.3	4/9/06	6/26/06
B:	2A,11	14	356,404.79	3,644,092.14	5.29		2.0	6/26/06	6/26/06 R
C:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.2	4/9/06	6/26/06
D:	1,12A	12	355,904.01	3,643,607.39	4		3.0	4/9/06	6/26/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,11	12	356,404.57	3,643,590.10	3.85		1.3	4/9/06	7/10/06
B:	2A,11	14	356,404.79	3,644,092.14	5.29		2.0	6/26/06	7/10/06
C:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.3	4/9/06	7/10/06
D:	1,12A	12	355,904.01	3,643,607.39	4		2.7	4/9/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,11	12	356,404.57	3,643,590.10	3.85		1.1	1.1	4/9/06	7/24/2006
B:	2A,11	14	356,404.79	3,644,092.14	5.29		1.8	1.8	6/26/06	7/24/2006
C:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.1	2.1	4/9/06	7/24/2006
D:	1,12A	12	355,904.01	3,643,607.39	4		2.4	2.4	4/9/06	7/24/2006

NOTE: * NAD 83 US. FT.

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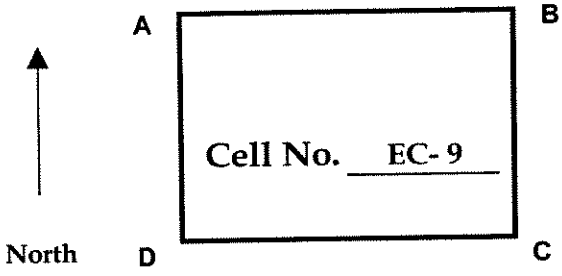

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,11	12	356,404.17	3,644,091.78	4.09		4.09	2.7	4/9/2006
B:	2,11	16	356,404.51	3,644,590.68	4.21		4.21	5	6/17/2006
C:	2,12A	14	355,905.31	3,644,607.01	5.03		5.03	4.6	5/9/2006
D:	2A,12A	12	355,904.91	3,644,106.75	3.84		3.84	2.6	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,11	14	356,404.79	3,644,092.14	5.29		2.0	6/26/06	6/26/06	R
B:	2,11	14	356,405.74	3,644,591.40	5.15		2.3	7/4/06	7/4/06	R
C:	2,12A	14	355,905.26	3,644,606.88	4.73		2.6	7/4/06	7/4/06	R
D:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.2	4/9/06	6/26/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,11	14	356,404.79	3,644,092.14	5.29		2.0	6/26/06	7/10/06
B:	2,11	14	356,405.74	3,644,591.40	5.15		1.8	6/26/06	7/18/06
C:	2,12A	14	355,905.26	3,644,606.88	4.73		2.3	7/4/06	7/18/06
D:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.3	4/9/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,11	14	356,404.79	3,644,092.14	5.29		1.8	1.8	6/26/06	7/24/06
B:	2,11	14	356,405.74	3,644,591.40	5.15		1.7	1.7	6/26/06	8/1/06
C:	2,12A	14	355,905.26	3,644,606.88	4.73		2	2.0	7/4/06	8/1/06
D:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.1	2.1	4/9/06	7/24/06

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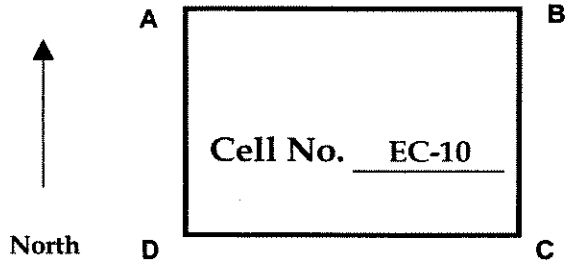

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,11	16	356,404.51	3,644,590.68	4.21		4.21	5	6/17/2006
B:	3A,11	14	356,407.07	3,645,092.18	5.02		5.02	4	5/9/2006
C:	3A,12A	14	355,906.63	3,645,107.83	4.51		4.51	3.4	5/9/2006
D:	2,12A	14	355,905.31	3,644,607.01	5.03		5.03	4.6	5/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,11	14	356,405.74	3,644,591.40	5.15		2.3	7/4/06	7/4/06	R
B:	3A,11	14	356,407.42	3,645,091.92	5.1		2.5	7/4/06	7/4/06	R
C:	3A,12A	14	355,906.83	3,645,107.53	4.55		2.6	7/4/06	7/4/06	R
D:	2,12A	14	355,905.26	3,644,606.88	4.73		2.6	7/4/06	7/4/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,11	14	356,405.74	3,644,591.40	5.15		1.8	7/4/06	7/18/06
B:	3A,11	14	356,407.42	3,645,091.92	5.1		2.2	7/4/06	7/18/06
C:	3A,12A	14	355,906.83	3,645,107.53	4.55		2.4	7/4/06	7/18/06
D:	2,12A	14	355,905.26	3,644,606.88	4.73		2.3	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,11	14	356,405.74	3,644,591.40	5.15		1.7	1.7	7/4/06	8/1/06
B:	3A,11	14	356,407.42	3,645,091.92	5.1		2.1	2.1	7/4/06	8/1/06
C:	3A,12A	14	355,906.83	3,645,107.53	4.55		2.2	2.2	7/4/06	8/1/06
D:	2,12A	14	355,905.26	3,644,606.88	4.73		2	2.0	7/4/06	8/1/06

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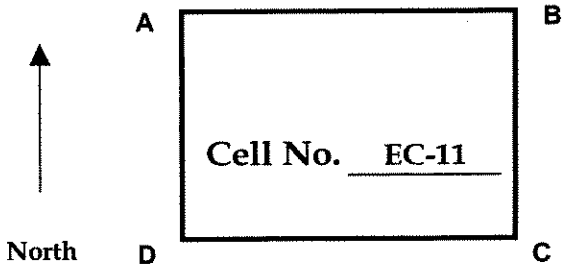

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,11	14	356,407.07	3,645,092.18	5.02		5.02	4	5/9/2006
B:	LINE 11	14	356,407.60	3,645,246.22	5.32		5.32	5.4	5/9/2006
C:	LINE 12A	14	355,907.70	3,645,392.36	5.4		5.4	3.8	5/9/2006
D:	3A,12A	14	355,906.63	3,645,107.83	4.51		4.51	3.4	5/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,11	14	356,407.42	3,645,091.92	5.1		2.5	7/4/06	7/4/06	R
B:	LINE 11	14	356,407.60	3,645,246.22	5.32		1.8	5/9/06	7/4/06	
C:	LINE 12A	14	355,907.70	3,645,392.36	5.4		2.4	5/9/06	7/4/06	
D:	3A,12A	14	355,907.13	3,645,106.54	4.55		2.6	7/4/06	7/4/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,11	14	356,407.42	3,645,091.92	5.1		2.2	7/4/06	7/18/06
B:	LINE 11	14	356,407.60	3,645,246.22	5.32		1.5	5/9/06	7/18/06
C:	LINE 12A	14	355,907.70	3,645,392.36	5.4		2.3	5/9/06	7/18/06
D:	3A,12A	14	355,907.13	3,645,106.54	4.55		2.4	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,11	14	356,407.42	3,645,091.92	5.1		2.1	2.1	7/4/06	8/1/06
B:	LINE 11	14	356,407.60	3,645,246.22	5.32		1.3	1.3	5/9/06	8/1/06
C:	LINE 12A	14	355,907.70	3,645,392.36	5.4		2.2	2.2	5/9/06	8/1/06
D:	3A,12A	14	355,907.13	3,645,106.54	4.55		2.2	2.2	7/4/06	8/1/06

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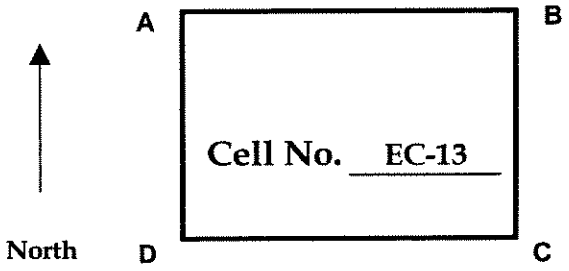

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	NONE								
B:	NONE								
C:	NONE								
D:	3,12	12	355,408.19	3,645,623.52	4.21		4.21	2.9	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	NONE								
B:	NONE								
C:	NONE								
D:	3,12	14	355,408.01	3,645,622.97	5.73		2.6	7/4/06	7/4/06

R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	NONE								
B:	NONE								
C:	NONE								
D:	3,12	14	355,408.01	3,645,622.97	5.73		2.5	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	NONE									
B:	NONE									
C:	NONE									
D:	3,12	14	355,408.01	3,645,622.97	5.73		1.9	1.9	7/4/06	8/1/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

All elevations are to be to the nearest tenth of a foot as per specifications.

28 Day readings must be approved by registered land surveyor for use as as-built surveys.

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All elevations and distances are in feet.

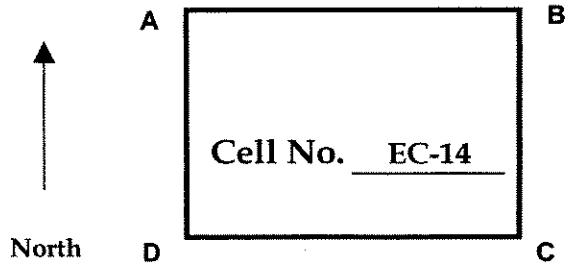
JAB

Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,12A	14	355,905.31	3,644,607.01	5.03		5.03	4.6	5/9/2006
B:	3A,12A	14	355,906.63	3,645,107.83	4.51		4.51	3.4	5/9/2006
C:	3A,12	14	355,407.13	3,645,123.39	5.07		5.07	3.8	5/9/2006
D:	2,12	14	355,405.52	3,644,623.18	4.97		4.97	4.9	5/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,12A	14	355,905.26	3,644,606.88	4.73		2.6	7/4/06	7/4/06	R
B:	3A,12A	14	355,906.83	3,645,107.53	4.55		2.6	7/4/06	7/4/06	R
C:	3A,12	14	355,406.18	3,645,122.48	6.24		3.2	7/4/06	7/4/06	R
D:	2,12	14	355,405.88	3,644,622.63	5.23		3.1	7/4/06	7/4/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,12A	14	355,905.26	3,644,606.88	4.73		2.3	7/4/06	7/18/06
B:	3A,12A	14	355,906.83	3,645,107.53	4.55		2.4	7/4/06	7/18/06
C:	3A,12	14	355,406.18	3,645,122.48	6.24		3.1	7/4/06	7/18/06
D:	2,12	14	355,405.88	3,644,622.63	5.23		2.9	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,12A	14	355,905.26	3,644,606.88	4.73		2	2.0	7/4/06	8/1/06
B:	3A,12A	14	355,906.83	3,645,107.53	4.55		2.2	2.2	7/4/06	8/1/06
C:	3A,12	14	355,406.18	3,645,122.48	6.24		2.8	2.8	7/4/06	8/1/06
D:	2,12	14	355,405.88	3,644,622.63	5.23		2.7	2.7	7/4/06	8/1/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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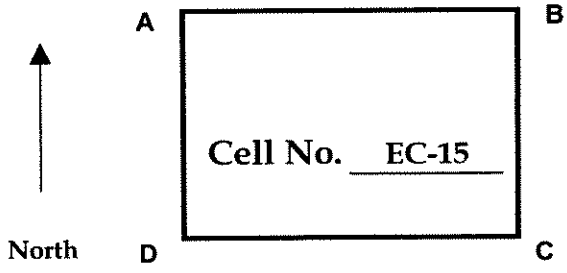

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,12A	12	355,904.91	3,644,106.75	3.84		3.84	2.6	4/9/2006
B:	2,12A	14	355,905.31	3,644,607.01	5.03		5.03	4.6	5/9/2006
C:	2,12	14	355,405.52	3,644,623.18	4.97		4.97	4.9	5/9/2006
D:	2A,12	14	355,405.40	3,644,123.10	4.73		4.73	4.7	5/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.2	4/9/06	6/26/06	
B:	2,12A	14	355,905.26	3,644,606.88	4.73		2.6	7/4/06	7/4/06	R
C:	2,12	14	355,405.88	3,644,622.63	5.23		3.1	7/4/06	7/4/06	R
D:	2A,12	14	355,408.95	3,644,123.15	5.12		3.2	6/26/06	6/26/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.3	4/9/06	7/10/2006
B:	2,12A	14	355,905.26	3,644,606.88	4.73		2.3	7/4/06	7/18/06
C:	2,12	14	355,405.88	3,644,622.63	5.23		2.9	7/4/06	7/18/06
D:	2A,12	14	355,408.95	3,644,123.15	5.12		3.0	6/26/06	7/10/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.1	2.1	4/9/06	7/24/06
B:	2,12A	14	355,905.26	3,644,606.88	4.73		2	2.0	7/4/06	8/1/06
C:	2,12	14	355,405.88	3,644,622.63	5.23		2.7	2.7	7/4/06	8/1/06
D:	2A,12	14	355,408.95	3,644,123.15	5.12		2.8	2.8	6/26/06	7/24/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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REG. No. 4503

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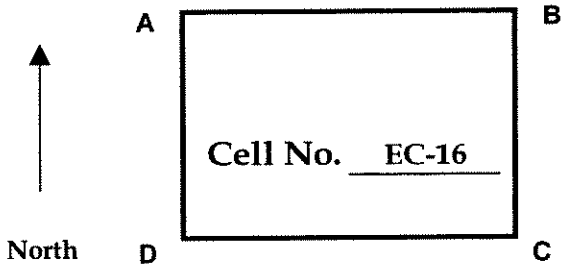

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,12A	12	355,904.01	3,643,607.39	4		4	4	4/9/2006
B:	2A,12A	12	355,904.91	3,644,106.75	3.84		3.84	2.6	4/9/2006
C:	2A,12	14	355,405.40	3,644,123.10	4.73		4.73	4.7	5/9/2006
D:	1,12	14	355,403.20	3,643,623.04	4.96		4.96	5.9	6/17/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1,12A	12	355,904.01	3,643,607.39	4		3.0	4/9/06	6/26/06	
B:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.2	4/9/06	6/26/06	
C:	2A,12	14	355,403.95	3,644,123.15	5.12		3.2	6/26/06	6/26/06	R
D:	1,12	14	355,403.20	3,643,623.04	4.96		3.2	6/17/06	6/26/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,12A	12	355,904.01	3,643,607.39	4		2.7	4/9/06	7/10/06
B:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.3	4/9/06	7/10/06
C:	2A,12	14	355,403.95	3,644,123.15	5.12		3.0	6/26/06	7/10/06
D:	1,12	14	355,403.20	3,643,623.04	4.96		2.9	6/17/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,12A	12	355,904.01	3,643,607.39	4		2.4	2.4	4/9/06	7/24/2006
B:	2A,12A	12	355,904.91	3,644,106.75	3.84		2.1	2.1	4/9/06	7/24/2006
C:	2A,12	14	355,403.95	3,644,123.15	5.12		2.8	2.8	6/26/06	7/24/2006
D:	1,12	14	355,403.20	3,643,623.04	4.96		2.4	2.4	6/17/06	7/24/2006

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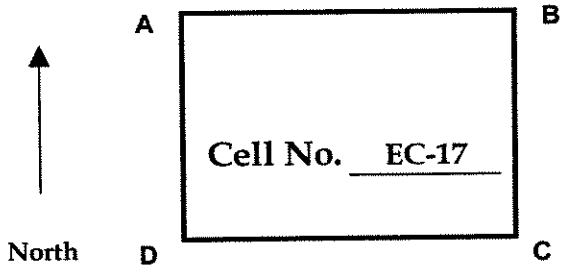

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,12A	12	355,902.06	3,643,106.48	4.09		4.09	4.4	4/9/2006
B:	1,12A	12	355,904.01	3,643,607.39	4		4	4	4/9/2006
C:	1,12	14	355,403.20	3,643,623.04	4.96		4.96	5.9	6/17/2006
D:	1A,12	12	355,403.81	3,643,122.73	4.23		4.23	5.2	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1A,12A	14	355,902.62	3,643,107.27	4.11		2.1	6/26/06	6/26/06	R
B:	1,12A	12	355,904.01	3,643,607.39	4		3.0	4/9/06	6/26/06	
C:	1,12	14	355,403.20	3,643,623.04	4.96		3.2	6/17/06	6/26/06	
D:	1A,12	12	355,403.81	3,643,122.73	4.23		3.2	4/9/06	6/26/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,12A	14	355,902.62	3,643,107.27	4.11		2.0	6/26/06	7/10/06
B:	1,12A	12	355,904.01	3,643,607.39	4		2.7	4/9/06	7/10/06
C:	1,12	14	355,403.20	3,643,623.04	4.96		2.9	6/17/06	7/10/06
D:	1A,12	12	355,403.81	3,643,122.73	4.23		2.8	4/9/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,12A	14	355,902.62	3,643,107.27	4.11		2	2.0	6/26/06	7/24/2006
B:	1,12A	12	355,904.01	3,643,607.39	4		2.4	2.4	4/9/06	7/24/2006
C:	1,12	14	355,403.20	3,643,623.04	4.96		2.4	2.4	6/17/06	7/24/2006
D:	1A,12	12	355,403.81	3,643,122.73	4.23		2.2	2.2	4/9/06	7/24/2006

NOTE: * NAD 83 US. FT.

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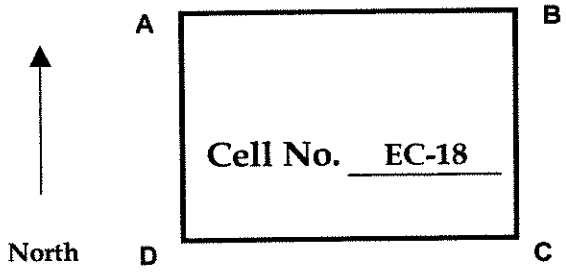

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,12A	12	355,903.15	3,642,644.82	5.11		5.11	5.2	4/9/2006
B:	1A,12A	12	355,902.06	3,643,106.48	4.09		4.09	4.4	4/9/2006
C:	1A,12	12	355,403.81	3,643,122.78	4.23		4.23	5.2	4/9/2006
D:	BL,12	12	355,406.16	3,642,682.10	5.86		5.86	4.5	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	BL,12A	12	355,903.15	3,642,644.82	5.11		1.8	4/9/06	6/26/06	
B:	1A,12A	14	355,902.62	3,643,107.27	4.11		2.1	6/26/06	6/26/06	R
C:	1A,12	12	355,403.81	3,643,122.78	4.23		3.2	4/9/06	6/26/06	
D:	BL,12	12	355,406.16	3,642,682.10	5.86		2.5	4/9/06	6/26/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,12A	12	355,903.15	3,642,644.82	5.11		1.6	4/9/06	7/10/06
B:	1A,12A	14	355,902.62	3,643,107.27	4.11		2.0	6/26/06	7/10/06
C:	1A,12	12	355,403.81	3,643,122.78	4.23		2.8	4/9/06	7/10/06
D:	BL,12	12	355,406.16	3,642,682.10	5.86		2.2	4/9/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,12A	12	355,903.15	3,642,644.82	5.11		1.5	1.5	4/9/06	7/24/2006
B:	1A,12A	14	355,902.62	3,643,107.27	4.11		2	2.0	6/26/06	7/24/2006
C:	1A,12	12	355,403.81	3,643,122.78	4.23		2.2	2.2	4/9/06	7/24/2006
D:	BL,12	12	355,406.16	3,642,682.10	5.86		1.9	1.9	4/9/06	7/24/2006

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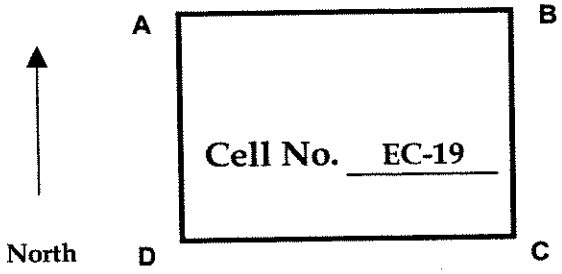

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,12	12	355,406.16	3,642,682.10	5.86		5.86	4.5	4/9/2006
B:	1A,12	12	355,403.81	3,643,122.73	4.23		4.23	5.2	4/9/2006
C:	1A,13A	12	354,901.67	3,643,137.95	4.2	0.15	4.05	4.4	4/2/2006
D:	BL,13A	12	354,904.90	3,642,697.43	4.19		4.19	4.4	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,12	12	355,406.16	3,642,682.10	5.86		2.5	4/9/06	6/26/06
B:	1A,12	12	355,403.81	3,643,122.73	4.23		3.2	4/9/06	6/26/06
C:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.6	4/2/06	6/26/06
D:	BL,13A	12	354,904.90	3,642,697.43	4.19		2.5	4/22/06	6/26/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,12	12	355,406.16	3,642,682.10	5.86		2.2	4/9/06	7/10/06
B:	1A,12	12	355,403.81	3,643,122.73	4.23		2.8	4/9/06	7/10/06
C:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.6	4/2/06	7/10/06
D:	BL,13A	12	354,904.90	3,642,697.43	4.19		2.2	4/22/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,12	12	355,406.16	3,642,682.10	5.86		1.9	1.9	4/9/06	7/24/2006
B:	1A,12	12	355,403.81	3,643,122.73	4.23		2.2	2.2	4/9/06	7/24/2006
C:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.3	2.3	4/2/06	7/24/2006
D:	BL,13A	12	354,904.90	3,642,697.43	4.19		1.9	1.9	4/22/06	7/24/2006

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Registered Land Surveyor

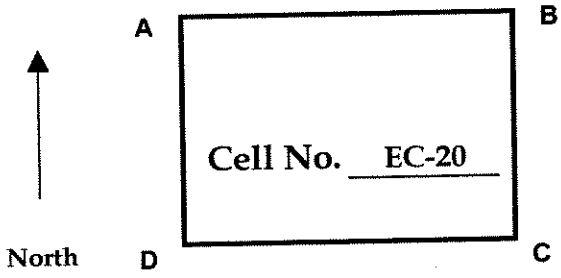
STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,12	12	355,403.81	3,643,122.73	4.23		4.23	5.2	4/9/2006
B:	1,12	14	355,403.20	3,643,623.04	4.96		4.96	5.9	6/17/2006
C:	1,13A	12	354,903.15	3,643,637.12	4.12	0.15	3.97	6	4/2/2006
D:	1A,13A	12	354,901.67	3,643,137.95	4.2	0.15	4.05	4.4	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,12	12	355,403.81	3,643,122.73	4.23		3.2	4/9/06	6/26/06
B:	1,12	14	355,403.20	3,643,623.04	4.96		3.2	6/17/06	6/26/06
C:	1,13A	16	354,902.99	3,643,638.26	4.65		3.2	6/26/06	6/26/06
D:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.6	4/2/06	6/26/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,12	12	355,403.81	3,643,122.73	4.23		2.8	4/9/06	7/10/06
B:	1,12	14	355,403.20	3,643,623.04	4.96		2.9	6/17/06	7/10/06
C:	1,13A	16	354,902.99	3,643,638.26	4.65		2.9	6/26/06	7/10/06
D:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.6	4/2/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,12	12	355,403.81	3,643,122.73	4.23		2.2	2.2	4/9/06	7/24/2006
B:	1,12	14	355,403.20	3,643,623.04	4.96		2.4	2.4	6/17/06	7/24/2006
C:	1,13A	16	354,902.99	3,643,638.26	4.65		2.6	2.6	6/26/06	7/24/2006
D:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.3	2.3	4/2/06	7/24/2006

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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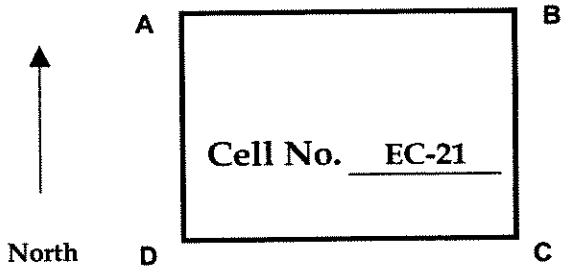

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,12	14	355,403.20	3,643,623.04	4.96		4.96	5.9	6/17/2006
B:	2A,12	14	355,405.40	3,644,123.10	4.73		4.73	4.7	5/9/2006
C:	2A,13A	14	354,903.74	3,644,138.17	4.74		4.74	1.8	6/26/2006
D:	1,13A	12	354,903.15	3,643,637.12	4.12	0.15	3.97	6	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,12	14	355,403.20	3,643,623.04	4.96		3.2	6/17/06	6/26/06
B:	2A,12	14	355,403.95	3,644,123.15	5.12		3.2	6/26/06	6/26/06
C:	2A,13A	14	354,903.74	3,644,138.17	4.74		3.0	6/26/06	6/26/06
D:	1,13A	16	354,902.99	3,643,638.26	4.65		3.2	6/26/06	6/26/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,12	14	355,403.20	3,643,623.04	4.96		2.9	6/17/06	7/10/06
B:	2A,12	14	355,403.95	3,644,123.15	5.12		3.0	6/26/06	7/10/06
C:	2A,13A	14	354,903.74	3,644,138.17	4.74		2.6	6/26/06	7/10/06
D:	1,13A	16	354,902.99	3,643,638.26	4.65		2.9	6/26/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,12	14	355,403.20	3,643,623.04	4.96		2.4	2.4	6/17/06	7/24/2006
B:	2A,12	14	355,403.95	3,644,123.15	5.12		2.8	2.8	6/26/06	7/24/2006
C:	2A,13A	14	354,903.74	3,644,138.17	4.74		2.2	2.2	6/26/06	7/24/2006
D:	1,13A	16	354,902.99	3,643,638.26	4.65		2.6	2.6	6/26/06	7/24/2006

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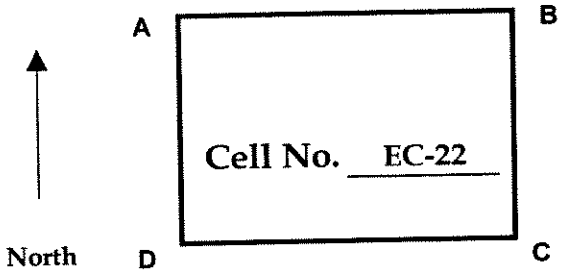

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,12	14	355,405.40	3,644,123.10	4.73		4.73	4.7	5/9/2006
B:	2,12	14	355,405.52	3,644,623.18	4.97		4.97	4.9	5/9/2006
C:	2,13A	12	354,905.71	3,644,637.59	3.82		3.82	4.7	4/11/2006
D:	2A,13A	14	354,903.74	3,644,138.17	4.74		4.74	1.8	6/26/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,12	14	355,403.95	3,644,123.15	5.12		3.2	6/26/06	6/26/06	R
B:	2,12	14	355,405.88	3,644,623.63	5.23		3.1	7/4/06	7/4/06	R
C:	2,13A	12	354,905.91	3,644,637.59	5.22		3.5	7/4/06	7/4/06	R
D:	2A,13A	14	354,903.74	3,644,138.17	4.74		3.0	6/26/06	6/26/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,12	14	355,403.95	3,644,123.15	5.12		3.0	6/26/06	7/10/2006
B:	2,12	14	355,405.88	3,644,623.63	5.23		2.9	7/4/06	7/18/06
C:	2,13A	12	354,905.91	3,644,637.59	5.22		3.5	7/4/06	7/18/06
D:	2A,13A	14	354,903.74	3,644,138.17	4.74		2.6	6/26/06	7/10/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,12	14	355,403.95	3,644,123.15	5.12		2.8	2.8	6/26/06	7/24/06
B:	2,12	14	355,405.88	3,644,623.63	5.23		2.7	2.7	7/4/06	8/1/06
C:	2,13A	12	354,905.91	3,644,637.59	5.22		2.8	2.8	7/4/06	8/1/06
D:	2A,13A	14	354,903.74	3,644,138.17	4.74		2.2	2.2	6/26/06	7/24/06

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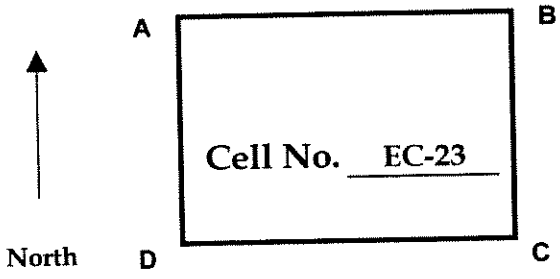

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,12	14	355,405.52	3,644,623.18	4.97		4.97	4.9	5/9/2006
B:	3A,12	14	355,407.13	3,645,123.39	5.07		5.07	3.8	5/9/2006
C:	3A,13A	12	354,907.01	3,645,139.24	4.24		4.24	3.9	4/11/2006
D:	2,13A	12	354,905.71	3,644,637.59	3.82		3.82	4.7	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,12	14	355,405.88	3,644,622.63	5.23		3.1	7/4/06	7/4/06	R
B:	3A,12	14	355,406.18	3,645,122.48	6.24		3.2	7/4/06	7/4/06	R
C:	3A,13A	14	354,907.55	3,645,138.62	5.71		3.5	7/4/06	7/4/06	R
D:	2,13A	14	354,905.91	3,644,637.59	5.22		3.5	7/4/06	7/4/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,12	14	355,405.88	3,644,622.63	5.23		2.9	7/4/06	7/18/06
B:	3A,12	14	355,406.18	3,645,122.48	6.24		3.1	7/4/06	7/18/06
C:	3A,13A	14	354,907.55	3,645,138.62	5.71		3.3	7/4/06	7/18/06
D:	2,13A	14	354,905.91	3,644,637.59	5.22		3.5	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,12	14	355,405.88	3,644,622.63	5.23		2.7	2.7	7/4/06	8/1/06
B:	3A,12	14	355,406.18	3,645,122.48	6.24		2.8	2.8	7/4/06	8/1/06
C:	3A,13A	14	354,907.55	3,645,138.62	5.71		3.1	3.1	7/4/06	8/1/06
D:	2,13A	14	354,905.91	3,644,637.59	5.22		2.8	2.8	7/4/06	8/1/06

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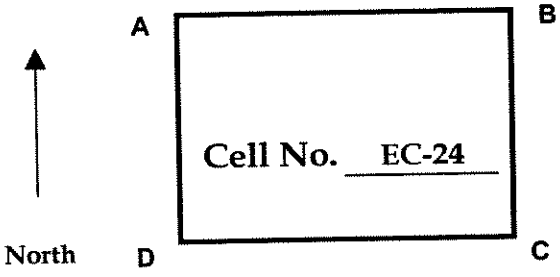

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,12	12	355,408.19	3,645,623.52	4.21		4.21	2.9	4/11/2006
B:	NONE								
C:	4A,13A	12	354,909.67	3,646,138.71	3.86		3.86	2.6	4/11/2006
D:	3,13A	12	354,907.80	3,645,638.38	4.12		4.12	3.2	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3,12	14	355,408.01	3,645,622.97	5.73		2.6	7/4/06	7/4/06	R
B:	NONE									
C:	4A,13A	12	354,909.67	3,646,138.71	3.86		2.1	4/11/06	7/4/06	
D:	3,13A	14	354,907.52	3,645,638.65	5.67		2.6	7/4/06	7/4/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,12	14	355,408.01	3,645,622.97	5.73		2.5	7/4/06	7/18/06
B:	NONE								
C:	4A,13A	12	354,909.67	3,646,138.71	3.86		1.7	4/11/06	7/18/06
D:	3,13A	14	354,907.52	3,645,638.65	5.67		2.4	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,12	14	355,408.01	3,645,622.97	5.73		1.9	1.9	7/4/06	8/1/06
B:	NONE									
C:	4A,13A	12	354,909.67	3,646,138.71	3.86		1.4	1.4	4/11/06	8/1/06
D:	3,13A	14	354,907.52	3,645,638.65	5.67		2.1	2.1	7/4/06	8/1/06

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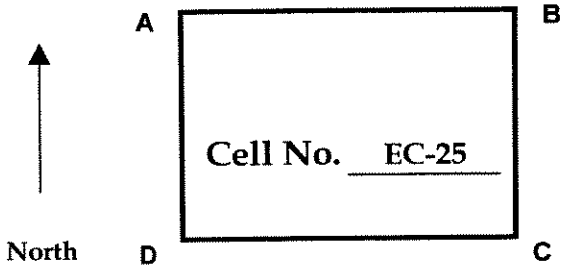

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 4A	14	354,252.52	3,646,658.32	4.6		4.6	4.1	6/17/2006
B:	NONE								
C:	LINE 13A	14	354,909.60	3,646,203.10	4.95		4.95	3.6	6/17/2006
D:	4A,13A	12	354,909.67	3,646,138.71	3.86		3.86	2.6	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 4A	14	354,252.52	3,646,658.32	4.6		1.7	6/17/06	6/22/06
B:	NONE								
C:	LINE 13A	14	354,909.60	3,646,203.10	4.95		1.7	6/17/06	7/4/06
D:	4A,13A	12	354,909.67	3,646,138.71	3.86		2.1	4/11/06	7/4/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 4A	14	354,252.52	3,646,658.32	4.6		1.4	6/17/06	7/6/06
B:	NONE								
C:	LINE 13A	14	354,909.60	3,646,203.10	4.95		1.6	6/17/06	7/18/06
D:	4A,13A	12	354,909.67	3,646,138.71	3.86		1.7	4/11/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 4A	14	354,252.52	3,646,658.32	4.6		1.1	1.1	6/17/06	8/1/06
B:	NONE									
C:	LINE 13A	14	354,909.60	3,646,203.10	4.95		1	1.0	6/17/06	8/1/06
D:	4A,13A	12	354,909.67	3,646,138.71	3.86		1.4	1.4	4/11/06	8/1/06

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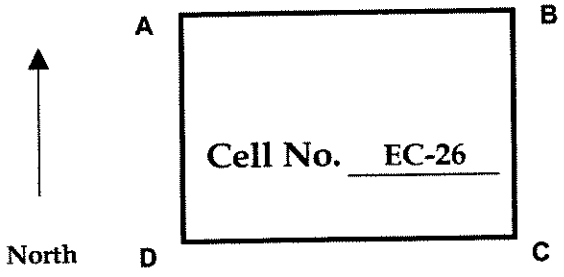

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:									
B:	LINE 7	14	355,502.86	3,649,623.03	4.34		4.34	4.2	6/5/2006
C:	7,12	14	355,416.79	3,649,642.53	5.26		5.26	3.95	5/28/2006
D:									

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:									
B:	LINE 7	14	355,502.86	3,649,623.03	4.34		1.5	6/5/06	6/5/06
C:	7,12	14	355,416.79	3,649,642.53	5.26		1.5	5/28/06	6/5/06
D:									

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:									
B:	LINE 7	14	355,502.86	3,649,623.03	4.34		1.7	6/5/06	6/19/06
C:	7,12	14	355,416.79	3,649,642.53	5.26		1.5	5/28/06	6/19/06
D:									

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:										
B:	LINE 7	14	355,502.86	3,649,623.03	4.34		1.6	1.6	6/5/06	7/3/06
C:	7,12	14	355,416.79	3,649,642.53	5.26		1.3	1.3	5/28/06	7/3/06
D:										

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

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All elevations and distances are in feet.

JAB

Contractor Signature

Registered Land Surveyor

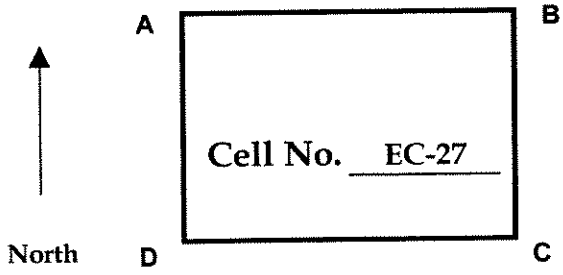
STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7,12	14	355,416.79	3,649,624.53	5.26		5.26	3.95	5/28/2006
B:	8A,12	14	355,419.01	3,650,124.75	4.74		4.74	3.6	5/28/2006
C:	8A,13A	14	354,918.06	3,650,137.65	6.15		6.15	4.1	5/28/2006
D:	7,13A	14	354,917.77	3,649,637.55	6.25		6.25	4.35	5/28/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,12	14	355,416.79	3,649,624.53	5.26		1.5	5/28/06	6/5/06
B:	8A,12	14	355,419.01	3,650,124.75	4.74		1.8	5/28/06	6/5/06
C:	8A,13A	14	354,917.97	3,650,135.68	5.64		3.1	6/3/06	6/5/06
D:	7,13A	14	354,917.34	3,649,637.24	5.12		2.8	6/5/06	6/5/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,12	14	355,416.79	3,649,624.53	5.26		1.5	5/28/06	6/19/06
B:	8A,12	14	355,419.01	3,650,124.75	4.74		1.7	5/28/06	6/19/06
C:	8A,13A	14	354,917.97	3,650,135.68	5.64		2.7	6/3/06	6/19/06
D:	7,13A	14	354,917.34	3,649,637.24	5.12		2.5	6/5/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7,12	14	355,416.79	3,649,624.53	5.26		1.3	1.3	5/28/06	7/3/06
B:	8A,12	14	355,419.01	3,650,124.75	4.74		1.5	1.5	5/28/06	7/3/06
C:	8A,13A	14	354,917.97	3,650,135.68	5.64		2.5	2.5	6/3/06	7/3/06
D:	7,13A	14	354,917.34	3,649,637.24	5.12		2.4	2.4	6/5/06	7/3/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

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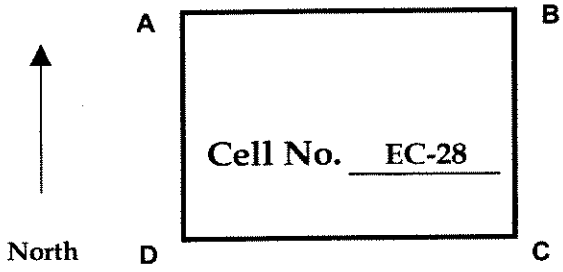

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	8A,12	14	355,419.01	3,650,124.75	4.74		4.74	3.6	5/28/2006
B:	LINE 8	14	355,420.50	3,650,623.82	4.42		4.42	4.7	5/28/2006
C:	8,13A	14	354,919.54	3,650,639.70	4.3		4.3	5.1	5/28/2006
D:	8A,13A	14	354,918.06	3,650,137.65	6.15		6.15	4.1	5/28/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	8A,12	14	355,419.01	3,650,124.75	4.74		1.8	5/28/06	6/5/06	
B:	LINE 8	14	355,420.50	3,650,623.82	4.42		1.8	5/28/06	6/5/06	
C:	8,13A	14	354,918.84	3,650,639.78	4.26		2.7	6/3/06	6/5/06	R
D:	8A,13A	14	354,917.97	3,650,135.68	5.64		3.1	6/3/06	6/5/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	8A,12	14	355,419.01	3,650,124.75	4.74		1.7	5/28/06	6/19/06
B:	LINE 8	14	355,420.50	3,650,623.82	4.42		1.8	5/28/06	6/19/06
C:	8,13A	14	354,918.84	3,650,639.78	4.26		2.4	6/3/06	6/19/06
D:	8A,13A	14	354,917.97	3,650,135.68	5.64		2.7	6/3/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	8A,12	14	355,419.01	3,650,124.75	4.74		1.5	1.5	5/28/06	7/3/06
B:	LINE 8	14	355,420.50	3,650,623.82	4.42		1.9	1.9	5/28/06	7/3/06
C:	8,13A	14	354,918.84	3,650,639.78	4.26		2.2	2.2	6/3/06	7/3/06
D:	8A,13A	14	354,917.97	3,650,135.68	5.64		2.5	2.5	6/3/06	7/3/06

NOTE: * NAD 83 US. FT.

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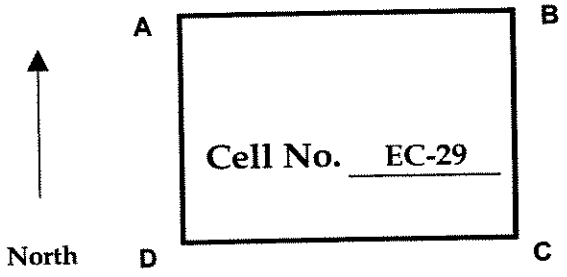

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 8	14	355,420.50	3,650,623.82	4.42		4.42	4.7	5/28/2006
B:	LINE 9A	14	355,304.40	3,651,626.01	4.61		4.61	4.9	5/30/2006
C:	9A,13A	16	354,921.20	3,651,137.59	3.94		3.94	6.4	5/28/2006
D:	8,13A	14	354,919.54	3,650,639.66	4.3		4.3	5.1	5/28/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 8	14	355,420.50	3,650,623.82	4.42		1.8	5/28/06	6/5/06	
B:	LINE 9A	14	355,304.40	3,651,626.01	4.61		2.2	5/30/06	6/5/06	R
C:	9A,13A	16	354,921.20	3,651,137.59	3.94		2.5	6/3/06	6/5/06	
D:	8,13A	14	354,918.84	3,650,639.78	4.26		2.7	6/3/06	6/5/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 8	14	355,420.50	3,650,623.82	4.42		1.8	5/28/06	6/19/06
B:	LINE 9A	14	355,304.40	3,651,626.01	4.61		2.1	5/30/06	6/19/06
C:	9A,13A	16	354,921.20	3,651,137.59	3.94		1.3	6/3/06	6/19/06
D:	8,13A	14	354,918.84	3,650,639.78	4.26		2.4	6/3/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 8	14	355,420.50	3,650,623.82	4.42		1.9	1.9	5/28/06	7/3/06
B:	LINE 9A	14	355,304.40	3,651,626.01	4.61		2.2	2.2	5/30/06	7/3/06
C:	9A,13A	16	354,921.20	3,651,137.59	3.94		1.1	1.1	6/3/06	7/3/06
D:	8,13A	14	354,918.84	3,650,639.78	4.26		2.2	2.2	6/3/06	7/3/06

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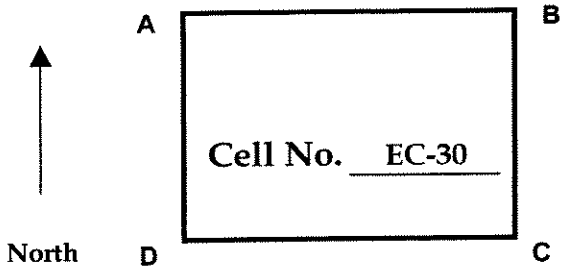

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 9A	14	355,432.55	3,651,106.72	4.61		4.61	4.9	5/30/2006
B:	LINE 9	14	355,304.55	3,651,626.16	4.72		4.72	4.13	5/30/2006
C:	9,13A	16	354,921.87	3,651,637.72	4.36		4.36	4.6	5/30/2006
D:	9A,13A	16	354,921.20	3,651,137.59	3.94		3.94	6.4	5/28/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 9A	14	355,432.55	3,651,106.72	4.61		2.2	6/3/06	6/5/06
B:	LINE 9	14	355,304.55	3,651,626.16	4.72		1.8	5/30/06	6/5/06
C:	9,13A	16	354,912.83	3,651,636.72	4.09		2.6	6/3/06	6/5/06 R
D:	9A,13A	16	354,921.20	3,651,137.59	3.94		2.5	5/28/06	6/5/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 9A	14	355,432.55	3,651,106.72	4.61		2.1	6/3/06	6/19/06
B:	LINE 9	14	355,304.55	3,651,626.16	4.72		1.7	5/30/06	6/19/06
C:	9,13A	16	354,912.83	3,651,636.72	4.09		1.0	6/3/06	6/19/06
D:	9A,13A	16	354,921.20	3,651,137.59	3.94		1.3	5/28/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 9A	14	355,432.55	3,651,106.72	4.61		2.2	2.2	6/3/06	7/3/06
B:	LINE 9	14	355,304.55	3,651,626.16	4.72		1.8	1.8	5/30/06	7/3/06
C:	9,13A	16	354,912.83	3,651,636.72	4.09		1.4	1.4	6/3/06	7/3/06
D:	9A,13A	16	354,921.20	3,651,137.59	3.94		1.1	1.1	5/28/06	7/3/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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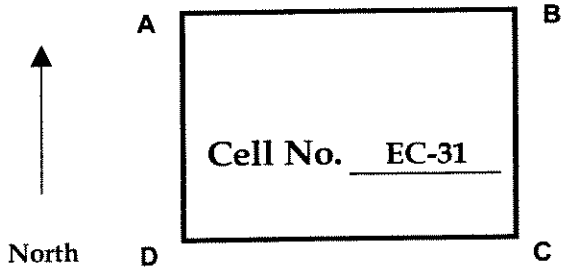

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 9	14	355,304.55	3,651,626.16	4.72		4.72	4.13	5/30/2006
B:	LINE 10A	14	355,363.22	3,652,127.77	4.97		4.97	5	5/30/2006
C:	10A,13A	14	354,923.26	3,652,141.29	4.17		4.17	3.8	5/30/2006
D:	9,13A	14	354,921.87	3,651,637.72	4.36		4.36	4.6	5/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 9	14	355,304.55	3,651,626.16	4.72		1.8	5/30/06	6/5/06	
B:	LINE 10A	14	355,363.22	3,652,127.77	4.97		1.8	5/30/06	6/5/06	
C:	10A,13A	14	354,923.81	3,652,139.96	4.46		1.5	6/3/06	6/5/06	R
D:	9,13A	14	354,912.83	3,651,636.72	4.09		2.6	6/3/06	6/5/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 9	14	355,304.55	3,651,626.16	4.72		1.7	5/30/06	6/19/06
B:	LINE 10A	14	355,363.22	3,652,127.77	4.97		1.8	5/30/06	6/19/06
C:	10A,13A	14	354,923.81	3,652,139.96	4.46		1.5	6/3/06	6/19/06
D:	9,13A	14	354,912.83	3,651,636.72	4.09		1.0	6/3/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 9	14	355,304.55	3,651,626.16	4.72		1.8	1.8	5/30/06	7/3/06
B:	LINE 10A	14	355,363.22	3,652,127.77	4.97		1.8	1.8	5/30/06	7/3/06
C:	10A,13A	14	354,923.81	3,652,139.96	4.46		1.7	1.7	6/3/06	7/3/06
D:	9,13A	14	354,912.83	3,651,636.72	4.09		1.4	1.4	6/3/06	7/3/06

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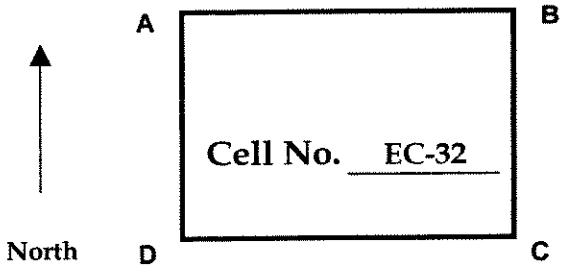

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 10A	14	355,363.22	3,652,127.77	4.97		4.97	5	5/30/2006
B:	LINE 10	14	355,103.29	3,652,635.48	4.82		4.82	3.5	5/30/2006
C:	LINE 13A	14	354,923.09	3,652,302.10	5.37		5.37	4.1	5/28/2006
D:	10A, 13A	14	354,923.26	3,652,141.29	4.17		4.17	3.8	5/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 10A	14	355,363.22	3,652,127.77	4.72		1.8	5/30/06	6/5/06
B:	LINE 10	14	355,103.29	3,652,635.48	4.83		1.4	5/30/06	6/5/06
C:	LINE 13A	14	354,923.09	3,652,302.10	5.37		2.7	5/28/06	6/5/06
D:	10A, 13A	14	354,923.81	3,652,139.96	4.46		1.5	6/3/06	6/5/06 R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 10A	14	355,363.22	3,652,127.77	4.72		1.8	5/30/06	6/19/06
B:	LINE 10	14	355,103.29	3,652,635.48	4.83		1.4	5/30/06	6/19/06
C:	LINE 13A	14	354,923.09	3,652,302.10	5.37		2.4	5/28/06	6/19/06
D:	10A, 13A	14	354,923.81	3,652,139.96	4.46		1.5	6/3/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 10A	14	355,363.22	3,652,127.77	4.72		1.8	1.8	5/30/06	7/3/06
B:	LINE 10	14	355,103.29	3,652,635.48	4.83		1.3	1.3	5/30/06	7/3/06
C:	LINE 13A	14	354,923.09	3,652,302.10	5.37		1.8	1.8	5/28/06	7/3/06
D:	10A, 13A	14	354,923.81	3,652,139.96	4.46		1.7	1.7	6/3/06	7/3/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.
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28 Day readings must be approved by registered land surveyor for use as as-built surveys.
Fill Elevation - Elevation of fill material for as-built survey (NAVD 88)
All elevations and distances are in feet.

JAB
Contractor Signature

Registered Land Surveyor

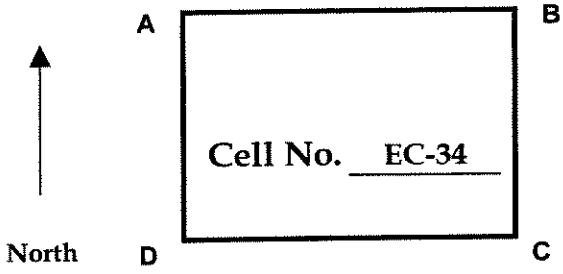
STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	9,13A	16	354,921.87	3,651,637.72	4.36		4.36	4.6	5/30/2006
B:	10A,13A	14	354,923.26	3,652,141.29	4.17		4.17	5.1	5/30/2006
C:	LINE 10A	12	354,826.52	3,652,144.90	4.56		4.56	5	5/30/2006
D:	LINE 9	12	354,790.05	3,651,641.80	4.13		4.13	4.5	5/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	9,13A	16	354,912.83	3,651,636.72	4.09		2.6	6/3/06	6/5/06	R
B:	10A,13A	14	354,923.81	3,652,139.96	4.46		1.5	6/3/06	6/5/06	R
C:	LINE 10A	12	354,826.52	3,652,144.90	4.56		1.9	5/30/06	6/5/06	
D:	LINE 9	12	354,790.05	3,651,641.80	4.13		2.0	5/30/06	6/5/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	9,13A	16	354,912.83	3,651,636.72	4.09		1.0	6/3/06	6/19/06
B:	10A,13A	14	354,923.81	3,652,139.96	4.46		1.5	6/3/06	6/19/06
C:	LINE 10A	12	354,826.52	3,652,144.90	4.56		1.7	5/30/06	6/19/06
D:	LINE 9	12	354,790.05	3,651,641.80	4.13		2.2	5/30/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	9,13A	16	354,912.83	3,651,636.72	4.09		1.4	1.4	6/3/06	7/3/06
B:	10A,13A	14	354,923.81	3,652,139.96	4.46		1.7	1.7	6/3/06	7/3/06
C:	LINE 10A	12	354,826.52	3,652,144.90	4.56		2	2.0	5/30/06	7/3/06
D:	LINE 9	12	354,790.05	3,651,641.80	4.13		2.2	2.2	5/30/06	7/3/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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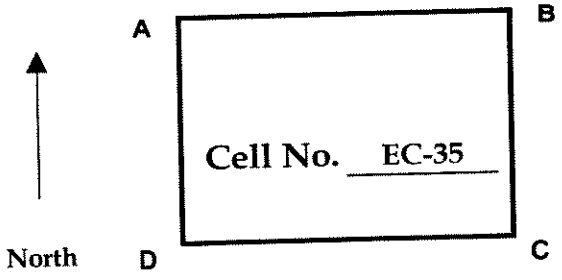

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	9A, 13A	16	354,921.20	3,651,137.59	3.94		3.94	7.4	5/28/2006
B:	9,13A	14	354,921.87	3,651,637.72	4.36		4.36	4.6	5/30/2006
C:	LINE 9	12	354,790.05	3,651,641.80	4.13		4.13	4.5	5/30/2006
D:	LINE 9A	12	354,838.97	3,651,140.20	4.71		4.71	4.9	5/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	9A, 13A	16	354,921.20	3,651,137.59	3.94		2.5	5/28/06	6/5/06	
B:	9,13A	14	354,912.83	3,651,636.72	4.09		2.6	6/3/06	6/5/06	R
C:	LINE 9	12	354,790.05	3,651,641.80	4.13		2.0	5/30/06	6/5/06	
D:	LINE 9A	12	354,838.97	3,651,140.20	4.71		2.2	5/30/06	6/5/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	9A, 13A	16	354,921.20	3,651,137.59	3.94		1.3	5/28/06	6/19/06
B:	9,13A	14	354,912.83	3,651,636.72	4.09		1.0	6/3/06	6/19/06
C:	LINE 9	12	354,790.05	3,651,641.80	4.13		2.2	5/30/06	6/19/06
D:	LINE 9A	12	354,838.97	3,651,140.20	4.71		2.4	5/30/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	9A, 13A	16	354,921.20	3,651,137.59	3.94		1.1	1.1	5/28/06	7/3/06
B:	9,13A	14	354,912.83	3,651,636.72	4.09		1.4	1.4	6/3/06	7/3/06
C:	LINE 9	12	354,790.05	3,651,641.80	4.13		2.2	2.2	5/30/06	7/3/06
D:	LINE 9A	12	354,838.97	3,651,140.20	4.71		2	2.0	5/30/06	7/3/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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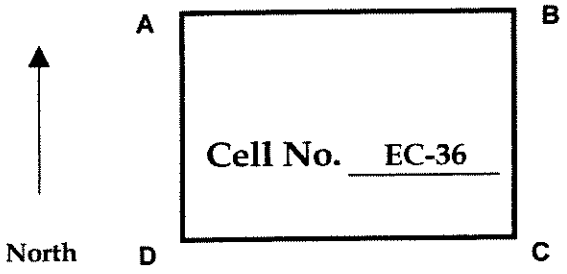

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	8,13A	14	354,919.54	3,650,639.66	4.3		4.3	5.1	5/28/2006
B:	9A,13A	16	354,921.20	3,651,137.59	3.94		3.94	7.4	5/28/2006
C:	LINE 9A	12	354,838.97	3,651,140.20	4.71		4.71	3.6	5/29/2006
D:	LINE 8	12	354,612.01	3,650,649.33	5.84		5.84	4.5	5/29/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	8,13A	14	354,918.84	3,650,639.78	4.26		2.7	6/3/06	6/5/06	R
B:	9A,13A	16	354,921.20	3,651,137.59	3.94		2.5	5/28/06	6/5/06	
C:	LINE 9A	12	354,838.97	3,651,140.20	4.71		2.2	5/29/06	6/5/06	
D:	LINE 8	12	354,612.01	3,650,649.33	5.84		2.3	5/29/06	6/5/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	8,13A	14	354,918.84	3,650,639.78	4.26		2.4	6/3/06	6/19/06
B:	9A,13A	16	354,921.20	3,651,137.59	3.94		1.3	5/28/06	6/19/06
C:	LINE 9A	12	354,838.97	3,651,140.20	4.71		2.4	5/29/06	6/19/06
D:	LINE 8	12	354,612.01	3,650,649.33	5.84		2.3	5/29/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	8,13A	14	354,918.84	3,650,639.78	4.26		2.2	2.2	6/3/06	7/3/06
B:	9A,13A	16	354,921.20	3,651,137.59	3.94		1.1	1.1	5/28/06	7/3/06
C:	LINE 9A	12	354,838.97	3,651,140.20	4.71		2	2.0	5/29/06	7/3/06
D:	LINE 8	12	354,612.01	3,650,649.33	5.84		2.4	2.4	5/29/06	7/3/06

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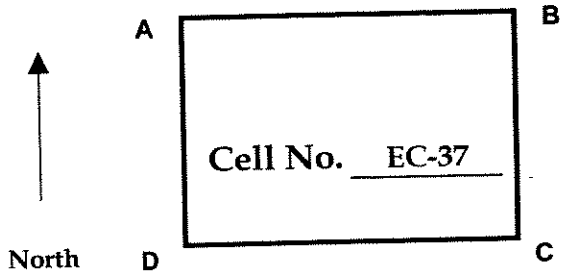

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	8A,13A	14	354,918.06	3,650,137.65	6.15		6.15	4.1	5/28/2006
B:	8,13A	14	354,919.54	3,650,639.66	4.3		4.3	5.1	5/28/2006
C:	LINE 8	12	354,612.10	3,650,649.33	5.84		5.84	4.5	5/29/2006
D:	LINE 8A	12	354,538.50	3,650,125.66	5.92		5.92	4.5	5/29/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	8A,13A	14	354,917.97	3,650,135.68	5.64		3.1	6/3/06	6/5/06	R
B:	8,13A	14	354,918.84	3,650,639.78	4.26		2.7	6/3/06	6/5/06	R
C:	LINE 8	12	354,612.10	3,650,649.33	5.84		2.3	5/29/06	6/5/06	
D:	LINE 8A	12	354,538.50	3,650,125.66	5.92		2.7	5/29/06	6/5/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	8A,13A	14	354,917.97	3,650,135.68	5.64		2.7	6/3/06	6/19/06
B:	8,13A	14	354,918.84	3,650,639.78	4.26		2.4	6/3/06	6/19/06
C:	LINE 8	12	354,612.10	3,650,649.33	5.84		2.3	5/29/06	6/19/06
D:	LINE 8A	12	354,538.50	3,650,125.66	5.92		2.9	5/29/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	8A,13A	14	354,917.97	3,650,135.68	5.64		2.5	2.5	6/3/06	7/3/06
B:	8,13A	14	354,918.84	3,650,639.78	4.26		2.2	2.2	6/3/06	7/3/06
C:	LINE 8	12	354,612.10	3,650,649.33	5.84		2.4	2.4	5/29/06	7/3/06
D:	LINE 8A	12	354,538.50	3,650,125.66	5.92		2.3	2.3	5/29/06	7/3/06

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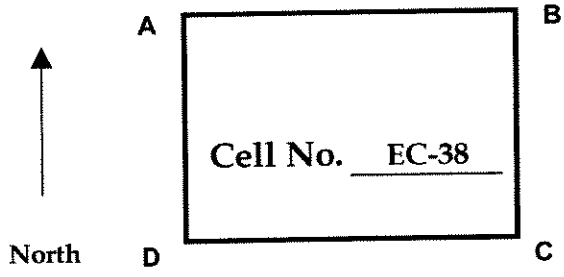

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7,13A	14	354,917.77	3,649,637.55	6.25		6.25	4.35	5/28/2006
B:	8A,13A	14	354,918.06	3,650,137.65	6.15		6.15	4.1	5/28/2006
C:	LINE 8A	12	354,538.50	3,650,125.66	5.92		5.92	4.5	5/29/2006
D:	7,13	12	354,417.61	3,649,656.28	4.18		4.18	3.5	5/28/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7,13A	14	354,917.97	3,649,637.24	5.12		2.8	6/3/06	6/5/06	R
B:	8A,13A	14	354,917.97	3,650,135.68	5.64		3.1	6/3/06	6/5/06	R
C:	LINE 8A	12	354,538.50	3,650,125.66	5.92		2.7	5/29/06	6/5/06	
D:	7,13	12	354,416.16	3,649,655.91	5.36		2.8	6/5/06	6/5/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,13A	14	354,917.97	3,649,637.24	5.12		2.5	6/3/06	6/19/06
B:	8A,13A	14	354,917.97	3,650,135.68	5.64		2.7	6/3/06	6/19/06
C:	LINE 8A	12	354,538.50	3,650,125.66	5.92		2.9	5/29/06	6/19/06
D:	7,13	12	354,416.16	3,649,655.91	5.36		2.2	6/5/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7,13A	14	354,917.97	3,649,637.24	5.12		2.4	2.4	6/3/06	7/3/06
B:	8A,13A	14	354,917.97	3,650,135.68	5.64		2.5	2.5	6/3/06	7/3/06
C:	LINE 8A	12	354,538.50	3,650,125.66	5.92		2.3	2.3	5/29/06	7/3/06
D:	7,13	12	354,416.16	3,649,655.91	5.36		2.2	2.2	6/5/06	7/3/06

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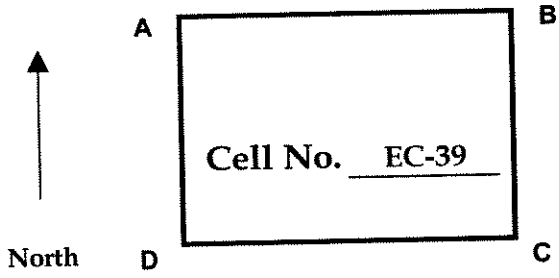

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 7A	14	354,749.60	3,649,147.38	5.09		5.09	3.25	5/28/2006
B:	7,13A	14	354,917.77	3,649,637.55	6.25		6.25	4.35	5/28/2006
C:	7,13	12	354,417.61	3,649,656.28	4.18		4.18	4.1	4/14/2006
D:	7A,13	12	354,416.34	3,649,155.37	4.26		4.26	3	4/18/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 7A	14	354,749.60	3,649,147.38	5.09		2.0	5/28/06	6/5/06	
B:	7,13A	14	354,917.97	3,649,637.24	5.12		2.8	6/3/06	6/5/06	R
C:	7,13	12	354,416.16	3,649,655.91	5.36		2.8	6/5/06	6/5/06	R
D:	7A,13	12	354,415.43	3,649,153.71	5.48		3.1	6/5/06	6/5/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 7A	14	354,749.60	3,649,147.38	5.09		2.0	5/28/06	6/19/06
B:	7,13A	14	354,917.97	3,649,637.24	5.12		2.5	6/3/06	6/19/06
C:	7,13	12	354,416.16	3,649,655.91	5.36		2.2	6/5/06	6/19/06
D:	7A,13	12	354,415.43	3,649,153.71	5.48		2.9	6/5/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 7A	14	354,749.60	3,649,147.38	5.09		2	2.0	5/28/06	7/3/06
B:	7,13A	14	354,917.97	3,649,637.24	5.12		2.4	2.4	6/3/06	7/3/06
C:	7,13	12	354,416.16	3,649,655.91	5.36		2.2	2.2	6/5/06	7/3/06
D:	7A,13	12	354,415.43	3,649,153.71	5.48		2.6	2.6	6/5/06	7/3/06

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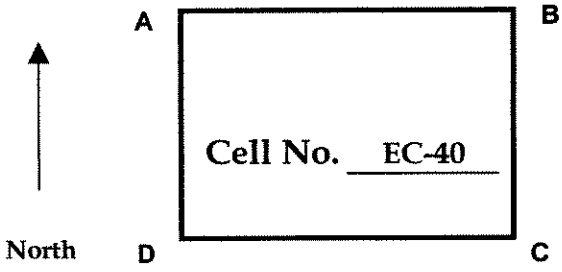
JAB
Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:									
B:	LINE 7A	14	354,749.60	3,649,147.38	5.09		5.09	4.7	5/30/2006
C:	7A,13	12	354,416.34	3,649,155.37	4.26		4.26	3	4/18/2006
D:	LINE 13	14	354,414.44	3,648,777.87	5.71		5.71	4.5	5/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:										
B:	LINE 7A	14	354,749.60	3,649,147.38	5.09		2.0	5/30/06	6/5/06	
C:	7A,13	14	354,415.43	3,649,153.71	5.48		3.1	6/5/06	6/5/06	R
D:	LINE 13	14	354,414.44	3,648,777.87	5.71		2.4	5/30/06	6/5/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:									
B:	LINE 7A	14	354,749.60	3,649,147.38	5.09		2.0	5/30/06	6/19/06
C:	7A,13	14	354,415.43	3,649,153.71	5.48		2.9	6/5/06	6/19/06
D:	LINE 13	14	354,414.44	3,648,777.87	5.71		2.4	5/30/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	NONE									
B:	LINE 7A	14	354,749.60	3,649,147.38	5.09		2	2.0	5/30/06	6/19/06
C:	7A,13	14	354,415.43	3,649,153.71	5.48		2.6	2.6	6/5/06	6/19/06
D:	LINE 13	14	354,414.44	3,648,777.87	5.71		2.2	2.2	5/30/06	6/19/06

NOTE: * NAD 83 US. FT.
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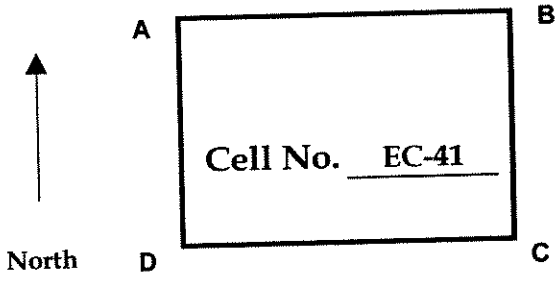

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,13A	12	354,909.67	3,646,138.71	3.86		3.86	2.6	4/11/2006
B:	LINE 13A	14	354,909.60	3,646,203.10	4.95		4.95	3.6	6/17/2006
C:	LINE 13	14	354,409.86	3,646,550.64	5.17		5.17	3.8	6/17/2006
D:	4A,13	12	354,409.53	3,646,154.94	4.52		4.52	2.7	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,13A	12	354,909.67	3,646,138.71	3.86		2.1	4/11/06	7/4/06
B:	LINE 13A	14	354,909.60	3,646,203.10	4.95		1.7	6/17/06	7/4/06
C:	LINE 13	14	354,409.86	3,646,550.64	5.17		1.9	6/17/06	7/4/06
D:	4A,13	12	354,409.53	3,646,154.94	4.52		1.8	4/11/06	6/22/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,13A	12	354,909.67	3,646,138.71	3.86		1.7	4/11/06	7/18/06
B:	LINE 13A	14	354,909.60	3,646,203.10	4.95		1.6	6/17/06	7/18/06
C:	LINE 13	14	354,409.86	3,646,550.64	5.17		1.8	6/17/06	7/18/06
D:	4A,13	12	354,409.53	3,646,154.94	4.52		2.0	4/11/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,13A	12	354,909.67	3,646,138.71	3.86		1.4	1.4	4/11/06	8/1/06
B:	LINE 13A	14	354,909.60	3,646,203.10	4.95		1	1.0	6/17/06	8/1/06
C:	LINE 13	14	354,409.86	3,646,550.64	5.17		1.4	1.4	6/17/06	8/1/06
D:	4A,13	12	354,409.53	3,646,154.94	4.52		2.2	2.2	4/11/06	7/20/06

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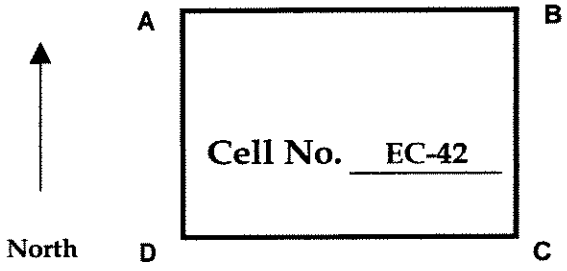

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,13A	12	354,907.80	3,645,638.38	4.12		4.12	3.2	4/11/2006
B:	4A,13A	12	354,909.67	3,646,138.71	3.86		3.86	2.6	4/11/2006
C:	4A,13	12	354,409.53	3,646,154.94	4.52		4.52	2.7	4/11/2006
D:	3,13	12	354,407.92	3,645,655.03	4.11		4.11	2.9	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3,13A	14	354,907.52	3,645,638.65	5.67		2.6	7/4/06	7/4/06	R
B:	4A,13A	12	354,909.67	3,646,138.71	3.86		2.1	4/11/06	7/4/06	R
C:	4A,13	12	354,409.53	3,646,154.94	4.52		1.8	4/11/06	6/22/06	R
D:	3,13	14	354,407.24	3,645,653.64	4.73		2.5	6/22/06	6/22/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,13A	14	354,907.52	3,645,638.65	5.67		2.4	7/4/06	7/18/06
B:	4A,13A	12	354,909.67	3,646,138.71	3.86		1.7	4/11/06	7/18/06
C:	4A,13	12	354,409.53	3,646,154.94	4.52		2.0	4/11/06	7/6/06
D:	3,13	14	354,407.24	3,645,653.64	4.73		3.0	6/22/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,13A	14	354,907.52	3,645,638.65	5.67		2.1	2.1	7/4/06	8/1/06
B:	4A,13A	12	354,909.67	3,646,138.71	3.86		1.4	1.4	4/11/06	8/1/06
C:	4A,13	12	354,409.53	3,646,154.94	4.52		2.2	2.2	4/11/06	7/20/06
D:	3,13	14	354,407.24	3,645,653.64	4.73		3.2	3.2	6/22/06	7/20/06

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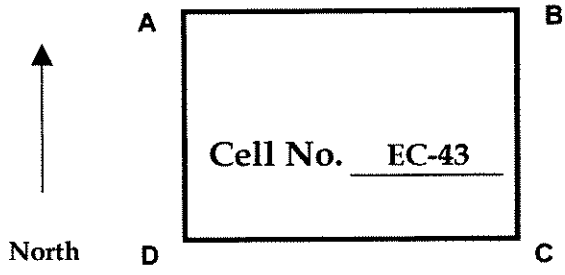

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,13A	12	354,907.01	3,645,139.24	4.24		4.24	3.9	4/11/2006
B:	3,13A	12	354,907.80	3,645,638.38	4.12		4.12	3.7	4/11/2006
C:	3,13	12	354,407.92	3,645,655.03	4.11		4.11	2.9	4/11/2006
D:	3A,13	16	354,405.25	3,645,154.14	5.01		5.01	5.8	6/17/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,13A	14	354,907.55	3,645,138.62	5.71		3.5	7/4/06	7/4/06	R
B:	3,13A	14	354,907.52	3,645,638.65	5.67		2.6	7/4/06	7/4/06	R
C:	3,13	14	354,407.24	3,645,653.64	4.73		2.5	6/22/06	6/22/06	R
D:	3A,13	16	354,406.34	3,645,153.54	5.11		3.4	6/22/06	6/22/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,13A	14	354,907.55	3,645,138.62	5.71		3.3	7/4/06	7/18/06
B:	3,13A	14	354,907.52	3,645,638.65	5.67		2.4	7/4/06	7/18/06
C:	3,13	14	354,407.24	3,645,653.64	4.73		3.0	6/22/06	7/6/06
D:	3A,13	16	354,406.34	3,645,153.54	5.11		3.0	6/22/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,13A	14	354,907.55	3,645,138.62	5.71		**3.1**	3.1	7/4/06	**8/1/06**
B:	3,13A	14	354,907.52	3,645,638.65	5.67		**2.1**	2.1	7/4/06	**8/1/06**
C:	3,13	14	354,407.24	3,645,653.64	4.73		**3.2**	3.2	6/22/06	**7/20/06**
D:	3A,13	16	354,406.34	3,645,153.54	5.11		**2.7**	2.7	6/22/06	**7/20/06**

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REG. No. 4503

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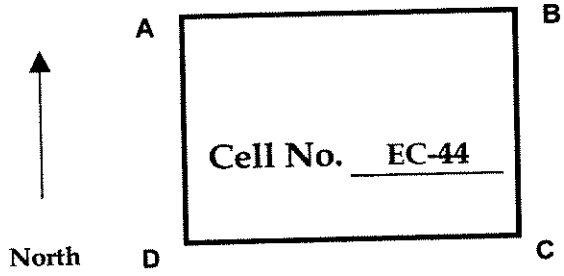

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,13A	12	354,905.71	3,644,637.59	3.82		3.82	4.7	4/11/2006
B:	3A,13A	12	354,907.01	3,645,139.24	4.24		4.24	3.9	4/11/2006
C:	3A,13	16	354,405.25	3,645,154.14	5.01		5.01	5.8	6/17/2006
D:	2,13	14	354,403.47	3,644,651.90	6.25		6.25	5.1	6/17/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,13A	14	354,905.91	3,644,637.59	5.22		3.5	7/4/06	7/4/06	R
B:	3A,13A	14	354,907.55	3,645,138.62	5.71		3.5	7/4/06	7/4/06	R
C:	3A,13	16	354,406.34	3,645,153.54	5.11		3.4	6/22/06	6/22/06	R
D:	2,13	14	354,400.67	3,644,654.43	5.17		3.5	6/22/06	6/22/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,13A	14	354,905.91	3,644,637.59	5.22		3.5	7/4/06	7/18/06
B:	3A,13A	14	354,907.55	3,645,138.62	5.71		3.3	7/4/06	7/18/06
C:	3A,13	16	354,406.34	3,645,153.54	5.11		3.0	6/22/06	7/18/06
D:	2,13	14	354,400.67	3,644,654.43	5.17		3.2	6/22/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,13A	14	354,905.91	3,644,637.59	5.22		2.8	2.8	7/4/06	8/1/06
B:	3A,13A	14	354,907.55	3,645,138.62	5.71		3.1	3.1	7/4/06	8/1/06
C:	3A,13	16	354,406.34	3,645,153.54	5.11		2.7	2.7	6/22/06	7/20/06
D:	2,13	14	354,400.67	3,644,654.43	5.17		3	3.0	6/22/06	7/20/06

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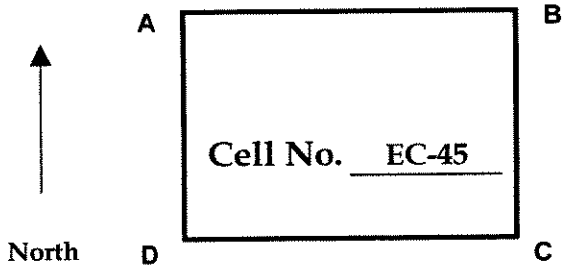

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A:	2A,13A	14	354,903.74	3,644,138.17	4.74		4.74	1.8	6/26/2006
B:	2,13A	12	354,907.01	3,644,637.59	3.82		3.82	4.7	4/11/2006
C:	2,13	14	354,403.47	3,644,651.90	6.25		6.25	5.1	6/17/2006
D:	2A,13	14	354,404.44	3,644,153.24	4.11		4.11	2.9	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,13A	14	354,903.74	3,644,138.17	4.74		3.0	6/26/06	6/26/06	R
B:	2,13A	14	354,905.91	3,644,637.59	5.22		3.5	7/4/06	7/4/06	R
C:	2,13	16	354,400.69	3,644,654.43	5.17		3.5	6/22/06	6/22/06	R
D:	2A,13	14	354,406.17	3,644,153.32	4.65		3.1	6/22/06	6/22/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,13A	14	354,903.74	3,644,138.17	4.74		2.6	6/26/06	7/10/2006
B:	2,13A	14	354,905.91	3,644,637.59	5.22		3.5	7/4/06	7/18/06
C:	2,13	16	354,400.69	3,644,654.43	5.17		3.2	6/22/06	7/18/06
D:	2A,13	14	354,406.17	3,644,153.32	4.65		2.8	6/22/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,13A	14	354,903.74	3,644,138.17	4.74		2.2	2.2	6/26/06	7/24/06
B:	2,13A	14	354,905.91	3,644,637.59	5.22		2.8	2.8	7/4/06	8/1/06
C:	2,13	16	354,400.69	3,644,654.43	5.17		3	3.0	6/22/06	7/20/06
D:	2A,13	14	354,406.17	3,644,153.32	4.65		2.3	2.3	6/22/06	7/20/06

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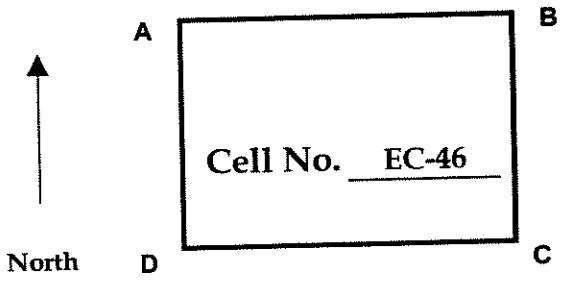

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,13A	12	354,903.15	3,643,637.12	4.12	0.15	3.97	5	4/2/2006
B:	2A,13A	14	354,903.74	3,644,138.17	4.74		4.74	1.8	4/26/2006
C:	2A,13	12	354,404.44	3,644,153.24	4.11	0.15	3.96	2.9	4/2/2006
D:	1,13	12	354,402.83	3,643,654.98	4.14	0.15	3.99	6	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1,13A	16	354,902.99	3,643,638.26	4.65		3.2	6/26/06	6/26/06	R
B:	2A,13A	14	354,903.74	3,644,138.17	4.74		3.0	6/26/06	6/26/06	R
C:	2A,13	16	354,406.17	3,644,153.32	4.68		3.1	6/22/06	6/22/06	R
D:	1,13	12	354,402.83	3,643,654.98	3.99		3.8	4/2/06	6/22/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,13A	16	354,902.99	3,643,638.26	4.65		2.9	6/26/06	7/10/06
B:	2A,13A	14	354,903.74	3,644,138.17	4.74		2.6	6/26/06	7/10/06
C:	2A,13	16	354,406.17	3,644,153.32	4.68		2.8	6/22/06	7/6/06
D:	1,13	12	354,402.83	3,643,654.98	3.99		3.2	4/2/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,13A	16	354,902.99	3,643,638.26	4.65		2.6	2.6	6/26/06	7/24/2006
B:	2A,13A	14	354,903.74	3,644,138.17	4.74		2.2	2.2	6/26/06	7/24/2006
C:	2A,13	16	354,406.17	3,644,153.32	4.68		2.3	2.3	6/22/06	7/20/2006
D:	1,13	12	354,402.83	3,643,654.98	3.99		2.6	2.6	4/2/06	7/20/2006

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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JAB

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Registered Land Surveyor

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REG. No. 4503
REGISTERED
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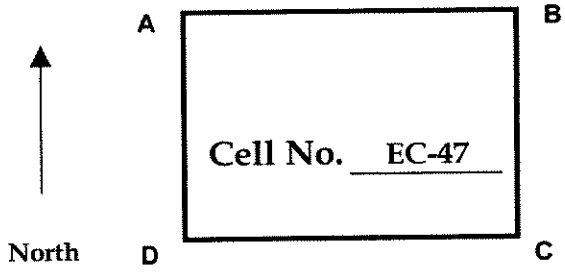
Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,13A	12	354,904.90	3,642,697.43	4.19		4.19	4.4	4/24/2006
B:	1A,13A	12	354,901.67	3,643,137.95	4.2	0.15	4.05	4.4	4/2/2006
C:	1A,13	12	354,403.04	3,643,154.32	4.05	0.15	3.9	5.6	4/2/2006
D:	BL,13	12	354,406.03	3,642,703.58	4.89		4.89	3.8	4/24/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,13A	12	354,904.90	3,642,697.43	4.19		2.5	4/24/06	6/26/06
B:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.6	4/2/06	6/26/06
C:	1A,13	12	354,403.04	3,643,154.32	3.9		2.6	4/2/06	6/22/06
D:	BL,13	12	354,406.03	3,642,703.58	4.89		1.7	4/24/06	6/22/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,13A	12	354,904.90	3,642,697.43	4.19		2.2	4/24/06	7/10/06
B:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.6	4/2/06	7/10/06
C:	1A,13	12	354,403.04	3,643,154.32	3.9		2.4	4/2/06	7/6/06
D:	BL,13	12	354,406.03	3,642,703.58	4.89		1.8	4/24/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,13A	12	354,904.90	3,642,697.43	4.19		1.9	1.9	4/24/06	7/24/2006
B:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.3	2.3	4/2/06	7/24/2006
C:	1A,13	12	354,403.04	3,643,154.32	3.9		2.2	2.2	4/2/06	7/20/2006
D:	BL,13	12	354,406.03	3,642,703.58	4.89		1.7	1.7	4/24/06	7/20/2006

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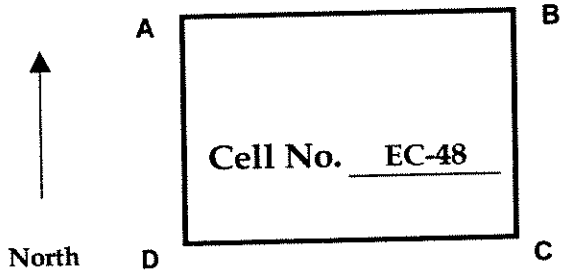

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,13	12	354,406.03	3,642,703.58	4.89		4.89	3.8	4/24/2006
B:	1A,13	12	354,403.04	3,643,154.32	4.05	0.15	3.9	5.6	4/2/2006
C:	1A,14A	12	353,903.62	3,643,669.26	4.13	0.15	3.98	4.1	4/2/2006
D:	BL,14A	12	353,902.07	3,642,688.18	5.21		5.21	5.2	4/24/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,13	12	354,406.03	3,642,703.58	4.89		1.7	4/24/06	6/22/06
B:	1A,13	12	354,403.04	3,643,154.32	3.90		2.6	4/2/06	6/22/06
C:	1A,14A	12	353,903.62	3,643,669.26	3.98		2.4	4/2/06	6/22/06
D:	BL,14A	12	353,902.07	3,642,688.18	5.21		2.0	4/24/06	6/22/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,13	12	354,406.03	3,642,703.58	4.89		1.8	4/24/06	7/6/06
B:	1A,13	12	354,403.04	3,643,154.32	3.90		2.4	4/2/06	7/6/06
C:	1A,14A	12	353,903.62	3,643,669.26	3.98		2.3	4/2/06	7/6/06
D:	BL,14A	12	353,902.07	3,642,688.18	5.21		1.8	4/24/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,13	12	354,406.03	3,642,703.58	4.89		1.7	1.7	4/24/06	7/20/06
B:	1A,13	12	354,403.04	3,643,154.32	3.90		2.2	2.2	4/2/06	7/20/06
C:	1A,14A	12	353,903.62	3,643,669.26	3.98		2.1	2.1	4/2/06	7/20/06
D:	BL,14A	12	353,902.07	3,642,688.18	5.21		1.5	1.5	4/24/06	7/20/06

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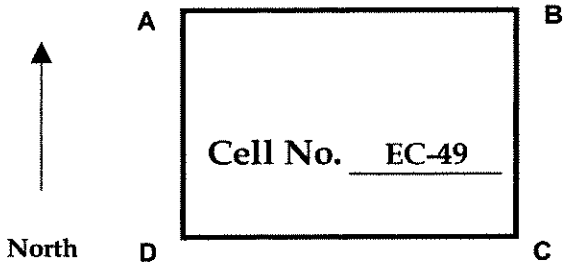

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,13	12	354,404.44	3,644,153.24	4.11		4.11	2.9	4/2/2006
B:	2,13	14	354,403.47	3,644,651.90	6.25		6.25	5.1	6/17/2006
C:	2,14A	12	353,905.36	3,644,667.96	3.91		3.91	2.6	4/2/2006
D:	2A,14A	12	353,905.07	3,644,169.59	3.87		3.87	5.7	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,13	16	354,406.17	3,644,153.32	4.65		3.1	6/22/06	6/22/06	R
B:	2,13	14	354,400.67	3,644,654.43	5.17		3.5	6/22/06	6/22/06	R
C:	2,14A	14	353,905.55	3,644,667.83	4.55		2.6	6/22/06	6/22/06	R
D:	2A,14A	14	353,902.57	3,644,179.06	4.92		3.5	6/21/06	6/22/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,13	16	354,406.17	3,644,153.32	4.65		2.8	6/22/06	7/6/06
B:	2,13	14	354,400.67	3,644,654.43	5.17		3.2	6/22/06	7/6/06
C:	2,14A	14	353,905.55	3,644,667.83	4.55		2.4	6/22/06	7/6/06
D:	2A,14A	14	353,902.57	3,644,179.06	4.92		3.0	6/21/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,13	16	354,406.17	3,644,153.32	4.65		2.3	2.3	6/22/06	7/20/06
B:	2,13	14	354,400.67	3,644,654.43	5.17		3.0	3.0	6/22/06	7/20/06
C:	2,14A	14	353,905.55	3,644,667.83	4.55		2.3	2.3	6/22/06	7/20/06
D:	2A,14A	14	353,902.57	3,644,179.06	4.92		2.3	2.3	6/21/06	7/20/06

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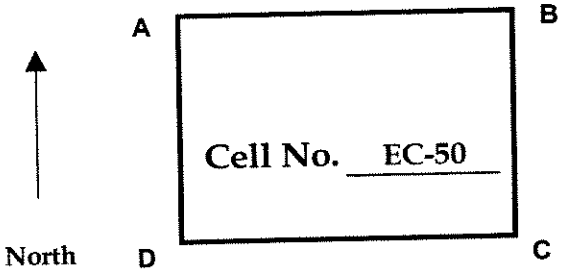

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,13	14	354,403.47	3,644,651.90	6.25		6.25	5.1	6/17/2006
B:	3A,13	16	354,405.25	3,645,154.14	5.01		5.01	5.8	6/17/2006
C:	3A,14A	12	353,906.98	3,645,169.48	3.88	0.15	3.73	4	4/2/2006
D:	2,14A	12	353,905.36	3,644,667.66	3.91	0.15	3.76	2.6	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,13	16	354,400.67	3,644,654.43	5.17		3.5	6/22/06	6/22/06	R
B:	3A,13	16	354,406.34	3,645,153.54	5.11		3.4	6/22/06	6/22/06	R
C:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.6	4/2/06	6/22/06	
D:	2,14A	16	353,905.57	3,644,668.05	4.55		2.6	6/21/06	6/22/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,13	16	354,400.67	3,644,654.43	5.17		3.2	6/22/06	7/6/06
B:	3A,13	16	354,406.34	3,645,153.54	5.11		3.0	6/22/06	7/6/06
C:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.4	4/2/06	7/6/06
D:	2,14A	16	353,905.57	3,644,668.05	4.55		2.4	6/21/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,13	16	354,400.67	3,644,654.43	5.17		3.0	3.0	6/22/06	7/20/06
B:	3A,13	16	354,406.34	3,645,153.54	5.11		2.7	2.7	6/22/06	7/20/06
C:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.4	2.4	4/2/06	7/20/06
D:	2,14A	16	353,905.57	3,644,668.05	4.55		2.3	2.3	6/21/06	7/20/06

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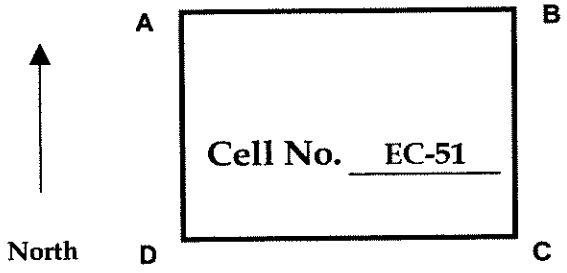

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A:	3A,13	16	354,405.25	3,645,154.14	5.01		5.01	5.8	6/17/2006
B:	3,13	12	354,407.92	3,645,655.03	4.11		4.11	2.9	4/11/2006
C:	3,14A	12	353,908.77	3,645,670.74	4.1	0.15	3.95	3.1	4/2/2006
D:	3A,14A	12	353,906.98	3,645,169.48	3.88	0.15	3.73	4	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,13	16	354,406.34	3,645,153.54	5.11		3.4	6/22/06	6/22/06	R
B:	3,13	14	354,407.24	3,645,653.64	4.73		2.5	6/22/06	6/22/06	R
C:	3,14A	14	353,915.47	3,645,670.08	4.15		2.6	6/21/06	6/22/06	R
D:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.6	4/2/06	6/22/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,13	16	354,406.34	3,645,153.54	5.11		3.0	6/22/06	7/6/06
B:	3,13	14	354,407.24	3,645,653.64	4.73		3.0	6/22/06	7/6/06
C:	3,14A	14	353,915.47	3,645,670.08	4.15		2.6	6/21/06	7/6/06
D:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.4	4/2/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,13	16	354,406.34	3,645,153.54	5.11		2.7	2.7	6/22/06	7/20/06
B:	3,13	14	354,407.24	3,645,653.64	4.73		3.2	3.2	6/22/06	7/20/06
C:	3,14A	14	353,915.47	3,645,670.08	4.15		2.3	2.3	6/21/06	7/20/06
D:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.4	2.4	4/2/06	7/20/06

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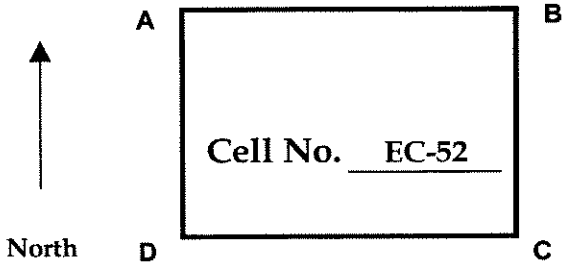

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 4	14	354,252.52	3,646,658.32	4.6		4.6	4.1	6/17/2006
B:	LINE 5A	14	354,312.79	3,647,159.02	5.36		5.36	7.3	5/10/2006
C:	5A,14A	16	353,912.36	3,647,168.01	4.48		4.48	7.9	5/10/2006
D:	4,14A	12	353,910.69	3,646,671.45	4.01	0.15	3.86	2.6	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 4	14	354,252.52	3,646,658.32	4.6		2.3	6/17/06	6/22/06
B:	LINE 5A	14	354,312.79	3,647,159.02	5.36		2.6	5/10/06	7/4/06
C:	5A,14A	14	353,912.31	3,647,167.36	4.26		2.7	7/4/06	7/4/06
D:	4,14A	12	353,910.69	3,646,671.45	3.86		2.6	3/30/06	6/22/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 4	14	354,252.52	3,646,658.32	4.6		2.2	6/17/06	7/6/06
B:	LINE 5A	14	354,312.79	3,647,159.02	5.36		2.3	5/10/06	7/18/06
C:	5A,14A	14	353,912.31	3,647,167.36	4.26		2.3	7/4/06	7/18/06
D:	4,14A	12	353,910.69	3,646,671.45	3.86		2.4	3/30/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 4	14	354,252.52	3,646,658.32	4.6		1.8	1.8	6/17/06	7/20/06
B:	LINE 5A	14	354,312.79	3,647,159.02	5.36		2	2.0	5/10/06	8/1/06
C:	5A,14A	14	353,912.31	3,647,167.36	4.26		2	2.0	7/4/06	8/1/06
D:	4,14A	12	353,910.69	3,646,671.45	3.86		2.2	2.2	3/30/06	7/20/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

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All elevations and distances are in feet.

JAB

Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA

RONALD M. MADDEN

REG. No. 4503

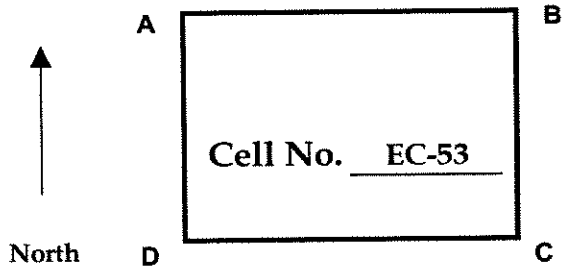
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 5	16	354,049.80	3,647,666.67	6.56		6.56	4.3	5/1/2006
B:	LINE 6A	14	354,072.43	3,648,165.58	5.82		5.82	4.3	5/1/2006
C:	6A,14A	12	353,914.60	3,648,170.44	3.98		3.98	2.7	4/11/2006
D:	5,14A	12	353,912.66	3,647,670.46	3.46		3.46	2.3	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 5	16	354,049.80	3,647,666.67	6.56		1.8	5/1/06	5/31/06	
B:	LINE 6A	14	354,073.79	3,648,165.55	6.06		1.8	6/5/06	6/5/06	R
C:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.1	6/5/06	6/5/06	R
D:	5,14A	12	353,912.66	3,647,670.46	3.46		1.9	4/11/06	6/5/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 5	16	354,049.80	3,647,666.67	6.56		2.2	5/1/06	6/19/06
B:	LINE 6A	14	354,073.79	3,648,165.55	6.06		1.8	6/5/06	6/19/06
C:	6A,14A	14	353,915.22	3,648,671.37	5.33		2.1	6/5/06	6/19/06
D:	5,14A	12	353,912.66	3,647,670.46	3.46		1.9	4/11/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 5	16	354,049.80	3,647,666.67	6.56		2.3	2.3	5/1/06	7/3/06
B:	LINE 6A	14	354,073.79	3,648,165.55	6.06		2	2.0	6/5/06	7/3/06
C:	6A,14A	14	353,915.22	3,648,671.37	5.33		2.2	2.2	6/5/06	7/3/06
D:	5,14A	12	353,912.66	3,647,670.46	3.46		2.4	2.4	4/11/06	7/3/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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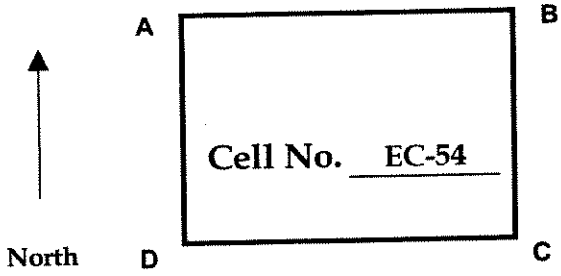

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 6A	14	354,072.43	3,648,165.58	5.82		5.82	4.3	5/1/2006
B:	LINE 6	16	354,293.45	3,648,660.81	6.71		6.71	6.4	5/1/2006
C:	6,14A	14	353,915.02	3,648,671.57	3.54		3.54	7.7	4/14/2006
D:	6A,14A	12	353,914.60	3,648,170.44	3.98		3.98	2.7	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 6A	14	354,073.79	3,648,165.55	6.06		1.8	6/5/06	6/5/06	R
B:	LINE 6	16	354,293.45	3,648,660.81	6.71		2.2	5/1/06	6/5/06	
C:	6,14A	14	353,915.22	3,648,671.37	5.33		2.8	6/5/06	6/5/06	R
D:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.1	6/5/06	6/5/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 6A	14	354,073.79	3,648,165.55	6.06		1.8	6/5/06	6/19/06
B:	LINE 6	16	354,293.45	3,648,660.81	6.71		2.1	5/1/06	6/19/06
C:	6,14A	14	353,915.22	3,648,671.37	5.33		2.5	6/5/06	6/19/06
D:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.1	6/5/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 6A	14	354,073.79	3,648,165.55	6.06		2	2.0	6/5/06	7/3/06
B:	LINE 6	16	354,293.45	3,648,660.81	6.71		2	2.0	5/1/06	7/3/06
C:	6,14A	14	353,915.22	3,648,671.37	5.33		2.5	2.5	6/5/06	7/3/06
D:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.2	2.2	6/5/06	7/3/06

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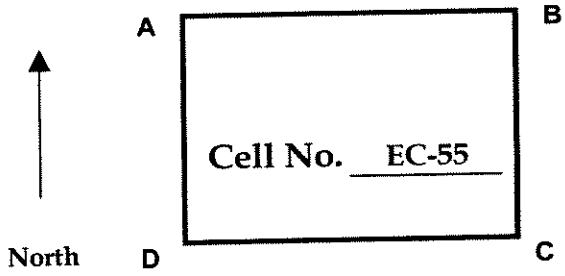

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7A,13	12	354,416.34	3,649,155.37	4.26		4.26	3	4/18/2006
B:	7,13	12	354,417.61	3,649,656.28	4.18		4.18	4.1	4/14/2006
C:	7,14A	16	353,917.42	3,649,672.51	4.32		4.32	6.3	5/1/2006
D:	7A,14A	12	353,916.10	3,649,171.82	4.02		4.02	4.1	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7A,13	12	354,415.43	3,649,153.71	5.48		3.1	6/5/06	6/5/06	R
B:	7,13	12	354,416.16	3,649,655.91	5.36		2.8	6/5/06	6/5/06	R
C:	7,14A	16	353,917.42	3,649,672.51	4.32		1.1	5/1/06	6/5/06	
D:	7A,14A	12	353,916.13	3,649,171.01	5.80		2.8	6/5/06	6/5/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7A,13	12	354,415.43	3,649,153.71	5.48		2.9	6/5/06	6/19/06
B:	7,13	12	354,416.16	3,649,655.91	5.36		2.2	6/5/06	6/19/06
C:	7,14A	16	353,917.42	3,649,672.51	4.32		1.1	5/1/06	6/19/06
D:	7A,14A	12	353,916.13	3,649,171.01	5.80		2.5	6/5/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7A,13	12	354,415.43	3,649,153.71	5.48		2.6	2.6	6/5/06	7/3/06
B:	7,13	12	354,416.16	3,649,655.91	5.36		2.2	2.2	6/5/06	7/3/06
C:	7,14A	16	353,917.42	3,649,672.51	4.32		1.2	1.2	5/1/06	7/3/06
D:	7A,14A	12	353,916.13	3,649,171.01	5.80		2.2	2.2	6/5/06	7/3/06

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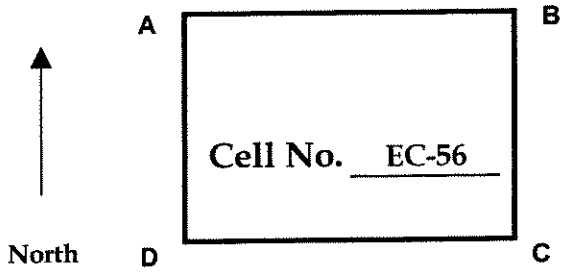
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7,14A	16	353,917.42	3,649,672.51	4.32		4.32	6.3	5/1/2006
B:	LINE 14A	12	353,917.64	3,649,812.90	4.15		4.15	2.8	6/5/2006
C:									
D:	LINE 7	12	353,635.10	3,649,679.93	5.64		5.64	4.2	6/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,14A	16	353,917.42	3,649,672.51	4.32		1.1	5/1/06	6/5/06
B:	LINE 14A	12	353,917.64	3,649,812.90	4.15		1.4	6/5/06	6/5/06
C:									
D:	LINE 7	12	353,635.10	3,649,679.93	5.64		1.5	6/5/06	6/5/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,14A	16	353,917.42	3,649,672.51	4.32		1.1	5/1/06	6/19/06
B:	LINE 14A	12	353,917.64	3,649,812.90	4.15		1.4	6/5/06	6/19/06
C:									
D:	LINE 7	12	353,635.10	3,649,679.93	5.64		1.5	6/5/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7,14A	16	353,917.42	3,649,672.51	4.32		1.2	1.2	5/1/06	7/3/06
B:	LINE 14A	12	353,917.64	3,649,812.90	4.15		1.2	1.2	6/5/06	7/3/06
C:										
D:	LINE 7	12	353,635.10	3,649,679.93	5.64		1.5	1.5	6/5/06	7/3/06

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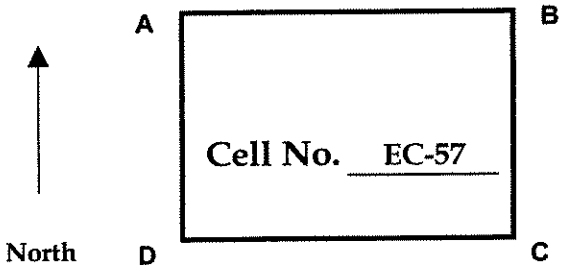

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7A,14A	12	353,916.10	3,649,171.82	4.02		4.02	4.1	4/14/2006
B:	7,14A	16	353,917.42	3,649,672.51	4.32		4.32	6.3	5/1/2006
C:	LINE 14	16	353,417.44	3,649,583.82	6.38		6.38	6.5	5/1/2006
D:	7A,14	14	353,416.74	3,649,186.21	4.1		4.1	4.5	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7A,14A	12	353,916.13	3,649,171.01	5.8		2.8	5/5/06	6/5/06	R
B:	7,14A	16	353,917.42	3,649,672.51	4.32		1.1	5/1/06	6/5/06	
C:	LINE 14	16	353,417.44	3,649,583.82	6.38		2.0	5/1/06	6/2/06	
D:	7A,14	14	353,415.39	3,648,684.24	5.93		2.9	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7A,14A	12	353,916.13	3,649,171.01	5.8		2.5	5/5/06	6/19/06
B:	7,14A	16	353,917.42	3,649,672.51	4.32		1.1	5/1/06	6/19/06
C:	LINE 14	16	353,417.44	3,649,583.82	6.38		1.9	5/1/06	6/16/06
D:	7A,14	14	353,415.39	3,648,684.24	5.93		2.8	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7A,14A	12	353,916.13	3,649,171.01	5.8		2.2	2.2	5/5/06	7/3/06
B:	7,14A	16	353,917.42	3,649,672.51	4.32		1.2	1.2	5/1/06	7/3/06
C:	LINE 14	16	353,417.44	3,649,583.82	6.38		1.8	1.8	5/1/06	6/30/06
D:	7A,14	14	353,415.39	3,648,684.24	5.93		2.6	2.6	6/1/06	6/30/06

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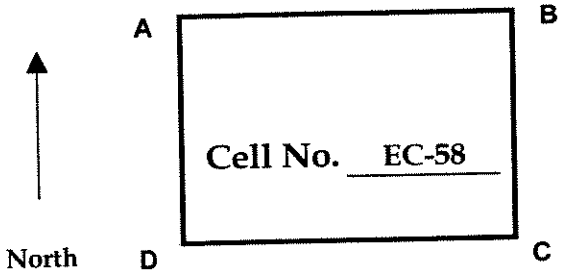

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,14A	12	353,906.98	3,645,169.48	3.88	0.15	3.73	4	4/2/2006
B:	3,14A	12	353,908.77	3,645,670.74	4.1	0.15	3.95	3.1	4/2/2006
C:	3,14	12	353,408.65	3,645,685.04	4.14	0.15	3.99	5.2	3/7/2006
D:	3A,14	12	353,407.29	3,645,186.08	4.17	0.15	4.02	4.5	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.6	4/2/06	6/22/06	
B:	3,14A	14	353,915.47	3,645,670.08	4.15		2.6	6/21/06	6/22/06	R
C:	3,14	14	353,407.37	3,645,685.47	6.11		3.6	5/31/06	5/31/06	R
D:	3A,14	12	353,407.29	3,645,186.08	4.02		2.8	3/7/06	5/31/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.4	4/2/06	7/6/06
B:	3,14A	14	353,915.47	3,645,670.08	4.15		2.6	6/21/06	7/6/06
C:	3,14	14	353,407.37	3,645,685.47	6.11		3.4	5/31/06	6/14/06
D:	3A,14	12	353,407.29	3,645,186.08	4.02		2.8	3/7/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,14A	12	353,906.98	3,645,169.48	3.73		2.4	2.4	4/2/06	7/20/06
B:	3,14A	14	353,915.47	3,645,670.08	4.15		2.3	2.3	6/21/06	7/20/06
C:	3,14	14	353,407.37	3,645,685.47	6.11		2.6	2.6	5/31/06	6/28/06
D:	3A,14	12	353,407.29	3,645,186.08	4.02		2.4	2.4	3/7/06	6/28/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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JAB
Contractor Signature

Registered Land Surveyor

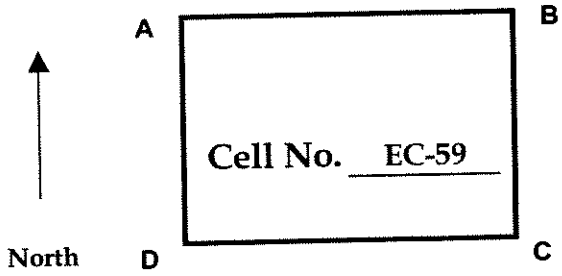
STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,14A	12	353,905.36	3,644,667.66	3.91	0.15	3.76	2.6	4/2/2006
B:	3A,14A	12	353,906.98	3,645,169.48	3.88	0.15	3.73	4	4/2/2006
C:	3A,14	12	353,407.29	3,645,186.08	4.17	0.15	4.02	4.5	3/7/2006
D:	2,14	12	353,405.61	3,644,684.68	4.6	0.15	4.45	3.1	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,14A	16	353,905.57	3,644,668.05	4.55		2.6	6/21/06	6/22/06	R
B:	3A,14A	12	353,906.98	3,645,169.48	4.15		2.6	4/2/06	6/22/06	
C:	3A,14	12	353,407.29	3,645,186.08	4.17		2.8	3/7/06	5/31/06	
D:	2,14	14	353,405.39	3,644,684.59	4.93		3.0	5/31/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,14A	16	353,905.57	3,644,668.05	4.55		2.4	6/21/06	7/6/06
B:	3A,14A	12	353,906.98	3,645,169.48	4.15		2.4	4/2/06	7/6/06
C:	3A,14	12	353,407.29	3,645,186.08	4.17		2.8	6/22/06	6/14/06
D:	2,14	14	353,405.39	3,644,684.59	4.93		2.8	5/31/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,14A	16	353,905.57	3,644,668.05	4.55		2.3	2.3	6/21/06	7/20/06
B:	3A,14A	12	353,906.98	3,645,169.48	4.15		2.4	2.4	4/2/06	7/20/06
C:	3A,14	12	353,407.29	3,645,186.08	4.17		2.4	2.4	6/22/06	6/28/06
D:	2,14	14	353,405.39	3,644,684.59	4.93		2.6	2.6	5/31/06	6/28/06

NOTE: * NAD 83 US. FT.
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Louisiana Department of Natural resources

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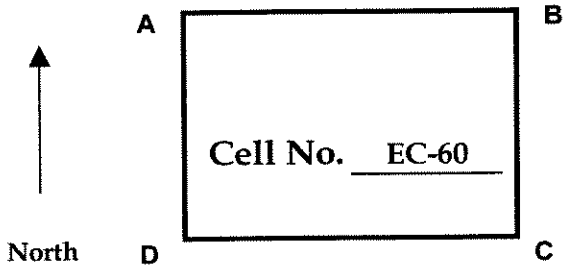

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,14A	12	353,905.07	3,641,169.58	3.87	0.15	3.72	5.7	4/2/2006
B:	2,14A	12	353,905.36	3,644,667.66	3.91	0.15	3.76	2.6	4/2/2006
C:	2,14	12	353,405.61	3,644,684.68	4.6	0.15	4.45	3.1	3/7/2006
D:	2A,14	12	353,404.12	3,644,185.88	4.28	0.15	4.13	4.2	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,14A	14	353,902.57	3,641,179.06	4.92		3.5	6/21/06	6/22/06	R
B:	2,14A	14	353,905.55	3,644,667.88	4.55		2.6	6/22/06	6/22/06	R
C:	2,14	14	353,405.39	3,644,684.59	4.93		3.0	5/31/06	5/31/06	R
D:	2A,14	12	353,404.12	3,644,185.88	4.13		2.7	3/7/06	5/31/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,14A	14	353,902.57	3,641,179.06	4.92		3.0	6/21/06	7/6/06
B:	2,14A	14	353,905.55	3,644,667.88	4.55		2.4	6/22/06	7/6/06
C:	2,14	14	353,405.39	3,644,684.59	4.93		2.8	5/31/06	6/14/06
D:	2A,14	12	353,404.12	3,644,185.88	4.13		2.8	3/7/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,14A	14	353,902.57	3,641,179.06	4.92		2.3	2.3	6/21/06	7/20/06
B:	2,14A	14	353,905.55	3,644,667.88	4.55		2.3	2.3	6/22/06	7/20/06
C:	2,14	14	353,405.39	3,644,684.59	4.93		2.6	2.6	5/31/06	6/28/06
D:	2A,14	12	353,404.12	3,644,185.88	4.13		2.5	2.5	3/7/06	6/28/06

NOTE: * NAD 83 US. FT.

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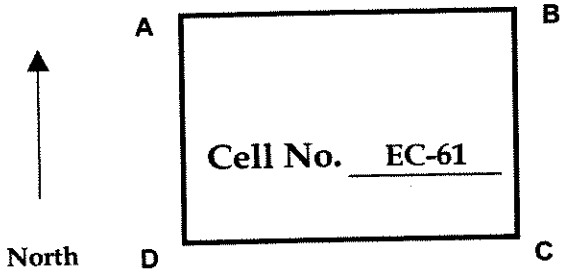

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,14A	12	353,902.07	3,642,688.18	5.21		5.21	5.2	4/24/2006
B:	1A,14A	12	353,903.62	3,643,669.26	4.13	0.15	3.98	4.1	4/2/2006
C:	1A,14	12	353,403.86	3,643,184.40	4.07	0.15	3.92	4.6	3/5/2006
D:	BL,14	12	353,405.60	3,642,719.70	4.97		4.97	5.9	4/24/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,14A	12	353,902.07	3,642,688.18	5.21		2.0	4/24/06	6/22/06
B:	1A,14A	12	353,903.62	3,643,669.26	3.98		2.4	4/2/06	6/22/06
C:	1A,14	12	353,403.86	3,643,184.40	3.92		2.2	3/5/06	5/31/06
D:	BL,14	12	353,405.60	3,642,719.70	4.97		1.2	4/24/06	5/31/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,14A	12	353,902.07	3,642,688.18	5.21		1.8	4/24/06	7/6/06
B:	1A,14A	12	353,903.62	3,643,669.26	3.98		2.3	4/2/06	7/6/06
C:	1A,14	12	353,403.86	3,643,184.40	3.92		2.0	3/5/06	6/14/06
D:	BL,14	12	353,405.60	3,642,719.70	4.97		1.3	4/24/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,14A	12	353,902.07	3,642,688.18	5.21		1.5	1.5	4/24/06	7/20/06
B:	1A,14A	12	353,903.62	3,643,669.26	3.98		2.1	2.1	4/2/06	7/20/06
C:	1A,14	12	353,403.86	3,643,184.40	3.92		2.1	2.1	3/5/06	6/28/06
D:	BL,14	12	353,405.60	3,642,719.70	4.97		1.9	1.9	4/24/06	6/28/06

NOTE: * NAD 83 US. FT.

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Louisiana Department of Natural resources

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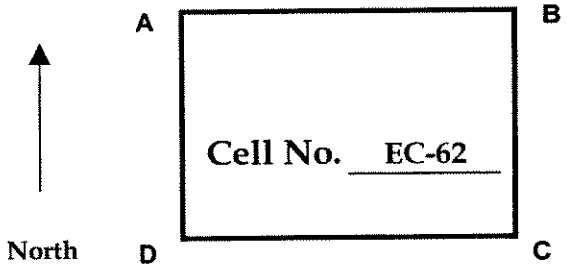

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,14	12	353,405.60	3,642,719.70	4.97		4.97	5.9	4/24/2006
B:	1A,14	12	353,403.86	3,643,184.40	4.07	0.15	3.92	4.6	3/5/2006
C:	1A,15A	12	352,902.10	3,643,200.98	4.19	0.15	4.04	3.6	3/7/2006
D:	BL,15A	12	352,902.21	3,642,753.19	5.47		5.47	5.6	4/24/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	BL,14	12	353,405.60	3,642,719.70	4.97		1.2	4/24/06	5/31/06	
B:	1A,14	12	353,403.86	3,643,184.40	3.92		2.2	3/5/06	5/31/06	
C:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.3	5/27/06	5/30/06	
D:	BL,15A	14	352,901.77	3,642,749.58	6.29		2.1	5/27/06	5/30/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	BL,14	12	353,405.60	3,642,719.70	4.97		1.3	4/24/06	6/14/06	
B:	1A,14	14	353,904.31	3,643,669.36	4.07		2.0	5/31/06	6/14/06	R
C:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.1	5/27/06	6/13/06	
D:	BL,15A	14	352,901.77	3,642,749.58	6.29		1.9	5/27/06	6/13/06	R

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,14	12	353,405.60	3,642,719.70	4.97		1.9	1.9	4/24/06	6/28/06
B:	1A,14	14	353,904.31	3,643,669.36	4.07		2.1	2.1	5/31/06	6/28/06
C:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.1	2.1	5/27/06	6/27/06
D:	BL,15A	14	352,901.77	3,642,749.58	6.29		2	2.0	5/27/06	6/27/06

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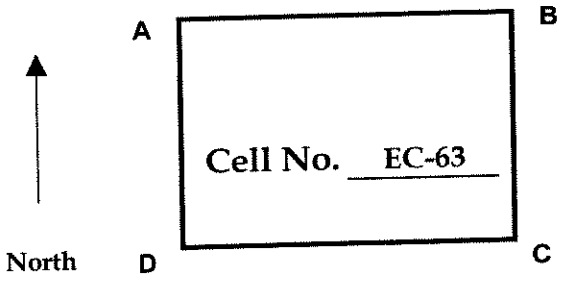

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,14	12	353,403.86	3,643,184.40	4.07	0.15	3.92	4.6	3/5/2006
B:	1,14	12	353,403.86	3,643,184.40	4.07	0.15	3.92	4.6	3/5/2006
C:	1,15A	12	352,903.69	3,643,700.71	4.17	0.15	4.02	4.6	3/7/2006
D:	1A,15A	12	352,902.10	3,643,200.98	4.19	0.15	4.04	3.6	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1A,14	12	353,403.86	3,643,184.40	3.92		2.2	3/5/06	5/31/06	
B:	1,14	14	353,403.11	3,643,683.54	5.58		3.2	5/31/06	5/31/06	R
C:	1,15A	14	352,903.75	3,643,700.62	4.06		3.1	5/27/06	5/30/06	R
D:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.3	5/27/06	5/30/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,14	12	353,403.86	3,643,184.40	3.92		2.0	3/5/06	6/14/06
B:	1,14	14	353,403.11	3,643,683.54	5.58		3.2	5/31/06	6/14/06
C:	1,15A	14	352,903.75	3,643,700.62	4.06		2.8	5/27/06	6/13/06
D:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.1	5/27/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,14	12	353,403.86	3,643,184.40	3.92		2.1	2.1	3/5/06	6/28/06
B:	1,14	14	353,403.11	3,643,683.54	5.58		2.8	2.8	5/31/06	6/28/06
C:	1,15A	14	352,903.75	3,643,700.62	4.06		2.4	2.4	5/27/06	6/27/06
D:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.1	2.1	5/27/06	6/27/06

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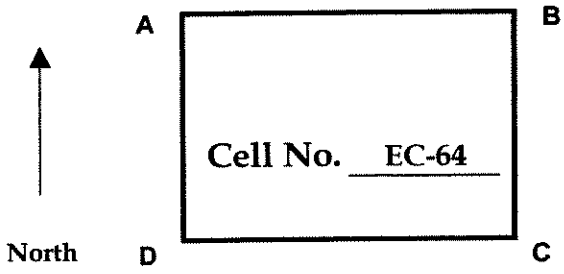

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7A,14	14	353,416.74	3,649,186.21	4.1		4.1	4.5	4/14/2006
B:	LINE 14	16	353,417.44	3,649,583.82	6.38		6.38	6.5	5/1/2006
C:	7,15A	12	352,918.24	3,649,703.68	3.99		3.99	5.3	4/14/2006
D:	7A,15A	12	352,916.55	3,649,203.81	3.82		3.82	4.8	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7A,14	14	353,416.18	3,649,185.33	4.38		2.9	6/1/06	6/2/06	R
B:	LINE 14	16	353,417.44	3,649,583.82	6.38		2.0	5/1/06	6/2/06	
C:	7,15A	14	352,918.19	3,649,703.08	3.92		1.9	6/1/06	6/2/06	R
D:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.8	4/14/06	6/2/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7A,14	14	353,416.18	3,649,185.33	4.38		2.8	6/1/06	6/16/06
B:	LINE 14	16	353,417.44	3,649,583.82	6.38		1.9	5/1/06	6/16/06
C:	7,15A	14	352,918.19	3,649,703.08	3.92		1.9	6/1/06	6/16/06
D:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.6	4/14/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7A,14	14	353,416.18	3,649,185.33	4.38		**2.6**	2.6	6/1/06	6/30/06
B:	LINE 14	16	353,417.44	3,649,583.82	6.38		**1.8**	1.8	5/1/06	6/30/06
C:	7,15A	14	352,918.19	3,649,703.08	3.92		**1.6**	1.6	6/1/06	6/30/06
D:	7A,15A	12	352,916.55	3,649,203.81	3.82		**2.4**	2.4	4/14/06	6/30/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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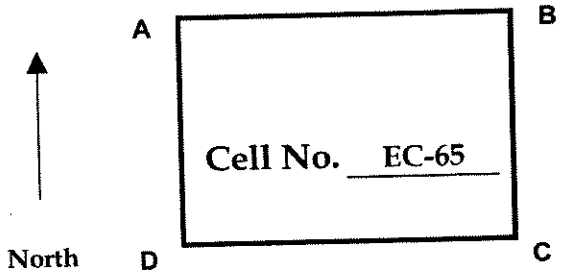
JAB
Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 7	12'	353,036.90	3,649,700.90	5.06		5.06	3.15	6/1/2006
B:									
C:	LINE 15A	12'	352,918.10	3,649,808.73	4.2		4.2	2.2	6/1/2006
D:	7,15A	12'	352,918.24	3,649,703.68	3.9		3.9	5.3	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 7	12'	353,036.90	3,649,700.90	5.06		1.9	6/1/06	6/2/06
B:	NONE								
C:	LINE 15A	12'	352,918.10	3,649,808.73	4.2		2.0	6/1/06	6/2/06
D:	7,15A	14'	352,918.19	3,649,703.08	3.92		1.9	6/1/06	6/2/06

R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 7	12'	353,036.90	3,649,700.90	5.06		1.8	6/1/06	6/16/06
B:	NONE								
C:	LINE 15A	12'	352,918.10	3,649,808.73	4.2		2.0	6/1/06	6/16/06
D:	7,15A	14'	352,918.19	3,649,703.08	3.92		1.9	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 7	12'	353,036.90	3,649,700.90	5.06		1.7	1.7	6/1/06	6/30/06
B:	NONE									
C:	LINE 15A	12'	352,918.10	3,649,808.73	4.2		1.3	1.3	6/1/06	6/30/06
D:	7,15A	14'	352,918.19	3,649,703.08	3.92		1.6	1.6	6/1/06	6/30/06

NOTE: * NAD 83 US. FT.
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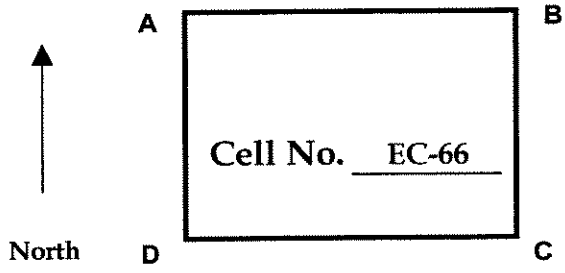

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7,15A	12'	352,918.24	3,649,703.68	3.99		3.99	5.3	4/14/2006
B:	LINE 15A	12'	352,918.10	3,649,808.73	4.2		4.2	2.2	6/1/2006
C:	LINE 15	14'	352,419.70	3,650,090.03	4.99		4.99	4.4	5/1/2006
D:	7,15	14'	352,418.95	3,649,719.04	4.18		4.18	4.7	4/18/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7,15A	14'	352,918.19	3,649,703.08	3.92		1.9	6/1/06	6/2/06	R
B:	LINE 15A	12'	352,918.10	3,649,808.73	4.2		2.0	6/1/06	6/2/06	
C:	LINE 15	14'	352,419.70	3,650,090.03	4.99		1.8	5/1/06	6/2/06	
D:	7,15	14'	352,417.96	3,649,717.10	5.57		2.4	5/31/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,15A	14'	352,918.19	3,649,703.08	3.92		1.9	6/1/06	6/16/06
B:	LINE 15A	12'	352,918.10	3,649,808.73	4.2		2.0	6/1/06	6/16/06
C:	LINE 15	14'	352,419.70	3,650,090.03	4.99		1.6	5/1/06	6/16/06
D:	7,15	14'	352,417.96	3,649,717.10	5.57		2.4	5/31/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7,15A	14'	352,918.19	3,649,703.08	3.92		1.6	1.6	6/1/06	6/30/06
B:	LINE 15A	12'	352,918.10	3,649,808.73	4.2		1.3	1.3	6/1/06	6/30/06
C:	LINE 15	14'	352,419.70	3,650,090.03	4.99		1.3	1.3	5/1/06	6/30/06
D:	7,15	14'	352,417.96	3,649,717.10	5.57		2.5	2.5	5/31/06	6/30/06

NOTE: * NAD 83 US. FT.

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Louisiana Department of Natural resources

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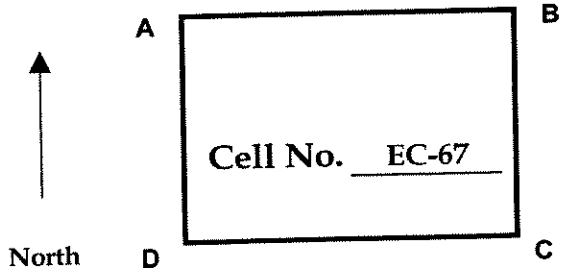

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7A,15A	12	352,916.55	3,649,203.81	3.82		3.82	4.8	4/14/2006
B:	7,15A	12	352,918.24	3,649,703.68	3.99		3.99	5.3	4/14/2006
C:	7,15	12	352,418.95	3,649,719.04	4.18		4.18	4.7	4/18/2006
D:	7A,15	12	352,416.62	3,649,218.70	3.77		3.77	3.9	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.8	4/14/06	6/2/06	
B:	7,15A	14	352,918.19	3,649,703.08	3.92		1.9	6/1/06	6/2/06	R
C:	7,15	14	352,417.96	3,649,717.10	5.57		2.4	5/31/06	6/2/06	R
D:	7A,15	14	352,417.53	3,649,223.50	5.86		3.4	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.6	4/14/06	6/16/06
B:	7,15A	14	352,918.19	3,649,703.08	3.92		1.9	6/1/06	6/16/06
C:	7,15	14	352,417.96	3,649,717.10	5.57		2.4	5/31/06	6/16/06
D:	7A,15	14	352,417.53	3,649,223.50	5.86		2.8	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.4	2.4	4/14/06	6/30/06
B:	7,15A	14	352,918.19	3,649,703.08	3.92		1.6	1.6	6/1/06	6/30/06
C:	7,15	14	352,417.96	3,649,717.10	5.57		2.5	2.5	5/31/06	6/30/06
D:	7A,15	14	352,417.53	3,649,223.50	5.86		3.3	3.3	6/1/06	6/30/06

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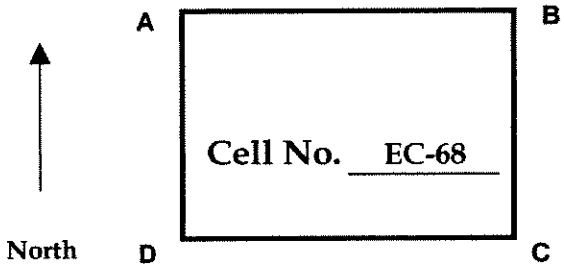

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,15A	12	352,902.10	3,643,200.98	4.19	0.15	4.04	3.6	4/2/2006
B:	1,15A	12	352,903.69	3,643,700.71	4.17	0.15	4.02	4.6	3/7/2006
C:	1,15	12	352,403.44	3,643,716.35	4.6	0.15	4.45	2.7	3/7/2006
D:	1A,15	12	352,403.34	3,643,215.88	4.32	0.15	4.17	3.6	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.3	5/27/06	5/30/06
B:	1,15A	14	352,903.75	3,643,700.62	4.06		3.1	5/27/06	5/30/06
C:	1,15	12	352,403.44	3,643,716.35	4.45		3.5	3/7/06	5/30/06
D:	1A,15	12	352,403.34	3,643,215.88	4.32		2.4	3/7/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.1	5/27/06	6/13/2006
B:	1,15A	14	352,903.75	3,643,700.62	4.06		2.8	5/27/06	6/13/2006
C:	1,15	12	352,403.44	3,643,716.35	4.45		3.4	3/7/06	6/13/2006
D:	1A,15	12	352,403.34	3,643,215.88	4.32		2.1	3/7/06	6/13/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.1	2.1	5/27/06	6/27/2006
B:	1,15A	14	352,903.75	3,643,700.62	4.06		2.4	2.4	5/27/06	6/27/2006
C:	1,15	12	352,403.44	3,643,716.35	4.45		3	3.0	3/7/06	6/27/2006
D:	1A,15	12	352,403.34	3,643,215.88	4.32		2.1	2.1	3/7/06	6/27/2006

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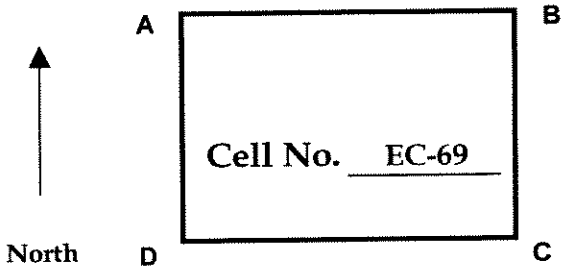

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,15A	12	352,902.21	3,642,753.19	5.47		5.47	5.6	4/24/2006
B:	1A,15A	12	352,902.10	3,643,200.98	4.19	0.15	4.04	3.6	3/7/2006
C:	1A,15	12	352,403.34	3,643,215.88	4.32	0.15	4.17	3.6	3/7/2006
D:	BL,15	12	352,413.53	3,642,754.10	6.53		6.53	5.1	4/24/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	BL,15A	14	352,901.77	3,642,749.58	6.29		2.1	5/27/06	5/30/06	R
B:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.3	5/27/06	5/30/06	R
C:	1A,15	12	352,403.34	3,643,215.88	4.17		2.4	3/7/06	5/30/06	
D:	BL,15	12	352,413.53	3,642,754.10	6.53		1.8	4/24/06	5/30/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,15A	14	352,901.77	3,642,749.58	6.29		1.9	5/27/06	6/13/2006
B:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.1	5/27/06	6/13/2006
C:	1A,15	12	352,403.34	3,643,215.88	4.17		2.1	3/7/06	6/13/2006
D:	BL,15	12	352,413.53	3,642,754.10	6.53		1.8	4/24/06	6/13/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,15A	14	352,901.77	3,642,749.58	6.29		2	2.0	5/27/06	6/27/2006
B:	1A,15A	12	352,902.34	3,643,201.21	4.00		2.1	2.1	5/27/06	6/27/2006
C:	1A,15	12	352,403.34	3,643,215.88	4.17		2.1	2.1	3/7/06	6/27/2006
D:	BL,15	12	352,413.53	3,642,754.10	6.53		1.8	1.8	4/24/06	6/27/2006

NOTE: * NAD 83 US. FT.

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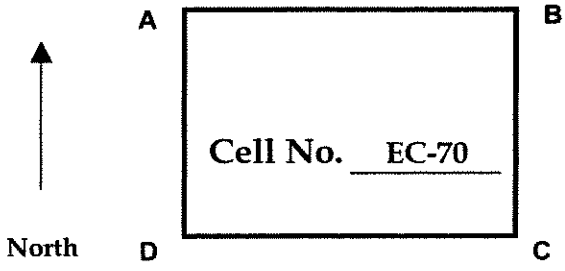

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,15	12	352,413.53	3,642,754.10	6.54		6.54	5.1	4/24/2006
B:	1A,15	12	352,403.34	3,643,215.88	4.32	0.15	4.17	4.6	3/7/2006
C:	1A,16A	12	351,902.38	3,643,232.61	4.02	0.15	3.87	4.2	3/5/2006
D:	BL,16A	12	351,852.56	3,642,784.64	4.2		4.2	5.8	3/16/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,15	12	352,413.53	3,642,754.10	6.54		1.8	4/24/06	5/30/06
B:	1A,15	12	352,403.34	3,643,215.88	4.17		2.4	3/7/06	5/30/06
C:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.6	3/5/06	5/30/06
D:	BL,16A	12	351,852.56	3,642,784.64	4.20		1.0	3/16/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,15	12	352,413.53	3,642,754.10	6.54		1.8	4/24/06	6/13/06
B:	1A,15	12	352,403.34	3,643,215.88	4.17		2.1	3/7/06	6/13/06
C:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.2	3/5/06	6/13/06
D:	BL,16A	12	351,852.56	3,642,784.64	4.20		1.2	3/16/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,15	12	352,413.53	3,642,754.10	6.54		1.8	1.8	4/24/06	6/27/06
B:	1A,15	12	352,403.34	3,643,215.88	4.17		2.1	2.1	3/7/06	6/27/06
C:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.9	1.9	3/5/06	6/27/06
D:	BL,16A	12	351,852.56	3,642,784.64	4.20		1.7	1.7	3/16/06	6/27/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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All elevations and distances are in feet.

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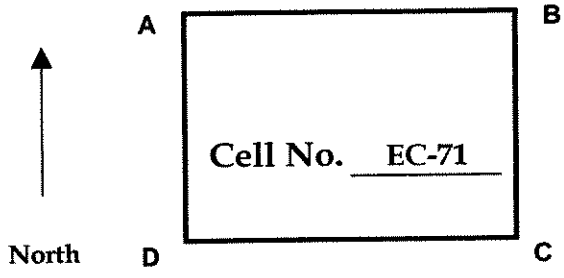
Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,15	12	352,403.34	3,643,215.88	4.32	0.15	4.17	3.6	3/7/2006
B:	1,15	12	352,403.44	3,643,716.35	4.6	0.15	4.45	2.7	3/7/2006
C:	1,16A	12	351,906.28	3,643,733.04	4.39	0.15	4.24	2.8	3/5/2006
D:	1A,16A	12	351,902.38	3,643,232.61	4.02	0.15	3.87	4.2	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,15	12	352,403.34	3,643,215.88	4.17		2.4	4/24/06	5/30/06
B:	1,15	12	352,403.44	3,643,716.35	4.45		3.5	3/7/06	5/30/06
C:	1,16A	12	351,906.28	3,643,733.04	4.24		3.1	3/5/06	5/30/06
D:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.6	3/16/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,15	12	352,403.34	3,643,215.88	4.17		2.1	4/24/06	6/13/06
B:	1,15	12	352,403.44	3,643,716.35	4.45		3.4	3/7/06	6/13/06
C:	1,16A	12	351,906.28	3,643,733.04	4.24		2.9	3/5/06	6/13/06
D:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.2	3/16/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,15	12	352,403.34	3,643,215.88	4.17		2.1	2.1	4/24/06	6/27/06
B:	1,15	12	352,403.44	3,643,716.35	4.45		3	3.0	3/7/06	6/27/06
C:	1,16A	12	351,906.28	3,643,733.04	4.24		2.5	2.5	3/5/06	6/27/06
D:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.9	1.9	3/16/06	6/27/06

NOTE: * NAD 83 US. FT.
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Louisiana Department of Natural resources

SCI Job No.116478

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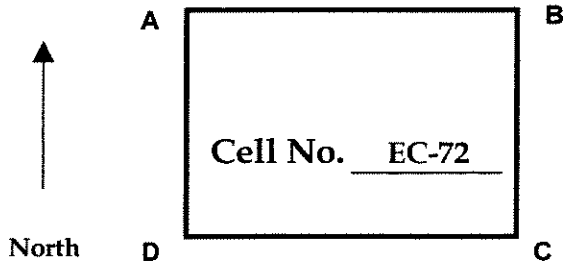

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,15	12	352,403.44	3,643,716.35	4.6	0.15	4.45	2.7	3/7/2006
B:	2A,15	12	352,405.38	3,644,216.72	4.03	0.15	3.88	4.2	3/5/2006
C:	2A,16A	12	351,905.78	3,644,232.52	4.17	0.15	4.02	4.8	3/5/2006
D:	1,16A	12	351,906.28	3,643,733.04	4.39	0.15	4.24	2.8	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,15	12	352,403.44	3,643,716.35	4.45		3.5	3/7/06	5/30/06
B:	2A,15	14	352,406.02	3,644,217.43	6.18		4.1	5/26/06	5/30/06
C:	2A,16A	12	351,905.78	3,644,232.52	4.17		4.0	3/5/06	5/21/06
D:	1,16A	12	351,906.28	3,643,733.04	4.24		3.1	3/5/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1,15	12	352,403.44	3,643,716.35	4.45		3.4	3/7/06	6/13/06	
B:	2A,15	14	352,406.02	3,644,217.43	6.18		3.7	5/26/06	6/13/06	
C:	2A,16A	14	351,905.26	3,644,232.31	3.95		3.7	5/26/06	6/4/06	R
D:	1,16A	12	351,906.28	3,643,733.04	4.24		2.9	3/5/06	6/13/06	

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,15	12	352,403.44	3,643,716.35	4.45		3	3.0	3/7/06	6/27/06
B:	2A,15	14	352,406.02	3,644,217.43	6.18		3.3	3.3	5/26/06	6/27/06
C:	2A,16A	14	351,905.26	3,644,232.31	3.95		3.2	3.2	5/26/06	6/18/06
D:	1,16A	12	351,906.28	3,643,733.04	4.24		2.5	2.5	3/5/06	6/27/06

NOTE: * NAD 83 US. FT.

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Louisiana Department of Natural resources

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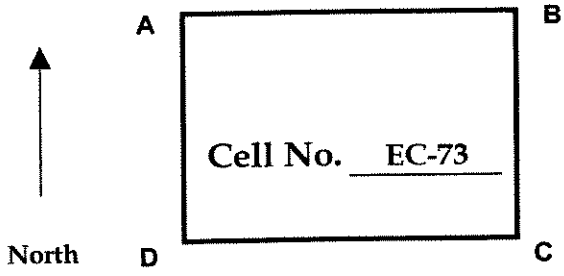

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7,15	14	352,418.95	3,649,719.04	4.18		4.18	4.7	4/18/2006
B:	LINE 15	14	352,419.70	3,650,090.03	4.99		4.99	4.4	5/1/2006
C:	8A,16A	14	351,922.26	3,650,234.98	4.28		4.28	3.6	4/18/2006
D:	7,16A	12	351,918.35	3,649,734.74	4.03		4.03	5	4/18/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7,15	14	352,417.96	3,649,717.10	5.57		2.4	5/31/06	6/2/06	R
B:	LINE 15	14	352,419.70	3,650,090.03	4.99		1.8	5/1/06	6/2/06	
C:	LINE 16A	14	351,917.58	3,650,206.49	4.63		1.3	6/1/06	6/2/06	R
D:	7,16A	14	351,419.70	3,649,735.69	4.84		2.2	5/31/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,15	14	352,417.96	3,649,717.10	5.57		2.4	5/31/06	6/16/06
B:	LINE 15	14	352,419.70	3,650,090.03	4.99		1.6	5/1/06	6/16/06
C:	LINE 16A	14	351,917.58	3,650,206.49	4.63		1.3	6/1/06	6/16/06
D:	7,16A	14	351,419.70	3,649,735.69	4.84		2.1	5/31/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7,15	14	352,417.96	3,649,717.10	5.57		2.5	2.5	5/31/06	6/30/06
B:	LINE 15	14	352,419.70	3,650,090.03	4.99		1.3	1.3	5/1/06	6/30/06
C:	LINE 16A	14	351,917.58	3,650,206.49	4.63		1.2	1.2	6/1/06	6/30/06
D:	7,16A	14	351,419.70	3,649,735.69	4.84		1.8	1.8	5/31/06	6/30/06

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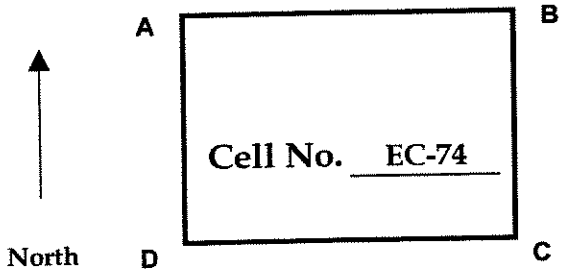

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7,16A	12	351,918.35	3,649,734.74	4.03		4.03	5	4/18/2006
B:	8A,16A	14	351,922.26	3,650,234.98	4.28		4.28	3.6	4/18/2006
C:	8A,16	12	351,421.06	3,650,249.41	4.53		4.53	3.4	4/18/2006
D:	7,16	14	351,418.60	3,649,749.68	3.66		3.66	5.4	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7,16A	14	351,919.70	3,649,735.69	4.84		2.2	5/31/06	6/2/06	R
B:	LINE 16A	14	351,917.58	3,650,206.49	4.63		1.3	6/1/06	6/2/06	R
C:	8A,16	12	351,421.06	3,650,249.41	4.53		1.4	4/18/06	6/2/06	
D:	7,16	14	351,419.42	3,649,741.12	5.17		2.0	5/31/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,16A	14	351,919.70	3,649,735.69	4.84		2.1	5/31/06	6/16/06
B:	LINE 16A	14	351,917.58	3,650,206.49	4.63		1.3	6/1/06	6/16/06
C:	8A,16	12	351,421.06	3,650,249.41	4.53		1.5	4/18/06	6/16/06
D:	7,16	14	351,419.42	3,649,741.12	5.17		1.9	5/31/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7,16A	14	351,919.70	3,649,735.69	4.84		1.8	1.8	5/31/06	6/30/06
B:	LINE 16A	14	351,917.58	3,650,206.49	4.63		1.2	1.2	6/1/06	6/30/06
C:	8A,16	12	351,421.06	3,650,249.41	4.53		1.8	1.8	4/18/06	6/30/06
D:	7,16	14	351,419.42	3,649,741.12	5.17		1.5	1.5	5/31/06	6/30/06

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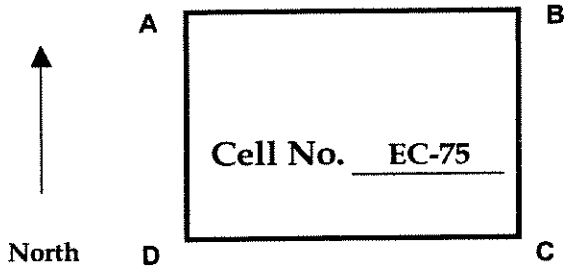

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,16A	12	351,905.78	3,644,232.52	4.17	0.15	4.02	4.8	3/5/2006
B:	2,16A	12	351,905.60	3,644,733.38	4.18	0.15	4.03	4.9	3/5/2006
C:	2,16	12	351,407.42	3,644,749.25	4.48	0.15	4.33	5.2	3/5/2006
D:	2A,16	12	351,404.34	3,644,250.00	4.22	0.15	4.07	3.3	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,16A	12	351,905.78	3,644,232.52	4.17		4.0	3/5/06	5/21/06	
B:	2,16A	14	351,905.63	3,644,733.29	6.42		4.0	5/18/06	5/21/06	R
C:	2,16	14	351,406.36	3,644,749.08	6.59		3.4	4/28/06	5/21/06	R
D:	2A,16	12	351,404.34	3,644,250.00	4.07		3.8	3/5/06	4/13/2006	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,16A	14	351,905.26	3,644,232.31	3.95		3.7	5/26/06	6/4/06	R
B:	2,16A	14	351,905.63	3,644,733.29	6.42		3.6	5/18/06	6/4/06	
C:	2,16	14	351,406.36	3,644,749.08	6.59		3.0	4/28/06	6/4/06	
D:	2A,16	12	351,404.34	3,644,250.00	4.07		3.5	3/5/06	4/27/2006	

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,16A	14	351,905.26	3,644,232.31	3.95		3.23	3.2	5/26/06	6/18/06
B:	2,16A	14	351,905.63	3,644,733.29	6.42		3.28	3.3	5/18/06	6/4/06
C:	2,16	14	351,406.36	3,644,749.08	6.59		2.77	2.8	4/28/06	6/4/06
D:	2A,16	12	351,404.34	3,644,250.00	4.07		3.09	3.1	3/5/06	5/11/06

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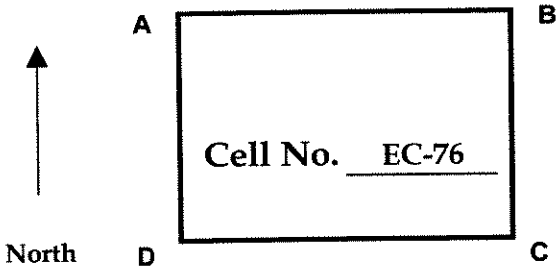

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,16A	12	351,906.28	3,643,733.04	4.39	0.15	4.24	2.8	3/5/2006
B:	2A,16A	12	351,905.78	3,644,232.52	4.17	0.15	4.02	4.8	3/5/2006
C:	2A,16	12	351,404.34	3,644,250.00	4.22	0.15	4.07	4.22	3/5/2006
D:	1,16	12	351,404.62	3,643,747.62	4.04	0.15	3.89	4.7	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1,16A	12	351,906.28	3,643,733.04	4.24		3.1	3/5/06	5/30/06	
B:	2A,16A	12	351,905.78	3,644,232.52	4.17		4.0	3/5/06	5/21/06	
C:	2A,16	12	351,404.34	3,644,250.00	4.07		3.8	3/5/06	4/13/06	SOLD
D:	1,16	12	351,404.62	3,643,747.62	3.89		3.3	3/5/06	4/13/06	SOLD

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1,16A	12	351,906.28	3,643,733.04	4.24		2.9	3/5/06	6/13/06	
B:	2A,16A	14	351,905.26	3,644,232.31	3.95		3.7	5/26/06	6/4/06	R
C:	2A,16	12	351,404.34	3,644,250.00	4.07		3.5	3/5/06	4/27/06	SOLD
D:	1,16	12	351,404.62	3,643,747.62	3.89		3.0	3/5/06	4/27/06	SOLD

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,16A	12	351,906.28	3,643,733.04	4.24		**2.5**	2.5	3/5/06	6/27/06
B:	2A,16A	14	351,905.26	3,644,232.31	3.95		**3.2**	3.2	5/26/06	6/18/06
C:	2A,16	12	351,404.34	3,644,250.00	4.07		**3.09**	3.1	**3/5/06**	**5/11/06**
D:	1,16	12	351,404.62	3,643,747.62	3.89		**2.6**	2.6	**3/5/06**	**5/11/06**

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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JAB

Contractor Signature

Registered Land Surveyor

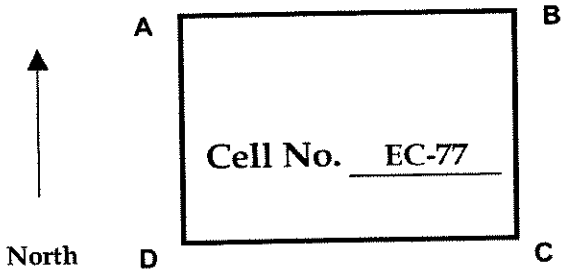
STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,16A	12	351,852.56	3,642,784.64	4.2	0.15	4.05	5.8	3/16/2006
B:	1A,16A	12	351,902.38	3,643,232.61	4.02	0.15	3.87	4.2	3/5/2006
C:	1A,16	12	351,403.16	3,643,247.63	4.05	0.15	3.9	4.4	3/5/2006
D:	BL,16	12	351,406.54	3,642,791.75	5.09	0.15	4.94	4.2	3/16/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	BL,16A	12	351,852.56	3,642,784.64	4.05		1.0	3/16/06	5/30/06	
B:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.6	3/5/06	5/30/06	
C:	1A,16	12	351,403.16	3,643,247.63	3.9		2.4	3/5/06	4/13/06	SOLD
D:	BL,16	12	351,406.54	3,642,791.75	4.94		1.5	3/16/06	4/13/06	SOLD

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	BL,16A	12	351,852.56	3,642,784.64	4.05		1.2	3/16/06	6/13/06	
B:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.2	3/5/06	6/13/06	
C:	1A,16	12	351,403.16	3,643,247.63	3.9		2.0	3/5/06	4/27/06	SOLD
D:	BL,16	12	351,406.54	3,642,791.75	4.94		1.5	3/16/06	4/27/06	SOLD

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,16A	12	351,852.56	3,642,784.64	4.05		1.7	1.7	3/16/06	6/27/06
B:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.9	1.9	3/5/06	6/27/06
C:	1A,16	12	351,403.16	3,643,247.63	3.9		1.79	1.8	3/5/06	5/11/06
D:	BL,16	12	351,406.54	3,642,791.75	4.94		1.39	1.4	3/16/06	5/11/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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Louisiana Department of Natural resources

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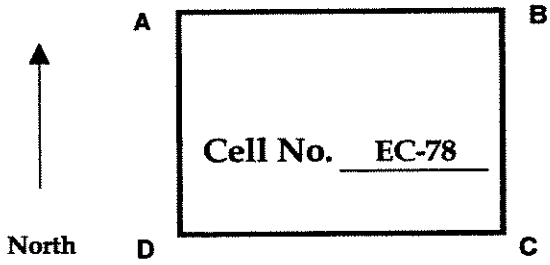

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,16	12	351,406.54	3,642,791.75	5.09	0.15	4.94	4.2	3/16/2006
B:	1A,16	12	351,403.16	3,643,247.63	4.05	0.15	3.9	4.4	3/5/2006
C:	1A,17A	12	350,902.37	3,643,264.64	4.02	0.15	3.87	4.6	3/5/2006
D:	BL,17A	12	350,893.08	3,642,840.12	4.92	0.15	4.77	3.9	3/16/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,16	12	351,406.54	3,642,791.75	4.94		1.5	3/16/2006	4/13/2006
B:	1A,16	12	351,403.16	3,643,247.63	3.90		2.4	3/5/2006	4/13/2006
C:	1A,17A	12	350,902.37	3,643,264.64	3.87		2.7	3/5/2006	4/13/2006
D:	BL,17A	12	350,893.08	3,642,840.12	4.77		1.4	3/16/2006	4/13/2006

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,16	12	351,406.54	3,642,791.75	4.94		1.5	3/16/2006	4/27/2006
B:	1A,16	12	351,403.16	3,643,247.63	3.90		2.0	3/5/2006	4/27/2006
C:	1A,17A	12	350,902.37	3,643,264.64	3.87		2.3	3/5/2006	4/27/2006
D:	BL,17A	12	350,893.08	3,642,840.12	4.77		1.4	3/16/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,16	12	351,406.82	3,642,791.66	4.99		1.39	1.4	5/11/2006	5/11/2006
B:	1A,16	12	351,402.84	3,643,247.01	3.97		1.79	1.8	5/11/2006	5/11/2006
C:	1A,17A	12	350,902.46	3,643,264.30	3.83		2.04	2.0	5/11/2006	5/11/2006
D:	BL,17A	12	350,893.35	3,642,839.89	4.76		1.44	1.4	5/11/2006	5/11/2006

NOTE: * NAD 83 US. FT.

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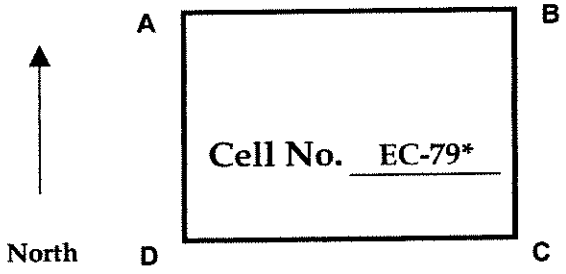

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date	
A:	2A,16	12	351,404.34	3,644,250.00	4.22	0.15	4.07	3.3	3/5/2006	
B:	2,16	12	351,407.80	3,644,750.96	4.27	0.15	4.12	5	3/29/2006	RESTAKE
C:	2,17A	12	350,897.00	3,644,764.93	4.19	0.15	4.04	4.1	3/31/2006	RESTAKE
D:	2A,17A	12	351,404.34	3,644,250.00	4.11	0.15	3.96	3.6	3/5/2006	

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,16	12	351,404.34	3,644,250.00	4.07		3.8	3/5/06	4/13/06	
B:	2,16	14	351,406.36	3,644,749.08	6.59		3.4	4/28/06	5/21/06	R
C:	2,17A	14	350,906.60	3,644,763.25	5.97		3.1	4/28/06	5/21/06	R
D:	2A,17A	12	351,404.34	3,644,250.00	3.96		3.0	3/5/06	4/13/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,16	12	351,404.34	3,644,250.00	4.07		3.5	3/5/06	4/27/06
B:	2,16	14	351,406.36	3,644,749.08	6.59		3.0	4/28/06	6/4/06
C:	2,17A	14	350,906.60	3,644,763.25	5.97		2.9	4/28/06	6/4/06
D:	2A,17A	12	351,404.34	3,644,250.00	3.96		2.8	3/5/06	4/27/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,16	12	351,404.34	3,644,250.00	4.07		3.09	3.1	3/5/06	5/11/06
B:	2,16	14	351,406.36	3,644,749.08	6.59		2.77	2.8	4/28/06	6/18/06
C:	2,17A	14	350,906.60	3,644,763.25	5.97		2.49	2.5	4/28/06	6/18/06
D:	2A,17A	12	351,404.34	3,644,250.00	3.96		2.39	2.4	3/5/06	5/11/06

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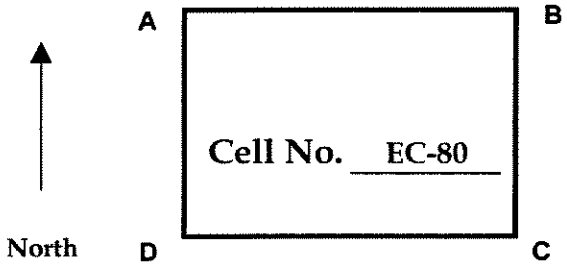

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7,16	14	351,418.60	3,649,749.68	3.66		3.66	5.4	4/22/2006
B:	8A,16	12	351,421.06	3,650,249.41	4.53		4.53	3.4	4/18/2006
C:	LINE 8A	14	351,199.79	3,650,256.74	4.18		4.18	4	5/1/2006
D:	7,17A	14	350,916.77	3,649,766.06	3.41		3.41	6	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7,16	14	351,419.42	3,649,741.12	5.17		2.0	5/31/06	6/2/06	R
B:	8A,16	12	351,421.06	3,650,249.41	4.53		1.4	4/18/06	6/2/06	
C:	LINE 8A	14	351,199.79	3,650,256.74	4.18		1.5	5/1/06	6/2/06	
D:	7,17A	14	350,917.32	3,649,266.59	4.75		2.5	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,16	14	351,419.42	3,649,741.12	5.17		1.9	5/31/06	6/16/06
B:	8A,16	12	351,421.06	3,650,249.41	4.53		1.5	4/18/06	6/16/06
C:	LINE 8A	14	351,199.79	3,650,256.74	4.18		1.5	5/1/06	6/16/06
D:	7,17A	14	350,917.32	3,649,266.59	4.75		2.2	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7,16	14	351,419.42	3,649,741.12	5.17		1.5	1.5	5/31/06	6/30/06
B:	8A,16	12	351,421.06	3,650,249.41	4.53		1.8	1.8	4/18/06	6/30/06
C:	LINE 8A	14	351,199.79	3,650,256.74	4.18		0.9	0.9	5/1/06	6/30/06
D:	7,17A	14	350,917.32	3,649,266.59	4.75		2.1	2.1	6/1/06	6/30/06

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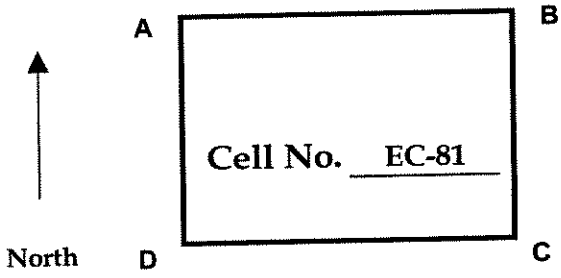

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	8A,16	12	351,421.06	3,650,249.41	4.53		4.53	3.4	4/18/2006
B:	LINE 16	14	351,422.08	3,650,660.08	4.41		4.41	4	5/1/2006
C:	CORNER SE	14	351,297.29	3,650,811.34	4.73		4.73	5.2	5/1/2006
D:	LINE 8A	14	351,199.79	3,650,256.74	4.18		4.18	4	5/1/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	8A,16	12	351,421.06	3,650,249.41	4.53		1.4	4/18/06	6/2/06
B:	LINE 16	14	351,422.08	3,650,660.08	4.41		1.4	5/1/06	6/2/06
C:	NONE								
D:	LINE 8A	14	351,199.79	3,650,256.74	4.18		1.5	5/1/06	6/2/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	8A,16	12	351,421.06	3,650,249.41	4.53		1.5	4/18/06	6/16/06
B:	LINE 16	14	351,422.08	3,650,660.08	4.41		1.3	5/1/06	6/16/06
C:	NONE								
D:	LINE 8A	14	351,199.79	3,650,256.74	4.18		1.5	5/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	8A,16	12	351,421.06	3,650,249.41	4.53		1.8	1.8	4/18/06	6/30/06
B:	LINE 16	14	351,422.08	3,650,660.08	4.41		0.8	0.8	5/1/06	6/30/06
C:	NONE									
D:	LINE 8A	14	351,199.79	3,650,256.74	4.18		0.9	0.9	5/1/06	6/30/06

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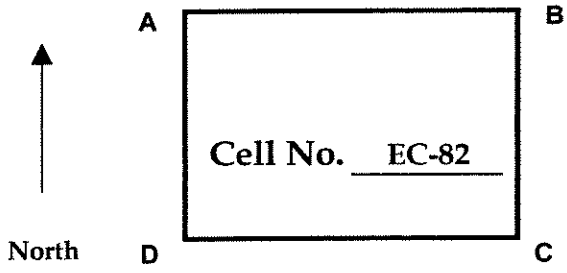

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7,17A	14	350,916.77	3,649,766.06	3.41		3.41	6	4/22/2006
B:	LINE 17A	14	350,918.47	3,649,989.11	4.47		4.47	4.1	5/1/2006
C:	NONE								
D:	LINE 7	16	350,610.71	3,649,775.72	4.54		4.54	5.4	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7,17A	14	350,908.51	3,649,765.29	5.76		2.5	6/2/06	6/2/06	R
B:	LINE 17A	14	350,918.47	3,649,989.11	4.47		2.3	5/1/06	6/2/06	
C:	NONE									
D:	LINE 7	16	350,610.71	3,649,775.72	4.54		2.3	4/22/06	6/2/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7,17A	14	350,908.51	3,649,765.29	5.76		2.2	6/2/06	6/16/06
B:	LINE 17A	14	350,918.47	3,649,989.11	4.47		1.9	5/1/06	6/16/06
C:	NONE								
D:	LINE 7	16	350,610.71	3,649,775.72	4.54		1.9	4/22/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7,17A	14	350,908.51	3,649,765.29	5.76		2.1	2.1	6/2/06	6/30/06
B:	LINE 17A	14	350,918.47	3,649,989.11	4.47		1.4	1.4	5/1/06	6/30/06
C:	NONE									
D:	LINE 7	16	350,610.71	3,649,775.72	4.54		1.6	1.6	4/22/06	6/30/06

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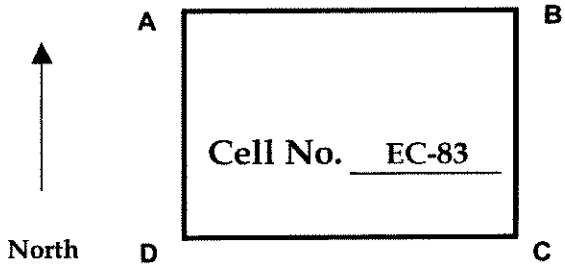
SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7A,17A	14	350,916.74	3,649,267.37	3.67		3.67	5.3	4/14/2006
B:	7,17A	14	350,916.77	3,649,766.06	3.41		3.41	6	4/22/2006
C:	LINE 7	16	350,610.71	3,649,775.72	4.54		4.54	5.4	4/22/2006
D:	LINE 7A	12	350,577.03	3,649,277.67	4.22		4.22	5.7	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7A,17A	14	350,917.32	3,649,266.59	4.75		3.0	6/1/06	6/2/06	R
B:	7,17A	14	350,908.51	3,649,765.29	5.76		2.5	6/2/06	6/2/06	R
C:	LINE 7	16	350,610.71	3,649,775.72	4.54		2.3	4/22/06	6/2/06	
D:	LINE 7A	12	350,577.03	3,649,277.67	4.22		2.1	4/22/06	6/2/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7A,17A	14	350,917.32	3,649,266.59	4.75		2.9	6/1/06	6/16/06
B:	7,17A	14	350,908.51	3,649,765.29	5.76		2.2	6/2/06	6/16/06
C:	LINE 7	16	350,610.71	3,649,775.72	4.54		1.9	4/22/06	6/16/06
D:	LINE 7A	12	350,577.03	3,649,277.67	4.22		2.1	4/22/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7A,17A	14	350,917.32	3,649,266.59	4.75		2.5	2.5	6/1/06	6/30/06
B:	7,17A	14	350,908.51	3,649,765.29	5.76		2.1	2.1	6/2/06	6/30/06
C:	LINE 7	16	350,610.71	3,649,775.72	4.54		1.6	1.6	4/22/06	6/30/06
D:	LINE 7A	12	350,577.03	3,649,277.67	4.22		1.8	1.8	4/22/06	6/30/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

All elevations are to be to the nearest tenth of a foot as per specifications.

28 Day readings must be approved by registered land surveyor for use as as-built surveys.

Fill Elevation - Elevation of fill material for as-built survey (NAVD 88)

All elevations and distances are in feet.

JAB

Contractor Signature

Registered Land Surveyor

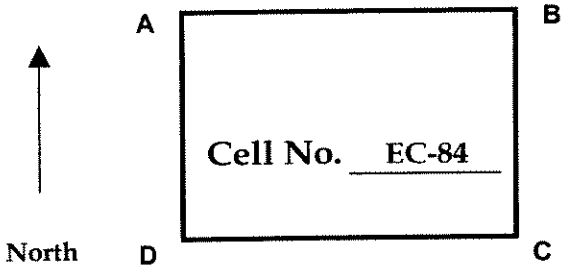
STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6,17A	12	350,915.32	3,648,765.23	3.84		3.84	3.5	4/14/2006
B:	7A,17A	14	350,916.74	3,649,267.37	3.67		3.67	5.3	4/14/2006
C:	LINE 7A	12	350,577.03	3,649,277.67	4.22		4.22	5.7	4/22/2006
D:	LINE 6	12	350,547.57	3,648,777.81	4.67		4.67	5.2	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6,17A	14	350,913.94	3,648,766.82	5.70		3.1	6/2/06	6/2/06	R
B:	7A,17A	14	350,917.32	3,649,266.59	4.75		3.0	6/1/06	6/2/06	R
C:	LINE 7A	12	350,577.03	3,649,277.67	4.22		2.1	4/22/06	6/2/06	
D:	LINE 6	12	350,547.57	3,648,777.81	4.67		3.0	4/22/06	6/2/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6,17A	14	350,913.94	3,648,766.82	5.70		2.8	6/2/06	6/16/06
B:	7A,17A	14	350,917.32	3,649,266.59	4.75		2.9	6/1/06	6/16/06
C:	LINE 7A	12	350,577.03	3,649,277.67	4.22		2.1	4/22/06	6/16/06
D:	LINE 6	12	350,547.57	3,648,777.81	4.67		2.6	4/22/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6,17A	14	350,913.94	3,648,766.82	5.70		2.4	2.4	6/2/06	6/30/06
B:	7A,17A	14	350,917.32	3,649,266.59	4.75		2.5	2.5	6/1/06	6/30/06
C:	LINE 7A	12	350,577.03	3,649,277.67	4.22		1.8	1.8	4/22/06	6/30/06
D:	LINE 6	12	350,547.57	3,648,777.81	4.67		2.4	2.4	4/22/06	6/30/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

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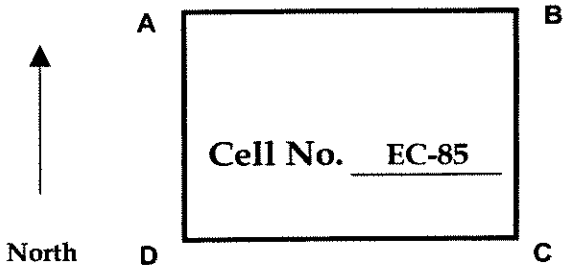

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6A,17A	12	350,914.34	3,648,264.70	3.02		3.02	3.9	4/11/2006
B:	6,17A	12	350,915.32	3,648,765.23	3.84		3.84	3.5	4/14/2006
C:	LINE 6	12	350,547.57	3,648,777.81	4.67		4.67	5.2	4/22/2006
D:	LINE 6A	12	350,517.14	3,648,277.16	4.55		4.55	5	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.2	5/22/06	6/2/06	R
B:	6,17A	14	350,913.94	3,648,766.82	5.70		3.1	6/2/06	6/2/06	R
C:	LINE 6	12	350,547.57	3,648,777.81	4.67		3.0	4/22/06	6/2/06	
D:	LINE 6A	12	350,478.59	3,648,278.33	5.42		2.3	5/15/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.2	5/22/06	6/14/06
B:	6,17A	14	350,913.94	3,648,766.82	5.70		2.8	6/2/06	6/16/06
C:	LINE 6	12	350,547.57	3,648,777.81	4.67		2.6	4/22/06	6/16/06
D:	LINE 6A	12	350,478.59	3,648,278.33	5.42		2.3	5/15/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.1	2.1	5/22/06	6/28/06
B:	6,17A	14	350,913.94	3,648,766.82	5.70		2.4	2.4	6/2/06	6/30/06
C:	LINE 6	12	350,547.57	3,648,777.81	4.67		2.4	2.4	4/22/06	6/30/06
D:	LINE 6A	12	350,478.59	3,648,278.33	5.42		2	2.0	5/15/06	6/28/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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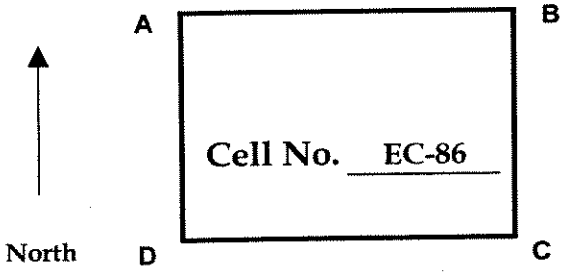

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4,17A	12	350,910.22	3,646,764.01	3.8	0.15	3.65	4.5	3/30/2006
B:	5A,17A	12	350,912.03	3,647,265.22	3.83	0.15	3.68	3	3/30/2006
C:	LINE 5A	12	350,470.59	3,647,279.30	4.88		4.88	4.5	4/22/2006
D:	4,17	12	350,410.10	3,646,779.35	5.49		5.49	2.1	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	4,17A	14	350,909.65	3,646,764.01	5.84		2.9	4/28/06	5/21/06	R
B:	5A,17A	14	350,902.89	3,647,265.17	5.81		3.3	5/22/06	5/31/06	R
C:	LINE 5A	12	350,422.78	3,647,280.59	6.44		2.2	5/15/06	5/31/06	R
D:	4,17	12	350,410.10	3,646,779.35	5.49		3.0	4/22/06	5/21/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,17A	14	350,909.65	3,646,764.01	5.84		2.7	4/28/06	6/4/06
B:	5A,17A	14	350,902.89	3,647,265.17	5.81		3.2	5/22/06	6/14/06
C:	LINE 5A	12	350,422.78	3,647,280.59	6.44		2.2	5/15/06	6/14/06
D:	4,17	12	350,410.10	3,646,779.35	5.49		2.9	4/22/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4,17A	14	350,909.65	3,646,764.01	5.84		2.4	2.4	4/28/06	6/18/06
B:	5A,17A	14	350,902.89	3,647,265.17	5.81		2.8	2.8	5/22/06	6/28/06
C:	LINE 5A	12	350,422.78	3,647,280.59	6.44		2	2.0	5/15/06	6/28/06
D:	4,17	12	350,410.10	3,646,779.35	5.49		2.6	2.6	4/22/06	6/18/06

NOTE: * NAD 83 US. FT.

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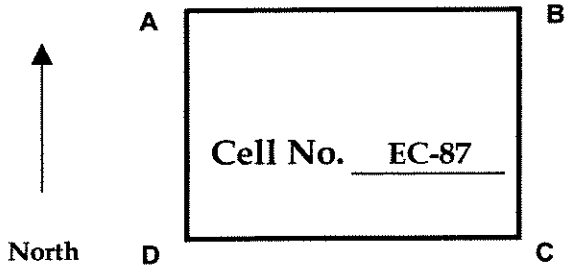

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,17A	12	350,908.64	3,646,262.72	4	0.15	3.85	2.3	3/30/2006
B:	4,17A	12	350,910.22	3,646,764.01	3.8	0.15	3.65	4.5	3/30/2006
C:	4,17	12	350,410.10	3,646,779.35	5.49		5.49	2.1	4/22/2006
D:	4A,17	12	350,410.47	3,646,280.31	3.9	0.15	3.75	5.2	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.3	5/21/06	5/21/06	R
B:	4,17A	14	350,909.65	3,646,764.01	5.84		2.9	4/28/06	5/21/06	R
C:	4,17	12	350,410.10	3,646,779.35	5.49		3.0	4/22/06	5/21/06	
D:	4A,17	12	350,410.47	3,646,280.31	3.75		2.3	3/30/06	5/21/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.2	5/21/06	6/4/06
B:	4,17A	14	350,909.65	3,646,764.01	5.84		2.7	4/28/06	6/4/06
C:	4,17	12	350,410.10	3,646,779.35	5.49		2.9	4/22/06	6/4/06
D:	4A,17	12	350,410.47	3,646,280.31	3.75		2.1	3/30/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.06	3.1	5/21/06	6/18/06
B:	4,17A	14	350,909.65	3,646,764.01	5.84		2.36	2.4	4/28/06	6/18/06
C:	4,17	12	350,410.10	3,646,779.35	5.49		2.66	2.6	4/22/06	6/18/06
D:	4A,17	12	350,410.47	3,646,280.31	3.75		2.1	2.1	3/30/06	6/18/06

NOTE: * NAD 83 US. FT.

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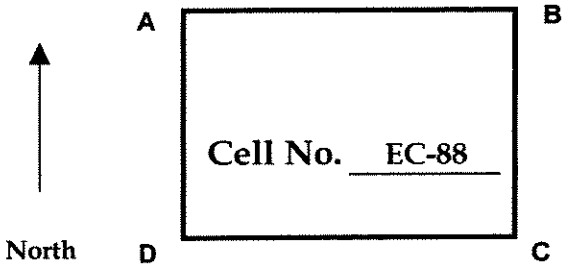

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,17A	12	350,907.54	3,645,764.29	4.17	0.15	4.02	5.1	3/7/2006
B:	4A,17A	12	350,908.64	3,646,262.72	4	0.15	3.85	2.3	3/30/2006
C:	4A,17	12	350,410.47	3,646,280.31	3.9	0.15	3.75	5.2	3/30/2006
D:	3,17	12	350,409.34	3,645,781.14	4.08	0.15	3.93	5	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3,17A	14	350,899.03	3,645,765.02	5.60		3.5	5/21/06	5/21/06	R
B:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.3	5/21/06	5/21/06	R
C:	4A,17	12	350,410.47	3,646,280.31	3.75		2.3	3/30/06	5/21/06	
D:	3,17	12	350,409.34	3,645,781.14	3.93		1.4	3/30/06	5/21/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,17A	14	350,899.03	3,645,765.02	5.60		3.3	5/21/06	6/4/06
B:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.2	5/21/06	6/4/06
C:	4A,17	12	350,410.47	3,646,280.31	3.75		2.1	3/30/06	6/4/06
D:	3,17	12	350,409.34	3,645,781.14	3.93		1.9	3/30/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,17A	14	350,899.03	3,645,765.02	5.60		**2.91**	2.9	5/21/06	6/18/06
B:	4A,17A	14	350,900.56	3,646,265.00	6.03		**3.06**	3.1	5/21/06	6/18/06
C:	4A,17	12	350,410.47	3,646,280.31	3.75		**2.1**	2.1	3/30/06	6/18/06
D:	3,17	12	350,409.34	3,645,781.14	3.93		**1.89**	1.9	3/30/06	6/18/06

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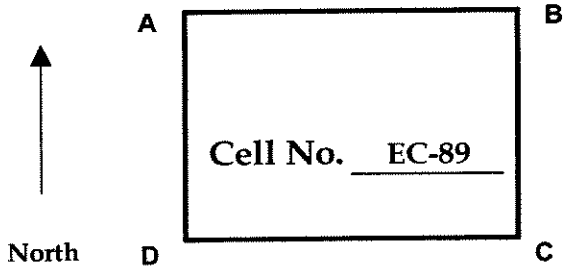

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,17A	12	350,906.57	3,644,762.64	4.29	0.15	4.14	5.8	3/5/2006
B:	3A,17A	12	350,908.33	3,645,263.28	4	0.15	3.85	3.7	3/7/2006
C:	3A,17	12	350,406.67	3,645,279.09	4.27	0.15	4.12	5.2	3/7/2006
D:	2,17	12	350,406.11	3,644,778.74	4.25	0.15	4.1	3.5	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,17A	12	350,906.60	3,644,763.31	5.97		3.1	4/28/06	5/21/06	
B:	3A,17A	14	350,908.05	3,645,263.35	8.03		3.4	4/28/06	5/21/06	R
C:	3A,17	14	350,406.61	3,645,279.34	6.48		2.2	4/28/06	5/21/06	R
D:	2,17	12	350,406.11	3,644,778.74	4.1		1.6	3/7/06	5/21/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,17A	12	350,906.60	3,644,763.31	5.97		2.9	4/28/06	6/4/06
B:	3A,17A	14	350,908.05	3,645,263.35	8.03		3.3	4/28/06	6/4/06
C:	3A,17	14	350,406.61	3,645,279.34	6.48		2.1	4/28/06	6/4/06
D:	2,17	12	350,406.11	3,644,778.74	4.1		1.7	3/7/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,17A	12	350,906.60	3,644,763.31	5.97		2.49	2.5	4/28/06	6/18/06
B:	3A,17A	14	350,908.05	3,645,263.35	8.03		3	3.0	4/28/06	6/18/06
C:	3A,17	14	350,406.61	3,645,279.34	6.48		2.28	2.3	4/28/06	6/18/06
D:	2,17	12	350,406.11	3,644,778.74	4.1		1.97	2.0	3/7/06	6/18/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.
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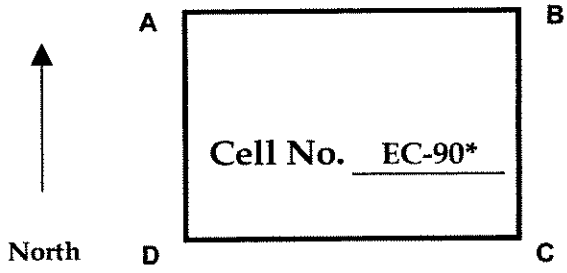
JAB
Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date	
A:	2A,17A	12	350,905.34	3,644,264.43	4.11	0.15	3.96	3.6	3/5/2006	
B:	2,17A	12	350,897.00	3,644,764.93	4.19	0.15	4.04	4.1	3/31/2006	RESTAKE
C:	2,17	12	350,406.11	3,644,778.74	4.25	0.15	4.1	3.5	3/7/2006	
D:	2A,17	12	350,406.04	3,644,280.47	4.31	0.15	4.16	5	3/5/2006	

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,17A	12	350,905.34	3,644,264.43	3.96		3.0	3/5/06	4/13/06	
B:	2,17A	14	350,906.60	3,644,763.31	5.97		3.1	4/28/06	5/21/06	R
C:	2,17	12	350,406.11	3,644,778.74	4.1		1.6	3/7/06	5/21/06	
D:	2A,17	12	350,406.04	3,644,280.47	4.16		2.4	3/5/06	4/13/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,17A	12	350,905.34	3,644,264.43	3.96		2.8	3/5/06	4/27/06
B:	2,17A	14	350,906.60	3,644,763.31	5.97		2.9	4/28/06	6/4/06
C:	2,17	12	350,406.11	3,644,778.74	4.1		1.7	3/7/06	6/4/06
D:	2A,17	12	350,406.04	3,644,280.47	4.16		2.1	3/5/06	4/27/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,17A	12	350,905.34	3,644,264.43	3.96		2.39	2.4	3/5/06	5/11/06
B:	2,17A	14	350,906.60	3,644,763.31	5.97		2.49	2.5	4/28/06	6/18/06
C:	2,17	12	350,406.11	3,644,778.74	4.1		1.97	2.0	3/7/06	6/18/06
D:	2A,17	12	350,406.04	3,644,280.47	4.16		1.53	1.5	3/5/06	5/11/06

NOTE: * NAD 83 US. FT.
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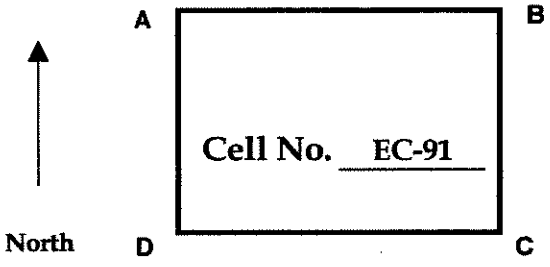

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,17A	12	350,893.08	3,642,840.12	4.92	0.15	4.77	3.9	3/16/2006
B:	1A,17A	12	350,902.37	3,643,264.64	4.02	0.15	3.87	4.6	3/5/2006
C:	1A,17	12	350,404.72	3,643,278.56	4.14	0.15	3.99	4.7	3/5/2006
D:	BL,17	12	350,406.54	3,642,809.35	4.77	0.15	4.62	4.2	3/16/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,17A	12	350,893.08	3,642,840.12	4.77		1.4	3/16/2006	4/13/2006
B:	1A,17A	12	350,902.37	3,643,264.64	3.87		2.7	3/5/2006	4/13/2006
C:	1A,17	12	350,404.72	3,643,278.56	3.99		2.4	3/5/2006	4/13/2006
D:	BL,17	12	350,406.54	3,642,809.35	4.62		2.4	3/16/2006	4/13/2006

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,17A	12	350,893.08	3,642,840.12	4.77		1.4	3/16/2006	4/27/2006
B:	1A,17A	12	350,902.37	3,643,264.64	3.87		2.3	3/5/2006	4/27/2006
C:	1A,17	12	350,404.72	3,643,278.56	3.99		2.3	3/5/2006	4/27/2006
D:	BL,17	12	350,406.54	3,642,809.35	4.62		2.2	3/16/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,17A	12	350,893.35	3,642,839.89	4.76		1.44	1.4	5/11/2006	5/11/2006
B:	1A,17A	12	350,902.46	3,643,264.30	3.83		2.04	2.0	5/11/2006	5/11/2006
C:	1A,17	12	350,404.78	3,643,277.83	4.01		1.88	1.9	5/11/2006	5/11/2006
D:	BL,17	12	350,406.59	3,642,809.22	4.62		1.96	2.0	5/11/2006	5/11/2006

NOTE: * NAD 83 US. FT.

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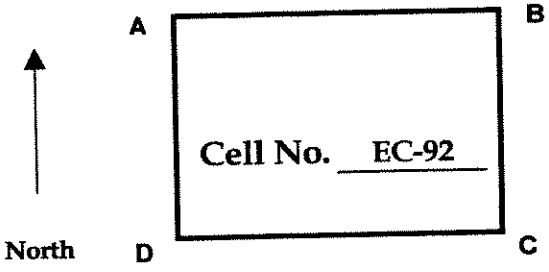

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,17	12	350,404.72	3,643,268.56	4.14	0.15	3.99	4.7	3/5/2006
B:	1,17	12	350,403.53	3,643,781.29	3.5	0.15	3.35	4.6	3/5/2006
C:	LINE 1	14	350,192.48	3,643,787.38	5.01		5.01	6	4/27/2006
D:	LINE 1A	12	350,166.06	3,643,285.21	5.26		5.26	6	4/27/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,17	12	350,404.72	3,643,268.56	3.99		2.4	3/5/2006	4/13/2006
B:	1,17	12	350,403.53	3,643,781.29	3.35		2.5	3/5/2006	4/13/2006
C:	LINE 1	14	350,192.48	3,643,787.38	5.01			4/27/2006	
D:	LINE 1A	12	350,166.06	3,643,285.21	5.26			4/27/2006	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,17	12	350,404.72	3,643,268.56	3.99		2.3	3/5/2006	4/27/2006
B:	1,17	12	350,403.53	3,643,781.29	3.35		2.2	3/5/2006	4/27/2006
C:	LINE 1	14	350,192.48	3,643,787.38	5.01		2.1	4/27/2006	4/27/2006
D:	LINE 1A	12	350,166.06	3,643,285.21	5.26		1.9	4/27/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,17	12	350,404.78	3,643,277.83	4.01		1.88	1.9	5/11/2006	5/11/2006
B:	1,17	12	350,403.63	3,643,780.79	3.31		1.82	1.8	5/11/2006	5/11/2006
C:	LINE 1	14	350,171.08	3,643,787.81	5.06		1.49	1.5	5/11/2006	5/11/2006
D:	LINE 1A	12	350,132.82	3,643,285.78	5.09		1.92	1.9	5/11/2006	5/11/2006

NOTE: * NAD 83 US. FT.

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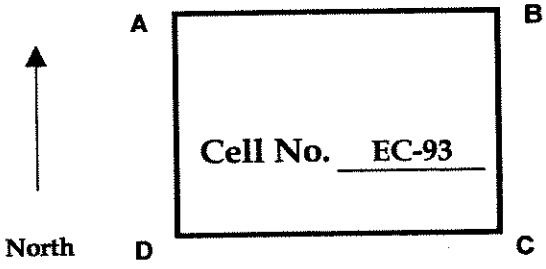

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,17	12	350,403.53	3,643,781.29	3.5	0.15	3.35	4.6	3/5/2006
B:	2A,17	12	350,406.04	3,644,280.47	4.31	0.15	4.16	5	3/5/2006
C:	LINE 2A	12	350,226.07	3,644,285.37	4.92		4.92	6	4/27/2006
D:	LINE 1	14	350,192.48	3,643,787.38	5.01		5.01	4.2	4/27/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,17	12	350,403.53	3,643,781.29	3.35		2.5	3/5/2006	4/13/2006
B:	2A,17	12	350,406.04	3,644,280.47	4.16		2.4	3/5/2006	4/13/2006
C:	LINE 2A	12	350,226.07	3,644,285.37	4.92			4/27/2006	
D:	LINE 1	14	350,192.48	3,643,787.38	5.01			4/27/2006	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,17	12	350,403.53	3,643,781.29	3.35		2.2	3/5/2006	4/27/2006
B:	2A,17	12	350,406.04	3,644,280.47	4.16		2.1	3/5/2006	4/27/2006
C:	LINE 2A	12	350,226.07	3,644,285.37	4.92		1.7	4/27/2006	4/27/2006
D:	LINE 1	14	350,192.48	3,643,787.38	5.01		2.1	4/27/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,17	12	350,403.63	3,643,780.79	3.31		1.82	1.8	5/11/2006	5/11/2006
B:	2A,17	12	350,406.21	3,644,280.17	4.12		1.53	1.5	5/11/2006	5/11/2006
C:	LINE 2A	12	350,193.97	3,644,285.70	5.68		1.93	1.9	5/11/2006	5/11/2006
D:	LINE 1	14	350,171.08	3,643,787.81	5.06		1.49	1.5	5/11/2006	5/11/2006

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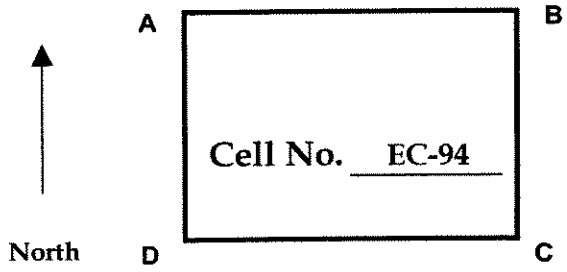

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,17	12	350,406.04	3,644,280.47	4.31	0.15	4.16	5	3/5/2006
B:	2,17	12	350,406.11	3,644,778.74	4.25	0.15	4.1	3.5	3/7/2006
C:	LINE 2	12	350,225.59	3,644,785.02	5.6		5.6	3.7	5/15/2006
D:	LINE 2A	12	350,193.49	3,644,285.86	5.66		5.66	6	5/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,17	12	350,406.04	3,644,280.47	4.16		2.4	3/5/06	4/13/06
B:	2,17	12	350,406.11	3,644,778.74	4.10		1.6	3/7/06	5/21/06
C:	LINE 2	12	350,225.59	3,644,785.02	5.60		1.9	5/15/06	5/21/06
D:	LINE 2A	12	350,193.49	3,644,285.86	5.66			5/10/06	4/13/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,17	12	350,406.04	3,644,280.47	4.16		2.1	3/5/06	4/27/06
B:	2,17	12	350,406.11	3,644,778.74	4.10		1.7	3/7/06	6/4/06
C:	LINE 2	12	350,225.59	3,644,785.02	5.60		1.9	5/15/06	6/4/06
D:	LINE 2A	12	350,193.49	3,644,285.86	5.66		1.7	5/10/06	4/27/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,17	12	350,406.04	3,644,280.47	4.16		1.53	1.5	5/11/06	5/11/06
B:	2,17	12	350,406.11	3,644,778.74	4.10		1.97	2.0	3/7/06	6/18/06
C:	LINE 2	12	350,225.59	3,644,785.02	5.60		1.9	1.9	5/15/06	6/18/06
D:	LINE 2A	12	350,193.49	3,644,285.86	5.66		1.93	1.9	5/11/06	5/11/06

NOTE: * NAD 83 US. FT.
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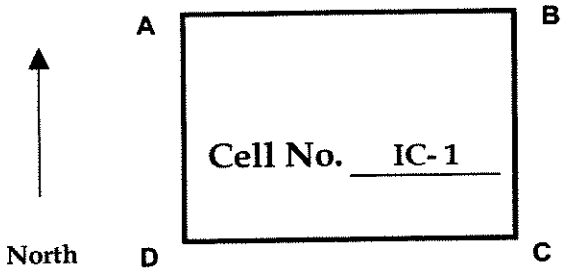

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,11	12	356,401.99	3,643,091.27	4.25		4.25	3.6	4/9/2006
B:	1,11	12	356,404.57	3,643,590.10	3.85		3.85	2.6	4/9/2006
C:	1,12A	12	355,904.01	3,643,607.39	4		4	4	4/9/2006
D:	1A,12A	12	355,902.06	3,643,106.48	4.09		4.09	4.4	4/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,11	14	356,401.63	3,643,091.69	4.38		1.9	6/26/06	6/26/06
B:	1,11	12	356,404.57	3,643,590.10	3.85		1.3	4/9/06	6/26/06
C:	1,12A	12	355,904.01	3,643,607.39	4		3.0	4/9/06	6/26/06
D:	1A,12A	14	355,902.62	3,643,107.27	4.11		2.1	6/26/06	6/26/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,11	14	356,401.63	3,643,091.69	4.38		1.9	6/26/06	7/10/06
B:	1,11	12	356,404.57	3,643,590.10	3.85		1.3	4/9/06	7/10/06
C:	1,12A	12	355,904.01	3,643,607.39	4		2.7	4/9/06	7/10/06
D:	1A,12A	14	355,902.62	3,643,107.27	4.11		2.0	6/26/06	7/10/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,11	14	356,401.63	3,643,091.69	4.38		1.5	1.5	6/26/06	7/24/2006
B:	1,11	12	356,404.57	3,643,590.10	3.85		1.1	1.1	4/9/06	7/24/2006
C:	1,12A	12	355,904.01	3,643,607.39	4		2.4	2.4	4/9/06	7/24/2006
D:	1A,12A	14	355,902.62	3,643,107.27	4.11		2	2.0	6/26/06	7/24/2006

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

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All elevations and distances are in feet.

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Registered Land Surveyor

STATE OF LOUISIANA

RONALD M. MADDEN

REG. No. 4503

REGISTERED

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LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
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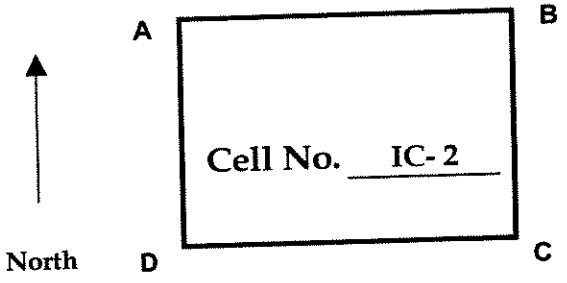
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,12A	14	355,906.63	3,645,107.83	4.51		4.51	3.4	5/9/2006
B:	LINE 12A	14	355,907.70	3,645,392.36	5.4		5.4	3.8	5/9/2006
C:	3,12	14	355,408.19	3,645,623.52	4.21		4.21	2.9	4/11/2006
D:	3A,12	14	355,407.13	3,645,123.39	5.07		5.07	3.8	5/9/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,12A	14	355,907.13	3,645,106.54	4.55		2.6	7/4/06	7/4/06	R
B:	LINE 12A	14	355,907.70	3,645,392.36	5.4		2.4	5/9/06	7/4/06	
C:	3,12	14	355,408.01	3,645,622.97	5.73		2.6	7/4/06	7/4/06	R
D:	3A,12	14	355,406.18	3,645,122.48	6.24		3.2	7/4/06	7/4/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,12A	14	355,907.13	3,645,106.54	4.55		2.4	7/4/06	7/18/06
B:	LINE 12A	14	355,907.70	3,645,392.36	5.4		2.3	5/9/06	7/18/06
C:	3,12	14	355,408.01	3,645,622.97	5.73		2.5	7/4/06	7/18/06
D:	3A,12	14	355,406.18	3,645,122.48	6.24		3.1	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,12A	14	355,907.13	3,645,106.54	4.55		2.2	2.2	7/4/06	8/1/2006
B:	LINE 12A	14	355,907.70	3,645,392.36	5.4		2.2	2.2	5/9/06	8/1/2006
C:	3,12	14	355,408.01	3,645,622.97	5.73		1.9	1.9	7/4/06	8/1/2006
D:	3A,12	14	355,406.18	3,645,122.48	6.24		2.8	2.8	7/4/06	8/1/2006

NOTE: * NAD 83 US. FT.
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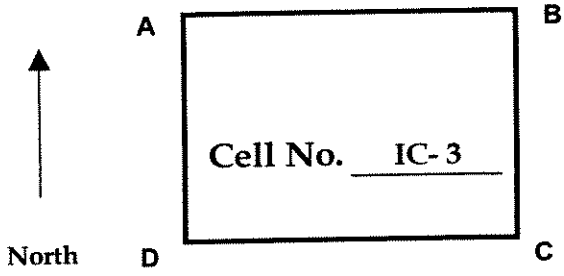

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,12	14	355,407.13	3,645,123.39	5.07		5.07	3.8	5/9/2006
B:	3,12	12	355,408.19	3,645,623.52	4.21		4.21	2.9	4/11/2006
C:	3,13A	12	354,907.80	3,645,638.38	4.12		4.12	3.7	4/11/2006
D:	3A,13A	12	354,907.01	3,645,139.24	4.24		4.24	3.9	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,12	14	355,406.18	3,645,122.48	6.24		3.2	7/4/06	7/4/06	R
B:	3,12	14	355,408.01	3,645,622.97	5.73		2.6	7/4/06	7/4/06	R
C:	3,13A	14	354,907.52	3,645,638.65	5.67		2.6	7/4/06	7/4/06	R
D:	3A,13A	14	354,906.02	3,645,144.28	5.71		3.5	7/4/06	7/4/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,12	14	355,406.18	3,645,122.48	6.24		3.1	7/4/06	7/18/06
B:	3,12	14	355,408.01	3,645,622.97	5.73		2.5	7/4/06	7/18/06
C:	3,13A	14	354,907.52	3,645,638.65	5.67		2.4	7/4/06	7/18/06
D:	3A,13A	14	354,906.02	3,645,144.28	5.71		3.3	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,12	14	355,406.18	3,645,122.48	6.24		2.8	2.8	7/4/06	8/1/2006
B:	3,12	14	355,408.01	3,645,622.97	5.73		1.9	1.9	7/4/06	8/1/2006
C:	3,13A	14	354,907.52	3,645,638.65	5.67		2.1	2.1	7/4/06	8/1/2006
D:	3A,13A	14	354,906.02	3,645,144.28	5.71		3.1	3.1	7/4/06	8/1/2006

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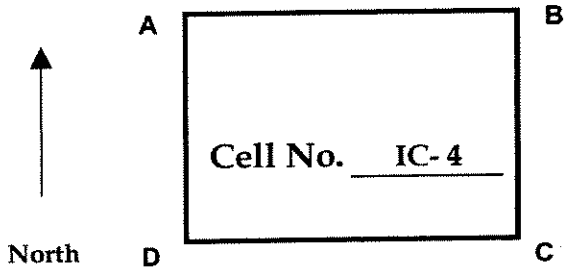

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,13A	12	354,901.67	3,643,137.95	4.2	0.15	4.05	4.4	4/2/2006
B:	1,13A	12	354,903.15	3,643,637.12	4.12	0.15	3.97	5	4/2/2006
C:	1,13	12	354,402.83	3,643,654.98	4.14	0.15	3.99	6	4/2/2006
D:	1A,13	12	354,403.04	3,643,154.32	4.05	0.15	3.9	5.6	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.6	4/2/06	6/26/06
B:	1,13A	16	354,902.99	3,643,638.26	4.65		3.2	6/26/06	6/26/06
C:	1,13	12	354,402.83	3,643,654.98	3.99		3.8	4/2/06	6/22/06
D:	1A,13	12	354,403.04	3,643,154.32	3.9		2.6	4/2/06	6/22/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.6	4/2/06	7/10/06
B:	1,13A	16	354,902.99	3,643,638.26	4.65		2.9	6/26/06	7/10/06
C:	1,13	12	354,402.83	3,643,654.98	3.99		3.2	4/2/06	7/6/06
D:	1A,13	12	354,403.04	3,643,154.32	3.9		2.4	4/2/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,13A	12	354,901.67	3,643,137.95	4.05		2.3	2.3	4/2/06	7/24/2006
B:	1,13A	16	354,902.99	3,643,638.26	4.65		2.6	2.6	6/26/06	7/24/2006
C:	1,13	12	354,402.83	3,643,654.98	3.99		2.6	2.6	4/2/06	7/20/2006
D:	1A,13	12	354,403.04	3,643,154.32	3.9		2.2	2.2	4/2/06	7/20/2006

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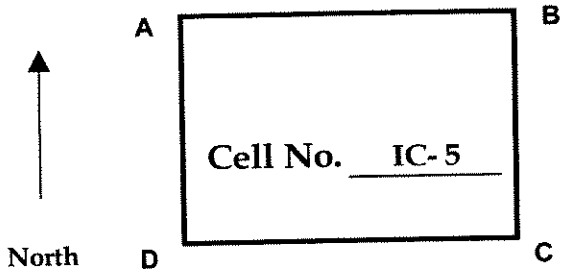

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,13	12	354,403.04	3,643,154.32	4.05	0.15	3.9	5.6	4/2/2006
B:	1,13	12	354,402.83	3,643,654.98	4.14	0.15	3.99	6	4/2/2006
C:	1,14A	12	353,903.62	3,643,669.27	4.13	0.15	3.98	4.1	4/2/2006
D:	1A,14A	12	353,902.31	3,643,169.03	3.96	0.15	3.81	4.6	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,13	12	354,403.04	3,643,154.32	3.90		2.6	4/2/06	6/22/06
B:	1,13	12	354,402.83	3,643,654.98	3.99		3.8	4/2/06	6/22/06
C:	1,14A	12	353,903.62	3,643,669.27	3.98		3.3	4/2/06	6/22/06
D:	1A,14A	12	353,902.31	3,643,169.03	3.81		2.4	4/2/06	6/22/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,13	12	354,403.04	3,643,154.32	3.90		2.4	4/2/06	7/6/06
B:	1,13	12	354,402.83	3,643,654.98	3.99		3.2	4/2/06	7/6/06
C:	1,14A	12	353,903.62	3,643,669.27	3.98		3.0	4/2/06	7/6/06
D:	1A,14A	12	353,902.31	3,643,169.03	3.81		2.3	4/2/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,13	12	354,403.04	3,643,154.32	3.90		2.2	2.2	4/2/06	7/20/06
B:	1,13	12	354,402.83	3,643,654.98	3.99		2.6	2.6	4/2/06	7/20/06
C:	1,14A	12	353,903.62	3,643,669.27	3.98		2.7	2.7	4/2/06	7/20/06
D:	1A,14A	12	353,902.31	3,643,169.03	3.81		2.1	2.1	4/2/06	7/20/06

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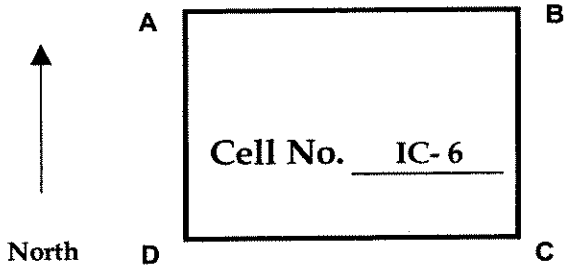

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,13	12	354,402.83	3,643,654.98	4.14	0.15	3.99	6	4/2/2006
B:	2A,13	12	354,404.44	3,644,153.24	4.11	0.15	3.96	2.9	4/2/2006
C:	2A,14A	12	353,905.07	3,644,169.59	3.87	0.15	3.72	5.7	4/2/2006
D:	1,14A	12	353,903.62	3,643,669.27	4.13	0.15	3.98	4.1	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1,13	12	354,402.83	3,643,654.98	3.99		3.8	4/2/06	6/22/06	
B:	2A,13	16	354,406.17	3,644,153.32	4.68		3.1	6/22/06	6/22/06	R
C:	2A,14A	14	353,902.57	3,644,179.06	4.92		3.5	6/21/06	6/22/06	R
D:	1,14A	12	353,903.62	3,643,669.27	3.98		3.3	4/2/06	6/22/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,13	12	354,402.83	3,643,654.98	3.99		3.2	4/2/06	7/6/06
B:	2A,13	16	354,406.17	3,644,153.32	4.68		2.8	6/22/06	7/6/06
C:	2A,14A	14	353,902.57	3,644,179.06	4.92		3.0	6/21/06	7/6/06
D:	1,14A	12	353,903.62	3,643,669.27	3.98		3.0	4/2/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,13	12	354,402.83	3,643,654.98	3.99		2.6	2.6	4/2/06	7/20/06
B:	2A,13	16	354,406.17	3,644,153.32	4.68		2.3	2.3	6/22/06	7/20/06
C:	2A,14A	14	353,902.57	3,644,179.06	4.92		2.3	2.3	6/21/06	7/20/06
D:	1,14A	12	353,903.62	3,643,669.27	3.98		2.7	2.7	4/2/06	7/20/06

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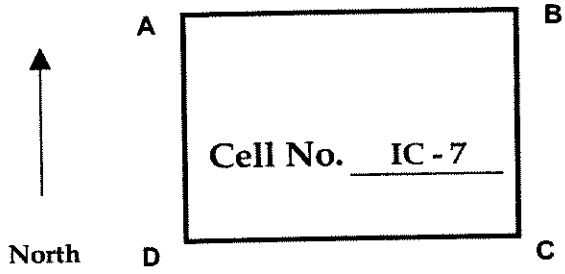

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,13	12	354,407.92	3,645,655.03	4.11		4.11	2.9	4/11/2006
B:	4A,13	12	354,409.53	3,646,154.94	4.52		4.52	2.7	4/11/2006
C:	4A,14A	12	353,908.94	3,646,171.23	3.4	0.15	3.25	2.7	4/2/2006
D:	3,14A	12	353,908.77	3,645,670.74	4.1	0.15	3.95	3.1	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3,13	14	354,407.24	3,645,653.64	4.73		2.5	6/22/06	6/22/06	R
B:	4A,13	12	354,409.53	3,646,154.94	4.52		1.8	4/11/06	6/22/06	
C:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.4	6/21/06	6/22/06	
D:	3,14A	14	353,915.47	3,645,670.08	4.15		2.6	6/21/06	6/22/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,13	14	354,407.24	3,645,653.64	4.73		3.0	6/22/06	7/6/06
B:	4A,13	12	354,409.53	3,646,154.94	4.52		2.0	4/11/06	7/6/06
C:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.4	6/21/06	7/6/06
D:	3,14A	14	353,915.47	3,645,670.08	4.15		2.6	6/21/06	7/6/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,13	14	354,407.24	3,645,653.64	4.73		3.2	3.2	6/22/06	7/20/06
B:	4A,13	12	354,409.53	3,646,154.94	4.52		2.2	2.2	4/11/06	7/20/06
C:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.3	2.3	6/21/06	7/20/06
D:	3,14A	14	353,915.47	3,645,670.08	4.15		2.3	2.3	6/21/06	7/20/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.
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Registered Land Surveyor

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REG. No. 4503
REGISTERED
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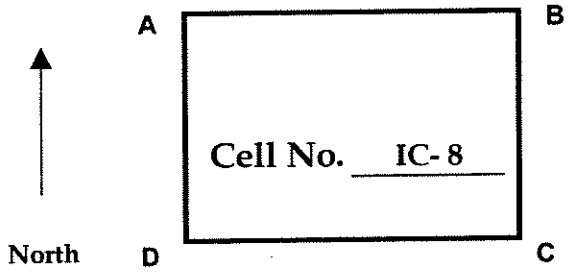
Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,13	12	354,409.53	3,646,154.94	4.52		4.52	2.7	4/6/2006
B:	LINE 4	14	354,252.52	3,646,658.32	4.6		4.6	4.1	6/17/2006
C:	4,14A	12	353,910.69	3,646,671.45	4.01	0.15	3.86	2.6	3/30/2006
D:	4A,14A	12	353,908.94	3,646,171.23	3.4	0.15	3.25	2.7	4/2/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,13	12	354,409.53	3,646,154.94	4.52		1.8	4/6/06	6/22/2006
B:	LINE 4	14	354,252.52	3,646,658.32	4.60		2.3	6/17/06	6/22/2006
C:	4,14A	12	353,910.69	3,646,671.45	3.86		2.6	3/30/06	6/22/2006
D:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.4	6/21/06	6/22/2006 R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,13	12	354,409.53	3,646,154.94	4.52		2.0	4/6/06	7/6/2006
B:	LINE 4	14	354,252.52	3,646,658.32	4.60		2.2	6/17/06	7/6/2006
C:	4,14A	12	353,910.69	3,646,671.45	3.86		2.4	3/30/06	7/6/2006
D:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.4	6/21/06	7/6/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,13	12	354,409.53	3,646,154.94	4.52		2.2	2.2	4/6/06	7/20/06
B:	LINE 4	14	354,252.52	3,646,658.32	4.60		1.8	1.8	6/17/06	7/20/06
C:	4,14A	12	353,910.69	3,646,671.45	3.86		2.2	2.2	3/30/06	7/20/06
D:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.3	2.3	6/21/06	7/20/06

NOTE: * NAD 83 US. FT.

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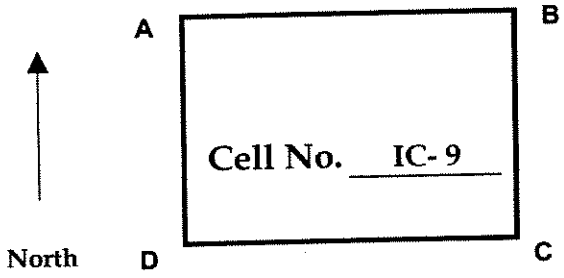

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 5A	14	354,312.79	3,647,159.02	5.36		5.36	7.3	5/10/2006
B:	LINE 5	16	354,049.80	3,647,666.67	6.57		6.57	4.3	5/1/2006
C:	5,14A	12	353,912.66	3,647,670.46	3.46		3.46	2.5	4/11/2006
D:	5A,14A	16	353,912.36	3,647,168.01	4.48		4.48	7.9	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 5A	14	354,312.79	3,647,159.02	5.36		2.6	5/10/06	7/4/06
B:	LINE 5	16	354,049.80	3,647,666.67	6.57		1.8	5/1/06	6/5/06
C:	5,14A	12	353,912.66	3,647,670.46	3.46		1.9	4/11/06	6/5/06
D:	5A,14A	14	353,911.31	3,647,167.36	4.26		2.7	7/4/06	7/4/06 R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 5A	14	354,312.79	3,647,159.02	5.36		2.3	5/10/06	7/18/06
B:	LINE 5	16	354,049.80	3,647,666.67	6.57		2.2	5/1/06	6/19/06
C:	5,14A	12	353,912.66	3,647,670.46	3.46		1.9	4/11/06	6/19/06
D:	5A,14A	14	353,911.31	3,647,167.36	4.26		2.3	7/4/06	7/18/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 5A	14	354,312.79	3,647,159.02	5.36		2	2.0	5/10/2006	8/1/2006
B:	LINE 5	16	354,049.80	3,647,666.67	6.57		2.3	2.3	5/1/06	7/3/06
C:	5,14A	12	353,912.66	3,647,670.46	3.46		2.4	2.4	4/11/06	7/3/06
D:	5A,14A	14	353,911.31	3,647,167.36	4.26		2	2.0	7/4/2006	8/1/2006

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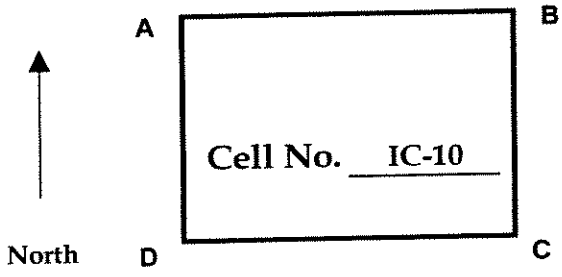

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	LINE 6	16	354,293.45	3,648,660.81	6.71		6.71	6.4	5/1/2006
B:	7A,13	12	354,416.34	3,649,155.37	4.26		4.26	3	4/18/2006
C:	7A,14A	12	353,916.10	3,649,171.82	4.02		4.02	4.1	4/14/2006
D:	6,14A	14	353,915.02	3,648,671.57	3.54		3.54	7.7	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	LINE 6	16	354,293.45	3,648,660.81	6.71		2.2	5/1/06	6/5/06	
B:	7A,13	14	354,415.43	3,649,153.71	5.48		3.1	6/5/06	6/5/06	R
C:	7A,14A	14	353,916.13	3,649,171.01	5.80		2.8	6/5/06	6/5/06	R
D:	6,14A	14	353,913.59	3,648,668.65	5.33		2.8	6/5/06	6/5/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	LINE 6	16	354,293.45	3,648,660.81	6.71		2.1	5/1/06	6/19/06
B:	7A,13	14	354,415.43	3,649,153.71	5.48		2.9	6/5/06	6/19/06
C:	7A,14A	14	353,916.13	3,649,171.01	5.80		2.5	6/5/06	6/19/06
D:	6,14A	14	353,913.59	3,648,668.65	5.33		2.5	6/5/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	LINE 6	16	354,293.45	3,648,660.81	6.71		2	2.0	5/1/06	7/3/06
B:	7A,13	14	354,415.43	3,649,153.71	5.48		2.6	2.6	6/5/06	7/3/06
C:	7A,14A	14	353,916.13	3,649,171.01	5.80		2.2	2.2	6/5/06	7/3/06
D:	6,14A	14	353,913.59	3,648,668.65	5.33		2.5	2.5	6/5/06	7/3/06

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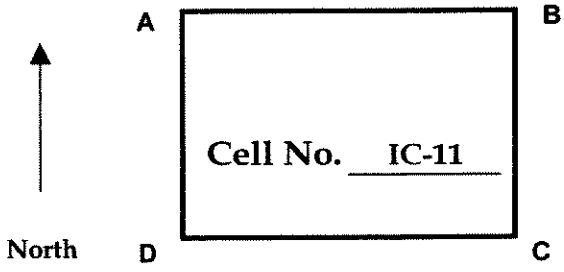

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6,14A	14	353,915.02	3,648,671.57	3.54		3.54	7.7	4/14/2006
B:	7A,14A	12	353,916.10	3,649,171.82	4.02		4.02	4.1	4/14/2006
C:	7A,14	14	353,416.74	3,649,186.21	4.1		4.1	4.5	4/14/2006
D:	6,14	14	353,416.13	3,648,686.13	4.04		4.04	6.9	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6,14A	14	353,915.22	3,648,671.37	5.33		2.8	6/5/06	6/5/06	R
B:	7A,14A	14	353,916.13	3,649,171.01	5.80		2.8	6/5/06	6/5/06	R
C:	7A,14	14	353,416.18	3,649,185.33	4.38		2.9	6/1/06	6/2/06	R
D:	6,14	14	353,415.34	3,648,684.24	5.93		3.2	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6,14A	14	353,915.22	3,648,671.37	5.33		2.5	6/5/06	6/19/06
B:	7A,14A	14	353,916.13	3,649,171.01	5.80		2.5	6/5/06	6/19/06
C:	7A,14	14	353,416.18	3,649,185.33	4.38		2.8	6/1/06	6/16/06
D:	6,14	14	353,415.34	3,648,684.24	5.93		2.8	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6,14A	14	353,915.22	3,648,671.37	5.33		2.5	2.5	6/5/06	7/3/06
B:	7A,14A	14	353,916.13	3,649,171.01	5.80		2.2	2.2	6/5/06	7/3/06
C:	7A,14	14	353,416.18	3,649,185.33	4.38		2.6	2.6	6/1/06	6/30/06
D:	6,14	14	353,415.34	3,648,684.24	5.93		2.6	2.6	6/1/06	6/30/06

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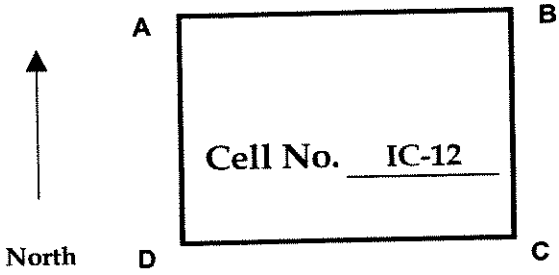

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6A,14A	12	353,914.60	3,648,170.44	3.98		3.98	2.7	4/11/2006
B:	6,14A	14	353,915.02	3,648,671.57	3.54		3.54	7.7	4/14/2006
C:	6,14	14	353,416.13	3,648,686.13	4.04		4.04	6.9	4/14/2006
D:	6A,14	12	353,414.42	3,648,186.41	3.81		3.81	3	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.1	6/5/06	6/5/06	R
B:	6,14A	14	353,913.59	3,648,668.65	5.33		2.8	6/5/06	6/5/06	R
C:	6,14	14	353,415.34	3,648,684.24	5.93		3.2	6/1/06	6/2/06	R
D:	6A,14	14	353,413.67	3,648,184.55	5.36		3.0	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.1	6/5/06	6/19/06
B:	6,14A	14	353,913.59	3,648,668.65	5.33		2.5	6/5/06	6/19/06
C:	6,14	14	353,415.34	3,648,684.24	5.93		2.8	6/1/06	6/16/06
D:	6A,14	14	353,413.67	3,648,184.55	5.36		2.8	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.2	2.2	6/5/06	7/3/06
B:	6,14A	14	353,913.59	3,648,668.65	5.33		2.5	2.5	6/5/06	7/3/06
C:	6,14	14	353,415.34	3,648,684.24	5.93		2.6	2.6	6/1/06	6/30/06
D:	6A,14	14	353,413.67	3,648,184.55	5.36		2.5	2.5	6/1/06	6/30/06

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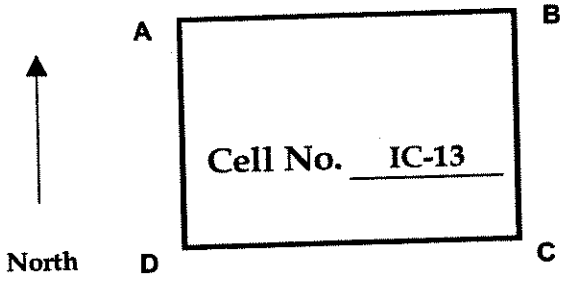

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5,14A	12	353,912.66	3,647,670.46	3.46		3.46	2.5	4/11/2006
B:	6A,14A	12	353,914.60	3,648,170.44	3.98		3.98	2.7	4/11/2006
C:	6A,14	12	353,414.42	3,648,186.41	3.81		3.81	3	4/11/2006
D:	5,14	12	353,412.78	3,647,185.81	3.21		3.21	3.6	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5,14A	12	353,912.66	3,647,670.46	3.46		1.9	4/11/06	6/5/06
B:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.1	6/5/06	6/5/06
C:	6A,14	14	353,413.67	3,648,184.55	5.36		3.0	6/1/06	6/2/06
D:	5,14	12	353,412.78	3,647,185.81	3.86		1.9	6/5/06	6/5/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5,14A	12	353,912.66	3,647,670.46	3.46		1.9	4/11/06	6/19/06
B:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.1	6/5/06	6/19/06
C:	6A,14	14	353,413.67	3,648,184.55	5.36		2.8	6/1/06	6/16/06
D:	5,14	12	353,412.78	3,647,185.81	3.86		1.9	6/5/06	6/19/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5,14A	12	353,912.66	3,647,670.46	3.46		2.4	2.4	4/11/06	7/3/06
B:	6A,14A	14	353,915.87	3,648,169.12	4.28		2.2	2.2	6/5/06	7/3/06
C:	6A,14	14	353,413.67	3,648,184.55	5.36		2.5	2.5	6/1/06	6/30/06
D:	5,14	12	353,412.78	3,647,185.81	3.86		2.4	2.4	6/5/06	7/3/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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Contractor Signature

Registered Land Surveyor

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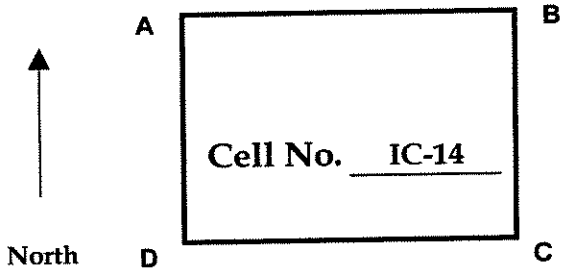
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5A,14A	16	353,912.36	3,647,168.01	4.48		4.48	7.9	5/10/2006
B:	5,14A	12	353,912.66	3,647,670.46	3.46		3.46	2.5	4/11/2006
C:	5,14	12	353,412.78	3,647,686.43	3.77		3.77	2.3	4/11/2006
D:	5A,14	12	353,411.04	3,647,185.81	3.21		3.21	3.6	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5A,14A	14	353,911.31	3,647,167.36	4.26		2.7	7/4/06	7/4/06	R
B:	5,14A	12	353,912.66	3,647,670.46	3.46		1.9	4/11/06	6/5/06	
C:	5,14	12	353,412.78	3,647,686.43	3.77		1.9	6/5/06	6/5/06	
D:	5A,14	14	353,409.41	3,647,183.53	4.25		2.1	6/11/06	6/13/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5A,14A	14	353,911.31	3,647,167.36	4.26		2.3	7/4/06	7/18/06
B:	5,14A	12	353,912.66	3,647,670.46	3.46		1.9	4/11/06	6/19/06
C:	5,14	12	353,412.78	3,647,686.43	3.77		1.9	6/5/06	6/19/06
D:	5A,14	14	353,409.41	3,647,183.53	4.25		2.1	6/11/06	6/27/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5A,14A	14	353,911.31	3,647,167.36	4.26		2	2.0	7/4/2006	8/1/06
B:	5,14A	12	353,912.66	3,647,670.46	3.46		2.4	2.4	4/11/06	7/3/06
C:	5,14	12	353,412.78	3,647,686.43	3.77		2.4	2.4	6/5/06	6/30/06
D:	5A,14	14	353,409.41	3,647,183.53	4.25		2.4	2.4	6/11/06	7/11/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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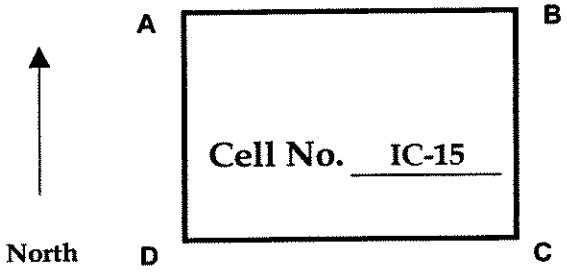

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4,14A	12	353,910.69	3,646,671.45	4.01	0.15	3.86	2.6	3/30/2006
B:	5A,14A	16	353,912.36	3,647,168.01	4.48		4.48	7.9	5/10/2006
C:	5A,14	12	353,411.04	3,647,185.81	3.21		3.21	3.6	4/10/2006
D:	4,14	12	353,410.96	3,646,686.61	3.99	0.15	3.84	2.5	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,14A	12	353,910.69	3,646,671.45	3.86		2.6	3/30/06	6/22/06
B:	5A,14A	16	353,911.31	3,647,167.36	4.48		2.7	7/4/06	7/4/06
C:	5A,14	12	353,409.41	3,647,183.53	3.21		2.1	6/11/06	6/13/06
D:	4,14	12	353,411.08	3,646,688.22	3.99		3.0	6/11/06	6/13/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,14A	12	353,910.69	3,646,671.45	3.86		2.4	3/30/06	7/6/06
B:	5A,14A	16	353,911.31	3,647,167.36	4.48		2.3	7/4/06	7/18/06
C:	5A,14	12	353,409.41	3,647,183.53	3.21		2.1	6/11/06	6/27/06
D:	4,14	12	353,411.08	3,646,688.22	3.99		2.8	6/11/06	6/27/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4,14A	12	353,910.69	3,646,671.45	3.86		2.2	2.2	3/30/06	7/20/06
B:	5A,14A	16	353,911.31	3,647,167.36	4.48		2	2.0	7/4/2006	8/1/06
C:	5A,14	12	353,409.41	3,647,183.53	3.21		2.4	2.4	6/11/06	7/11/06
D:	4,14	12	353,411.08	3,646,688.22	3.99		2.7	2.7	6/11/06	7/11/06

NOTE: * NAD 83 US. FT.

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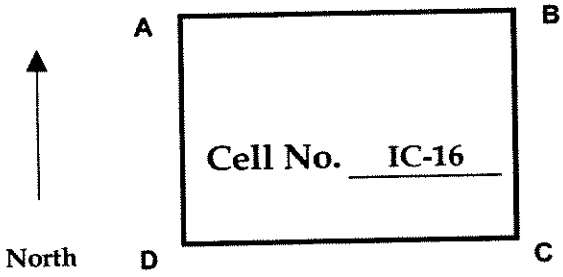

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,14A	12	353,908.94	3,646,171.23	3.4	0.15	3.25	2.7	4/2/2006
B:	4,14A	12	353,910.69	3,646,671.45	4.01	0.15	3.86	2.6	3/30/2006
C:	4,14	12	353,410.96	3,646,686.61	3.99	0.15	3.84	2.5	3/30/2006
D:	4A,14	12	353,409.25	3,646,186.51	3.94	0.15	3.79	3.6	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.4	6/21/06	6/22/06	R
B:	4,14A	12	353,910.69	3,646,671.45	3.86		2.6	3/30/06	6/22/06	
C:	4,14	14	353,411.08	3,646,688.22	4.68		3.0	6/11/06	6/13/06	R
D:	4A,14	12	353,409.25	3,646,186.51	3.79		2.6	3/30/06	5/31/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.4	6/21/06	7/6/06
B:	4,14A	12	353,910.69	3,646,671.45	3.86		2.4	3/30/06	7/6/06
C:	4,14	14	353,411.08	3,646,688.22	4.68		2.8	6/11/06	6/27/06
D:	4A,14	12	353,409.25	3,646,186.51	3.79		2.5	3/30/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.3	2.3	6/21/06	7/20/06
B:	4,14A	12	353,910.69	3,646,671.45	3.86		2.2	2.2	3/30/06	7/20/06
C:	4,14	14	353,411.08	3,646,688.22	4.68		2.7	2.7	6/11/06	7/20/06
D:	4A,14	12	353,409.25	3,646,186.51	3.79		2.3	2.3	3/30/06	6/28/06

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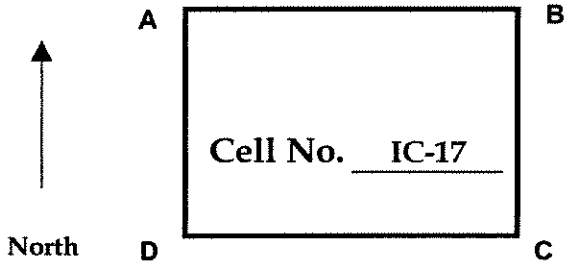

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,14A	12	353,908.77	3,645,670.74	4.1	0.15	3.95	3.1	4/2/2006
B:	4A,14A	12	353,908.94	3,646,171.23	3.4	0.15	3.25	2.7	4/2/2006
C:	4A,14	12	353,409.25	3,646,186.51	3.94	0.15	3.79	3.6	3/30/2006
D:	3,14	12	353,408.65	3,645,685.04	4.14	0.15	3.99	5.2	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3,14A	14	353,915.47	3,645,670.08	4.15		2.6	6/21/06	6/22/06	R
B:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.4	6/21/06	6/22/06	R
C:	4A,14	12	353,409.25	3,646,186.51	3.79		2.6	3/30/06	5/31/06	
D:	3,14	14	353,407.37	3,645,685.47	6.11		3.6	5/31/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,14A	14	353,915.47	3,645,670.08	4.15		2.6	6/21/06	7/6/06
B:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.4	6/21/06	7/6/06
C:	4A,14	12	353,409.25	3,646,186.51	3.79		2.5	3/30/06	6/14/06
D:	3,14	14	353,407.37	3,645,685.47	6.11		3.4	5/31/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,14A	14	353,915.47	3,645,670.08	4.15		2.3	2.3	6/21/06	7/20/06
B:	4A,14A	14	353,908.99	3,646,168.11	4.93		2.3	2.3	6/21/06	7/20/06
C:	4A,14	12	353,409.25	3,646,186.51	3.79		2.3	2.3	3/30/06	6/28/06
D:	3,14	14	353,407.37	3,645,685.47	6.11		2.6	2.6	5/31/06	6/28/06

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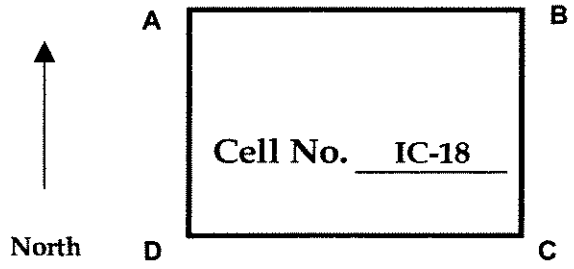

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,14A	12	353,903.62	3,643,669.26	4.13	0.15	3.98	4.1	4/2/2006
B:	2A,14A	12	353,905.07	3,641,169.58	3.87	0.15	3.72	5.7	4/2/2006
C:	2A,14	12	353,404.12	3,644,185.88	4.28	0.15	4.13	4.2	3/7/2006
D:	1,14	12	353,402.82	3,643,685.47	4.11	0.15	3.96	5.5	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1,14A	12	353,903.62	3,643,669.26	3.98		3.3	6/21/06	6/22/06	R
B:	2A,14A	14	353,902.57	3,641,179.06	4.92		3.5	6/21/06	6/22/06	R
C:	2A,14	12	353,404.12	3,644,185.88	4.13		2.7	3/7/06	5/31/06	
D:	1,14	14	353,403.11	3,643,683.54	5.58		3.2	5/31/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,14A	12	353,903.62	3,643,669.26	3.98		3.0	6/21/06	7/6/06
B:	2A,14A	14	353,902.57	3,641,179.06	4.92		3.0	6/21/06	7/6/06
C:	2A,14	12	353,404.12	3,644,185.88	4.13		2.8	3/7/06	6/14/06
D:	1,14	14	353,403.11	3,643,683.54	5.58		3.2	5/31/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,14A	12	353,903.62	3,643,669.26	3.98		2.7	2.7	6/21/06	7/20/06
B:	2A,14A	14	353,902.57	3,641,179.06	4.92		2.3	2.3	6/21/06	7/20/06
C:	2A,14	12	353,404.12	3,644,185.88	4.13		2.5	2.5	3/7/06	6/28/06
D:	1,14	14	353,403.11	3,643,683.54	5.58		2.8	2.8	5/31/06	6/28/06

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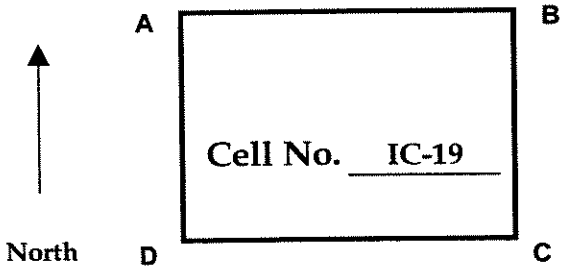

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,14A	12	353,902.31	3,643,169.03	3.96	0.15	3.81	4.6	4/2/2006
B:	1,14A	12	353,903.62	3,643,669.26	4.13	0.15	3.98	4.1	4/2/2006
C:	1,14	12	353,402.82	3,643,685.47	4.11	0.15	3.96	5.5	3/5/2006
D:	1A,14	12	353,403.86	3,643,184.40	4.07	0.15	3.92	4.6	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1A,14A	12	353,902.31	3,643,169.03	3.81		2.4	4/2/06	4/2/06	
B:	1,14A	12	353,903.62	3,643,669.26	3.98		3.3	4/2/06	4/2/06	
C:	1,14	14	353,403.11	3,643,683.54	5.58		3.2	5/31/06	3/5/06	R
D:	1A,14	12	353,403.86	3,643,184.40	3.92		2.2	3/5/06	3/5/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,14A	12	353,902.31	3,643,169.03	3.81		2.3	4/2/06	7/6/06
B:	1,14A	12	353,903.62	3,643,669.26	3.98		3.0	4/2/06	7/6/06
C:	1,14	14	353,403.11	3,643,683.54	5.58		3.2	5/31/06	6/14/06
D:	1A,14	12	353,403.86	3,643,184.40	3.92		2.0	3/5/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,14A	12	353,902.31	3,643,169.03	3.81		2.1	2.1	4/2/06	7/20/06
B:	1,14A	12	353,903.62	3,643,669.26	3.98		2.7	2.7	4/2/06	7/20/06
C:	1,14	14	353,403.11	3,643,683.54	5.58		2.8	2.8	5/31/06	6/28/06
D:	1A,14	12	353,403.86	3,643,184.40	3.92		2.1	2.1	3/5/06	6/28/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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Registered Land Surveyor

STATE OF LOUISIANA

RONALD M. MADDEN

REG. No. 4503

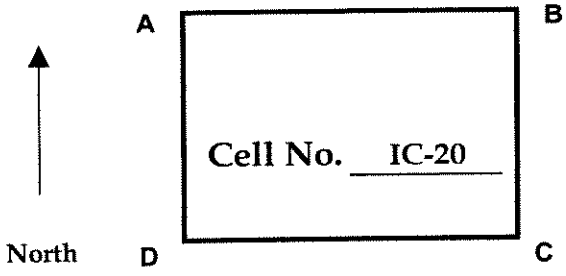
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,14	12	353,402.82	3,643,685.47	4.11	0.15	3.96	5.5	3/5/2006
B:	2A,14	12	353,404.12	3,644,185.87	4.28	0.15	4.13	4.2	3/7/2006
C:	2A,15A	12	352,904.26	3,644,201.82	4.39	0.15	4.24	2.2	3/7/2006
D:	1,15A	12	352,903.69	3,643,700.71	4.17	0.15	4.02	4.6	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1,14	14	353,403.11	3,643,683.54	5.58		3.2	5/31/06	5/31/06	R
B:	2A,14	12	353,404.12	3,644,185.87	4.13		2.7	3/7/06	5/31/06	
C:	2A,15A	14	352,905.77	3,644,199.64	6.38		3.4	5/27/06	5/30/06	R
D:	1,15A	12	352,903.75	3,643,700.62	4.06		3.1	5/27/06	5/30/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,14	14	353,403.11	3,643,683.54	5.58		3.2	5/31/06	6/14/06
B:	2A,14	12	353,404.12	3,644,185.87	4.13		2.8	3/7/06	6/14/06
C:	2A,15A	14	352,905.77	3,644,199.64	6.38		3.2	5/27/06	6/13/06
D:	1,15A	12	352,903.75	3,643,700.62	4.06		2.8	5/27/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,14	14	353,403.11	3,643,683.54	5.58		**2.8**	2.8	5/31/06	6/28/06
B:	2A,14	12	353,404.12	3,644,185.87	4.13		**2.5**	2.5	3/7/06	6/28/06
C:	2A,15A	14	352,905.77	3,644,199.64	6.38		**3.1**	3.1	5/27/06	6/27/06
D:	1,15A	12	352,903.75	3,643,700.62	4.06		**2.4**	2.4	5/27/06	6/27/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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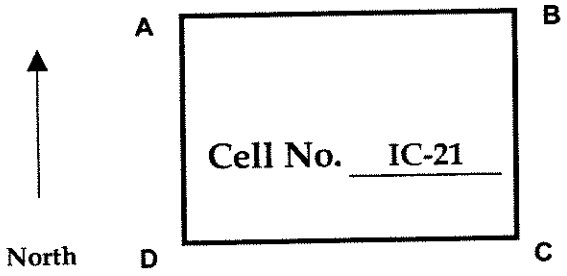
Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,14	12	353,404.12	3,644,185.88	4.28	0.15	4.13	4.2	3/7/2006
B:	2,14	12	353,405.61	3,644,684.68	4.6	0.15	4.45	3.1	3/7/2006
C:	2,15A	12	352,906.54	3,644,701.51	4.33	0.15	4.18	4.4	3/7/2006
D:	2A,15A	12	352,904.26	3,644,201.83	4.39	0.15	4.24	2.2	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,14	12	353,404.12	3,644,185.88	4.13		2.7	3/7/06	5/31/06
B:	2,14	14	353,405.39	3,644,684.59	4.93		3.0	5/31/06	5/31/06
C:	2,15A	14	352,907.39	3,644,701.90	5.82		3.4	5/26/06	5/30/06
D:	2A,15A	14	352,905.77	3,644,199.64	6.38		3.4	5/27/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,14	12	353,404.12	3,644,185.88	4.13		2.8	3/7/06	6/14/06
B:	2,14	14	353,405.39	3,644,684.59	4.93		2.8	5/31/06	6/14/06
C:	2,15A	14	352,907.39	3,644,701.90	5.82		3.0	5/26/06	6/13/06
D:	2A,15A	14	352,905.77	3,644,199.64	6.38		3.2	5/27/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,14	12	353,404.12	3,644,185.88	4.13		2.5	2.5	3/7/06	6/28/06
B:	2,14	14	353,405.39	3,644,684.59	4.93		2.6	2.6	5/31/06	6/28/06
C:	2,15A	14	352,907.39	3,644,701.90	5.82		2.8	2.8	5/26/06	6/27/06
D:	2A,15A	14	352,905.77	3,644,199.64	6.38		3.1	3.1	5/27/06	6/27/06

NOTE: * NAD 83 US. FT.

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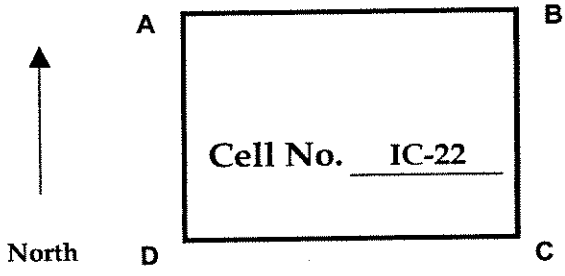

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,14	12	353,405.61	3,644,684.68	4.6	0.15	4.45	3.1	3/7/2006
B:	3A,14	12	353,407.29	3,645,186.08	4.17	0.15	4.02	4.5	3/7/2006
C:	3A,15A	12	352,907.12	3,645,201.45	4.17	0.15	4.02	4.4	3/7/2006
D:	2,15A	12	352,906.54	3,644,701.51	4.33	0.15	4.18	4.4	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,14	14	353,405.39	3,644,684.59	4.93		3.0	5/31/06	5/31/06
B:	3A,14	12	353,407.29	3,645,186.08	4.02		2.8	3/7/06	5/31/06
C:	3A,15A	12	352,907.25	3,645,201.32	3.99		3.5	5/26/06	5/30/06
D:	2,15A	14	352,907.39	3,644,701.90	5.82		3.4	5/26/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,14	14	353,405.39	3,644,684.59	4.93		2.8	5/31/06	6/14/06
B:	3A,14	12	353,407.29	3,645,186.08	4.02		2.8	3/7/06	6/14/06
C:	3A,15A	12	352,907.25	3,645,201.32	3.99		3.3	5/26/06	6/13/06
D:	2,15A	14	352,907.39	3,644,701.90	5.82		3.0	5/26/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,14	14	353,405.39	3,644,684.59	4.93		**2.6**	2.6	5/31/06	6/28/06
B:	3A,14	12	353,407.29	3,645,186.08	4.02		**2.4**	2.4	3/7/06	6/28/06
C:	3A,15A	12	352,907.25	3,645,201.32	3.99		**2.8**	2.8	5/26/06	6/27/06
D:	2,15A	14	352,907.39	3,644,701.90	5.82		**2.8**	2.8	5/26/06	6/27/06

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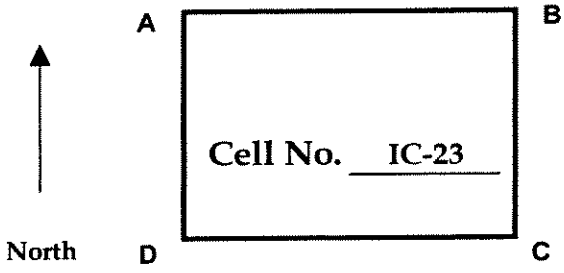

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,14	12	353,407.29	3,645,186.08	4.17	0.15	4.02	4.5	3/7/2006
B:	3,14	12	353,408.65	3,645,685.04	4.14	0.15	3.99	5.2	3/7/2006
C:	3,15A	12	352,907.88	3,645,701.25	4.28	0.15	4.13	5.3	3/7/2006
D:	3A,15A	12	352,907.12	3,645,201.45	4.17	0.15	4.02	4.4	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,14	12	353,407.29	3,645,186.08	4.02		2.8	3/7/06	5/31/06	
B:	3,14	14	353,407.37	3,645,685.47	6.11		3.6	5/31/06	5/31/06	R
C:	3,15A	12	352,908.23	3,645,701.27	4.08		4.3	5/20/06	5/30/06	R
D:	3A,15A	12	352,907.25	3,645,201.32	3.99		3.5	5/26/06	5/30/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,14	12	353,407.29	3,645,186.08	4.02		2.8	3/7/06	6/14/06
B:	3,14	14	353,407.37	3,645,685.47	6.11		3.4	5/31/06	6/14/06
C:	3,15A	12	352,908.23	3,645,701.27	4.08		3.6	5/20/06	6/13/06
D:	3A,15A	12	352,907.25	3,645,201.32	3.99		3.3	5/26/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,14	12	353,407.29	3,645,186.08	4.02		**2.4**	2.4	3/7/06	6/28/06
B:	3,14	14	353,407.37	3,645,685.47	6.11		**2.6**	2.6	5/31/06	6/28/06
C:	3,15A	12	352,908.23	3,645,701.27	4.08		**3**	3.0	5/20/06	6/27/06
D:	3A,15A	12	352,907.25	3,645,201.32	3.99		**2.8**	2.8	5/26/06	6/27/06

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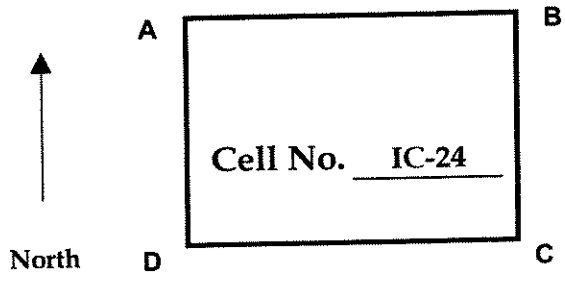

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,14	12	353,408.65	3,645,685.04	4.14	0.15	3.99	5.2	3/7/2006
B:	4A,14	12	353,409.25	3,646,185.51	3.94	0.15	3.79	3.6	3/30/2006
C:	4A,15A	12	352,909.75	3,646,202.44	3.95	0.15	3.8	4.4	3/30/2006
D:	3,15A	12	352,907.88	3,645,701.25	4.28	0.15	4.13	5.3	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3,14	14	353,407.37	3,645,685.47	6.11		3.6	5/31/06	5/31/06	R
B:	4A,14	12	353,409.25	3,646,185.51	3.79		2.6	3/30/06	5/31/06	
C:	4A,15A	12	352,909.75	3,646,202.44	3.80		3.5	3/30/06	5/31/06	
D:	3,15A	12	352,908.23	3,645,701.27	4.08		4.3	5/26/06	5/31/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,14	14	353,407.37	3,645,685.47	6.11		3.4	5/31/06	6/14/06
B:	4A,14	12	353,409.25	3,646,185.51	3.79		2.5	3/30/06	6/14/06
C:	4A,15A	12	352,909.75	3,646,202.44	3.80		3.3	3/30/06	6/13/06
D:	3,15A	12	352,908.23	3,645,701.27	4.08		3.6	5/26/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,14	14	353,407.37	3,645,685.47	6.11		2.6	2.6	5/31/06	6/28/06
B:	4A,14	12	353,409.25	3,646,185.51	3.79		2.3	2.3	3/30/06	6/28/06
C:	4A,15A	12	352,909.75	3,646,202.44	3.80		2.7	2.7	3/30/06	6/27/06
D:	3,15A	12	352,908.23	3,645,701.27	4.08		3	3.0	5/26/06	6/27/06

NOTE: * NAD 83 US. FT.
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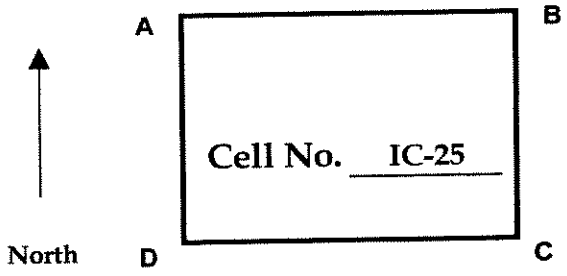

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,14	12	353,409.25	3,646,186.51	3.94	0.15	3.79	3.6	3/30/2006
B:	4,14	12	353,410.96	3,646,686.61	3.99	0.15	3.84	2.5	3/30/2006
C:	4,15A	12	352,910.41	3,646,700.75	3.77	0.15	3.62	4.5	3/30/2006
D:	4A,15A	12	352,909.75	3,646,202.44	3.95	0.15	3.8	4.4	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	4A,14	12	353,409.25	3,646,186.51	3.79		2.6	3/30/06	5/31/2006	
B:	4,14	14	353,411.08	3,646,688.22	4.68		3.0	6/11/06	6/13/2006	R
C:	4,15A	14	352,901.75	3,646,701.20	3.55		3.4	5/26/06	5/30/2006	R
D:	4A,15A	12	352,909.75	3,646,202.44	3.80		3.5	3/30/06	5/30/2006	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,14	12	353,409.25	3,646,186.51	3.79		2.5	3/30/06	6/14/2006
B:	4,14	14	353,411.08	3,646,688.22	4.68		2.8	6/11/06	6/27/2006
C:	4,15A	14	352,901.75	3,646,701.20	3.55		3.2	5/26/06	6/13/2006
D:	4A,15A	12	352,909.75	3,646,202.44	3.80		3.3	3/30/06	6/13/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,14	12	353,409.25	3,646,186.51	3.79		2.3	2.3	3/30/06	6/28/2006
B:	4,14	14	353,411.08	3,646,688.22	4.68		2.7	2.7	6/11/06	7/11/2006
C:	4,15A	14	352,901.75	3,646,701.20	3.55		2.7	2.7	5/26/06	6/27/2006
D:	4A,15A	12	352,909.75	3,646,202.44	3.80		2.7	2.7	3/30/06	6/27/2006

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.
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STATE OF LOUISIANA
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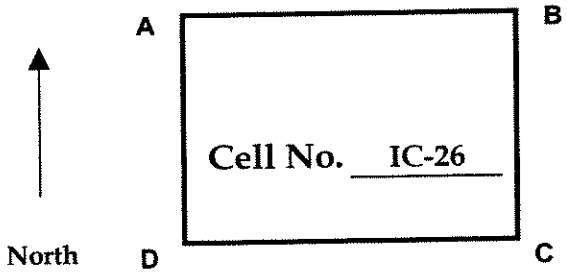
REG. No. 4503
REGISTERED PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4,14	12	353,410.96	3,646,686.61	3.99	0.15	3.84	2.5	3/30/2006
B:	5A,14	12	353,411.04	3,647,185.81	3.21		3.21	3.6	4/10/2006
C:	5A,15A	12	352,911.70	3,647,202.49	3.82		3.82	2.6	4/10/2006
D:	4,15A	12	352,910.41	3,646,700.75	3.77	0.15	3.62	4.5	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	4,14	14	353,411.08	3,646,688.22	4.68		3.0	6/11/06	6/13/2006	R
B:	5A,14	14	353,409.41	3,647,183.53	4.25		2.1	6/11/06	6/13/2006	R
C:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	4/10/06	5/30/2006	
D:	4,15A	14	352,910.75	3,646,701.20	3.55		3.4	5/26/06	5/30/2006	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,14	14	353,411.08	3,646,688.22	4.68		2.8	6/11/06	6/27/2006
B:	5A,14	14	353,409.41	3,647,183.53	4.25		2.1	6/11/06	6/27/2006
C:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	4/10/06	6/13/2006
D:	4,15A	14	352,910.75	3,646,701.20	3.55		3.2	5/26/06	6/13/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4,14	14	353,411.08	3,646,688.22	4.68		2.7	2.7	6/11/06	7/11/2006
B:	5A,14	14	353,409.41	3,647,183.53	4.25		2.4	2.4	6/11/06	7/11/2006
C:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	2.1	4/10/06	6/27/2006
D:	4,15A	14	352,910.75	3,646,701.20	3.55		2.7	2.7	5/26/06	6/27/2006

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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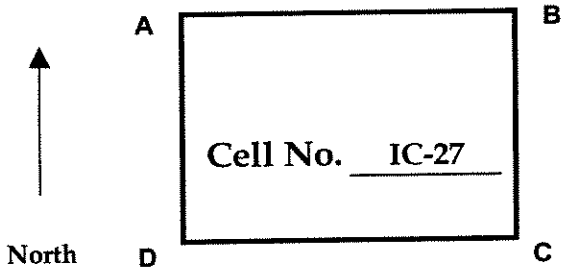

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5A,14	12	353,411.04	3,647,185.81	3.21		3.21	3.6	4/10/2006
B:	5,14	12	353,412.78	3,647,686.43	3.77		3.77	2.3	4/11/2006
C:	5,15A	12	352,913.41	3,647,701.97	3.75		3.75	2.7	4/10/2006
D:	5A,15A	12	352,911.70	3,647,202.49	3.82		3.82	2.6	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5A,14	14	353,409.41	3,647,183.53	4.25		2.1	6/11/06	6/13/2006
B:	5,14	12	352,412.78	3,647,886.43	3.86		1.9	6/5/06	6/5/2006
C:	5,15A	14	352,913.67	3,647,701.17	6.01		2.6	5/26/06	5/30/2006
D:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	4/10/06	5/30/2006

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5A,14	14	353,409.41	3,647,183.53	4.25		2.1	6/11/06	6/27/2006
B:	5,14	12	352,412.78	3,647,886.43	3.86		1.9	6/5/06	6/19/2006
C:	5,15A	14	352,913.67	3,647,701.17	6.01		2.6	5/26/06	6/13/2006
D:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	4/10/06	6/13/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5A,14	14	353,409.41	3,647,183.53	4.25		2.4	2.4	6/11/06	7/11/2006
B:	5,14	12	352,412.78	3,647,886.43	3.86		2.4	2.4	6/5/06	6/30/2006
C:	5,15A	14	352,913.67	3,647,701.17	6.01		2.5	2.5	5/26/06	6/27/2006
D:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	2.1	4/10/06	6/27/2006

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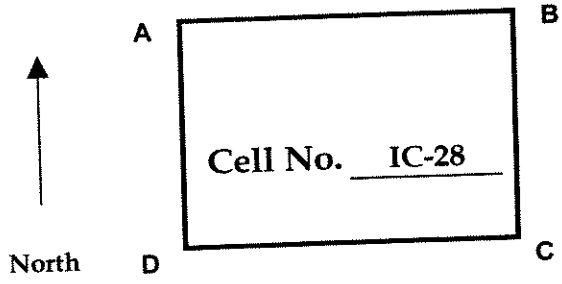

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5,14	12	353,412.78	3,647,686.43	3.77		3.77	2.3	4/11/2006
B:	6A,14	12	353,414.42	3,648,186.41	3.81		3.81	5.2	4/11/2006
C:	6A,15A	12	352,914.87	3,648,203.13	3.73		3.73	3	4/11/2006
D:	5,15A	12	352,913.41	3,647,701.97	3.75		3.75	2.7	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5,14	12	353,412.78	3,647,686.43	3.86		1.9	6/5/06	6/5/06
B:	6A,14	14	353,413.67	3,648,184.55	5.36		3.0	6/2/06	6/2/06
C:	6A,15A	16	352,914.17	3,648,201.93	5.74		3.3	6/2/06	6/2/06
D:	5,15A	14	352,913.67	3,647,701.17	6.01		2.6	5/26/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5,14	12	353,412.78	3,647,686.43	3.86		1.9	6/5/06	6/19/06
B:	6A,14	14	353,413.67	3,648,184.55	5.36		2.8	6/2/06	6/16/06
C:	6A,15A	16	352,914.17	3,648,201.93	5.74		2.8	6/2/06	6/16/06
D:	5,15A	14	352,913.67	3,647,701.17	6.01		2.6	5/26/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5,14	12	353,412.78	3,647,686.43	3.86		2.4	2.4	6/5/06	7/3/06
B:	6A,14	14	353,413.67	3,648,184.55	5.36		2.5	2.5	6/2/06	6/30/06
C:	6A,15A	16	352,914.17	3,648,201.93	5.74		2.7	2.7	6/2/06	6/30/06
D:	5,15A	14	352,913.67	3,647,701.17	6.01		2.5	2.5	5/26/06	6/27/06

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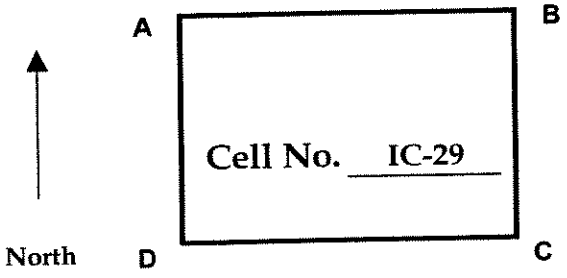

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6A,14	12	353,414.42	3,648,186.41	3.81		3.81	5.2	4/11/2006
B:	6,14	14	353,416.13	3,648,686.13	4.04		4.04	6.9	4/14/2006
C:	6,15A	12	352,916.04	3,648,702.95	3.8		3.8	5.1	4/14/2006
D:	6A,15A	12	352,914.87	3,648,203.13	3.73		3.73	3	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6A,14	14	353,413.67	3,648,184.55	5.36		3.0	6/1/06	6/2/06	R
B:	6,14	14	353,415.34	3,648,684.24	5.93		3.2	6/1/06	6/2/06	R
C:	6,15A	14	352,914.10	3,648,702.68	5.97		3.5	6/1/06	6/2/06	R
D:	6A,15A	16	352,914.17	3,648,201.93	5.74		3.3	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6A,14	14	353,413.67	3,648,184.55	5.36		2.8	6/1/06	6/16/06
B:	6,14	14	353,415.34	3,648,684.24	5.93		2.8	6/1/06	6/16/06
C:	6,15A	14	352,914.10	3,648,702.68	5.97		2.9	6/1/06	6/16/06
D:	6A,15A	16	352,914.17	3,648,201.93	5.74		2.8	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6A,14	14	353,413.67	3,648,184.55	5.36		2.5	2.5	6/1/06	6/30/06
B:	6,14	14	353,415.34	3,648,684.24	5.93		2.6	2.6	6/1/06	6/30/06
C:	6,15A	14	352,914.10	3,648,702.68	5.97		2.7	2.7	6/1/06	6/30/06
D:	6A,15A	16	352,914.17	3,648,201.93	5.74		2.7	2.7	6/1/06	6/30/06

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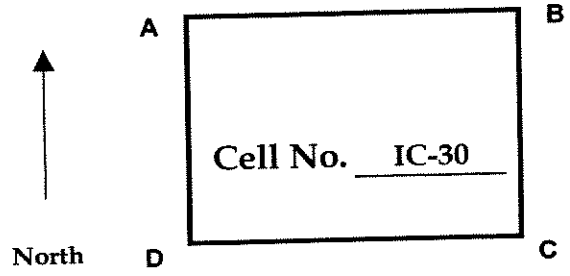

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6,14	14	353,416.13	3,648,686.13	4.04		4.04	6.9	4/14/2006
B:	7A,14	14	353,416.74	3,649,186.21	4.1		4.1	4.5	4/14/2006
C:	7A,15A	12	352,916.55	3,649,203.81	3.82		3.82	4.8	4/14/2006
D:	6,15A	12	352,916.04	3,648,702.95	3.8		3.8	5.1	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6,14	14	353,415.34	3,648,684.24	5.93		3.2	6/1/06	6/2/06	R
B:	7A,14	14	353,416.18	3,649,185.33	4.38		2.9	6/1/06	6/2/06	R
C:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.8	4/14/06	6/2/06	
D:	6,15A	14	352,914.10	3,648,702.68	5.97		3.5	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6,14	14	353,415.34	3,648,684.24	5.93		2.8	6/1/06	6/16/06
B:	7A,14	14	353,416.18	3,649,185.33	4.38		2.8	6/1/06	6/16/06
C:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.6	4/14/06	6/16/06
D:	6,15A	14	352,914.10	3,648,702.68	5.97		2.9	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6,14	14	353,415.34	3,648,684.24	5.93		2.6	2.6	6/1/06	6/30/06
B:	7A,14	14	353,416.18	3,649,185.33	4.38		2.6	2.6	6/1/06	6/30/06
C:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.4	2.4	4/14/06	6/30/06
D:	6,15A	14	352,914.10	3,648,702.68	5.97		2.7	2.7	6/1/06	6/30/06

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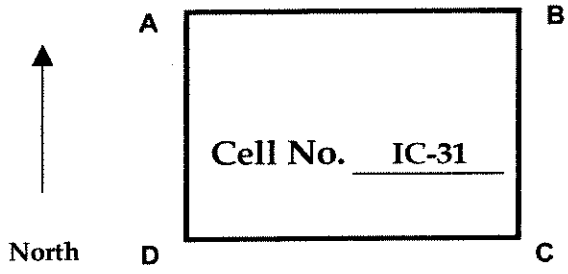

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6,15A	12	352,916.04	3,648,702.95	3.8		3.8	5.1	4/14/2006
B:	7A,15A	12	352,916.55	3,649,203.81	3.82		3.82	4.8	4/14/2006
C:	7A,15	12	352,416.63	3,649,218.70	3.77		3.77	3.9	4/14/2006
D:	6,15	14	352,416.65	3,648,719.78	4.03		4.03	6.7	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6,15A	14	352,914.10	3,648,702.68	5.97		3.5	6/1/06	6/2/06	R
B:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.8	4/14/06	6/2/06	
C:	7A,15	14	352,417.53	3,649,223.50	5.86		3.4	6/1/06	6/2/06	R
D:	6,15	14	352,404.98	3,648,718.09	5.96		3.6	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6,15A	14	352,914.10	3,648,702.68	5.97		2.9	6/1/06	6/16/06
B:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.6	4/14/06	6/16/06
C:	7A,15	14	352,417.53	3,649,223.50	5.86		2.8	6/1/06	6/16/06
D:	6,15	14	352,404.98	3,648,718.09	5.96		3.2	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6,15A	14	352,914.10	3,648,702.68	5.97		2.7	2.7	6/1/06	6/30/06
B:	7A,15A	12	352,916.55	3,649,203.81	3.82		2.4	2.4	4/14/06	6/30/06
C:	7A,15	14	352,417.53	3,649,223.50	5.86		3.3	3.3	6/1/06	6/30/06
D:	6,15	14	352,404.98	3,648,718.09	5.96		3	3.0	6/1/06	6/30/06

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Registered Land Surveyor

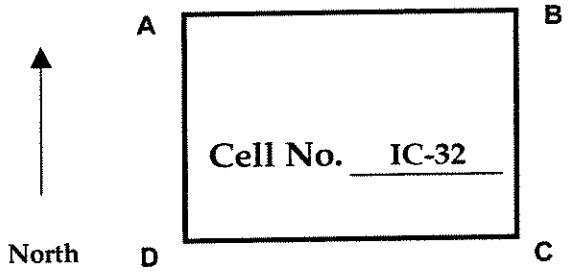
STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6A,15A	12	352,914.87	3,648,203.13	3.73		3.73	3	4/11/2006
B:	6,15A	12	352,916.04	3,648,702.95	3.8		3.8	5.1	4/14/2006
C:	6,15	14	352,416.65	3,648,719.78	4.03		4.03	6.7	4/14/2006
D:	6A,15	12	352,413.65	3,648,218.42	3.85		3.85	5	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6A,15A	16	352,914.17	3,648,201.93	5.74		3.3	6/1/06	6/2/06	R
B:	6,15A	14	352,914.10	3,648,702.68	5.97		3.5	6/1/06	6/2/06	R
C:	6,15	14	352,404.98	3,648,718.09	5.96		3.6	6/1/06	6/2/06	R
D:	6A,15	14	352,414.98	3,648,217.66	5.18		3.2	5/25/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6A,15A	16	352,914.17	3,648,201.93	5.74		2.8	6/1/06	6/16/06
B:	6,15A	14	352,914.10	3,648,702.68	5.97		2.9	6/1/06	6/16/06
C:	6,15	14	352,404.98	3,648,718.09	5.96		3.2	6/1/06	6/16/06
D:	6A,15	14	352,414.98	3,648,217.66	5.18		3.0	5/25/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6A,15A	16	352,914.17	3,648,201.93	5.74		2.7	2.7	6/1/06	6/30/06
B:	6,15A	14	352,914.10	3,648,702.68	5.97		2.7	2.7	6/1/06	6/30/06
C:	6,15	14	352,404.98	3,648,718.09	5.96		3	3.0	6/1/06	6/30/06
D:	6A,15	14	352,414.98	3,648,217.66	5.18		3.1	3.1	5/25/06	6/30/06

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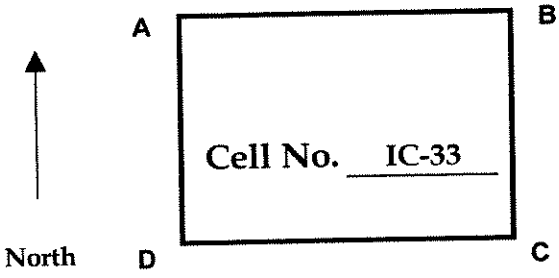

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5,15A	12	352,913.41	3,647,701.97	3.75		3.75	2.7	4/10/2006
B:	6A,15A	12	352,914.87	3,648,203.13	3.73		3.73	3	4/11/2006
C:	6A,15	12	352,413.65	3,648,218.42	3.85		3.85	5	4/11/2006
D:	5,15	12	352,413.35	3,647,718.03	3.48		3.48	4	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5,15A	14	352,913.67	3,647,701.17	6.01		2.6	5/26/06	5/30/06	R
B:	6A,15A	16	352,914.17	3,648,201.93	5.74		3.3	6/2/06	6/2/06	R
C:	6A,15	14	352,414.98	3,648,217.66	5.18		3.2	5/25/06	5/31/06	R
D:	5,15	16	352,414.06	3,647,717.84	5.70		3.2	5/25/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5,15A	14	352,913.67	3,647,701.17	6.01		2.6	5/26/06	6/13/06	
B:	6A,15A	16	352,914.17	3,648,201.93	5.74		2.8	6/2/06	6/16/06	
C:	6A,15	14	352,414.98	3,648,217.66	5.18		3.0	5/25/06	6/14/06	
D:	5,15	16	352,413.60	3,647,717.37	4.92		3.0	6/14/06	6/14/06	R

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5,15A	14	352,913.67	3,647,701.17	6.01		2.5	2.5	5/26/06	6/27/06
B:	6A,15A	16	352,914.17	3,648,201.93	5.74		2.7	2.7	6/2/06	6/28/06
C:	6A,15	14	352,414.98	3,648,217.66	5.18		3.1	3.1	5/25/06	6/28/06
D:	5,15	16	352,413.60	3,647,717.37	4.92		2.9	2.9	6/14/06	6/28/06

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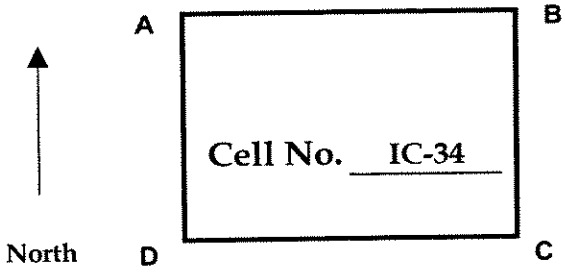

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5A,15A	12	352,911.70	3,647,202.49	3.82		3.82	2.6	4/10/2006
B:	5,15A	12	352,913.41	3,647,701.97	3.75		3.75	2.7	4/10/2006
C:	5,15	12	352,413.35	3,647,718.03	3.48		3.48	4	4/10/2006
D:	5A,15	12	352,412.15	3,647,218.47	3.63		3.63	2.3	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	4/10/06	5/30/06	
B:	5,15A	14	352,913.67	3,647,701.17	6.01		2.6	5/26/06	5/30/06	R
C:	5,15	16	352,414.06	3,647,717.84	5.70		3.2	5/28/06	5/30/06	R
D:	5A,15	14	352,425.14	3,647,228.84	5.23		2.7	5/18/06	5/30/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	4/10/06	6/13/06	
B:	5,15A	14	352,913.67	3,647,701.17	6.01		2.6	5/26/06	6/13/06	
C:	5,15	16	352,414.60	3,647,717.37	4.92		3.0	6/14/06	6/14/06	R
D:	5A,15	14	352,425.14	3,647,228.84	5.23		2.6	5/18/06	6/13/06	

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	2.1	4/10/06	6/27/06
B:	5,15A	14	352,913.67	3,647,701.17	6.01		2.5	2.5	5/26/06	6/27/06
C:	5,15	16	352,414.60	3,647,717.37	4.92		2.9	2.9	6/14/06	6/28/06
D:	5A,15	14	352,425.14	3,647,228.84	5.23		2.5	2.5	5/18/06	6/27/06

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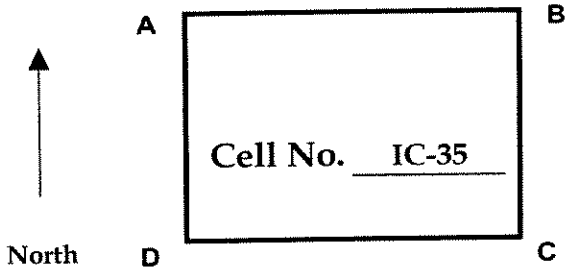

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4,15A	12	352,910.41	3,646,700.75	3.77	0.15	3.62	4.5	3/30/2006
B:	5A,15A	12	352,911.70	3,647,202.49	3.82		3.82	2.6	4/10/2006
C:	5A,15	12	352,412.15	3,647,218.47	3.63		3.63	2.3	4/10/2006
D:	4,15	12	352,411.72	3,646,717.69	3.61	0.15	3.46	6	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,15A	14	352,910.75	3,646,701.20	3.55		3.4	5/26/06	5/30/06
B:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	4/10/06	5/30/06
C:	5A,15	14	352,425.14	3,647,228.84	5.23		2.7	5/18/06	5/30/06
D:	4,15	12	352,412.28	3,646,717.62	3.27		2.5	5/26/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,15A	14	352,910.75	3,646,701.20	3.55		3.2	5/26/06	6/13/06
B:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	4/10/06	6/13/06
C:	5A,15	14	352,425.14	3,647,228.84	5.23		2.6	5/18/06	6/13/06
D:	4,15	12	352,412.28	3,646,717.62	3.27		2.4	5/26/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4,15A	14	352,910.75	3,646,701.20	3.55		2.7	2.7	5/26/06	6/27/06
B:	5A,15A	12	352,911.70	3,647,202.49	3.82		2.1	2.1	4/10/06	6/27/06
C:	5A,15	14	352,425.14	3,647,228.84	5.23		2.5	2.5	5/18/06	6/27/06
D:	4,15	12	352,412.28	3,646,717.62	3.27		2.3	2.3	5/26/06	6/27/06

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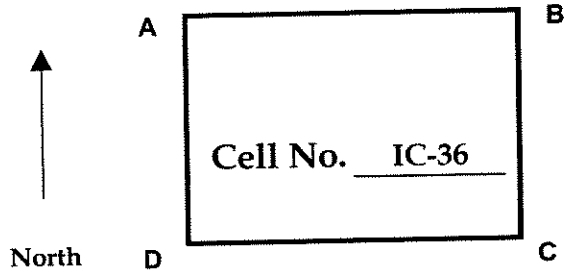

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	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,15A	12	352,909.75	3,646,202.44	3.95	0.15	3.8	4.4	3/30/2006
B:	4,15A	12	352,910.41	3,646,700.75	3.77	0.15	3.62	4.5	3/30/2006
C:	4,15	12	352,411.72	3,646,717.69	3.61	0.15	3.46	6	3/30/2006
D:	4A,15	12	352,407.47	3,645,216.41	4.35	0.15	4.2	4.7	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,15A	12	352,909.75	3,646,202.44	3.80		3.5	3/30/06	5/30/06
B:	4,15A	14	352,910.75	3,646,701.20	3.55		3.4	5/26/06	5/30/06
C:	4,15	12	352,412.28	3,646,717.62	3.27		2.5	5/26/06	5/30/06
D:	4A,15	14	352,411.08	3,646,217.26	5.33		3.6	5/20/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,15A	12	352,909.75	3,646,202.44	3.80		3.3	3/30/06	6/13/06
B:	4,15A	14	352,910.75	3,646,701.20	3.55		3.2	5/26/06	6/13/06
C:	4,15	12	352,412.28	3,646,717.62	3.27		2.4	5/26/06	6/13/06
D:	4A,15	14	352,411.08	3,646,217.26	5.33		3.4	5/20/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,15A	12	352,909.75	3,646,202.44	3.80		2.7	2.7	3/30/06	6/27/06
B:	4,15A	14	352,910.75	3,646,701.20	3.55		2.7	2.7	5/26/06	6/27/06
C:	4,15	12	352,412.28	3,646,717.62	3.27		2.3	2.3	5/26/06	6/27/06
D:	4A,15	14	352,411.08	3,646,217.26	5.33		2.8	2.8	5/20/06	6/27/06

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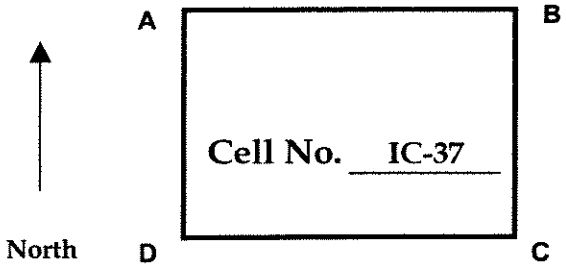

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A:	3,15A	12	352,907.88	3,645,701.25	4.28	0.15	4.13	5.3	3/7/2006
B:	4A,15A	12	352,909.75	3,646,202.44	3.95	0.15	3.8	4.4	3/30/2006
C:	4A,15	12	352,407.47	3,645,216.41	4.35	0.15	4.2	4.7	3/5/2006
D:	3,15	12	352,407.21	3,645,717.51	4.22	0.15	4.07	4.6	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,15A	12	352,908.23	3,645,701.27	4.08		4.3	5/26/06	5/30/06
B:	4A,15A	12	352,909.75	3,646,202.44	3.80		3.5	3/30/06	5/30/06
C:	4A,15	14	352,411.08	3,646,217.26	5.33		3.6	5/20/06	5/30/06
D:	3,15	12	352,407.49	3,645,717.67	4.10		3.7	5/20/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,15A	12	352,908.23	3,645,701.27	4.08		3.6	5/26/06	6/13/06
B:	4A,15A	12	352,909.75	3,646,202.44	3.80		3.3	3/30/06	6/13/06
C:	4A,15	14	352,411.08	3,646,217.26	5.33		3.4	5/20/06	6/13/06
D:	3,15	12	352,407.49	3,645,717.67	4.10		3.4	5/20/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,15A	12	352,908.23	3,645,701.27	4.08		3	3.0	5/26/06	6/27/06
B:	4A,15A	12	352,909.75	3,646,202.44	3.80		2.7	2.7	3/30/06	6/27/06
C:	4A,15	14	352,411.08	3,646,217.26	5.33		2.8	2.8	5/20/06	6/27/06
D:	3,15	12	352,407.49	3,645,717.67	4.10		3	3.0	5/20/06	6/27/06

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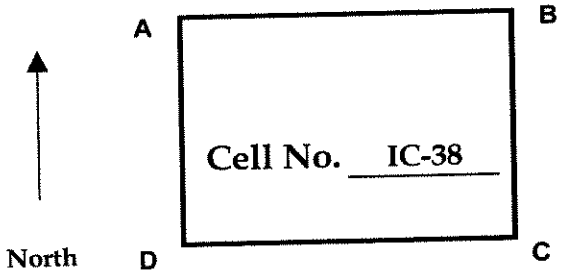
SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,15A	12	352,907.12	3,645,201.45	4.17	0.15	4.02	4.4	3/7/2006
B:	3,15A	12	352,907.88	3,645,701.25	4.28	0.15	4.13	5.3	3/7/2006
C:	3,15	12	352,407.21	3,645,717.51	4.22	0.15	4.07	4.6	3/7/2006
D:	3A,15	12	352,407.47	3,645,216.41	4.35	0.15	4.2	3.9	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,15A	12	352,907.25	3,645,201.32	3.99		3.5	5/26/06	5/30/06
B:	3,15A	12	352,908.23	3,645,701.27	4.08		4.3	5/26/06	5/30/06
C:	3,15	12	352,407.49	3,645,717.67	4.10		3.7	5/20/06	5/30/06
D:	3A,15	14	352,408.63	3,645,216.83	7.26		4.4	5/20/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,15A	12	352,907.25	3,645,201.32	3.99		3.3	5/26/06	6/13/06
B:	3,15A	12	352,908.23	3,645,701.27	4.08		3.6	5/26/06	6/13/06
C:	3,15	12	352,407.49	3,645,717.67	4.10		3.4	5/20/06	6/13/06
D:	3A,15	14	352,408.63	3,645,216.83	7.26		4.2	5/20/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,15A	12	352,907.25	3,645,201.32	3.99		2.8	2.8	5/26/06	6/27/06
B:	3,15A	12	352,908.23	3,645,701.27	4.08		3	3.0	5/26/06	6/27/06
C:	3,15	12	352,407.49	3,645,717.67	4.10		3	3.0	5/20/06	6/27/06
D:	3A,15	14	352,408.63	3,645,216.83	7.26		3.8	3.8	5/20/06	6/27/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

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JAB

Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
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PROFESSIONAL
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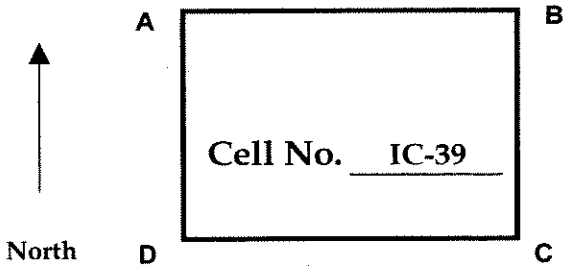
Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,15A	12	352,906.54	3,644,701.51	4.33	0.15	4.18	4.4	3/7/2006
B:	3A,15A	12	352,907.12	3,645,201.45	4.17	0.15	4.02	4.4	3/7/2006
C:	3A,15	12	352,407.47	3,645,216.41	4.35	0.15	4.2	3.9	3/5/2006
D:	2,15	12	352,407.03	3,644,717.17	4.23	0.15	4.08	5.3	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,15A	14	352,907.39	3,644,701.90	5.82		3.4	5/26/06	5/30/06
B:	3A,15A	12	352,907.25	3,645,201.32	3.99		3.5	5/26/06	5/30/06
C:	3A,15	14	352,408.62	3,645,216.83	7.26		4.4	5/20/06	5/30/06
D:	2,15	14	352,406.02	3,644,217.43	6.64		4.3	5/26/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,15A	14	352,907.39	3,644,701.90	5.82		3.0	5/26/06	6/13/06
B:	3A,15A	12	352,907.25	3,645,201.32	3.99		3.3	5/26/06	6/13/06
C:	3A,15	14	352,408.62	3,645,216.83	7.26		4.2	5/20/06	6/13/06
D:	2,15	14	352,406.02	3,644,217.43	6.64		3.9	5/26/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,15A	14	352,907.39	3,644,701.90	5.82		2.8	2.8	5/26/06	6/27/06
B:	3A,15A	12	352,907.25	3,645,201.32	3.99		2.8	2.8	5/26/06	6/27/06
C:	3A,15	14	352,408.62	3,645,216.83	7.26		3.8	3.8	5/20/06	6/27/06
D:	2,15	14	352,406.02	3,644,217.43	6.64		3.7	3.7	5/26/06	6/27/06

NOTE: * NAD 83 US. FT.

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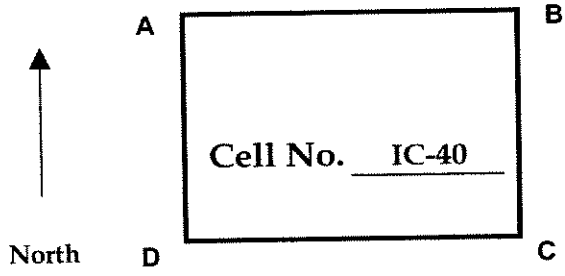

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,15A	12	352,904.26	3,644,201.83	4.39	0.15	4.24	2.2	3/7/2006
B:	2,15A	12	352,906.54	3,644,701.51	4.33	0.15	4.18	4.4	3/7/2006
C:	2,15	12	352,407.03	3,644,717.17	4.23	0.15	4.08	5.3	3/5/2006
D:	2A,15	12	352,405.38	3,644,216.72	4.03	0.15	3.88	4.2	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,15A	14	352,905.77	3,644,199.64	6.35		3.4	5/27/06	5/30/06
B:	2,15A	14	352,907.39	3,644,701.90	5.82		3.4	5/26/06	5/30/06
C:	2,15	14	352,407.19	3,644,716.20	6.64		4.3	5/26/06	5/30/06
D:	2A,15	14	352,406.02	3,644,217.43	6.18		4.1	5/26/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2A,15A	14	352,905.77	3,644,199.64	6.35		3.2	5/27/06	5/30/06
B:	2,15A	14	352,907.39	3,644,701.90	5.82		3.0	5/26/06	5/30/06
C:	2,15	14	352,407.19	3,644,716.20	6.64		3.9	5/26/06	5/30/06
D:	2A,15	14	352,406.02	3,644,217.43	6.18		3.7	5/26/06	5/30/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,15A	14	352,905.77	3,644,199.64	6.35		3.1	3.1	5/27/06	6/27/06
B:	2,15A	14	352,907.39	3,644,701.90	5.82		2.8	2.8	5/26/06	6/27/06
C:	2,15	14	352,407.19	3,644,716.20	6.64		3.7	3.7	5/26/06	6/27/06
D:	2A,15	14	352,406.02	3,644,217.43	6.18		3.3	3.3	5/26/06	6/27/06

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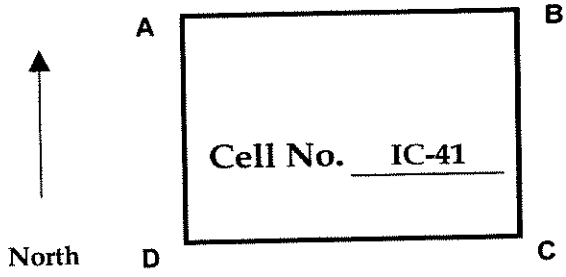

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,15A	12	352,903.69	3,643,700.71	4.17	0.15	4.02	4.6	3/7/2006
B:	2A,15A	12	352,904.26	3,644,201.82	4.39	0.15	4.24	2.2	3/7/2006
C:	2A,15	12	352,405.38	3,644,216.72	4.03	0.15	3.88	4.2	3/5/2006
D:	1,15	12	352,403.44	3,643,716.35	4.6	0.15	4.45	2.7	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,15A	14	352,903.75	3,643,700.62	4.06		3.1	5/27/06	5/30/06
B:	2A,15A	14	352,905.77	3,644,199.64	6.38		3.4	5/27/06	5/30/06
C:	2A,15	14	352,406.02	3,644,217.43	6.18		4.1	5/26/06	5/30/06
D:	1,15	12	352,403.44	3,643,716.35	4.45		3.5	3/7/06	5/30/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,15A	14	352,903.75	3,643,700.62	4.06		2.8	5/27/06	6/13/06
B:	2A,15A	14	352,905.77	3,644,199.64	6.38		3.2	5/27/06	6/13/06
C:	2A,15	14	352,406.02	3,644,217.43	6.18		3.7	5/26/06	6/13/06
D:	1,15	12	352,403.44	3,643,716.35	4.45		3.4	3/7/06	6/13/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,15A	14	352,903.75	3,643,700.62	4.06		2.4	2.4	5/27/06	6/27/06
B:	2A,15A	14	352,905.77	3,644,199.64	6.38		3.1	3.1	5/27/06	6/27/06
C:	2A,15	14	352,406.02	3,644,217.43	6.18		3.3	3.3	5/26/06	6/27/06
D:	1,15	12	352,403.44	3,643,716.35	4.45		3	3.0	3/7/06	6/27/06

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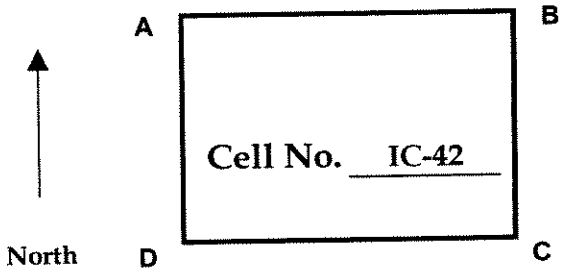

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2A,15	12	352,405.38	3,644,216.72	4.03	0.15	3.88	4.2	3/5/2006
B:	2,15	12	352,407.03	3,644,717.17	4.23	0.15	4.08	5.3	3/5/2006
C:	2,16A	12	351,905.60	3,644,733.38	4.18	0.15	4.03	4.9	3/5/2006
D:	2A,16A	12	351,905.78	3,644,232.52	4.17	0.15	4.02	4.8	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,15	14	352,406.02	3,644,217.43	6.18		4.1	5/26/06	5/30/06	R
B:	2,15	14	352,407.19	3,644,716.20	6.64		4.3	5/26/06	5/30/06	R
C:	2,16A	14	351,905.63	3,644,733.29	6.42		4.0	5/18/06	5/21/06	R
D:	2A,16A	12	351,905.78	3,644,232.52	4.17		4.0	3/5/06	5/21/06	

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2A,15	14	352,406.02	3,644,217.43	6.18		3.7	5/26/06	6/13/06	
B:	2,15	14	352,407.19	3,644,716.20	6.64		3.9	5/26/06	6/13/06	
C:	2,16A	14	351,905.63	3,644,733.29	6.42		3.6	5/18/06	6/4/06	
D:	2A,16A	14	351,905.26	3,644,232.31	3.95		3.7	5/26/06	6/13/06	R

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2A,15	14	352,406.02	3,644,217.43	6.18		3.3	3.3	5/26/06	6/27/06
B:	2,15	14	352,407.19	3,644,716.20	6.64		3.7	3.7	5/26/06	6/27/06
C:	2,16A	14	351,905.63	3,644,733.29	6.42		3.3	3.3	5/18/06	6/18/06
D:	2A,16A	14	351,905.26	3,644,232.31	3.95		3.2	3.2	5/26/06	6/27/06

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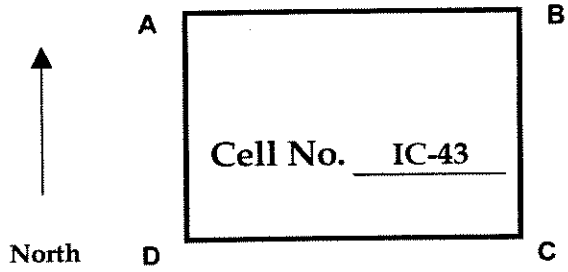

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A:	2,15	12	352,407.03	3,644,717.17	4.23	0.15	4.08	5.3	3/5/2006
B:	3A,15	12	352,407.47	3,645,216.41	4.35	0.15	4.2	3.9	3/5/2006
C:	3A,16A	12	351,908.03	3,645,232.67	4.29	0.15	4.14	3.9	3/7/2006
D:	2,16A	12	351,905.60	3,644,738.38	4.18	0.15	4.03	4.9	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,15	14	352,407.19	3,644,716.20	6.64		4.3	5/26/06	5/30/06	R
B:	3A,15	14	352,408.62	3,645,216.83	7.26		4.4	5/20/06	5/30/06	R
C:	3A,16A	14	351,906.38	3,645,233.59	6.64		3.9	5/20/06	5/21/06	R
D:	2,16A	14	351,905.63	3,644,733.29	6.42		4.0	5/18/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,15	14	352,407.19	3,644,716.20	6.64		3.9	5/26/06	6/13/06
B:	3A,15	14	352,408.62	3,645,216.83	7.26		4.2	5/20/06	6/13/06
C:	3A,16A	14	351,906.38	3,645,233.59	6.64		3.2	5/20/06	6/4/06
D:	2,16A	14	351,905.63	3,644,733.29	6.42		3.6	5/18/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,15	14	352,407.19	3,644,716.20	6.64		3.7	3.7	5/26/06	6/27/06
B:	3A,15	14	352,408.62	3,645,216.83	7.26		3.8	3.8	5/20/06	6/27/06
C:	3A,16A	14	351,906.38	3,645,233.59	6.64		2.7	2.7	5/20/06	6/18/06
D:	2,16A	14	351,905.63	3,644,733.29	6.42		3.3	3.3	5/18/06	6/18/06

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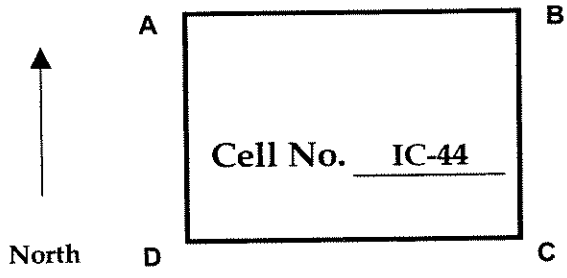

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,15	12	352,407.47	3,645,216.41	4.35	0.15	4.2	3.9	3/5/2006
B:	3,15	12	352,407.21	3,645,717.51	4.22	0.15	4.07	4.6	3/7/2006
C:	3,16A	12	351,907.82	3,645,733.91	4.12	0.15	3.97	4.9	3/7/2006
D:	3A,16A	12	351,908.03	3,645,232.67	4.3	0.15	4.15	3.9	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,15	14	352,408.63	3,645,216.83	7.26		4.4	5/20/06	5/30/06	R
B:	3,15	12	352,407.49	3,645,717.67	4.10		3.7	5/20/06	5/30/06	R
C:	3,16A	14	351,907.81	3,645,733.18	5.53		3.4	5/20/06	5/21/06	R
D:	3A,16A	14	351,906.38	3,645,233.59	6.64		3.9	5/20/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,15	14	352,408.63	3,645,216.83	7.26		4.2	5/20/06	6/13/06
B:	3,15	12	352,407.49	3,645,717.67	4.10		3.4	5/20/06	6/13/06
C:	3,16A	14	351,907.81	3,645,733.18	5.53		2.9	5/20/06	6/4/06
D:	3A,16A	14	351,906.38	3,645,233.59	6.64		3.2	5/20/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,15	14	352,408.63	3,645,216.83	7.26		3.8	3.8	5/20/06	6/27/06
B:	3,15	12	352,407.49	3,645,717.67	4.10		3	3.0	5/20/06	6/27/06
C:	3,16A	14	351,907.81	3,645,733.18	5.53		2.7	2.7	5/20/06	6/18/06
D:	3A,16A	14	351,906.38	3,645,233.59	6.64		2.7	2.7	5/20/06	6/18/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

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All elevations and distances are in feet.

JAB

Contractor Signature

Registered Land Surveyor

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REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

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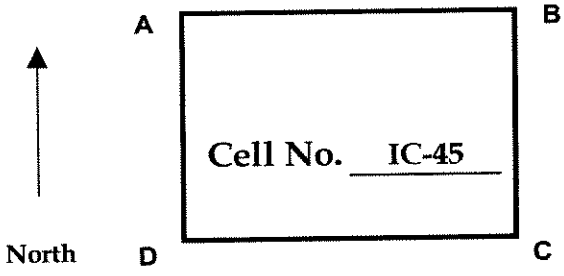

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,15	12	352,407.21	3,645,717.51	4.22	0.15	4.07	4.6	3/7/2006
B:	4A,15	12	352,407.47	3,645,216.41	4.35	0.15	4.2	4.7	3/5/2006
C:	4A,16A	12	351,909.28	3,646,233.31	3.99	0.15	3.84	3.9	3/30/2006
D:	3,16A	12	351,907.82	3,645,733.91	4.12	0.15	3.97	4.9	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,15	12	352,407.49	3,645,717.67	4.10		3.7	5/20/06	5/30/06
B:	4A,15	14	352,411.08	3,646,217.26	5.33		3.6	5/20/06	5/30/06
C:	4A,16A	14	351,909.48	3,646,233.31	5.60		3.2	5/20/06	5/21/06
D:	3,16A	14	351,907.81	3,645,733.18	5.53		3.4	5/20/06	5/21/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,15	12	352,407.49	3,645,717.67	4.10		3.4	5/20/06	6/13/06
B:	4A,15	14	352,411.08	3,646,217.26	5.33		3.4	5/20/06	6/13/06
C:	4A,16A	14	351,909.48	3,646,233.31	5.60		2.9	5/20/06	6/4/06
D:	3,16A	14	351,907.81	3,645,733.18	5.53		2.9	5/20/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,15	12	352,407.49	3,645,717.67	4.10		3	3.0	5/20/06	6/27/06
B:	4A,15	14	352,411.08	3,646,217.26	5.33		2.8	2.8	5/20/06	6/27/06
C:	4A,16A	14	351,909.48	3,646,233.31	5.60		2.5	2.5	5/20/06	6/18/06
D:	3,16A	14	351,907.81	3,645,733.18	5.53		2.7	2.7	5/20/06	6/18/06

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Louisiana Department of Natural resources

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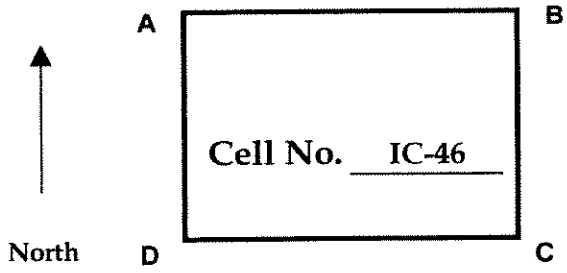

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,15	12	352,407.47	3,645,216.41	4.35	0.15	4.2	4.7	3/5/2006
B:	4,15	12	352,411.72	3,646,717.69	3.61	0.15	3.46	6	3/30/2006
C:	4,16A	12	351,911.08	3,646,733.77	4.01	0.15	3.86	4.6	3/30/2006
D:	4A,16A	12	351,909.28	3,646,233.31	3.99	0.15	3.84	3.9	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,15	14	352,411.08	3,646,217.26	5.33		3.6	5/20/06	5/30/06
B:	4,15	12	352,412.28	3,646,717.62	3.27		2.5	5/26/06	5/30/06
C:	4,16A	12	351,911.08	3,646,733.77	3.86		2.7	3/30/06	5/21/06
D:	4A,16A	14	351,909.48	3,646,233.31	5.60		3.2	5/20/06	5/21/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,15	14	352,411.08	3,646,217.26	5.33		3.4	5/20/06	6/13/06
B:	4,15	12	352,412.28	3,646,717.62	3.27		2.4	5/26/06	6/13/06
C:	4,16A	12	351,911.08	3,646,733.77	3.86		3.0	3/30/06	6/4/06
D:	4A,16A	14	351,909.48	3,646,233.31	5.60		2.9	5/20/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,15	14	352,411.08	3,646,217.26	5.33		2.8	2.8	5/20/06	6/27/06
B:	4,15	12	352,412.28	3,646,717.62	3.27		2.3	2.3	5/26/06	6/27/06
C:	4,16A	12	351,911.08	3,646,733.77	3.86		2.4	2.4	3/30/06	6/18/06
D:	4A,16A	14	351,909.48	3,646,233.31	5.60		2.5	2.5	5/20/06	6/18/06

NOTE: * NAD 83 US. FT.

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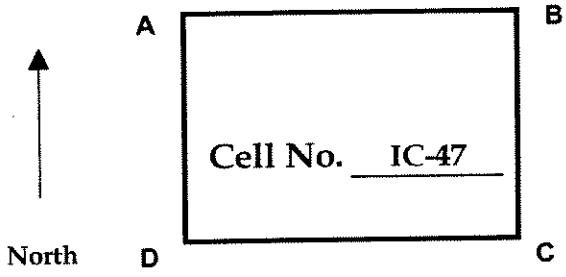

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4,15	12	352,411.72	3,646,717.69	3.61	0.15	3.46	6	3/30/2006
B:	5A,15	12	352,412.15	3,647,218.47	3.63		3.63	2.3	4/10/2006
C:	5A,16A	12	351,911.78	3,647,232.95	3.01		3.01	2.8	4/10/2006
D:	4,16A	12	351,911.08	3,646,733.78	4.01	0.15	3.86	4.6	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,15	12	352,412.28	3,646,717.62	3.27		2.5	5/26/06	5/30/06
B:	5A,15	14	352,425.14	3,647,228.84	5.23		2.7	5/18/06	5/30/06
C:	5A,16A	14	351,912.38	3,647,732.53	6.50		4.1	5/22/06	5/30/06
D:	4,16A	12	351,911.08	3,646,733.77	3.86		2.7	3/30/06	5/21/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,15	12	352,412.28	3,646,717.62	3.27		2.4	5/26/06	6/13/06
B:	5A,15	14	352,425.14	3,647,228.84	5.23		2.6	5/18/06	6/13/06
C:	5A,16A	14	351,912.38	3,647,732.53	6.50		3.8	5/22/06	6/13/06
D:	4,16A	12	351,911.08	3,646,733.77	3.86		3.0	3/30/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4,15	12	352,412.28	3,646,717.62	3.27		**2.3**	2.3	5/26/06	6/27/06
B:	5A,15	14	352,425.14	3,647,228.84	5.23		**2.5**	2.5	5/18/06	6/27/06
C:	5A,16A	14	351,912.38	3,647,732.53	6.50		**3.1**	3.1	5/22/06	6/27/06
D:	4,16A	12	351,911.08	3,646,733.77	3.86		**2.4**	2.4	3/30/06	6/18/06

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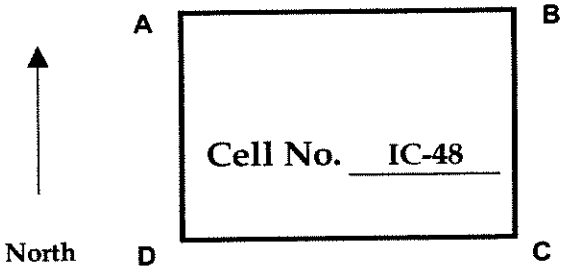

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5A,15	12	352,412.15	3,647,218.47	3.63		3.63	2.3	4/10/2006
B:	5,15	12	352,413.35	3,647,718.03	3.48		3.48	4	4/10/2006
C:	5,16A	12	351,913.08	3,647,733.70	3.37		3.37	3	4/10/2006
D:	5A,16A	12	351,911.78	3,647,232.95	3.01		3.01	2.8	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5A,15	14	352,425.14	3,647,228.84	5.23		2.7	5/18/06	5/30/06	R
B:	5,15	16	352,414.06	3,647,717.84	5.70		3.2	5/25/06	5/31/06	R
C:	5,16A	14	351,912.38	3,647,732.53	6.50		2.9	5/22/06	5/31/06	R
D:	5A,16A	14	351,911.60	3,647,233.23	6.39		4.1	5/22/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5A,15	14	352,425.14	3,647,228.84	5.23		2.6	5/18/06	6/13/06	
B:	5,15	16	352,413.60	3,647,717.37	4.92		3.0	6/14/06	6/14/06	R
C:	5,16A	14	351,912.38	3,647,732.53	6.50		2.8	5/22/06	6/14/06	
D:	5A,16A	14	351,911.60	3,647,233.23	6.39		3.8	5/22/06	6/14/06	

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5A,15	14	352,425.14	3,647,228.84	5.23		2.5	2.5	5/18/06	6/27/06
B:	5,15	16	352,413.60	3,647,717.37	4.92		2.9	2.9	6/14/06	6/28/06
C:	5,16A	14	351,912.38	3,647,732.53	6.50		2.6	2.6	5/22/06	6/28/06
D:	5A,16A	14	351,911.60	3,647,233.23	6.39		3.1	3.1	5/22/06	6/28/06

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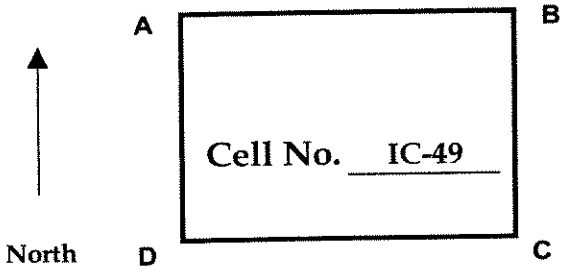

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5,15	12	352,413.35	3,647,718.03	3.48		3.48	4	4/10/2006
B:	6A,15	12	352,412.15	3,647,218.47	3.63		3.63	2.3	4/10/2006
C:	6A,16A	12	351,914.29	3,648,232.35	3.93		3.93	3	4/10/2006
D:	5,16A	12	351,913.08	3,647,733.70	3.37		3.37	3	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5,15	16	352,414.06	3,647,717.84	5.70		3.2	5/25/06	5/31/06	R
B:	6A,15	14	352,414.98	3,648,217.66	5.18		3.2	5/25/06	5/31/06	R
C:	6A,16A	14	351,914.34	3,648,232.57	4.04		3.7	5/22/06	5/31/06	R
D:	5,16A	14	351,912.38	3,647,732.53	6.50		2.9	5/22/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5,15	16	352,413.60	3,647,717.37	4.92		3.0	6/14/06	6/14/06	R
B:	6A,15	14	352,414.98	3,648,217.66	5.18		3.0	5/25/06	6/14/06	
C:	6A,16A	14	351,914.34	3,648,232.57	4.04		3.6	5/22/06	6/14/06	
D:	5,16A	14	351,912.38	3,647,732.53	6.50		2.8	5/22/06	6/14/06	

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5,15	16	352,413.60	3,647,717.37	4.92		2.9	2.9	6/14/06	6/28/06
B:	6A,15	14	352,414.98	3,648,217.66	5.18		3.1	3.1	5/25/06	6/28/06
C:	6A,16A	14	351,914.34	3,648,232.57	4.04		3.1	3.1	5/22/06	6/28/06
D:	5,16A	14	351,912.38	3,647,732.53	6.50		2.6	2.6	5/22/06	6/28/06

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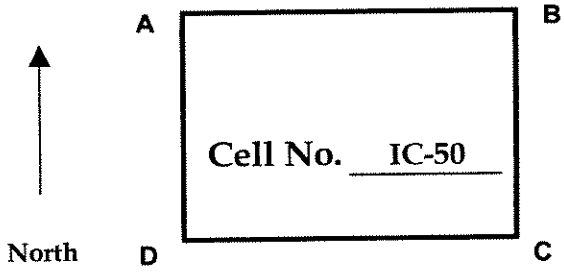

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6A,15	12	352,413.65	3,648,218.42	3.85		3.85	5	4/11/2006
B:	6,15	14	352,416.65	3,648,719.78	4.03		4.03	6.7	4/14/2006
C:	6,16A	14	351,915.19	3,648,735.13	4.06		4.06	5.4	4/14/2006
D:	6A,16A	12	351,914.29	3,648,232.35	3.93		3.93	3	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6A,15	14	352,414.98	3,648,217.66	5.18		3.2	5/25/06	5/31/06	R
B:	6,15	14	352,404.98	3,648,718.09	5.96		3.6	6/1/06	6/2/06	R
C:	6,16A	14	351,914.77	3,648,732.64	5.59		3.6	6/1/06	6/2/06	R
D:	6A,16A	14	351,914.34	3,648,232.50	4.04		3.7	5/22/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6A,15	14	352,414.98	3,648,217.66	5.18		3.0	5/25/06	6/14/06
B:	6,15	14	352,404.98	3,648,718.09	5.96		3.2	6/1/06	6/16/06
C:	6,16A	14	351,914.77	3,648,732.64	5.59		3.2	6/1/06	6/16/06
D:	6A,16A	14	351,914.34	3,648,232.50	4.04		3.6	5/22/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6A,15	14	352,414.98	3,648,217.66	5.18		3.1	3.1	5/25/06	6/28/06
B:	6,15	14	352,404.98	3,648,718.09	5.96		3	3.0	6/1/06	6/30/06
C:	6,16A	14	351,914.77	3,648,732.64	5.59		2.9	2.9	6/1/06	6/30/06
D:	6A,16A	14	351,914.34	3,648,232.50	4.04		3.1	3.1	5/22/06	6/28/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

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JAB

Contractor Signature

Registered Land Surveyor

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REGISTERED PROFESSIONAL
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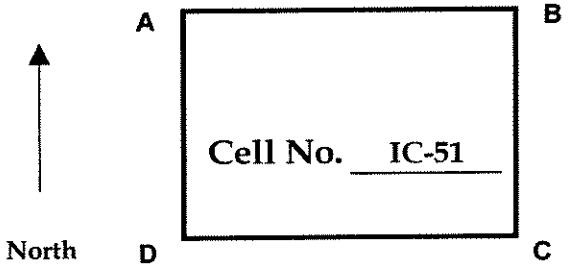
Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6,15	14	352,416.65	3,648,719.78	4.03		4.03	6.7	4/14/2006
B:	7A,15	12	352,416.63	3,649,218.70	3.77		3.77	3.9	4/14/2006
C:	7A,16A	12	351,915.90	3,649,234.06	3.8		3.8	3.2	4/14/2006
D:	6,16A	14	351,915.19	3,648,735.13	4.06		4.06	5.4	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6,15	14	352,404.98	3,648,718.09	5.96		3.6	6/1/06	6/2/06	R
B:	7A,15	14	352,417.53	3,649,223.50	5.86		3.4	6/1/06	6/2/06	R
C:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.8	6/1/06	6/2/06	R
D:	6,16A	14	351,914.77	3,648,732.64	5.59		3.6	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6,15	14	352,404.98	3,648,718.09	5.96		3.2	6/1/06	6/16/06
B:	7A,15	14	352,417.53	3,649,223.50	5.86		2.8	6/1/06	6/16/06
C:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.8	6/1/06	6/16/06
D:	6,16A	14	351,914.77	3,648,732.64	5.59		3.2	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6,15	14	352,404.98	3,648,718.09	5.96		3	3.0	6/1/06	6/30/06
B:	7A,15	14	352,417.53	3,649,223.50	5.86		3.3	3.3	6/1/06	6/30/06
C:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.6	2.6	6/1/06	6/30/06
D:	6,16A	14	351,914.77	3,648,732.64	5.59		2.9	2.9	6/1/06	6/30/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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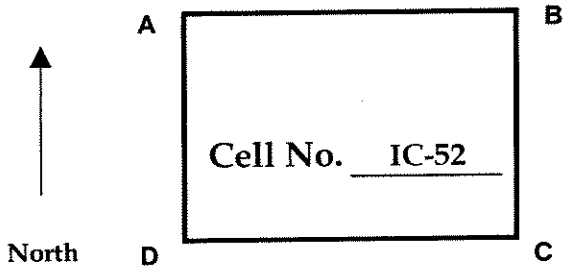

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7A,15	12	352,416.63	3,649,218.70	3.77		3.77	3.9	4/14/2006
B:	7,15	14	352,418.95	3,649,719.04	4.18		4.18	4.7	4/18/2006
C:	7,16A	12	351,918.35	3,649,734.74	4.03		4.03	5	4/18/2006
D:	7A,16A	12	351,915.90	3,649,234.06	3.8		3.8	3.2	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7A,15	14	352,417.53	3,649,223.50	5.86		3.4	6/1/06	6/2/06	R
B:	7,15	14	352,417.96	3,649,717.10	5.57		2.4	5/31/06	6/2/06	R
C:	7,16A	14	351,919.70	3,649,735.69	4.84		2.2	5/31/06	6/2/06	R
D:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.8	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7A,15	14	352,417.53	3,649,223.50	5.86		2.8	6/1/06	6/16/06
B:	7,15	14	352,417.96	3,649,717.10	5.57		2.4	5/31/06	6/16/06
C:	7,16A	14	351,919.70	3,649,735.69	4.84		2.1	5/31/06	6/16/06
D:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.8	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7A,15	14	352,417.53	3,649,223.50	5.86		3.3	3.3	6/1/06	6/30/06
B:	7,15	14	352,417.96	3,649,717.10	5.57		2.5	2.5	5/31/06	6/30/06
C:	7,16A	14	351,919.70	3,649,735.69	4.84		1.8	1.8	5/31/06	6/30/06
D:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.6	2.6	6/1/06	6/30/06

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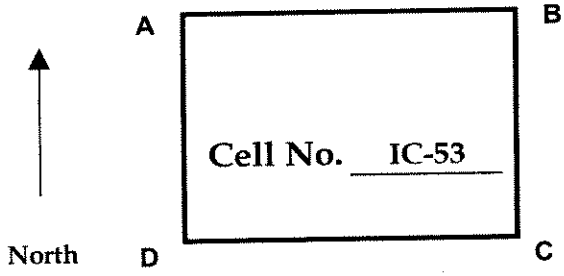

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7A,16A	12	351,915.90	3,649,234.06	3.8		3.8	3.2	4/14/2006
B:	7,16A	12	351,918.35	3,649,734.74	4.03		4.03	5	4/18/2006
C:	7,16	14	351,418.60	3,649,749.68	3.66		3.66	5.4	4/22/2006
D:	7A,16	12	351,415.70	3,649,250.72	3.81		3.81	4.2	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.8	6/1/06	6/2/06	R
B:	7,16A	14	351,919.70	3,649,735.69	4.84		2.2	5/31/06	6/2/06	R
C:	7,16	14	351,419.42	3,649,741.12	5.17		2.0	5/31/06	6/2/06	R
D:	7A,16	14	351,420.14	3,649,255.81	4.66		3.0	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.8	6/1/06	6/16/06
B:	7,16A	14	351,919.70	3,649,735.69	4.84		2.1	5/31/06	6/16/06
C:	7,16	14	351,419.42	3,649,741.12	5.17		1.9	5/31/06	6/16/06
D:	7A,16	14	351,420.14	3,649,255.81	4.66		2.8	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.6	2.6	6/1/06	6/30/06
B:	7,16A	14	351,919.70	3,649,735.69	4.84		1.8	1.8	5/31/06	6/30/06
C:	7,16	14	351,419.42	3,649,741.12	5.17		1.5	1.5	5/31/06	6/30/06
D:	7A,16	14	351,420.14	3,649,255.81	4.66		2.7	2.7	6/1/06	6/30/06

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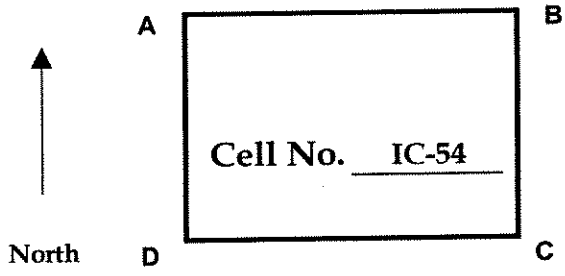

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6,16A	14	351,915.19	3,648,735.13	4.06		4.06	5.4	4/14/2006
B:	7A,16A	12	351,915.90	3,649,234.06	3.8		3.8	3.2	4/14/2006
C:	7A,16	12	351,415.70	3,649,250.72	3.81		3.81	4.2	4/14/2006
D:	6,16	12	351,415.09	3,648,750.45	3.99		3.99	4.9	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6,16A	14	351,914.77	3,648,732.64	5.59		3.6	6/1/06	6/2/06	R
B:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.8	6/1/06	6/2/06	R
C:	7A,16	14	351,420.14	3,649,255.81	4.66		3.0	6/1/06	6/2/06	R
D:	6,16	14	351,414.70	3,648,749.88	5.09		2.8	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6,16A	14	351,914.77	3,648,732.64	5.59		3.2	6/1/06	6/16/06
B:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.8	6/1/06	6/16/06
C:	7A,16	14	351,420.14	3,649,255.81	4.66		2.8	6/1/06	6/16/06
D:	6,16	14	351,414.70	3,648,749.88	5.09		2.6	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6,16A	14	351,914.77	3,648,732.64	5.59		2.9	2.9	6/1/06	6/30/06
B:	7A,16A	14	351,916.94	3,649,236.05	5.43		2.6	2.6	6/1/06	6/30/06
C:	7A,16	14	351,420.14	3,649,255.81	4.66		2.7	2.7	6/1/06	6/30/06
D:	6,16	14	351,414.70	3,648,749.88	5.09		2.2	2.2	6/1/06	6/30/06

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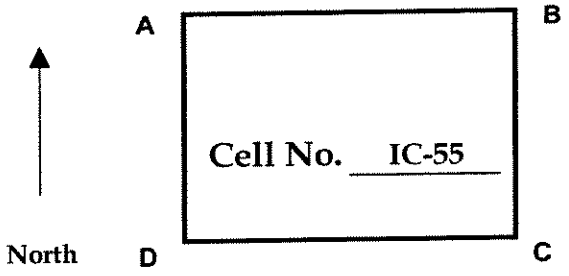

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6A,16A	12	351,914.29	3,648,232.35	3.93		3.93	3	4/11/2006
B:	6,16A	14	351,915.19	3,648,735.13	4.06		4.06	5.4	4/14/2006
C:	6,16	12	351,415.09	3,648,750.45	3.99		3.99	4.9	4/14/2006
D:	6A,16	12	351,414.31	3,648,249.07	3.96		3.96	3.7	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6A,16A	14	351,914.34	3,648,232.50	4.04		3.7	5/22/06	5/31/06	R
B:	6,16A	14	351,914.77	3,648,732.64	5.59		3.6	6/1/06	6/2/06	R
C:	6,16	14	351,414.70	3,648,749.88	5.09		2.8	6/1/06	6/2/06	R
D:	6A,16	14	351,414.88	3,648,249.28	6.28		3.6	5/31/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6A,16A	14	351,914.34	3,648,232.50	4.04		3.6	5/22/06	6/14/06
B:	6,16A	14	351,914.77	3,648,732.64	5.59		3.2	6/1/06	6/16/06
C:	6,16	14	351,414.70	3,648,749.88	5.09		2.6	6/1/06	6/16/06
D:	6A,16	14	351,414.88	3,648,249.28	6.28		3.4	5/31/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6A,16A	14	351,914.34	3,648,232.50	4.04		3.1	3.1	5/22/06	6/28/06
B:	6,16A	14	351,914.77	3,648,732.64	5.59		2.9	2.9	6/1/06	6/30/06
C:	6,16	14	351,414.70	3,648,749.88	5.09		2.2	2.2	6/1/06	6/30/06
D:	6A,16	14	351,414.88	3,648,249.28	6.28		2.9	2.9	5/31/06	6/28/06

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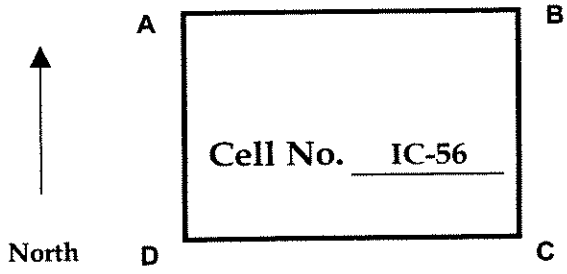

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5,16A	12	351,913.08	3,647,733.70	3.37		3.37	3	4/10/2006
B:	6A,16A	12	351,914.29	3,648,232.35	3.93		3.93	3	4/11/2006
C:	6A,16	12	351,414.31	3,648,249.07	3.96		3.96	3.7	4/11/2006
D:	5,16	16	351,412.63	3,647,748.75	3.85		3.85	7.6	4/13/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5,16A	14	351,912.38	3,647,732.53	6.50		2.9	5/22/06	5/31/06
B:	6A,16A	14	351,914.34	3,648,232.57	4.04		3.7	5/22/06	5/31/06
C:	6A,16	14	351,414.18	3,648,249.28	6.28		3.6	5/31/06	5/31/06
D:	5,16	14	351,414.88	3,647,751.00	5.49		2.8	5/22/06	5/31/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5,16A	14	351,912.38	3,647,732.53	6.50		2.8	5/22/06	6/14/06
B:	6A,16A	14	351,914.34	3,648,232.57	4.04		3.6	5/22/06	6/14/06
C:	6A,16	14	351,414.18	3,648,249.28	6.28		3.4	5/31/06	6/14/06
D:	5,16	14	351,414.88	3,647,751.00	5.49		2.8	5/22/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5,16A	14	351,912.38	3,647,732.53	6.50		2.6	2.6	5/22/06	6/28/06
B:	6A,16A	14	351,914.34	3,648,232.57	4.04		3.1	3.1	5/22/06	6/28/06
C:	6A,16	14	351,414.18	3,648,249.28	6.28		2.9	2.9	5/31/06	6/28/06
D:	5,16	14	351,414.88	3,647,751.00	5.49		2.6	2.6	5/22/06	6/28/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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JAB

Contractor Signature

Registered Land Surveyor

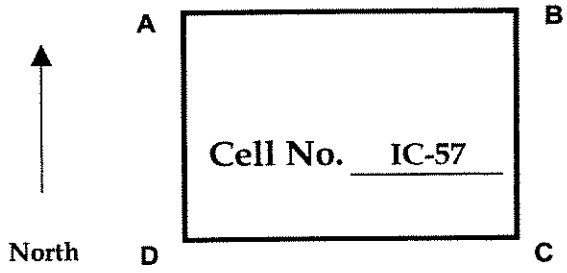
STATE OF LOUISIANA

RONALD M. MADDEN

REG. No. 4503

REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5A,16A	12	351,911.78	3,647,232.95	3.01		3.01	2.8	4/10/2006
B:	5,16A	12	351,913.08	3,647,733.70	3.37		3.37	3	4/10/2006
C:	5,16	16	351,412.63	3,647,748.75	3.85		3.85	7.6	4/13/2006
D:	5A,16	12	351,412.16	3,647,249.77	3.9		3.9	4.7	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5A,16A	14	351,911.60	3,647,233.23	6.39		4.1	5/22/06	5/31/06	R
B:	5,16A	14	351,912.38	3,647,732.53	6.50		2.9	5/22/06	5/31/06	R
C:	5,16	14	351,414.88	3,647,751.00	5.49		2.8	5/22/06	5/31/06	R
D:	5A,16	14	351,413.15	3,647,251.05	5.40		2.2	5/22/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5A,16A	14	351,911.60	3,647,233.23	6.39		3.8	5/22/06	6/14/06
B:	5,16A	14	351,912.38	3,647,732.53	6.50		2.8	5/22/06	6/14/06
C:	5,16	14	351,414.88	3,647,751.00	5.49		2.8	5/22/06	6/14/06
D:	5A,16	14	351,413.15	3,647,251.05	5.40		2.4	5/22/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5A,16A	14	351,911.60	3,647,233.23	6.39		3.1	3.1	5/22/06	6/28/06
B:	5,16A	14	351,912.38	3,647,732.53	6.50		2.6	2.6	5/22/06	6/28/06
C:	5,16	14	351,414.88	3,647,751.00	5.49		2.6	2.6	5/22/06	6/28/06
D:	5A,16	14	351,413.15	3,647,251.05	5.40		2.3	2.3	5/22/06	6/28/06

NOTE: * NAD 83 US. FT.
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JAB
Contractor Signature

Registered Land Surveyor

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RONALD M. MADDEN
REG. No. 4503
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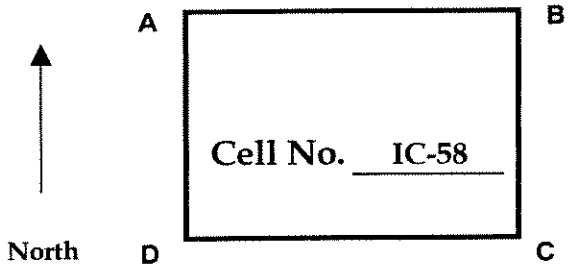
Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4,16A	12	351,911.08	3,646,733.78	4.01		4.01	4.6	3/30/2006
B:	5A,16A	12	351,911.78	3,647,232.95	3.01		3.01	2.8	4/10/2006
C:	5A,16	12	351,412.16	3,647,249.77	3.9		3.9	4.7	3/30/2006
D:	4,16	12	351,410.26	3,646,749.17	3.98		3.98	5.8	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	4,16A	12	351,911.08	3,646,733.78	4.01		2.7	3/30/06	5/21/06	
B:	5A,16A	14	351,911.60	3,647,233.23	6.39		4.1	5/22/06	5/31/06	R
C:	5A,16	14	351,413.15	3,647,251.05	5.40		2.2	5/22/06	5/31/06	R
D:	4,16	14	351,412.66	3,646,750.83	6.29		3.5	5/21/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,16A	12	351,911.08	3,646,733.78	4.01		3.0	3/30/06	6/4/06
B:	5A,16A	14	351,911.60	3,647,233.23	6.39		3.8	5/22/06	6/14/06
C:	5A,16	14	351,413.15	3,647,251.05	5.40		2.4	5/22/06	6/14/06
D:	4,16	14	351,412.66	3,646,750.83	6.29		3.0	5/21/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4,16A	12	351,911.08	3,646,733.78	4.01		2.4	2.4	3/30/06	6/18/06
B:	5A,16A	14	351,911.60	3,647,233.23	6.39		3.1	3.1	5/22/06	6/28/06
C:	5A,16	14	351,413.15	3,647,251.05	5.40		2.3	2.3	5/22/06	6/28/06
D:	4,16	14	351,412.66	3,646,750.83	6.29		3	3.0	5/21/06	6/18/06

NOTE: * NAD 83 US. FT.

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Contractor Signature

Registered Land Surveyor

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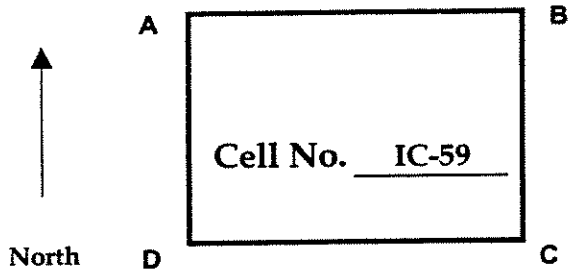

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,16A	12	351,909.28	3,646,233.31	3.99	0.15	3.84	3.9	3/30/2006
B:	4,16A	12	351,911.08	3,646,733.77	4.01	0.15	3.86	4.6	3/30/2006
C:	4,16	12	351,410.26	3,646,749.17	3.98	0.15	3.83	5.8	3/30/2006
D:	4A,16	12	351,409.49	3,646,249.08	4.15	0.15	4	3.6	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	4A,16A	14	351.909.48	3,646,233.31	5.60		3.2	5/20/06	5/21/06	R
B:	4,16A	12	351,911.08	3,646,733.77	3.86		2.7	3/30/06	5/21/06	
C:	4,16	14	351,412.66	3,646,750.83	6.29		3.5	5/21/06	5/21/06	R
D:	4A,16	14	351,409.99	3,646,249.18	5.88		3.6	5/21/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,16A	14	351.909.48	3,646,233.31	5.60		2.9	5/20/06	6/4/06
B:	4,16A	12	351,911.08	3,646,733.77	3.86		3.0	3/30/06	6/4/06
C:	4,16	14	351,412.66	3,646,750.83	6.29		3.0	5/21/06	6/4/06
D:	4A,16	14	351,409.99	3,646,249.18	5.88		3.4	5/21/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,16A	14	351.909.48	3,646,233.31	5.60		2.54	2.5	5/20/06	6/18/06
B:	4,16A	12	351,911.08	3,646,733.77	3.86		2.43	2.4	3/30/06	6/18/06
C:	4,16	14	351,412.66	3,646,750.83	6.29		3.02	3.0	5/21/06	6/18/06
D:	4A,16	14	351,409.99	3,646,249.18	5.88		3.35	3.4	5/21/06	6/18/06

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JAB
Contractor Signature

Ronald M. Madden
Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED
PROFESSIONAL
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Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

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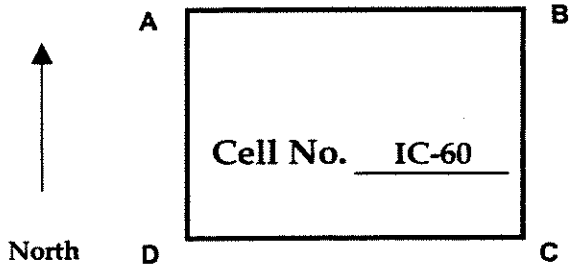

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,16A	12	351,907.82	3,645,733.91	4.12	0.15	3.97	4.9	3/7/2006
B:	4A,16A	12	351,909.28	3,646,233.31	3.99	0.15	3.84	3.9	3/30/2006
C:	4A,16	12	351,409.49	3,646,249.08	4.15	0.15	4	3.6	3/30/2006
D:	3,16	12	351,407.89	3,645,748.18	4.1	0.15	3.95	4.3	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3,16A	14	351,907.81	3,645,733.18	5.53		3.4	5/20/06	5/21/06	R
B:	4A,16A	14	351,909.48	3,646,233.31	5.60		3.2	5/20/06	5/21/06	R
C:	4A,16	14	351,409.99	3,646,249.18	5.88		3.6	5/21/06	5/21/06	R
D:	3,16	14	351,409.96	3,645,750.90	6.95		4.7	5/21/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,16A	14	351,907.81	3,645,733.18	5.53		2.9	5/20/06	6/4/06
B:	4A,16A	14	351,909.48	3,646,233.31	5.60		2.9	5/20/06	6/4/06
C:	4A,16	14	351,409.99	3,646,249.18	5.88		3.4	5/21/06	6/4/06
D:	3,16	14	351,409.96	3,645,750.90	6.95		3.5	5/21/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,16A	14	351,907.81	3,645,733.18	5.53		2.7	2.7	5/20/06	6/18/06
B:	4A,16A	14	351,909.48	3,646,233.31	5.60		2.54	2.5	5/20/06	6/18/06
C:	4A,16	14	351,409.99	3,646,249.18	5.88		3.35	3.4	5/21/06	6/18/06
D:	3,16	14	351,409.96	3,645,750.90	6.95		3.31	3.3	5/21/06	6/18/06

NOTE: * NAD 83 US. FT.

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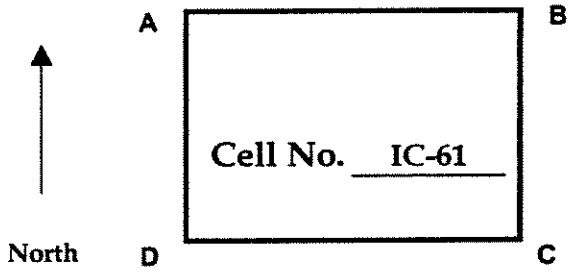

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,16A	12	351,908.03	3,645,232.67	4.3	0.15	4.15	3.9	3/7/2006
B:	3,16A	12	351,907.82	3,645,733.91	4.12	0.15	3.97	4.9	3/7/2006
C:	3,16	12	351,407.89	3,645,748.18	4.1	0.15	3.95	4.3	3/7/2006
D:	3A,16	12	351,405.90	3,645,247.58	4.17	0.15	4.02	6	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,16A	14	351,906.38	3,645,233.59	6.64		3.9	5/20/06	5/21/06	R
B:	3,16A	14	351,907.81	3,645,733.18	5.53		3.4	5/20/06	5/21/06	R
C:	3,16	14	351,409.96	3,645,750.90	6.95		4.7	5/21/06	5/21/06	R
D:	3A,16	14	351,408.56	3,645,250.70	6.14		4.1	5/21/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,16A	14	351,906.38	3,645,233.59	6.64		3.2	5/20/06	6/4/06
B:	3,16A	14	351,907.81	3,645,733.18	5.53		2.9	5/20/06	6/4/06
C:	3,16	14	351,409.96	3,645,750.90	6.95		3.5	5/21/06	6/4/06
D:	3A,16	14	351,408.56	3,645,250.70	6.14		4.0	5/21/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,16A	14	351,906.38	3,645,233.59	6.64		2.71	2.7	5/20/06	6/18/06
B:	3,16A	14	351,907.81	3,645,733.18	5.53		2.7	2.7	5/20/06	6/18/06
C:	3,16	14	351,409.96	3,645,750.90	6.95		3.31	3.3	5/21/06	6/18/06
D:	3A,16	14	351,408.56	3,645,250.70	6.14		3.41	3.4	5/21/06	6/18/06

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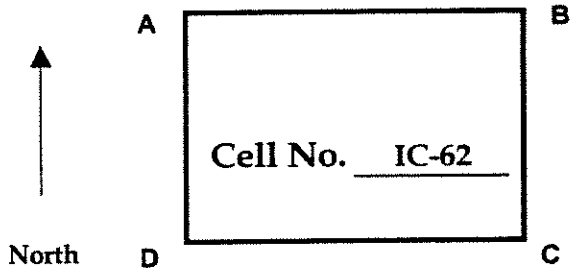

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	2,16A	12	351,905.60	3,644,738.38	4.18	0.15	4.03	4.9	3/5/2006
B:	3A,16A	12	351,908.03	3,645,232.67	4.29	0.15	4.29	3.9	3/7/2006
C:	3A,16	12	351,405.90	3,645,247.58	4.17	0.15	4.17	6	3/7/2006
D:	2,16	12	351,407.42	3,644,749.25	4.48	0.15	4.48	5.2	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,16A	14	351,905.63	3,644,733.29	6.42		4.0	5/18/06	5/21/06	R
B:	3A,16A	14	351,906.38	3,645,233.59	6.64		3.9	5/20/06	5/21/06	R
C:	3A,16	14	351,408.56	3,645,250.70	6.14		4.1	5/21/06	5/21/06	R
D:	2,16	14	351,406.36	3,644,749.08	6.59		3.4	4/28/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,16A	14	351,905.63	3,644,733.29	6.42		3.6	5/18/06	6/4/06
B:	3A,16A	14	351,906.38	3,645,233.59	6.64		3.2	5/20/06	6/4/06
C:	3A,16	14	351,408.56	3,645,250.70	6.14		4.0	5/21/06	6/4/06
D:	2,16	14	351,406.36	3,644,749.08	6.59		3.0	4/28/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,16A	14	351,905.63	3,644,733.29	6.42		3.28	3.3	5/18/06	6/18/06
B:	3A,16A	14	351,906.38	3,645,233.59	6.64		2.71	2.7	5/20/06	6/18/06
C:	3A,16	14	351,408.56	3,645,250.70	6.14		3.41	3.4	5/21/06	6/18/06
D:	2,16	14	351,406.36	3,644,749.08	6.59		2.77	2.8	4/28/06	6/18/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.
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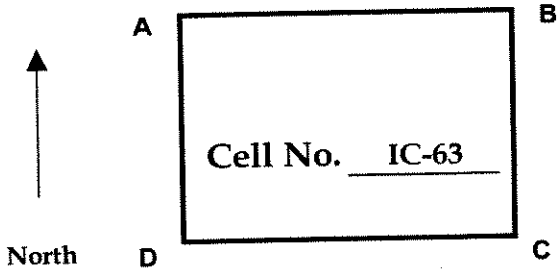
Fill Elevation - Elevation of fill material for as-built survey (NAVD 88)
All elevations and distances are in feet.

JAB
Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)
Louisiana Department of Natural resources
SCI Job No.116478
CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,16A	12	351,902.38	3,643,232.61	4.02	0.15	3.87	4.2	3/5/2006
B:	1,16A	12	351,906.28	3,643,733.04	4.39	0.15	4.24	2.8	3/5/2006
C:	1,16	12	351,404.62	3,643,747.62	4.04	0.15	3.89	4.7	3/5/2006
D:	1A,16	12	351,403.16	3,643,247.63	4.05	0.15	3.9	4.4	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.6	3/5/06	5/30/06	
B:	1,16A	12	351,906.28	3,643,733.04	4.24		3.1	3/5/06	5/30/06	
C:	1,16	12	351,404.49	3,643,747.23	3.89		3.3	3/5/06	4/13/06	SOLD
D:	1A,16	12	351,402.84	3,643,247.00	3.90		2.4	3/5/06	4/13/06	SOLD

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.2	3/5/06	6/13/06	
B:	1,16A	12	351,906.28	3,643,733.04	4.24		2.9	3/5/06	6/13/06	
C:	1,16	12	351,404.49	3,643,747.23	3.89		3.0	3/5/06	4/27/06	SOLD
D:	1A,16	12	351,402.84	3,643,247.00	3.90		2.0	3/5/06	4/27/06	SOLD

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,16A	12	351,902.38	3,643,232.61	3.87		1.9	1.9	3/5/06	6/27/06
B:	1,16A	12	351,906.28	3,643,733.04	4.24		2.5	2.5	3/5/06	6/27/06
C:	1,16	12	351,404.49	3,643,747.23	3.89		2.6	2.6	3/5/06	5/11/06
D:	1A,16	12	351,402.84	3,643,247.00	3.90		1.79	1.8	3/5/06	5/11/06

NOTE: * NAD 83 US. FT.
H = Distance from Top of the stake to the existing ground (tape-down distance)
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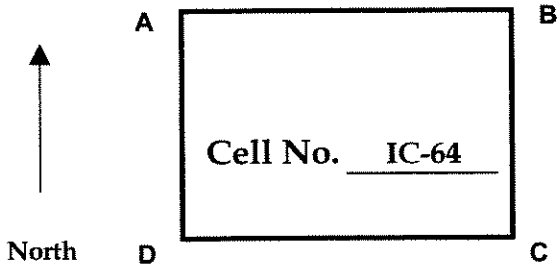
Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,16	12	351,403.16	3,643,247.63	4.05	0.15	3.9	4.4	3/5/2006
B:	1,16	12	351,404.62	3,643,747.62	4.04	0.15	3.89	4.7	3/5/2006
C:	1,17A	12	350,903.09	3,643,763.81	4.15	0.15	4	5.1	3/5/2006
D:	1A,17A	12	350,902.37	3,643,264.64	4.02	0.15	3.87	4.6	3/16/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,16	12	351,403.16	3,643,247.63	3.9		2.4	3/5/2006	4/13/2006
B:	1,16	12	351,404.62	3,643,747.62	3.89		3.3	3/5/2006	4/13/2006
C:	1,17A	12	350,903.09	3,643,763.81	4		3.0	3/5/2006	4/13/2006
D:	1A,17A	12	350,902.37	3,643,264.64	3.87		2.7	3/16/2006	4/13/2006

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,16	12	351,403.16	3,643,247.63	3.9		2.0	3/5/2006	4/27/2006
B:	1,16	12	351,404.62	3,643,747.62	3.89		3.0	3/5/2006	4/27/2006
C:	1,17A	12	350,903.09	3,643,763.81	4		2.8	3/5/2006	4/27/2006
D:	1A,17A	12	350,902.37	3,643,264.64	3.87		2.3	3/5/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,16	12	351,402.84	3,643,247.00	3.97		1.79	1.8	5/11/2006	5/11/2006
B:	1,16	12	351,404.49	3,643,747.23	3.90		2.6	2.6	5/11/2006	5/11/2006
C:	1,17A	12	350,903.11	3,643,763.53	4.05		2.48	2.5	5/11/2006	5/11/2006
D:	1A,17A	12	350,902.46	3,643,264.30	3.83		2.04	2.0	5/11/2006	5/11/2006

NOTE: * NAD 83 US. FT.

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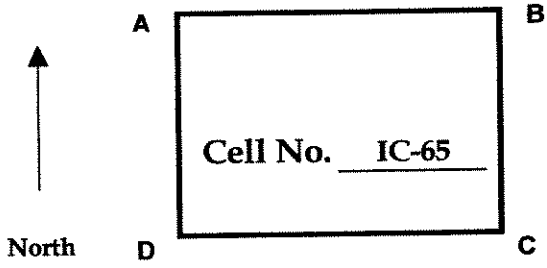

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,16	12	351,404.62	3,643,747.62	4.04	0.15	3.89	4.7	3/5/2006
B:	2A,16	12	351,404.34	3,644,250.00	4.22	0.15	4.07	3.3	3/5/2006
C:	2A,17A	12	350,905.33	3,644,264.43	4.11	0.15	3.96	3.6	3/5/2006
D:	1,17A	12	350,903.10	3,643,763.81	4.15	0.15	4	5.1	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,16	12	351,404.62	3,643,747.62	3.89		3.3	3/5/2006	4/13/2006
B:	2A,16	12	351,404.34	3,644,250.00	4.07		3.8	3/5/2006	4/13/2006
C:	2A,17A	12	350,905.33	3,644,264.43	3.96		3.0	3/5/2006	4/13/2006
D:	1,17A	12	350,903.10	3,643,763.81	4.00		3.0	3/5/2006	4/13/2006

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,16	12	351,404.62	3,643,747.62	3.89		3.0	3/5/2006	4/27/2006
B:	2A,16	12	351,404.34	3,644,250.00	4.07		3.5	3/5/2006	4/27/2006
C:	2A,17A	12	350,905.33	3,644,264.43	3.96		2.8	3/5/2006	4/27/2006
D:	1,17A	12	350,903.10	3,643,763.81	4.00		2.8	3/5/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,16	12	351,404.62	3,643,747.62	3.89		2.6	2.6	3/5/2006	5/11/2006
B:	2A,16	12	351,404.34	3,644,250.00	4.07		3.09	3.1	3/5/2006	5/11/2006
C:	2A,17A	12	350,905.33	3,644,264.43	3.96		2.39	2.4	3/5/2006	5/11/2006
D:	1,17A	12	350,903.10	3,643,763.81	4.00		2.48	2.5	3/5/2006	5/11/2006

NOTE: * NAD 83 US. FT.

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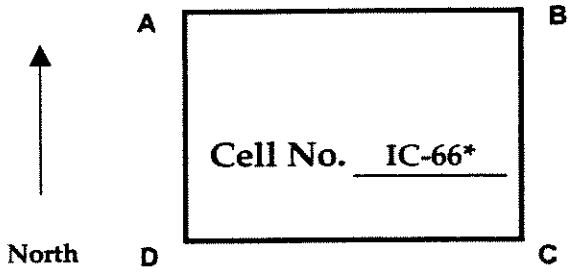

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date	
A:	2,16	12	351,407.80	3,644,750.96	4.27	0.15	4.12	5	3/29/2006	RESTAKE
B:	3A,16	12	351,405.90	3,645,247.58	4.17	0.15	4.02	6	3/7/2006	
C:	3A,17A	12	350,908.33	3,645,263.28	4	0.15	3.85	3.7	3/7/2006	
D:	2,17A	12	350,897.00	3,644,764.93	4.19	0.15	4.04	4.1	3/31/2006	RESTAKE

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	2,16	14	351,406.36	3,644,749.08	6.59		3.4	4/28/06	5/21/06	R
B:	3A,16	14	351,408.56	3,645,250.70	6.14		4.1	5/21/06	5/21/06	R
C:	3A,17A	14	350,908.05	3,645,263.35	8.03		3.4	4/28/06	5/21/06	R
D:	2,17A	14	350,906.60	3,644,763.25	5.97		3.1	4/28/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	2,16	14	351,406.36	3,644,749.08	6.59		3.0	4/28/06	6/4/06
B:	3A,16	14	351,408.56	3,645,250.70	6.14		4.0	5/21/06	6/4/06
C:	3A,17A	14	350,908.05	3,645,263.35	8.03		3.3	4/28/06	6/4/06
D:	2,17A	14	350,906.60	3,644,763.25	5.97		2.9	4/28/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	2,16	14	351,406.36	3,644,749.08	6.59		2.77	2.8	4/28/06	6/18/06
B:	3A,16	14	351,408.56	3,645,250.70	6.14		3.41	3.4	5/21/06	6/18/06
C:	3A,17A	14	350,908.05	3,645,263.35	8.03		3	3.0	4/28/06	6/18/06
D:	2,17A	14	350,906.60	3,644,763.25	5.97		2.49	2.5	4/28/06	6/18/06

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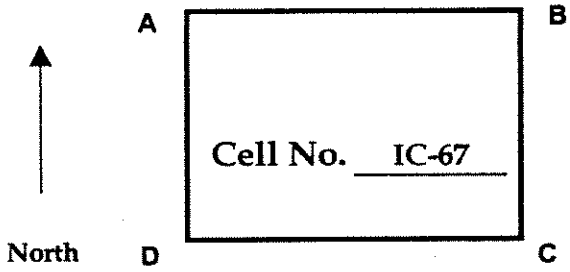

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,16	12	351,405.90	3,645,247.58	4.17	0.15	4.02	6	3/7/2006
B:	3,16	12	351,407.89	3,645,748.18	4.1	0.15	3.95	4.3	3/7/2006
C:	3,17A	12	350,907.54	3,645,764.29	4.17	0.15	4.02	5.1	3/7/2006
D:	3A,17A	12	350,908.33	3,645,263.28	4	0.15	3.85	3.7	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,16	14	351,408.56	3,645,250.70	6.14		4.1	5/21/06	5/21/06	R
B:	3,16	14	351,409.96	3,645,750.90	6.95		4.7	5/21/06	5/21/06	R
C:	3,17A	14	350,899.03	3,645,765.02	5.60		3.5	5/21/06	5/21/06	R
D:	3A,17A	14	350,908.05	3,645,263.35	8.03		3.4	4/28/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,16	14	351,408.56	3,645,250.70	6.14		4.0	5/21/06	6/4/06
B:	3,16	14	351,409.96	3,645,750.90	6.95		3.5	5/21/06	6/4/06
C:	3,17A	14	350,899.03	3,645,765.02	5.60		3.3	5/21/06	6/4/06
D:	3A,17A	14	350,908.05	3,645,263.35	8.03		3.3	4/28/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,16	14	351,408.56	3,645,250.70	6.14		3.41	3.4	5/21/06	6/18/06
B:	3,16	14	351,409.96	3,645,750.90	6.95		3.31	3.3	5/21/06	6/18/06
C:	3,17A	14	350,899.03	3,645,765.02	5.60		2.91	2.9	5/21/06	6/18/06
D:	3A,17A	14	350,908.05	3,645,263.35	8.03		3	3.0	4/28/06	6/18/06

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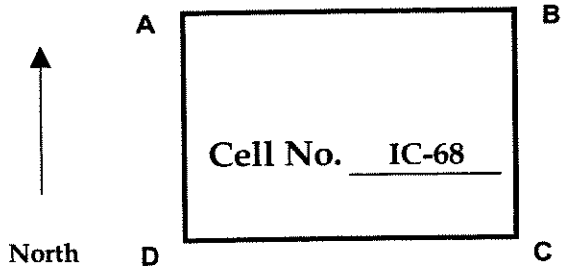


Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3,16	12	351,407.89	3,645,748.18	4.1	0.15	3.95	4.3	3/7/2006
B:	4A,16	12	351,409.49	3,646,249.08	4.15	0.15	4	3.6	3/30/2006
C:	4A,17A	12	350,908.64	3,646,262.72	4	0.15	3.85	2.3	3/30/2006
D:	3,17A	12	350,907.54	3,645,764.29	4.17	0.15	4.02	5.1	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3,16	14	351,409.96	3,645,750.90	6.95		4.7	5/21/06	5/21/06	R
B:	4A,16	14	351,409.99	3,646,249.18	5.88		3.6	5/21/06	5/21/06	R
C:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.3	5/21/06	5/21/06	R
D:	3,17A	14	350,899.03	3,645,765.02	5.60		3.5	5/21/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3,16	14	351,409.96	3,645,750.90	6.95		3.5	5/21/06	6/4/06
B:	4A,16	14	351,409.99	3,646,249.18	5.88		3.4	5/21/06	6/4/06
C:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.2	5/21/06	6/4/06
D:	3,17A	14	350,899.03	3,645,765.02	5.60		3.3	5/21/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3,16	14	351,409.96	3,645,750.90	6.95		**3.31**	3.3	5/21/06	6/18/06
B:	4A,16	14	351,409.99	3,646,249.18	5.88		**3.35**	3.4	5/21/06	6/18/06
C:	4A,17A	14	350,900.56	3,646,265.00	6.03		**3.06**	3.1	5/21/06	6/18/06
D:	3,17A	14	350,899.03	3,645,765.02	5.60		**2.91**	2.9	5/21/06	6/18/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

All elevations are to be to the nearest tenth of a foot as per specifications.

28 Day readings must be approved by registered land surveyor for use as as-built surveys.

Fill Elevation - Elevation of fill material for as-built survey (NAVD 88)

All elevations and distances are in feet.

JAB

Contractor Signature

Registered Land Surveyor

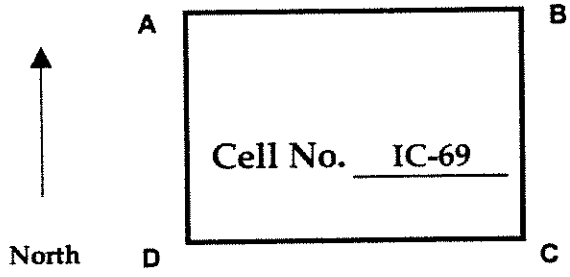
STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

Little Lake Shoreline protection and Restoration Project (BA-37)

Louisiana Department of Natural resources

SCI Job No.116478

CELL ELEVATIONS



Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4A,16	12	351,409.49	3,646,249.08	4.15	0.15	4	3.6	3/30/2006
B:	4,16	12	351,410.26	3,646,749.17	3.98	0.15	3.83	5.8	3/30/2006
C:	4,17A	12	350,910.22	3,646,764.01	3.8	0.15	3.65	4.5	3/30/2006
D:	4A,17A	12	350,908.64	3,646,262.72	4	0.15	3.85	2.3	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	4A,16	14	351,409.99	3,646,249.18	5.88		3.6	5/21/06	5/21/06	R
B:	4,16	14	351,412.66	3,646,750.83	6.29		3.5	5/21/06	5/21/06	R
C:	4,17A	14	350,909.65	3,646,764.01	5.84		2.9	4/28/06	5/21/06	R
D:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.3	5/21/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4A,16	14	351,409.99	3,646,249.18	5.88		3.4	5/21/06	6/4/06
B:	4,16	14	351,412.66	3,646,750.83	6.29		3.0	5/21/06	6/4/06
C:	4,17A	14	350,909.65	3,646,764.01	5.84		2.7	4/28/06	6/4/06
D:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.2	5/21/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4A,16	14	351,409.99	3,646,249.18	5.88		3.35	3.4	5/21/06	6/18/06
B:	4,16	14	351,412.66	3,646,750.83	6.29		3.02	3.0	5/21/06	6/18/06
C:	4,17A	14	350,909.65	3,646,764.01	5.84		2.36	2.4	4/28/06	6/18/06
D:	4A,17A	14	350,900.56	3,646,265.00	6.03		3.06	3.1	5/21/06	6/18/06

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

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STATE OF LOUISIANA

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REG. No. 4503

REGISTERED PROFESSIONAL LAND SURVEYOR

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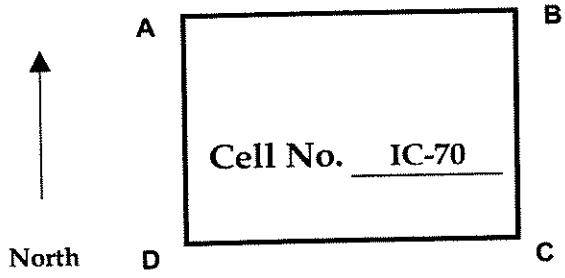

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	4,16	12	351,410.26	3,646,749.17	3.98	0.15	3.83	5.8	3/30/2006
B:	5A,16	12	351,412.16	3,647,249.77	3.9	0.15	3.75	4.7	3/30/2006
C:	5A,17A	12	350,912.03	3,647,265.22	3.83	0.15	3.68	3	3/30/2006
D:	4,17A	12	350,910.22	3,646,764.01	3.8	0.15	3.65	4.5	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,16	14	351,412.66	3,646,750.83	6.29		3.5	5/21/06	5/21/06
B:	5A,16	14	351,413.15	3,647,251.05	5.40		2.2	5/22/06	5/31/06
C:	5A,17A	14	350,903.12	3,647,265.05	5.75		3.3	5/22/06	5/31/06
D:	4,17A	14	350,909.65	3,646,764.01	5.84		2.9	4/28/06	5/21/06

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	4,16	14	351,412.66	3,646,750.83	6.29		3.0	5/21/06	6/4/06
B:	5A,16	14	351,413.15	3,647,251.05	5.40		2.4	5/22/06	6/14/06
C:	5A,17A	14	350,903.12	3,647,265.05	5.75		3.2	5/22/06	6/14/06
D:	4,17A	14	350,909.65	3,646,764.01	5.84		2.7	4/28/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	4,16	14	351,412.66	3,646,750.83	6.29		3	3.0	5/21/06	6/18/06
B:	5A,16	14	351,413.15	3,647,251.05	5.40		2.3	2.3	5/22/06	6/28/06
C:	5A,17A	14	350,903.12	3,647,265.05	5.75		2.8	2.8	5/22/06	6/28/06
D:	4,17A	14	350,909.65	3,646,764.01	5.84		2.4	2.4	4/28/06	6/18/06

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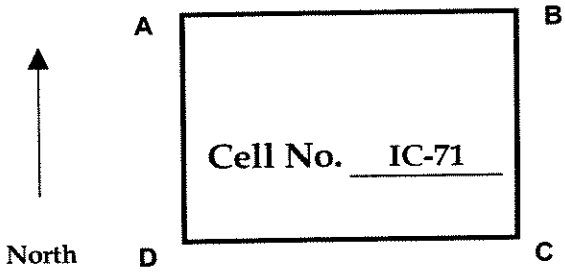

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5A,16	12	351,412.16	3,647,249.77	3.9	0.15	3.75	4.7	3/30/2006
B:	5,16	16	351,412.63	3,647,748.75	3.85		3.85	7.6	4/13/2006
C:	5,17A	12	350,913.93	3,647,764.70	3.86		3.86	2.4	4/10/2006
D:	5A,17A	12	350,912.03	3,647,265.22	3.83	0.15	3.68	3	3/30/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5A,16	14	351,413.15	3,647,251.05	5.40		2.2	5/22/06	5/31/06	R
B:	5,16	14	351,414.88	3,647,751.00	5.49		2.8	5/22/06	5/31/06	R
C:	5,17A	14	350,904.27	3,647,765.45	5.93		3.4	5/22/06	5/31/06	R
D:	5A,17A	14	350,903.12	3,647,265.05	5.75		3.3	5/22/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5A,16	14	351,413.15	3,647,251.05	5.40		2.4	5/22/06	6/14/06
B:	5,16	14	351,414.88	3,647,751.00	5.49		2.8	5/22/06	6/14/06
C:	5,17A	14	350,904.27	3,647,765.45	5.93		3.3	5/22/06	6/14/06
D:	5A,17A	14	350,903.12	3,647,265.05	5.75		3.2	5/22/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5A,16	14	351,413.15	3,647,251.05	5.40		2.3	2.3	5/22/06	6/28/06
B:	5,16	14	351,414.88	3,647,751.00	5.49		2.6	2.6	5/22/06	6/28/06
C:	5,17A	14	350,904.27	3,647,765.45	5.93		2.9	2.9	5/22/06	6/28/06
D:	5A,17A	14	350,903.12	3,647,265.05	5.75		2.8	2.8	5/22/06	6/28/06

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SCI Job No.116478
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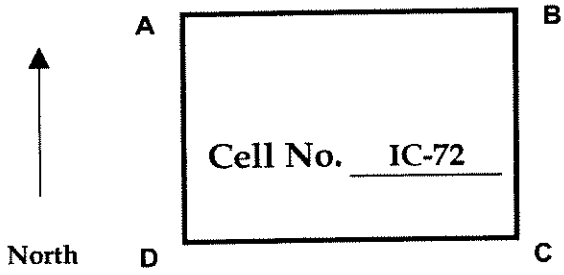

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5,16	16	351,412.63	3,647,748.75	3.85		3.85	7.6	4/13/2006
B:	6A,16	12	351,414.31	3,648,249.07	3.96		3.96	3.7	4/11/2006
C:	6A,17A	12	350,914.34	3,648,264.70	3.02		3.02	3.9	4/11/2006
D:	5,17A	12	350,913.93	3,647,764.70	3.86		3.86	2.4	4/10/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5,16	14	351,414.88	3,647,751.00	5.49		2.8	5/22/06	5/31/06	R
B:	6A,16	14	351,414.18	3,648,249.28	3.79		3.6	5/22/06	5/31/06	R
C:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.2	5/22/06	5/31/06	R
D:	5,17A	14	350,904.27	3,647,765.45	5.93		3.4	5/22/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5,16	14	351,414.88	3,647,751.00	5.49		2.8	5/22/06	6/14/06
B:	6A,16	14	351,414.18	3,648,249.28	3.79		3.4	5/22/06	6/14/06
C:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.2	5/22/06	6/14/06
D:	5,17A	14	350,904.27	3,647,765.45	5.93		3.3	5/22/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5,16	14	351,414.88	3,647,751.00	5.49		2.6	2.6	5/22/06	6/28/06
B:	6A,16	14	351,414.18	3,648,249.28	3.79		2.9	2.9	5/22/06	6/28/06
C:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.1	2.1	5/22/06	6/28/06
D:	5,17A	14	350,904.27	3,647,765.45	5.93		2.9	2.9	5/22/06	6/28/06

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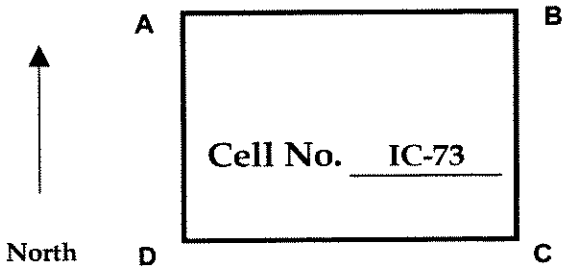

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6A,16	12	351,414.31	3,648,249.07	3.96		3.96	3.7	4/11/2006
B:	6,16	12	351,415.09	3,648,750.45	3.99		3.99	4.9	4/14/2006
C:	6,17A	12	350,915.32	3,648,765.23	3.84		3.84	3.5	4/14/2006
D:	6A,17A	12	350,914.34	3,648,264.70	3.02		3.02	3.9	4/11/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6A,16	14	351,414.88	3,648,249.28	6.28		3.6	5/31/06	5/31/06	R
B:	6,16	14	351,414.70	3,648,749.88	5.09		2.8	6/1/06	6/2/06	R
C:	6,17A	14	350,913.94	3,648,766.82	5.70		3.1	6/2/06	6/2/06	R
D:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.2	5/22/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6A,16	14	351,414.88	3,648,249.28	6.28		3.4	5/31/06	6/14/06
B:	6,16	14	351,414.70	3,648,749.88	5.09		2.6	6/1/06	6/16/06
C:	6,17A	14	350,913.94	3,648,766.82	5.70		2.8	6/2/06	6/16/06
D:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.2	5/22/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6A,16	14	351,414.88	3,648,249.28	6.28		2.9	2.9	5/31/06	6/28/06
B:	6,16	14	351,414.70	3,648,749.88	5.09		2.2	2.2	6/1/06	6/30/06
C:	6,17A	14	350,913.94	3,648,766.82	5.70		2.4	2.4	6/2/06	6/30/06
D:	6A,17A	14	350,914.33	3,648,265.42	4.68		2.1	2.1	5/22/06	6/28/06

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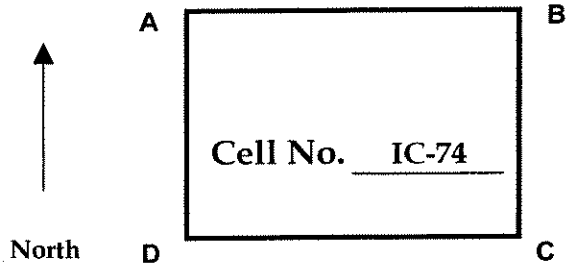

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	6,16	12	351,415.09	3,648,750.45	3.99		3.99	4.9	4/14/2006
B:	7A,16	12	351,415.70	3,649,250.72	3.81		3.81	4.2	4/14/2006
C:	7A,17A	14	350,916.74	3,649,267.37	3.67		3.67	5.3	4/14/2006
D:	6,17A	12	350,915.32	3,648,765.23	3.84		3.84	3.5	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	6,16	14	351,414.70	3,648,749.88	5.09		2.8	6/1/06	6/2/06	R
B:	7A,16	14	351,420.14	3,649,255.81	4.66		3.0	6/1/06	6/2/06	R
C:	7A,17A	14	350,917.32	3,649,266.59	4.75		3.0	6/1/06	6/2/06	R
D:	6,17A	14	350,913.94	3,648,766.82	5.70		3.1	6/2/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	6,16	14	351,414.70	3,648,749.88	5.09		2.6	6/1/06	6/16/06
B:	7A,16	14	351,420.14	3,649,255.81	4.66		2.8	6/1/06	6/16/06
C:	7A,17A	14	350,917.32	3,649,266.59	4.75		2.9	6/1/06	6/16/06
D:	6,17A	14	350,913.94	3,648,766.82	5.70		2.8	6/2/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	6,16	14	351,414.70	3,648,749.88	5.09		2.2	2.2	6/1/06	6/30/06
B:	7A,16	14	351,420.14	3,649,255.81	4.66		2.7	2.7	6/1/06	6/30/06
C:	7A,17A	14	350,917.32	3,649,266.59	4.75		2.5	2.5	6/1/06	6/30/06
D:	6,17A	14	350,913.94	3,648,766.82	5.70		2.4	2.4	6/2/06	6/30/06

NOTE: * NAD 83 US. FT.

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REGISTERED PROFESSIONAL LAND SURVEYOR

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Louisiana Department of Natural resources

SCI Job No.116478

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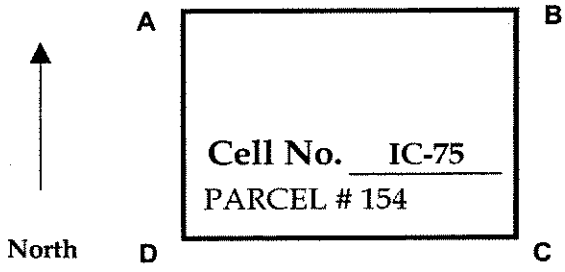

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	7A,16	12	351,415.70	3,649,250.72	3.81		3.81	4.2	4/14/2006
B:	7,16	14	351,418.60	3,649,749.68	3.66		3.66	5.4	4/22/2006
C:	7,17A	14	350,916.77	3,649,766.06	3.41		3.41	6	4/22/2006
D:	7A,17A	14	350,916.74	3,649,267.37	3.67		3.67	5.3	4/14/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	7A,16	14	351,420.14	3,649,255.81	4.66		3.0	6/1/06	6/2/06	R
B:	7,16	14	351,419.42	3,649,741.12	5.17		2.0	5/31/06	6/2/06	R
C:	7,17A	14	350,908.51	3,649,765.29	5.76		2.5	6/2/06	6/2/06	R
D:	7A,17A	14	350,917.32	3,649,266.59	4.75		3.0	6/1/06	6/2/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	7A,16	14	351,420.14	3,649,255.81	4.66		2.8	6/1/06	6/16/06
B:	7,16	14	351,419.42	3,649,741.12	5.17		1.9	5/31/06	6/16/06
C:	7,17A	14	350,908.51	3,649,765.29	5.76		2.2	6/2/06	6/16/06
D:	7A,17A	14	350,917.32	3,649,266.59	4.75		2.9	6/1/06	6/16/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	7A,16	14	351,420.14	3,649,255.81	4.66		2.7	2.7	6/1/06	6/30/06
B:	7,16	14	351,419.42	3,649,741.12	5.17		1.5	1.5	5/31/06	6/30/06
C:	7,17A	14	350,908.51	3,649,765.29	5.76		2.1	2.1	6/2/06	6/30/06
D:	7A,17A	14	350,917.32	3,649,266.59	4.75		2.5	2.5	6/1/06	6/30/06

NOTE: * NAD 83 US. FT.

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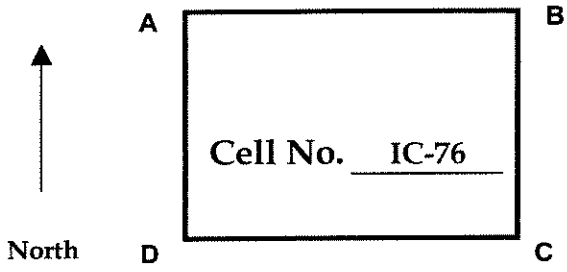

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	5A,17A	12	350,912.03	3,647,265.22	3.83	0.15	3.68	3	3/30/2006
B:	5,17A	12	350,913.93	3,647,764.70	3.86		3.86	2.4	4/10/2006
C:	LINE 5	12	350,491.80	3,647,778.18	4.56		4.56	4.2	4/22/2006
D:	LINE 5A	12	350,470.59	3,647,279.30	4.88		4.88	4.5	4/22/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	5A,17A	14	350,903.12	3,647,265.05	5.75		3.3	5/22/06	5/31/06	R
B:	5,17A	14	350,904.27	3,647,765.45	5.93		3.4	5/22/06	5/31/06	R
C:	LINE 5	12	350,445.66	3,647,779.56	6.42		1.8	5/15/06	5/31/06	R
D:	LINE 5A	12	350,422.78	3,647,280.59	6.44		2.2	5/15/06	5/31/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	5A,17A	14	350,903.12	3,647,265.05	5.75		3.2	5/22/06	6/14/06
B:	5,17A	14	350,904.27	3,647,765.45	5.93		3.3	5/22/06	6/14/06
C:	LINE 5	12	350,445.66	3,647,779.56	6.42		1.8	5/15/06	6/14/06
D:	LINE 5A	12	350,422.78	3,647,280.59	6.44		2.2	5/15/06	6/14/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	5A,17A	14	350,903.12	3,647,265.05	5.75		2.8	2.8	5/22/06	6/28/06
B:	5,17A	14	350,904.27	3,647,765.45	5.93		2.9	2.9	5/22/06	6/28/06
C:	LINE 5	12	350,445.66	3,647,779.56	6.42		1.9	1.9	5/15/06	6/28/06
D:	LINE 5A	12	350,422.78	3,647,280.59	6.44		2	2.0	5/15/06	6/28/06

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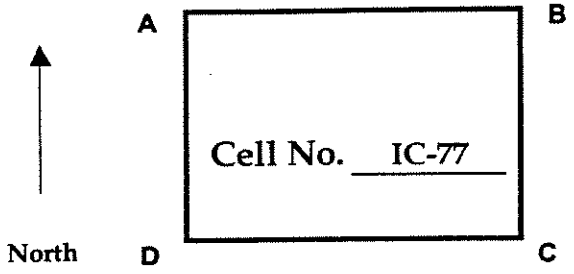

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	3A,17A	12	350,908.33	3,645,268.28	4	0.15	3.85	3.7	3/7/2006
B:	3,17A	12	350,907.54	3,645,764.29	4.17	0.15	4.02	5.1	3/7/2006
C:	3,17	12	350,409.34	3,645,781.14	4.08	0.15	3.93	5	3/7/2006
D:	3A,17	12	350,406.67	3,645,279.09	4.27	0.15	4.12	5.2	3/7/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date	
A:	3A,17A	14	350,908.05	3,645,263.35	8.03		3.4	4/28/06	5/21/06	R
B:	3,17A	14	350,899.03	3,645,765.02	5.60		3.5	5/21/06	5/21/06	R
C:	3,17	12	350,409.34	3,645,781.14	3.93		1.4	3/30/06	5/21/06	
D:	3A,17	14	350,406.61	3,645,279.34	6.48		2.2	4/28/06	5/21/06	R

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	3A,17A	14	350,908.05	3,645,263.35	8.03		3.3	4/28/06	6/4/06
B:	3,17A	14	350,899.03	3,645,765.02	5.60		3.3	5/21/06	6/4/06
C:	3,17	12	350,409.34	3,645,781.14	3.93		1.9	3/30/06	6/4/06
D:	3A,17	14	350,406.61	3,645,279.34	6.48		2.1	4/28/06	6/4/06

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	3A,17A	14	350,908.05	3,645,263.35	8.03		3	3.0	4/28/06	6/18/06
B:	3,17A	14	350,899.03	3,645,765.02	5.60		2.91	2.9	5/21/06	6/18/06
C:	3,17	12	350,409.34	3,645,781.14	3.93		1.89	1.9	3/30/06	6/18/06
D:	3A,17	14	350,406.61	3,645,279.34	6.48		2.28	2.3	4/28/06	6/18/06

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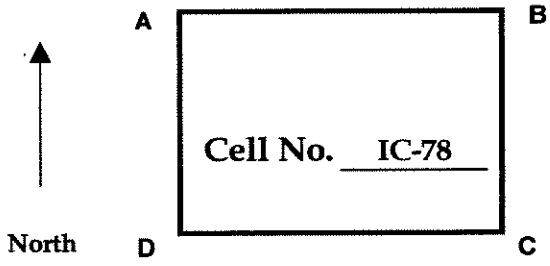

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1,17A	12	350,903.09	3,643,763.81	4.15	0.15	4	5.1	3/5/2006
B:	2A,17A	12	350,905.33	3,644,264.43	4.11	0.15	3.96	3.6	3/5/2006
C:	2A,17	12	350,406.04	3,644,280.47	4.31	0.15	4.16	5	3/5/2006
D:	1,17	12	350,403.53	3,643,781.29	3.5	0.15	3.35	4.6	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,17A	12	350,903.09	3,643,763.81	4.00		3.0	3/5/2006	4/13/2006
B:	2A,17A	12	350,905.33	3,644,264.43	3.96		3.0	3/5/2006	4/13/2006
C:	2A,17	12	350,406.04	3,644,280.47	4.16		2.4	3/5/2006	4/13/2006
D:	1,17	12	350,403.53	3,643,781.29	3.35		2.5	3/5/2006	4/13/2006

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1,17A	12	350,903.09	3,643,763.81	4.00		2.8	3/5/2006	4/27/2006
B:	2A,17A	12	350,905.33	3,644,264.43	3.96		2.8	3/5/2006	4/27/2006
C:	2A,17	12	350,406.04	3,644,280.47	4.16		2.1	3/5/2006	4/27/2006
D:	1,17	12	350,403.53	3,643,781.29	3.35		2.2	3/5/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1,17A	12	350,903.09	3,643,763.81	4.00		2.48	2.5	3/5/2006	5/11/2006
B:	2A,17A	12	350,905.33	3,644,264.43	3.96		2.39	2.4	3/5/2006	5/11/2006
C:	2A,17	12	350,406.04	3,644,280.47	4.16		1.53	1.5	3/5/2006	5/11/2006
D:	1,17	12	350,403.53	3,643,781.29	3.35		1.82	1.8	3/5/2006	5/11/2006

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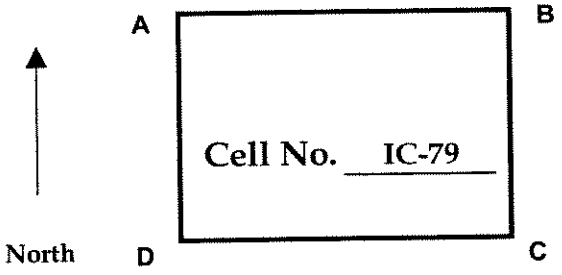

Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	1A,17A	12	350,902.37	3,643,264.64	4.02	0.15	3.87	4.6	3/5/2006
B:	1,17A	12	350,903.09	3,643,763.81	4.15	0.15	4	5.1	3/5/2006
C:	1,17	12	350,403.53	3,643,781.29	3.5	0.15	3.35	4.6	3/5/2006
D:	1A,17	12	350,404.72	3,643,278.56	4.14	0.15	3.99	4.7	3/5/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,17A	12	350,902.37	3,643,264.64	3.87		2.7	3/5/2006	4/13/2006
B:	1,17A	12	350,903.09	3,643,763.81	4.00		3.0	3/5/2006	4/13/2006
C:	1,17	12	350,403.53	3,643,781.29	3.35		2.5	3/5/2006	4/13/2006
D:	1A,17	12	350,404.72	3,643,278.56	3.99		2.4	3/5/2006	4/13/2006

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	1A,17A	12	350,902.37	3,643,264.64	3.87		2.3	3/5/2006	4/27/2006
B:	1,17A	12	350,903.09	3,643,763.81	4.00		2.8	3/5/2006	4/27/2006
C:	1,17	12	350,403.53	3,643,781.29	3.35		2.2	3/5/2006	4/27/2006
D:	1A,17	12	350,404.72	3,643,278.56	3.99		2.3	3/5/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	1A,17A	12	350,902.46	3,643,264.30	3.83		2.04	2.0	5/11/2006	5/11/2006
B:	1,17A	12	350,903.11	3,643,763.53	4.05		2.48	2.5	5/11/2006	5/11/2006
C:	1,17	12	350,403.63	3,643,780.79	3.31		1.82	1.8	5/11/2006	5/11/2006
D:	1A,17	12	350,404.78	3,643,277.83	4.01		1.88	1.9	5/11/2006	5/11/2006

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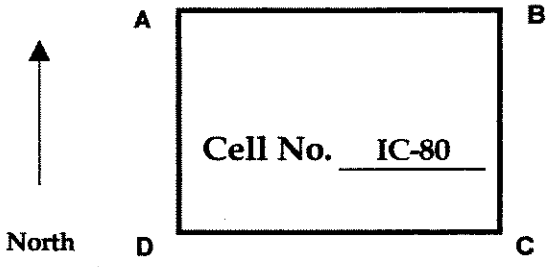


Installed

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation	Corr. (ft)	Corr. Stake Elevation	H (ft)	Survey Date
A:	BL,17	12	350,406.54	3,642,809.35	4.77	0.15	4.62	4.2	4/2/2006
B:	1A,17	12	350,404.72	3,643,278.56	4.14	0.15	3.99	4.7	3/5/2006
C:	LINE 1A	12	350,166.06	3,654,285.21	5.26		5.26	5.7	4/27/2006
D:	CORNER	12	350,107.64	3,642,808.35	4.59	0.15	4.44	4.9	3/16/2006

Initial reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,17	12	350,406.54	3,642,809.35	4.62		2.4	4/2/2006	4/13/2006
B:	1A,17	12	350,404.72	3,643,278.56	3.99		2.4	3/5/2006	4/13/2006
C:	LINE 1A	12	350,166.06	3,654,285.21	5.26			4/27/2006	
D:	CORNER	12	350,107.64	3,642,808.35	4.44		2.4	3/16/2006	4/13/2006

14 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Gage Reading	Survey Date	Reading Date
A:	BL,17	12	350,406.54	3,642,809.35	4.62		2.2	4/2/2006	4/27/2006
B:	1A,17	12	350,404.72	3,643,278.56	3.99		2.3	3/5/2006	4/27/2006
C:	LINE 1A	12	350,166.06	3,654,285.21	5.26		1.9	4/27/2006	4/27/2006
D:	CORNER	12	350,107.64	3,642,808.35	4.44		1.9	3/16/2006	4/27/2006

28 day reading (Payment)

	Stake #	Stake Length	Northing*	Easting*	Top of Stake Elevation		Fill Elevation	Gage Reading	Survey Date	Reading Date
A:	BL,17	12	350,406.59	3,642,809.22	4.62		1.96	2.0	5/11/2006	5/11/2006
B:	1A,17	12	350,404.78	3,643,277.83	4.01		1.88	1.9	5/11/2006	5/11/2006
C:	LINE 1A	12	350,132.82	3,654,285.78	5.09		1.92	1.9	5/11/2006	5/11/2006
D:	CORNER	12	350,107.64	3,642,808.35	4.44		1.76	1.8	5/11/2006	5/11/2006

NOTE: * NAD 83 US. FT.

H = Distance from Top of the stake to the existing ground (tape-down distance)

After initially installed the stake length, northing, easting, top of stake elevation, and survey date will not be required unless gage is disturbed or owner requests verification surveys.

All elevations are to be to the nearest tenth of a foot as per specifications.

28 Day readings must be approved by registered land surveyor for use as as-built surveys.

Fill Elevation - Elevation of fill material for as-built survey (NAVD 88)

All elevations and distances are in feet.

JAB

Contractor Signature

Registered Land Surveyor

STATE OF LOUISIANA
RONALD M. MADDEN
REG. No. 4503
REGISTERED PROFESSIONAL LAND SURVEYOR

APPENDIX J

PERMITS

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF:

Operations Division
Central Evaluation Section

JAN 5 2004

SUBJECT: CR-20-040-0058

National Marine Fisheries Service
South Stadium Road, Military Science Room
Baton Rouge, Louisiana 70803-7535

Gentlemen:

Enclosed is a permit dated this date, subject as above, authorizing work under the Department of the Army permit program.

You are again reminded that any work not in accordance with the approved plans is subject to removal regardless of the expense and the inconvenience that such removal may involve and regardless of the date when the discrepancy is discovered.

Your attention is directed to all the terms and conditions of the approval. In order to have the work approved in accordance with the issued permit, all terms and conditions of the permit and plans shown on the drawings attached thereto must be rigidly adhered to.

It is necessary that you notify the District Engineer, Attention: Central Evaluation Section, in writing, prior to commencement of work and also upon its completion. The notification must include the permittee's name, as shown on the permit, and the permit number. Please note the expiration date on the permit. Should the project not be completed by that date, you may request a permit time extension. Such requests must be received before, but no sooner than six months before, the permit expiration date and must show the work completed and the reason the project was not finished within the time period granted by the permit.

A copy of Page 1 of the permit (ENG Form 1721) must be conspicuously displayed at the project site. Also, you must keep a copy of the signed permit at the project site until the work is completed.

Sincerely,

Martin S. Mayer

Martin S. Mayer
Chief, Central Evaluation Section

Enclosures

DEPARTMENT OF THE ARMY PERMIT

Permittee: National Marine Fisheries Service

Permit No. **CR-20-040-0058**

Issuing Office: New Orleans District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

PROJECT DESCRIPTION: Dredge and deposit earthen material to construct a containment dike and for marsh creation, install and maintain a rock dike, and perform vegetation plantings to implement the Little Lake Shoreline Protection and Marsh Creation Project (BA-37), in accordance with the drawings attached in 23 sheets, dated September 23,2003.

PROJECT LOCATION: Along the southwest shoreline of Little Lake, near Galliano, Louisiana, in Lafourche Parish.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **JANUARY 31, 2009**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions: Page (s) 4

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

X _____ X 12/29/03
(PERMITTEE) (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Martin S. Mayer 5 January 2004
Martin S. Mayer, Chief, Central Evaluation Section (DATE)
for Peter J. Rowan, District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____
(TRANSFEREE) (DATE)

7. The maximum depth of dredging shall not exceed –8-foot N.G.V.D. (no allowable over-cut).

8. The applicant shall notify the New Orleans District, Regulatory Branch (CEMVN-OD-SC) in writing prior to commencement of any dredging activities authorized herein.

9. All pilings, pipes, and associated structures associated with dike construction shall be removed from the site.

10. If the proposed project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in the waterway, you are advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification, with a copy of your permit approval and drawings, should be mailed to the Commander (m), Eighth Coast Guard District, ATTN: Vessel Traffic Management Branch, 501 Magazine Street, New Orleans, Louisiana 70130-3396, about 1 month before you plan to start work. Telephone inquiries can be directed to (504) 589-4686.

11. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

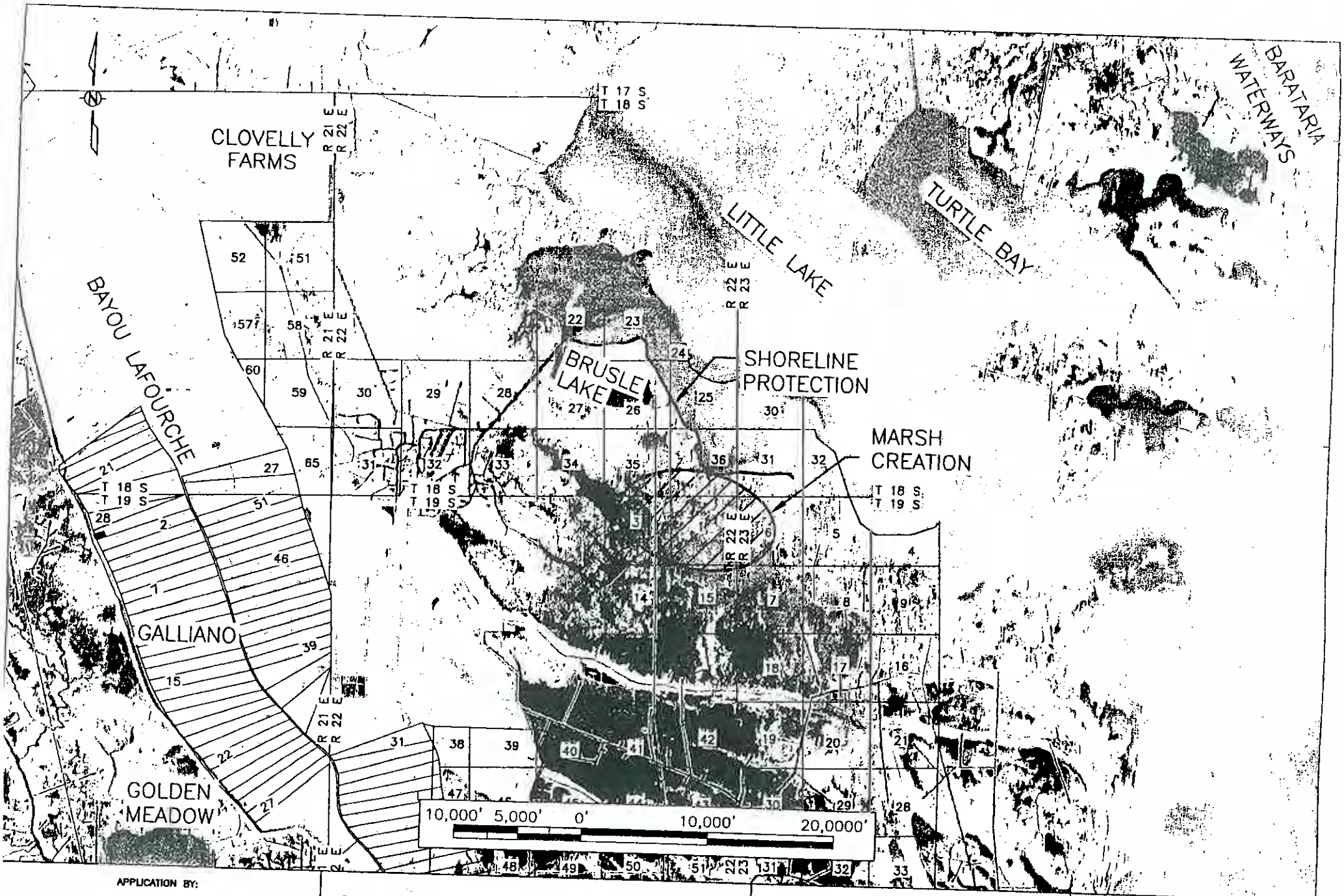
12. The permittee shall install and maintain, at the permittee's expense, any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on the authorized facilities.

13. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

14. Structures and fill will not be placed on state-owned water bottoms without the approval of the Louisiana Division of Administration, State Land Office. The permittee will be responsible for contacting the State Land Office to ascertain if any structures or fill will be placed on state-owned water bottoms.

15. Maintenance dredging, including dredging for material to maintain project features authorized herein, is approved for a period of ten (10) years from the date of permit issuance. Maintenance operations shall not exceed specifications shown in the permit drawings.

16. The permittee is made aware that any deviation from the permitted project design may require prior review and approval by the District Engineer.



APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

VICINITY MAP

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

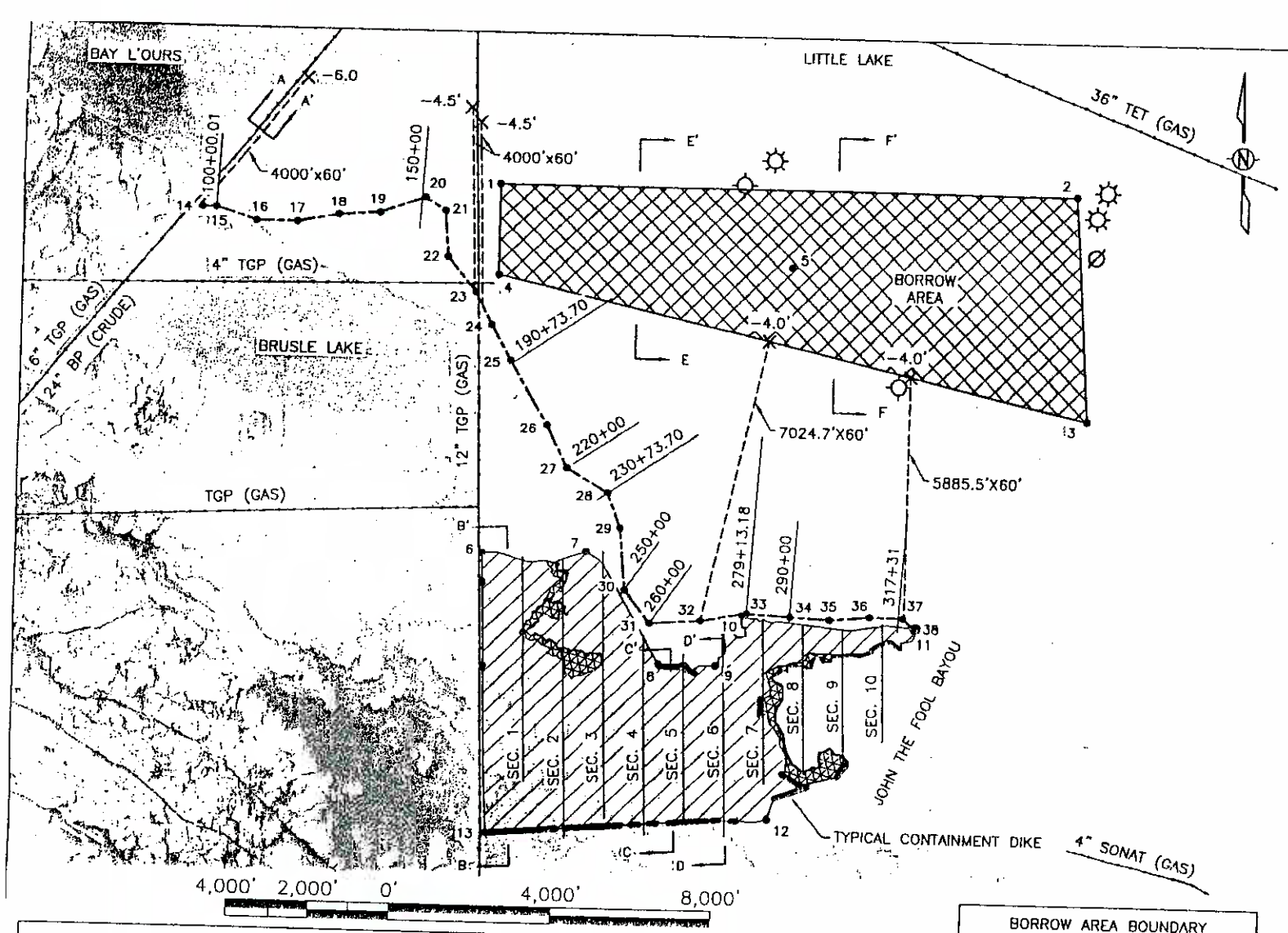
APPROVED BY: CHRIS KNOTTS, P. E.

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

DATE: 9/23/03

SHEET 1 OF 23



MARSH CREATION AREA BOUNDARY		
PT.	LATITUDE	LONGITUDE
6	29.4769	90.1964
7	29.4771	90.1894
8	29.4694	90.1826
9	29.4694	90.1780
10	29.4728	90.1761
11	29.4721	90.1623
12	29.4588	90.1738
13	29.4577	90.1959

SHORELINE PROTECTION CENTERLINE		
PT.	LATITUDE	LONGITUDE
14	29.5004	90.2135
15	29.5004	90.2174
16	29.4995	90.2143
17	29.4994	90.2112
18	29.4999	90.2080
19	29.5001	90.2048
20	29.5013	90.2013
21	29.5003	90.1997
22	29.4971	90.1995
23	29.4947	90.1973
24	29.4925	90.1960
25	29.4901	90.1945
26	29.4858	90.1916
27	29.4828	90.1900
28	29.4812	90.1867
29	29.4788	90.1857
30	29.4745	90.1853
31	29.4722	90.1833
32	29.4724	90.1793
33	29.4730	90.1757
34	29.4728	90.1723
35	29.4726	90.1691
36	29.4728	90.1660
37	29.4728	90.1633
38	29.4720	90.1624

LEGEND

- BORROW AREA
- MARSH CREATION
- MAX. FILL ELEV.=0.33' NAVD 88
- P&A DRY WELL
- ACTIVE WELL
- Ø P&A WELL
- SHORELINE PROTECTION
- CONTAINMENT DIKE
- PIPELINE
- ACCESS TO FLOATATION CHANNEL
- X ELEV. (END OF ACCESS)

BP BRITISH PETROLEUM
TGP TENNESSEE GAS PIPELINE
TET TEXAS EASTERN TRANSMISSION CORP.
SONAT SOUTHERN NATURAL GAS CO.

BORROW AREA BOUNDARY		
PT.	LATITUDE	LONGITUDE
1	29.5023	90.1955
2	29.5019	90.1501
3	29.4865	90.1490
4	29.4959	90.1956
5	29.4967	90.1725

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

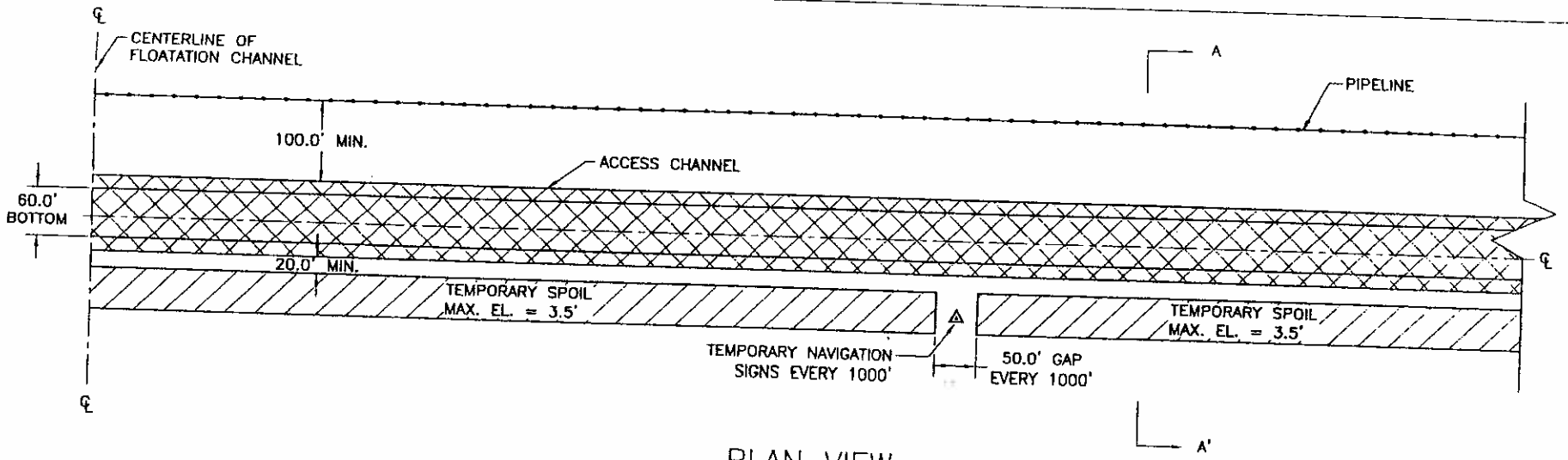
LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

PROJECT LOCATION

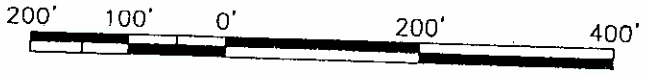
DRAWN BY: KRISTI CANTU

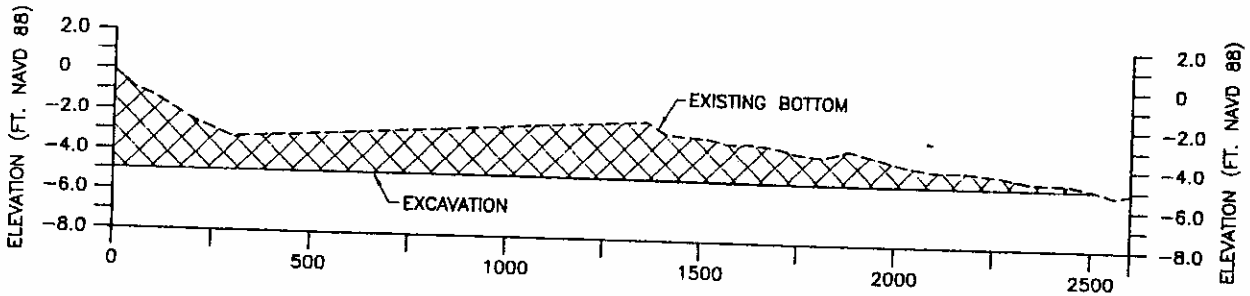
DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: CHRIS KNOTTS, P. E.



PLAN VIEW
ACCESS CHANNEL

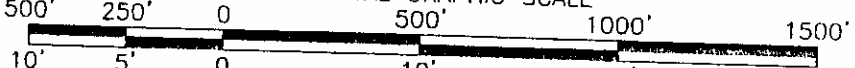


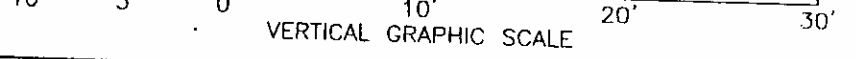


PROFILE
ACCESS CHANNEL
STA 290+00

NOTES:
1. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED INTO CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF THE PRE CONSTRUCTION ELEVATIONS.
2. SEE SHEET 4 FOR TYPICAL SECTION A–A'.
3. NO DREDGING ALLOWED OUTSIDE OF THE BORROW AREA, FLOATATION, AND ACCESS CHANNEL.
4. NO PORTION OF ANY EQUIPMENT OR VESSEL SHALL CONTACT THE WATER BOTTOM DURING TRANSIT TO AND FROM PROJECT SITE.
5. SEE SHEETS 11–16 FOR LOCATIONS OF TEMPORARY SPOIL.

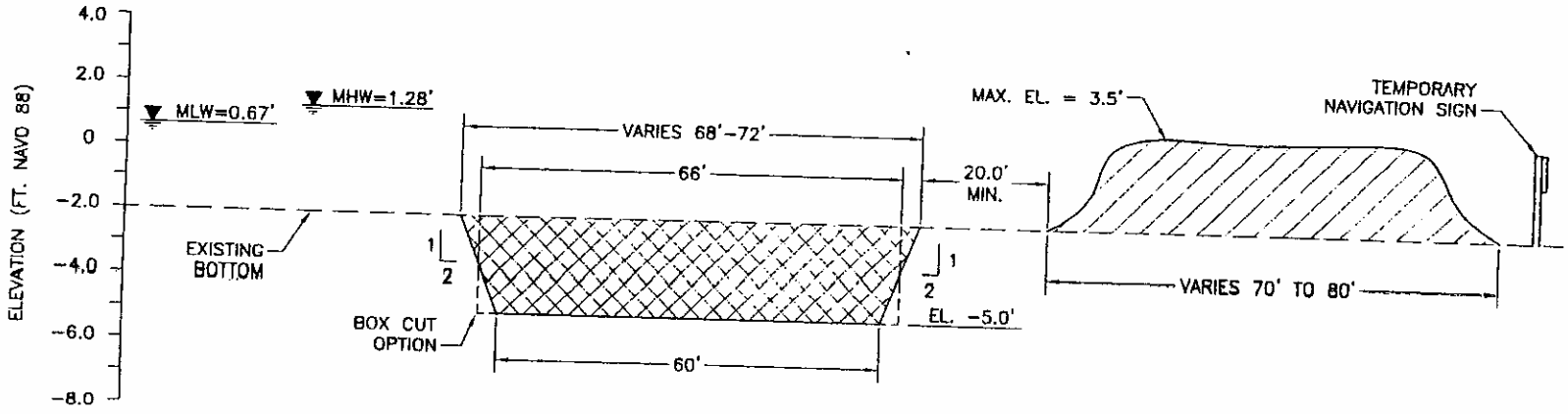
HORIZONTAL GRAPHIC SCALE





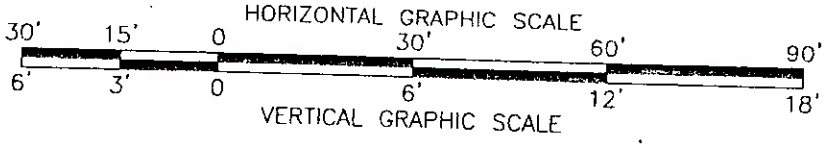
VERTICAL GRAPHIC SCALE

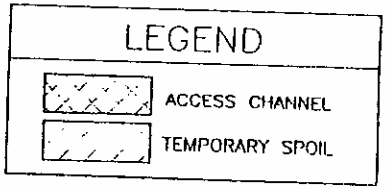
APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803–7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	TYPICAL ACCESS CHANNEL PLAN AND PROFILE VIEWS
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E.	APPROVED BY: CHRIS KNOTTS, P. E.	STATE PROJECT NUMBER: BA–37 FEDERAL PROJECT NUMBER: BA–37	DATE: 9/23/03 SHEET 3 OF 23



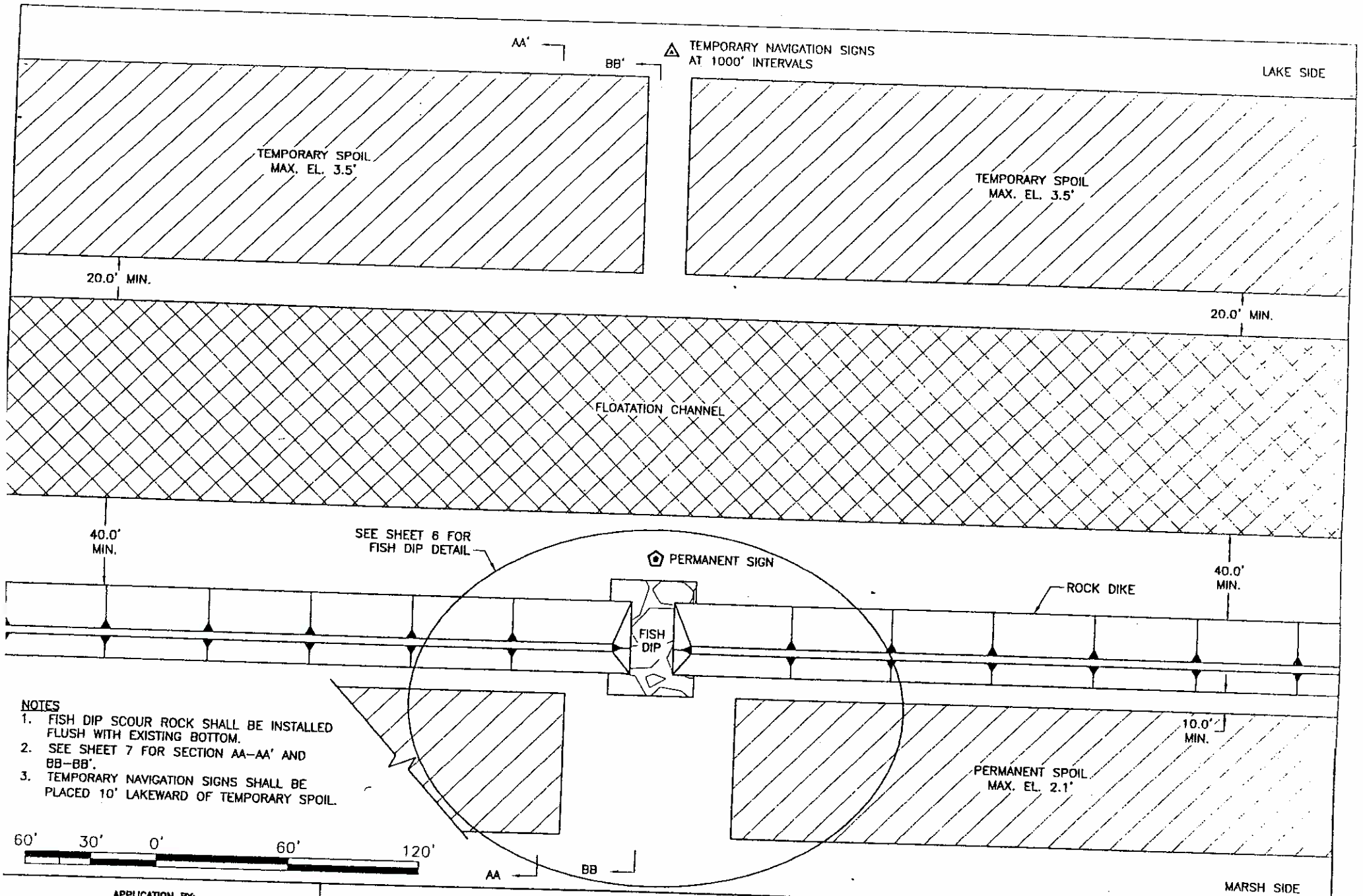
SECTION A--A'
ACCESS CHANNEL

NOTES
1. ACCESS CHANNEL SIDE SLOPES WERE PROVIDED BY GEOTECHINAL CONSULTANTS.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF PRE CONSTRUCTION ELEVATIONS.





APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	TYPICAL ACCESS CHANNEL SECTION
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	STATE PROJECT NUMBER: BA-37 FEDERAL PROJECT NUMBER: BA-37	DATE: 9/23/03 SHEET 1 OF 23



NOTES
1. FISH DIP SCOUR ROCK SHALL BE INSTALLED FLUSH WITH EXISTING BOTTOM.
2. SEE SHEET 7 FOR SECTION AA–AA' AND BB–BB'.
3. TEMPORARY NAVIGATION SIGNS SHALL BE PLACED 10' LAKEWARD OF TEMPORARY SPOIL.

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803–7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

FISH DIP
PLAN VIEW

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

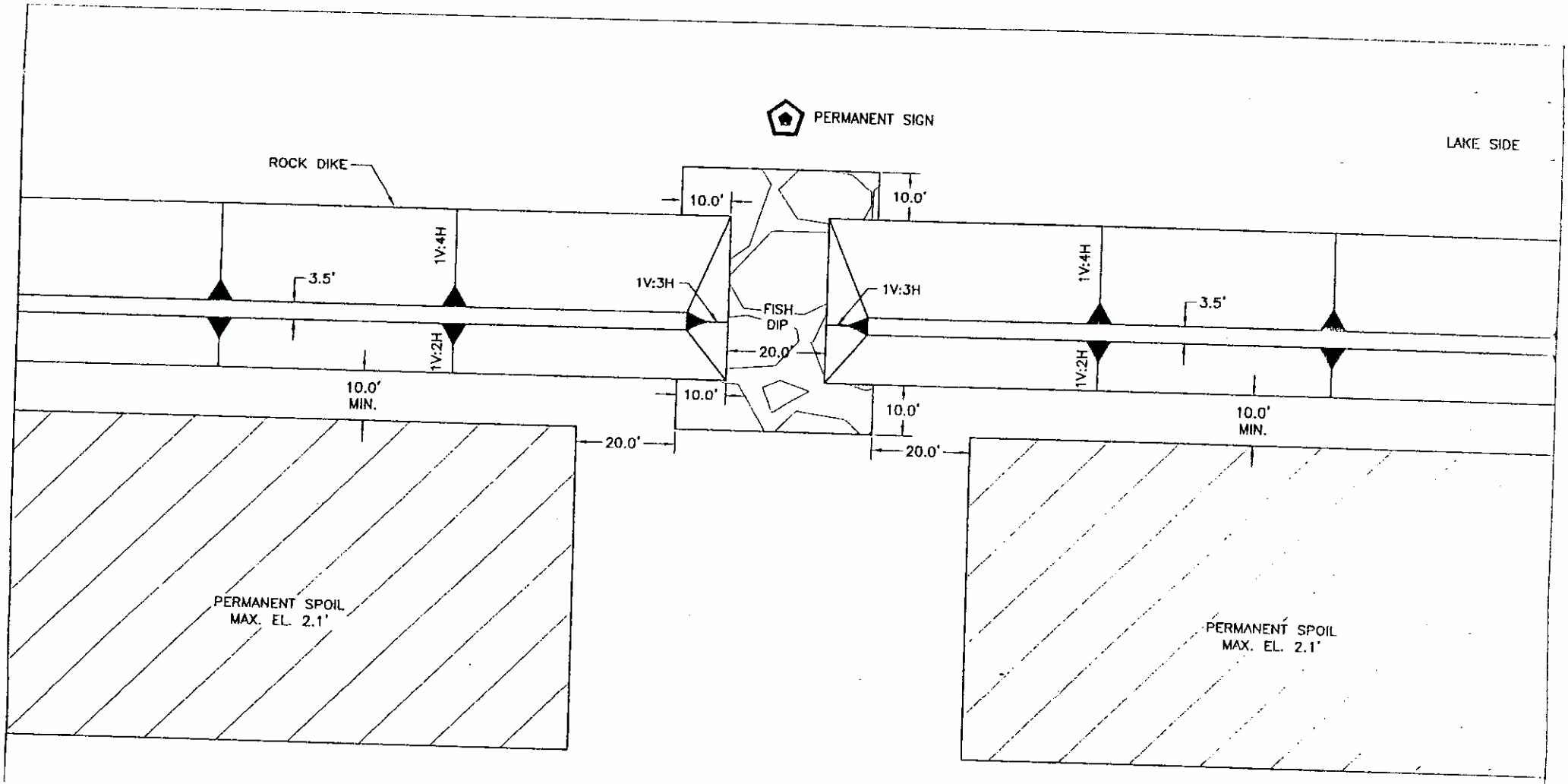
APPROVED BY: CHRIS KNOTTS, P. E.

STATE PROJECT NUMBER: BA–37

FEDERAL PROJECT NUMBER: BA–37

DATE: 9/23/03

SHEET 5 OF 23



NOTES:
FISH DIP SCOUR ROCK SHALL BE INSTALLED FLUSH WITH EXISTING BOTTOM.

30' 15' 0' 30' 60'

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

FISH DIP DETAIL

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

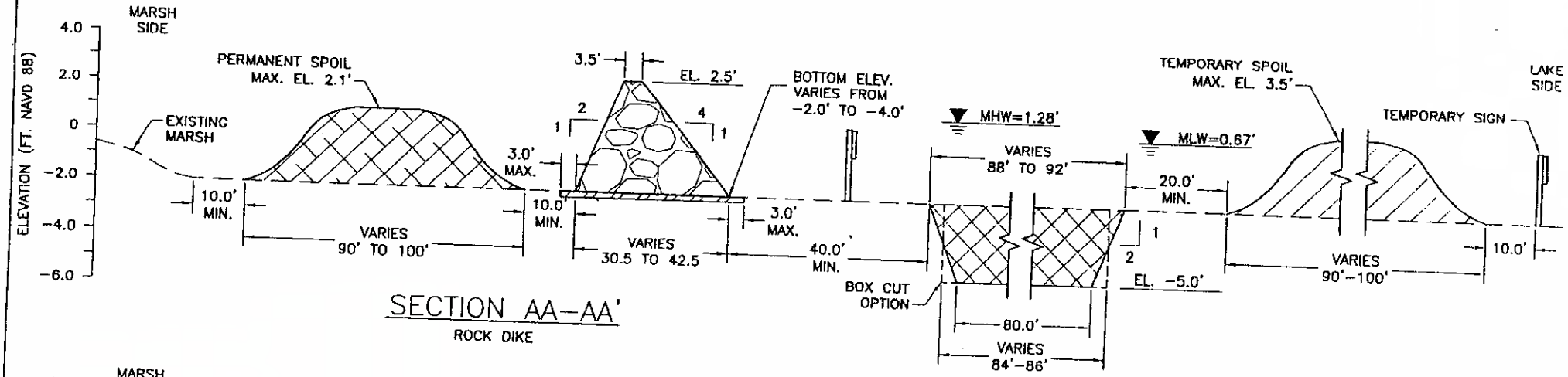
APPROVED BY: CHRIS KNOTTS, P. E.

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

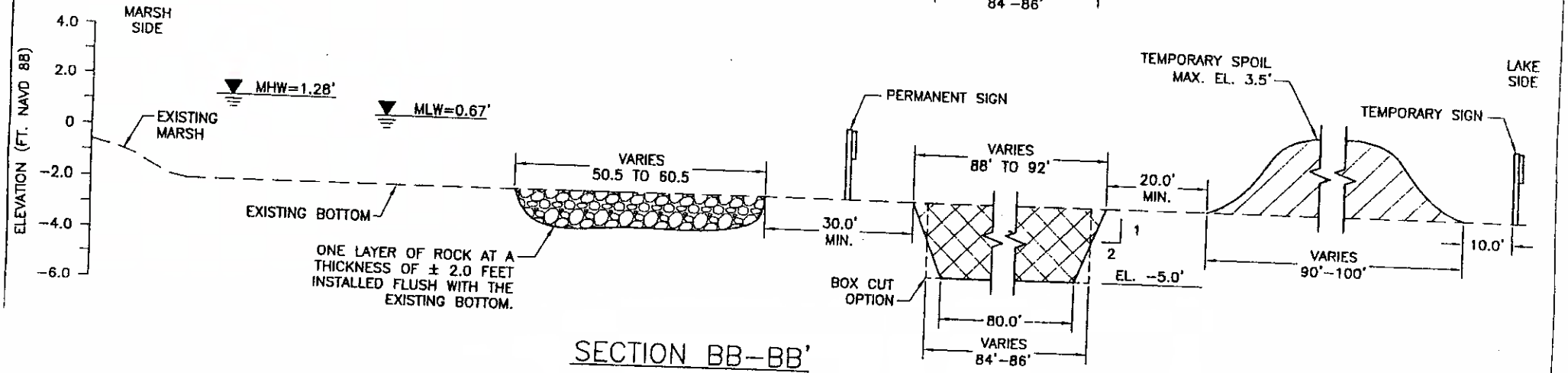
DATE: 9/23/03

SHEET 8 OF 23



SECTION AA-AA'

ROCK DIKE

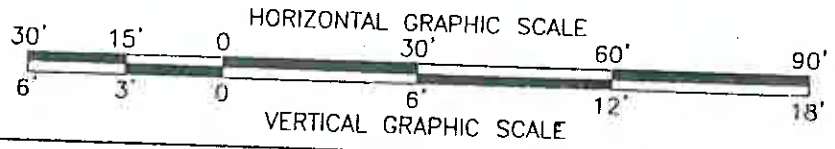


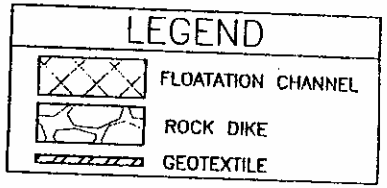
SECTION BB-BB'

FISH DIP

NOTES

1. FLOATATION SIDE SLOPES WERE GIVEN BY GEOTECHINCAL CONSULTANTS. FLOATATION WILL BE DREDGED AS A BOX CUT.
2. THE SPOIL FROM MAINTENANCE DREDGING SHALL BE PLACED ADJACENT TO THE CHANNEL.
3. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF PRE CONSTRUCTION ELEVATIONS.





APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

TYPICAL ROCK DIKE SECTIONS

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P.E.

APPROVED BY: CHRIS KNOTTS, P.E.

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

DATE: 9/23/03

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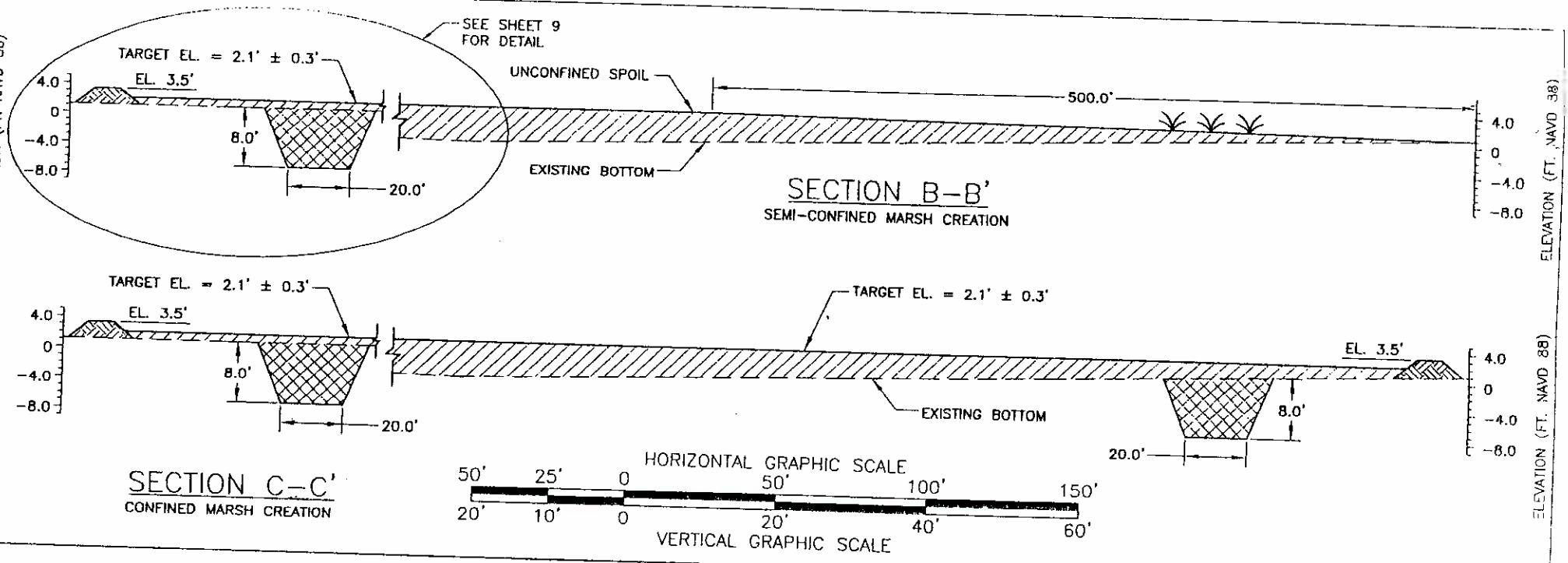

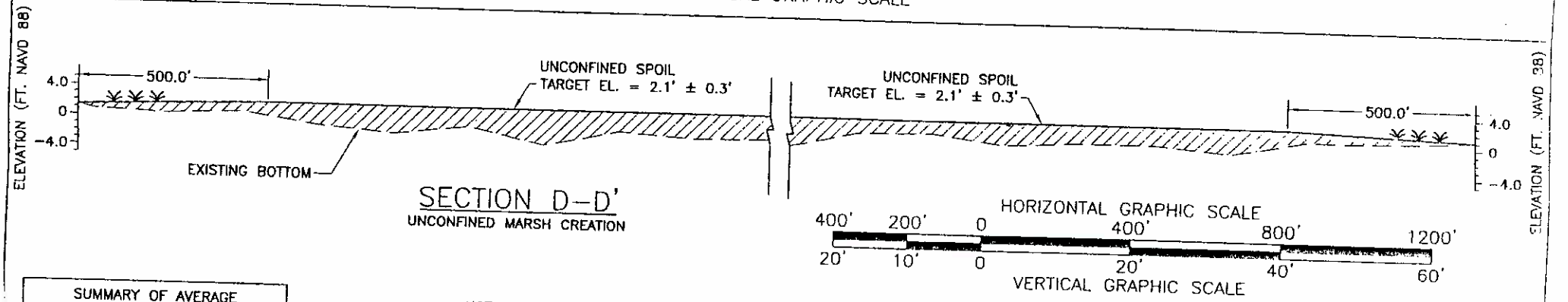

SUMMARY OF AVERAGE MARSH ELEVATION	
PT.	AVERAGE MARSH ELEV. FT. NAVD 88
NW	1.3
CENT.	1.3
SE	1.1
AVER.	1.2

NOTES

1. DISCHARGE SHALL BE DIRECTED TO RETAIN AS MUCH MATERIAL AS POSSIBLE.
2. NO DISCHARGE POINT SHALL BE WITHIN 500' OF PROJECT BOUNDARY OR ANY BAYOU DEPICTED TO REMAIN INTERTIDAL WITHOUT PRIOR APPROVAL OF THE ENGINEER.
3. APPROXIMATELY 50,000 VEGETATIVE CONTAINERS OF SMOOTH CORDGRASS WILL BE PLANTED WITHIN THE MARSH CREATION AREA. PLANTS WILL BE NURSERY GROWN AND WILL BE MULTI-STEM. VOLUME OF PLANTINGS WITH CONTAINER SOIL IS ESTIMATED TO BE 600 CYS.

LEGEND

- EARTHEN CONTAINMENT DIKE
- CONTAINMENT DIKE BORROW
- FILL AREA

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

TYPICAL MARSH SECTIONS

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P.E.

APPROVED BY: CHRIS KNOTTS, P.E.

STATE PROJECT NUMBER: BA-37

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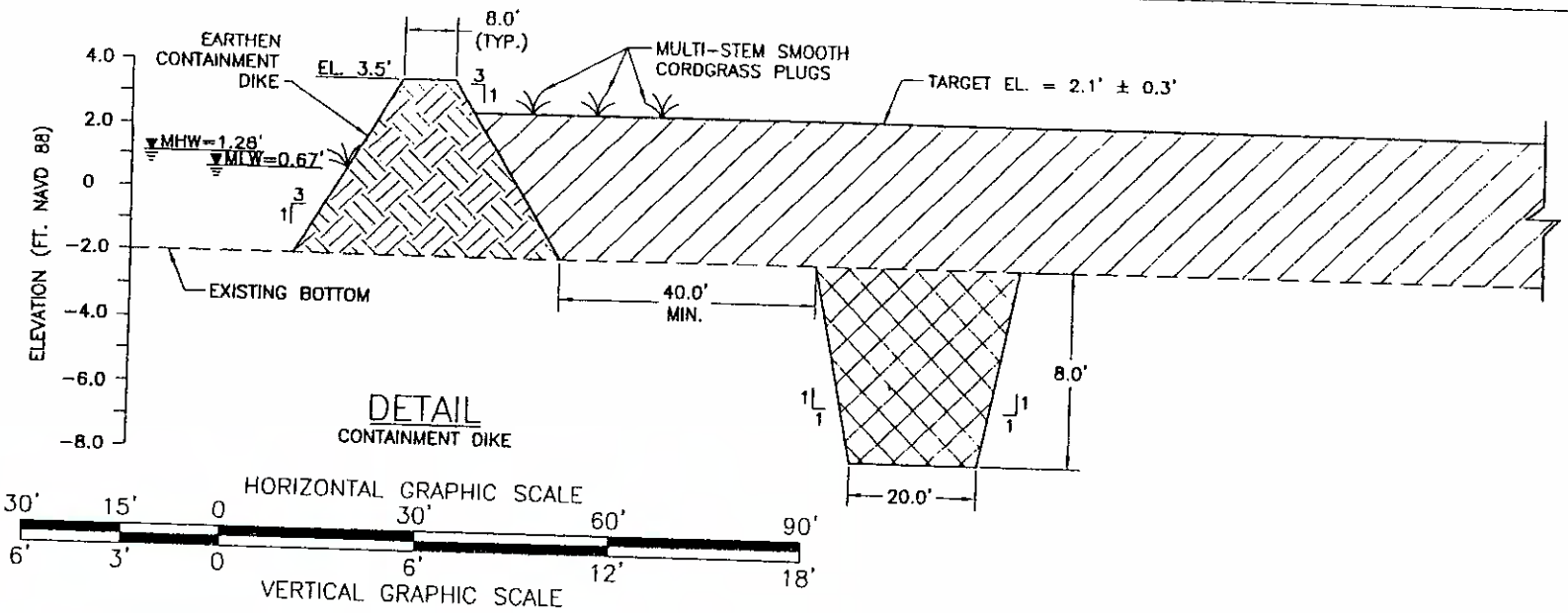
SHEET 8 OF 23



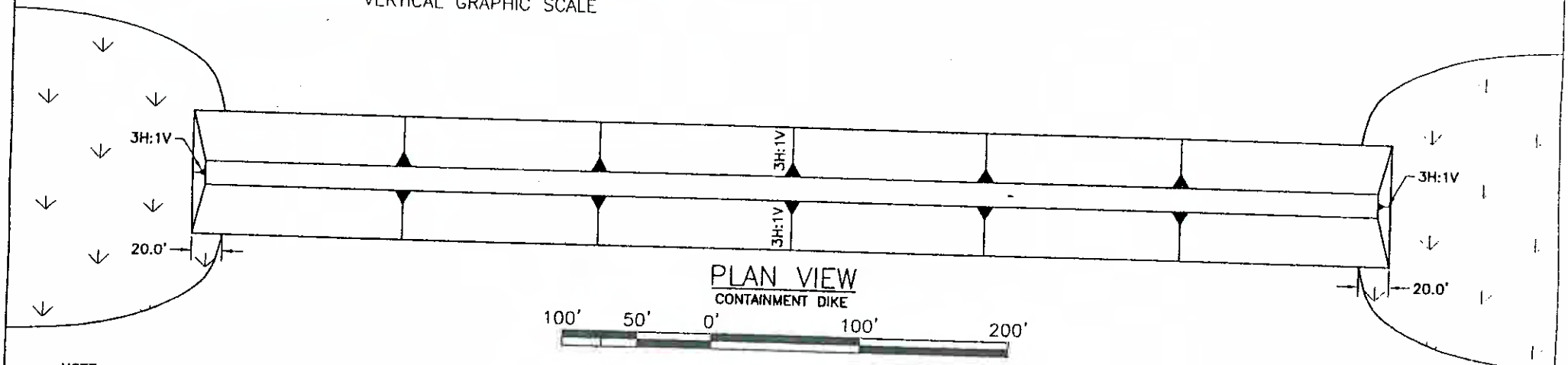
DETAIL
CONTAINMENT DIKE

HORIZONTAL GRAPHIC SCALE

30' 15' 0 30' 60' 90'

VERTICAL GRAPHIC SCALE

6' 3' 0 6' 12' 18'



PLAN VIEW
CONTAINMENT DIKE

100' 50' 0' 100' 200'

NOTE:
1. APPROXIMATELY 50,000 CONTAINERS OF SMOOTH CORDGRASS WILL BE PLANTED WITHIN THE MARSH CREATION AREA.
2. PLANTS WILL BE NURSERY GROWN AND WILL BE MULTI-STEM.
3. VOLUME OF PLANTINGS WITH CONTAINER SOIL IS ESTIMATED TO BE 600 CYS.
4. CONTAINMENT DIKES WILL BE CONSTRUCTED ONLY IN OPEN WATER ALONG PROJECT BOUNDARY. INTERNAL TRAINING DIKES ARE ALLOWED PROVIDED THEY ARE NO HIGHER THAN 2.4' NAVD 88.
5. THE CONTAINMENT DIKES SHALL HAVE A 20' TIE-IN TO EXISTING MARSH AS SHOWN ABOVE.

LEGEND
- EARTHEN CONTAINMENT DIKE
- CONTAINMENT DIKE BORROW
- FILL AREA

APPLICATION BY:

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COASTAL RESTORATION DIVISION
617 NORTH 3RD STREET
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LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

TYPICAL MARSH CONTAINMENT DIKE SECTION

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

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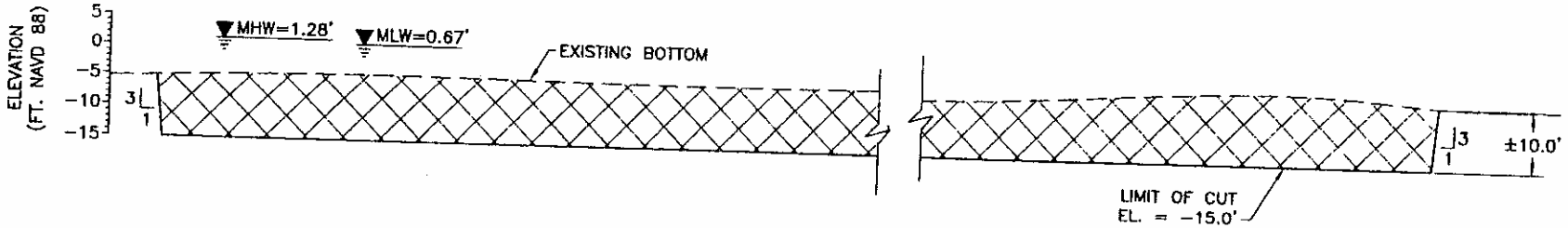
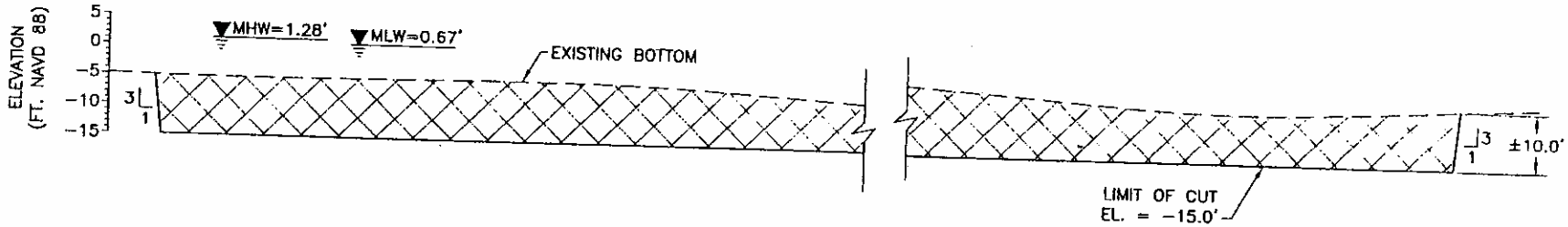
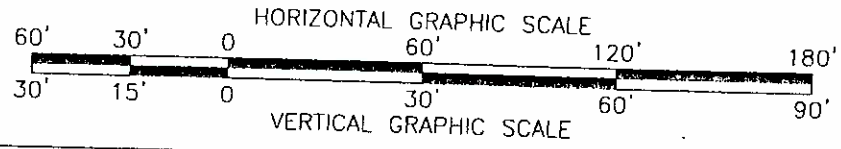


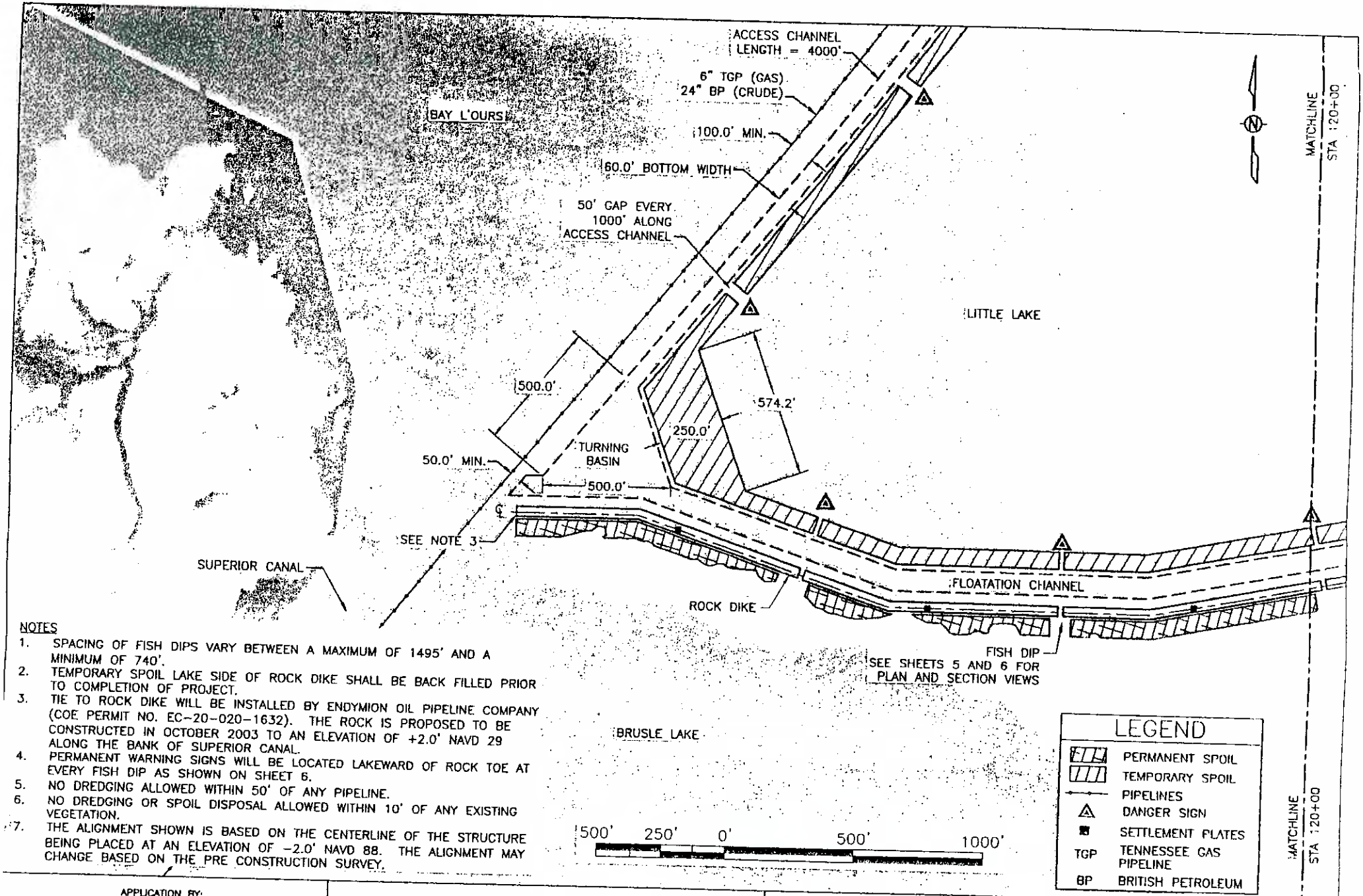
SECTION E–E'
BORROW AREA



SECTION F–F'
BORROW AREA



APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 268 Baton Rouge, LA 70803–7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	TYPICAL BORROW AREA SECTION
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	STATE PROJECT NUMBER: BA-37 FEDERAL PROJECT NUMBER: BA-37	DATE: 9/23/03 SHEET 10 OF 23



NOTES

1. SPACING OF FISH DIPS VARY BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. TEMPORARY SPOIL LAKE SIDE OF ROCK DIKE SHALL BE BACK FILLED PRIOR TO COMPLETION OF PROJECT.
3. TIE TO ROCK DIKE WILL BE INSTALLED BY ENDYMION OIL PIPELINE COMPANY (COE PERMIT NO. EC-20-020-1632). THE ROCK IS PROPOSED TO BE CONSTRUCTED IN OCTOBER 2003 TO AN ELEVATION OF +2.0' NAVD 29 ALONG THE BANK OF SUPERIOR CANAL.
4. PERMANENT WARNING SIGNS WILL BE LOCATED LAKEWARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 6.
5. NO DREDGING ALLOWED WITHIN 50' OF ANY PIPELINE.
6. NO DREDGING OR SPOIL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
7. THE ALIGNMENT SHOWN IS BASED ON THE CENTERLINE OF THE STRUCTURE BEING PLACED AT AN ELEVATION OF -2.0' NAVD 88. THE ALIGNMENT MAY CHANGE BASED ON THE PRE CONSTRUCTION SURVEY.

APPLICATION BY:

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LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

PROJECT PLAN VIEW

DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E.	APPROVED BY: CHRIS KNOTTS, P. E.	STATE PROJECT NUMBER: BA-37	DATE: 9/23/03
			FEDERAL PROJECT NUMBER: BA-37	SHEET 11 OF 23

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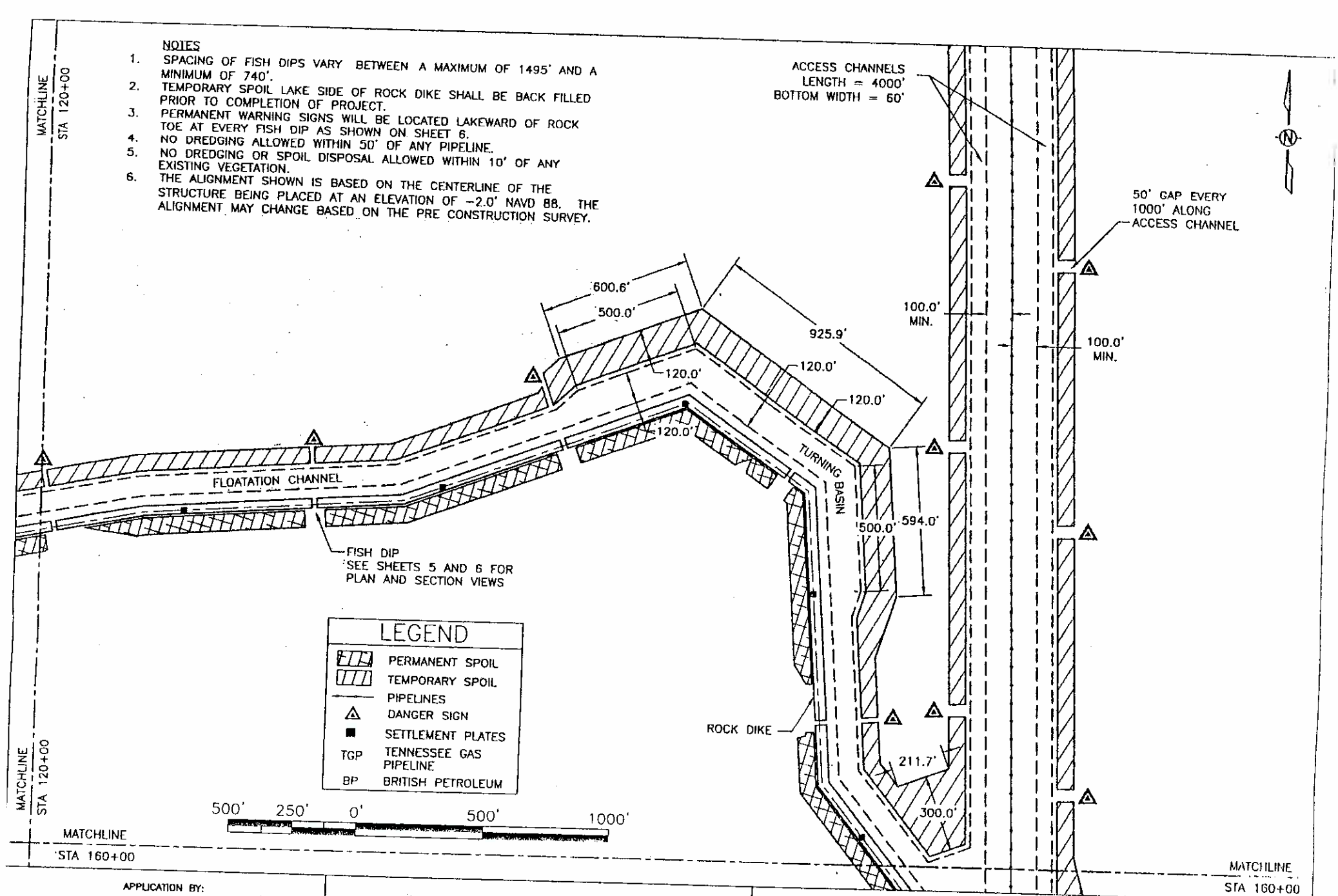

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617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

PROJECT PLAN VIEW

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: CHRIS KNOTTS, P. E.

STATE PROJECT NUMBER: BA-37

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DATE: 9/23/03

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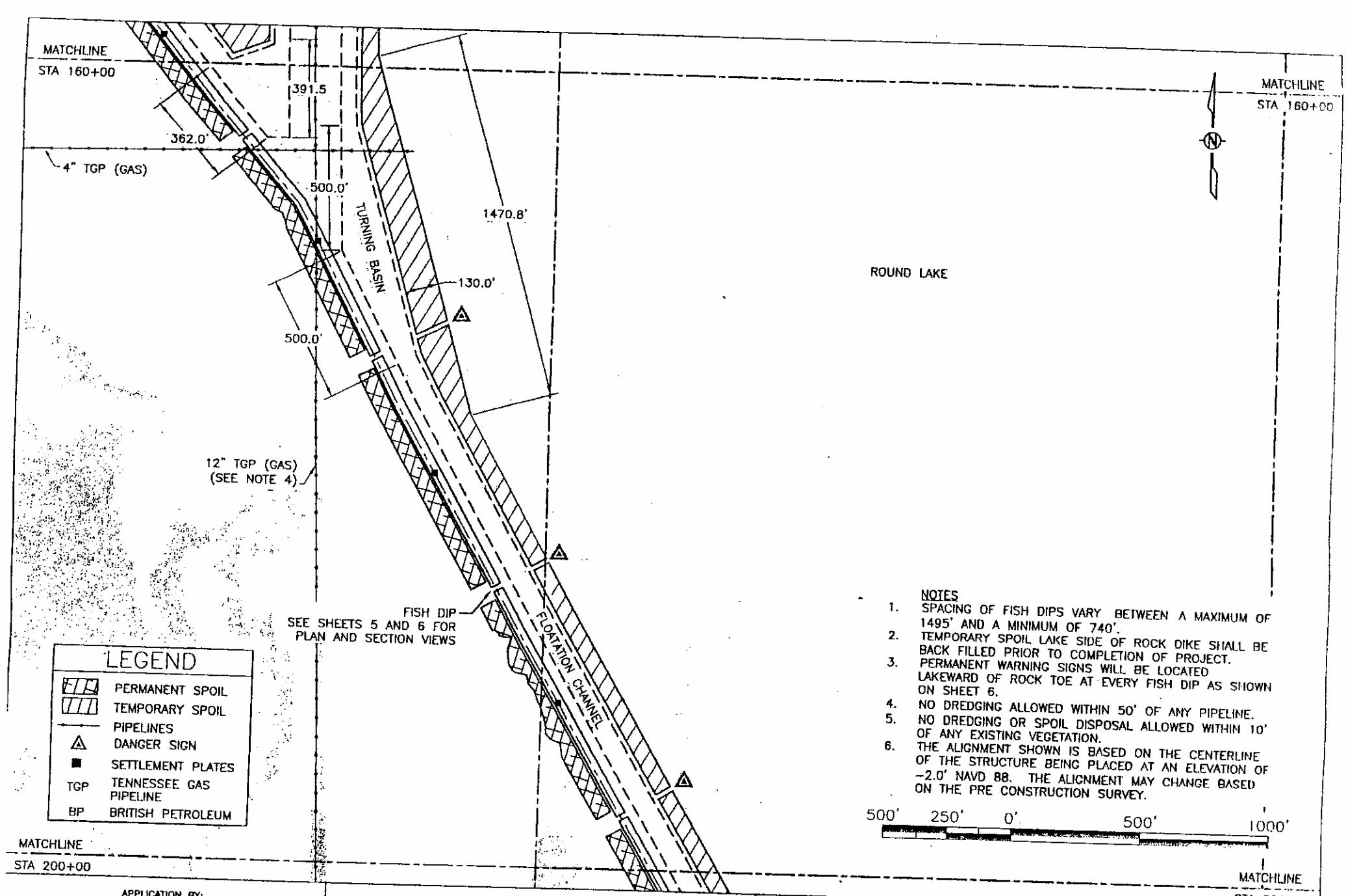

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LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

PROJECT PLAN VIEW

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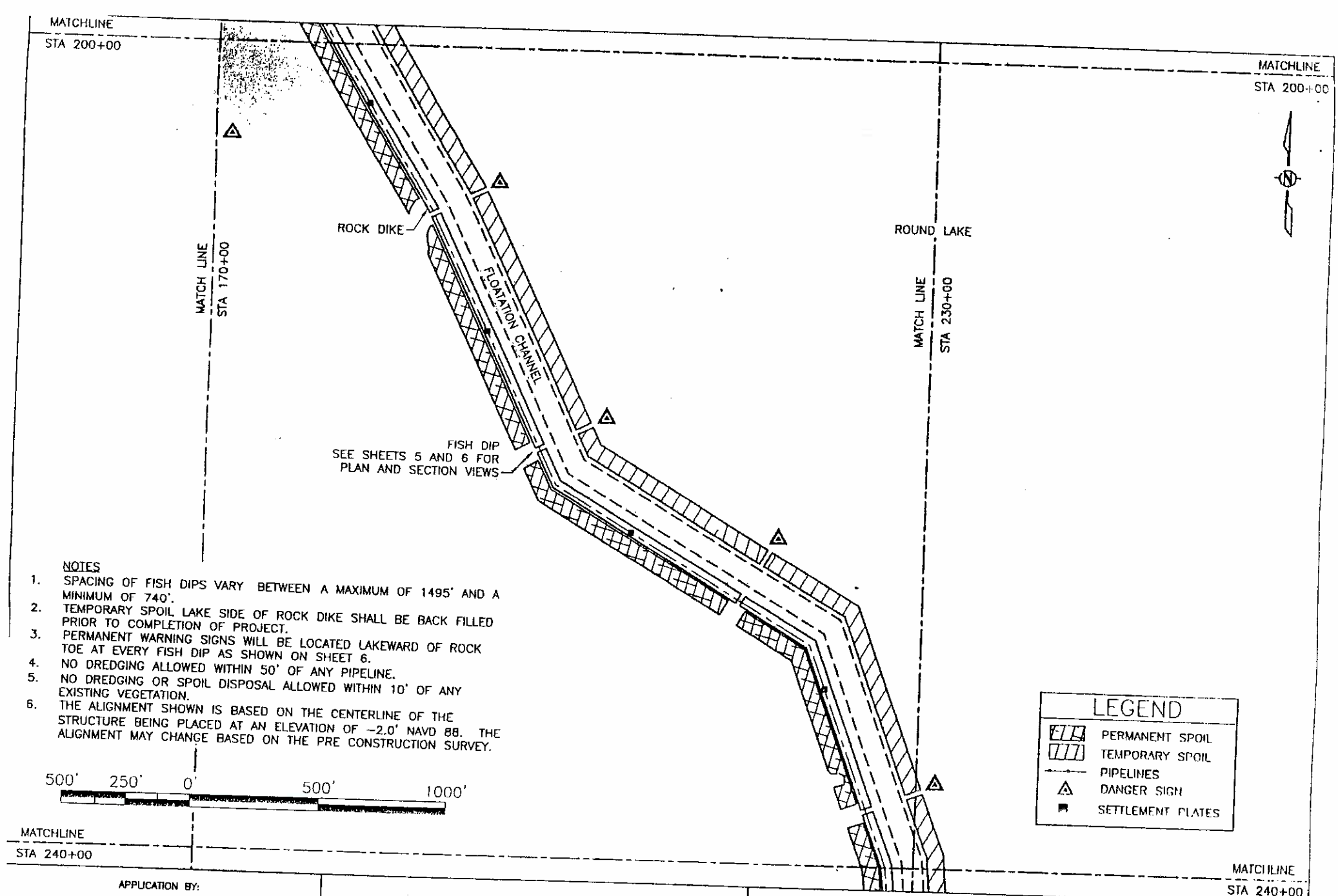

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LEGEND

- PERMANENT SPOIL
- TEMPORARY SPOIL
- PIPELINES
- DANGER SIGN
- SETTLEMENT PLATES

APPLICATION BY:

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Baton Rouge, LA 70803-7535

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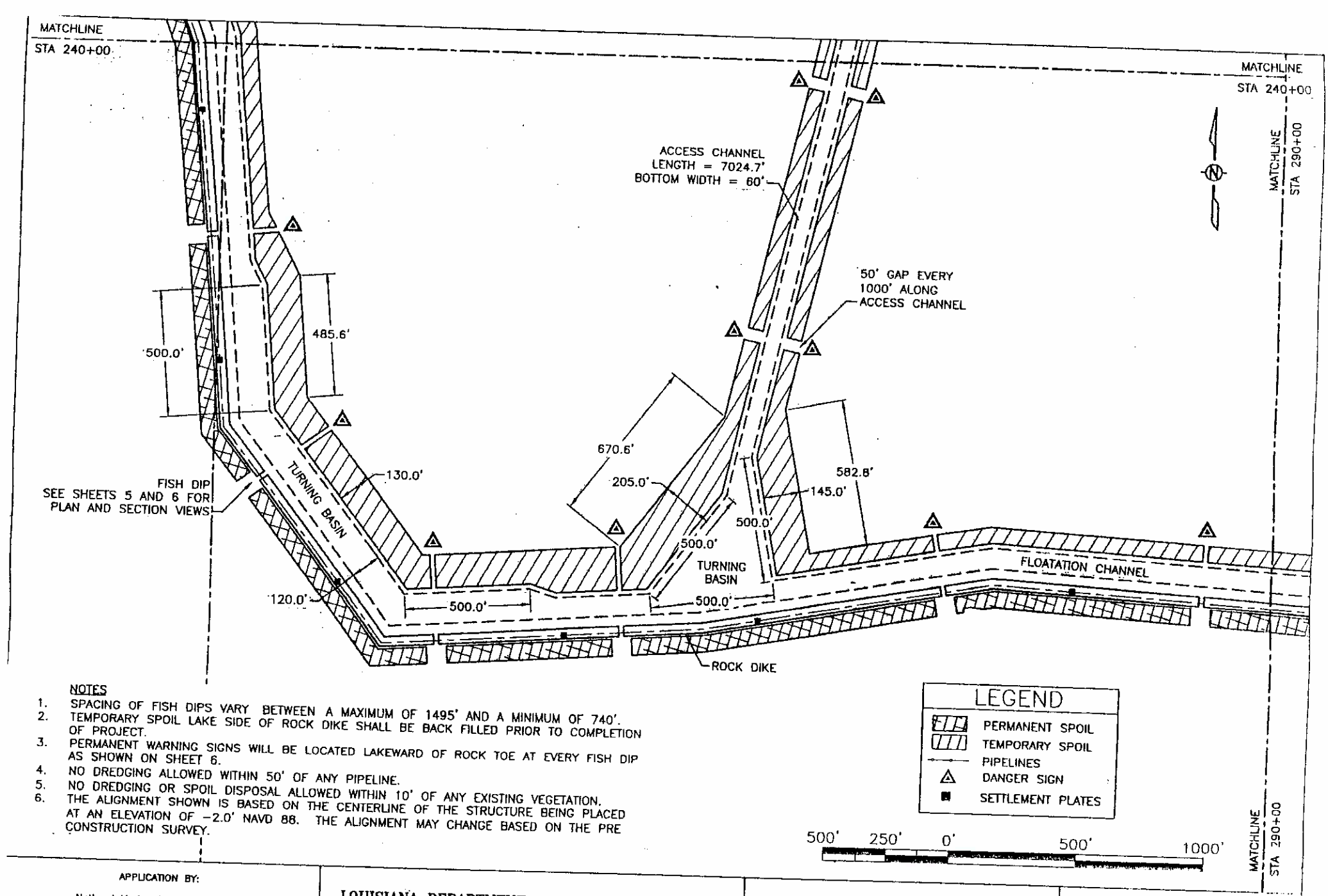

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LEGEND

- PERMANENT SPOIL
- TEMPORARY SPOIL
- PIPELINES
- DANGER SIGN
- SETTLEMENT PLATES

500' 250' 0' 500' 1000'

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COASTAL RESTORATION DIVISION

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BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

PROJECT PLAN VIEW

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DESIGNED BY: CLARK ALLEN, P. E.

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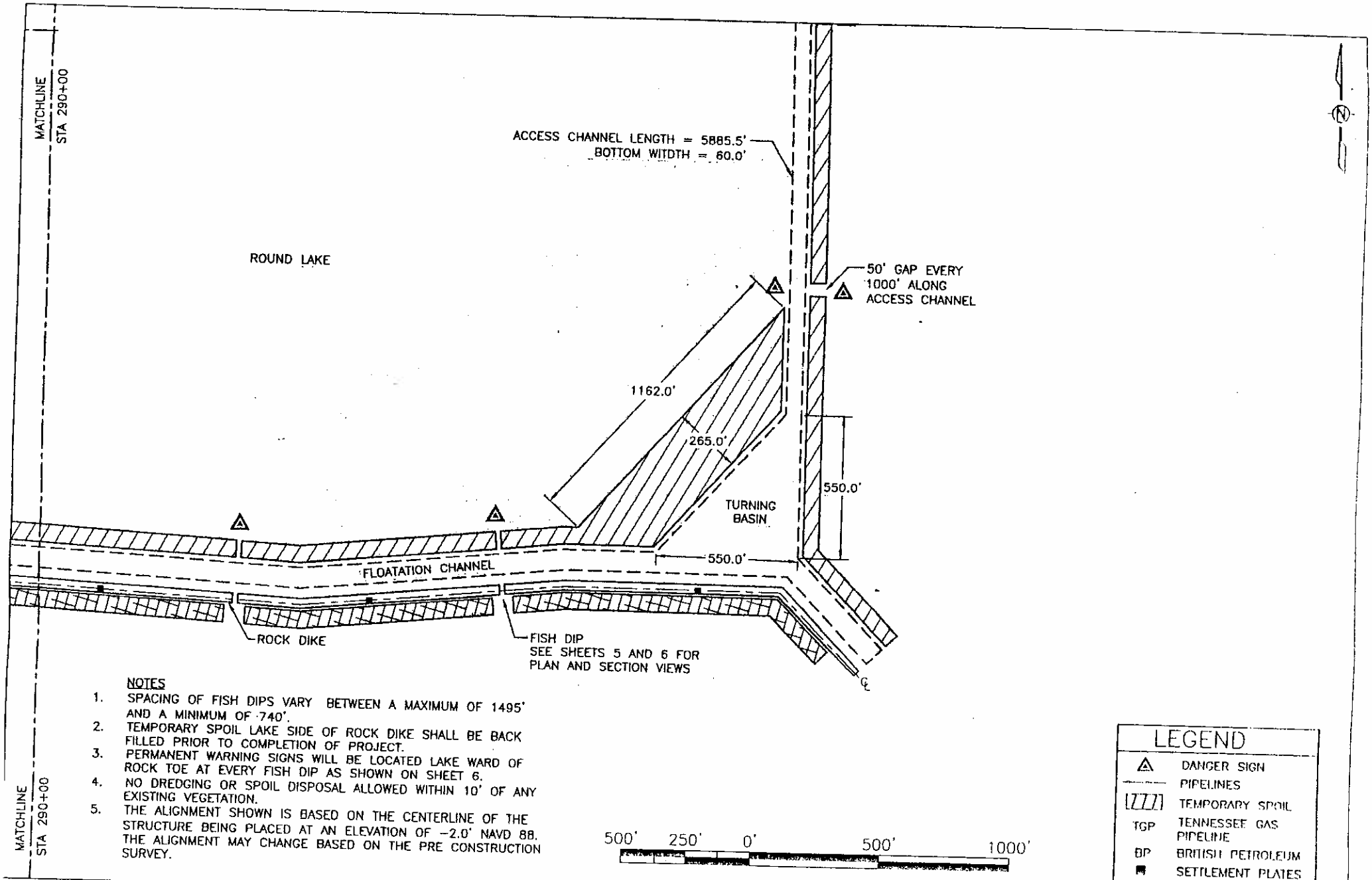

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LEGEND	
⚠	DANGER SIGN
———	PIPELINES
ZZZ	TEMPORARY SPOIL
TGP	TENNESSEE GAS PIPELINE
BP	BRITISH PETROLEUM
■	SETTLEMENT PLATES

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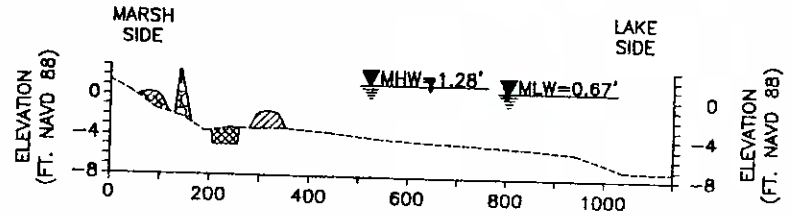

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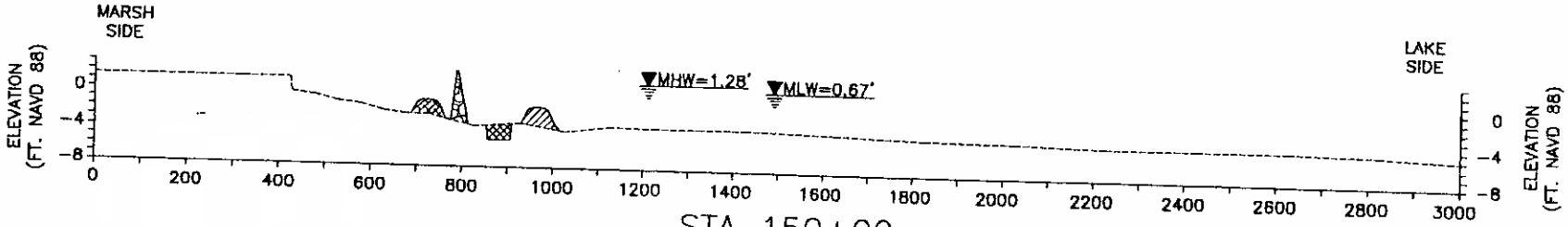

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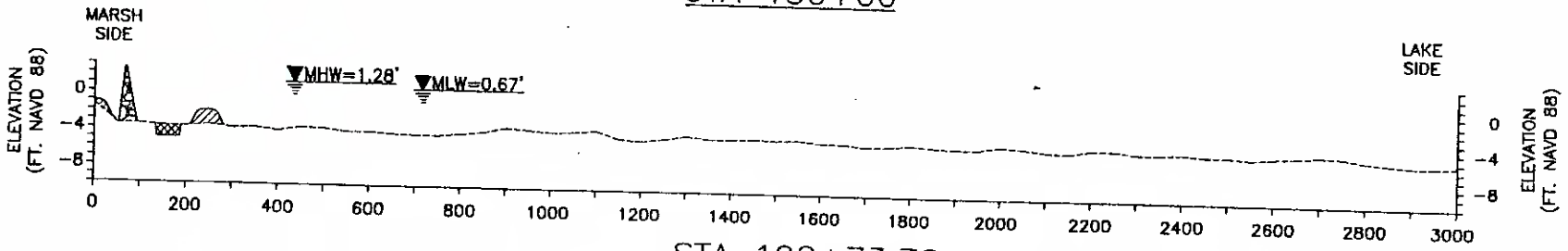

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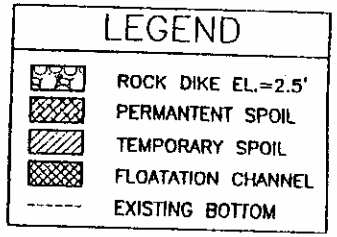

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LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

ROCK DIKE CROSS SECTIONS

DRAWN BY: KRISTI CANTU

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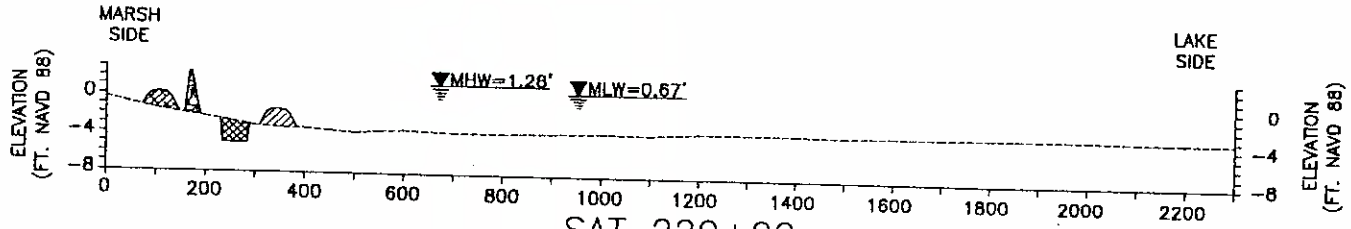
SHEET 17 OF 23



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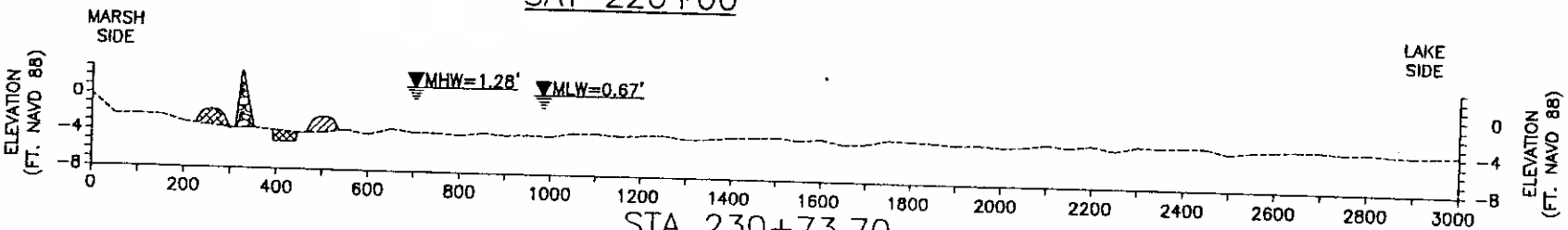

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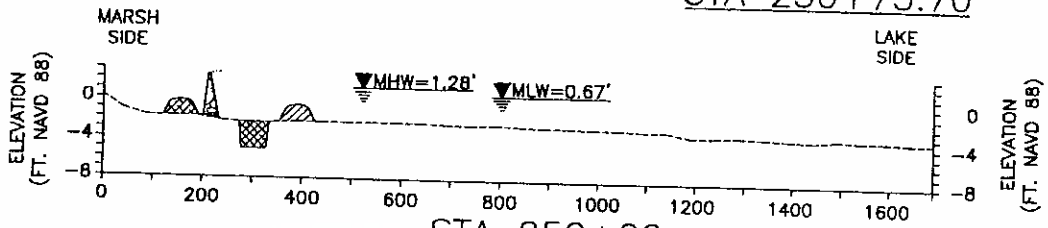

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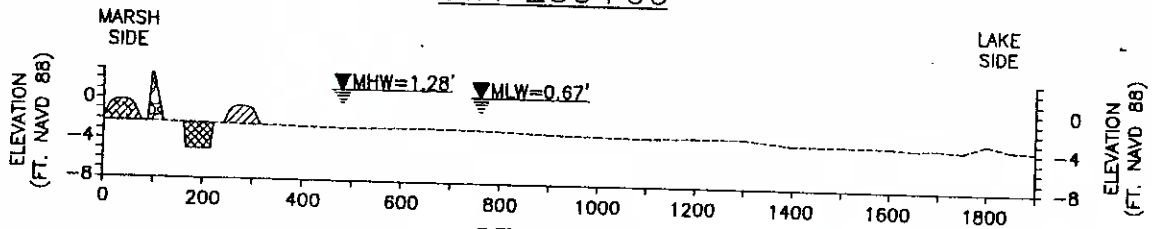

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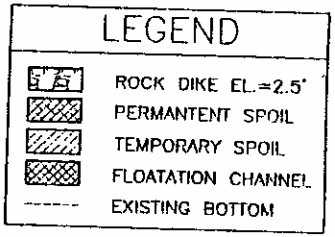

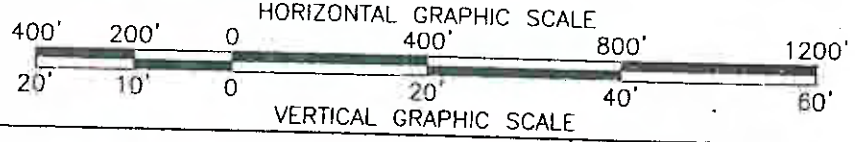

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COASTAL RESTORATION DIVISION

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LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

ROCK DIKE CROSS SECTIONS

DRAWN BY: KRISTI CANTU

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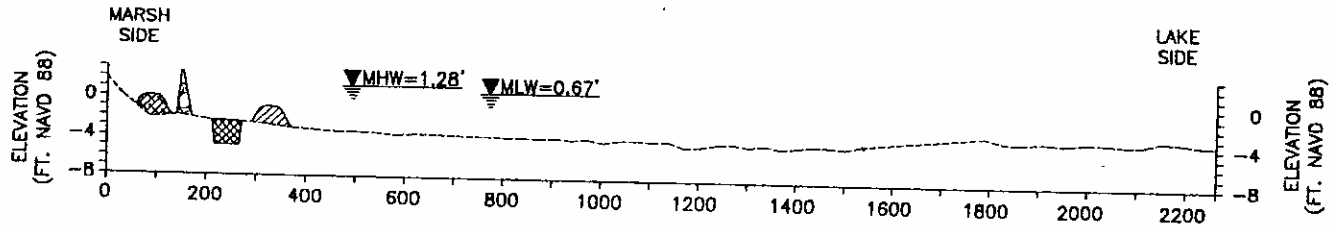
SHEET 18 OF 23



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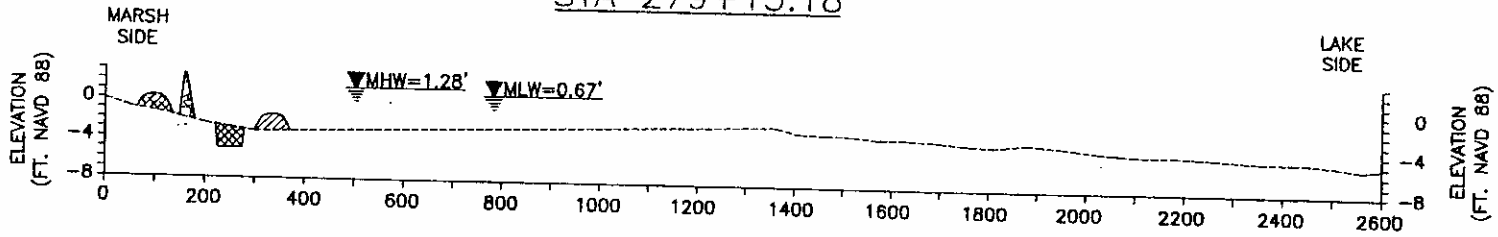

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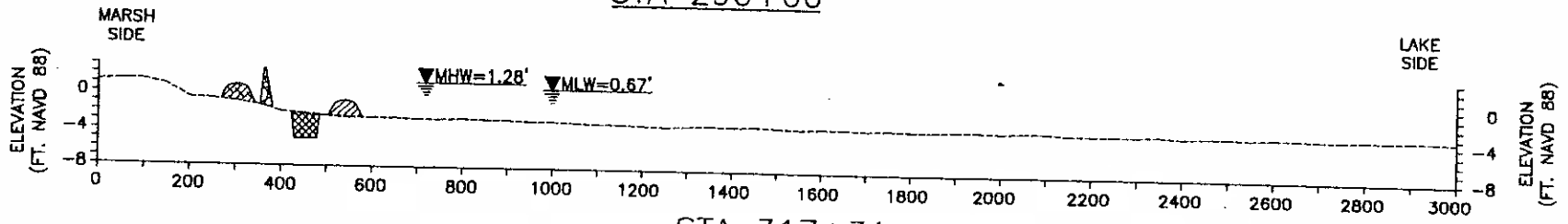
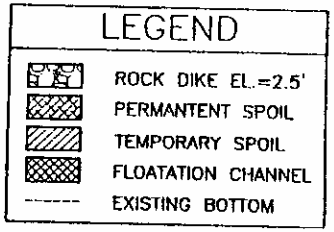


STA 317+31





APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

ROCK DIKE CROSS SECTIONS

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: CHRIS KNOTTS, P. E.

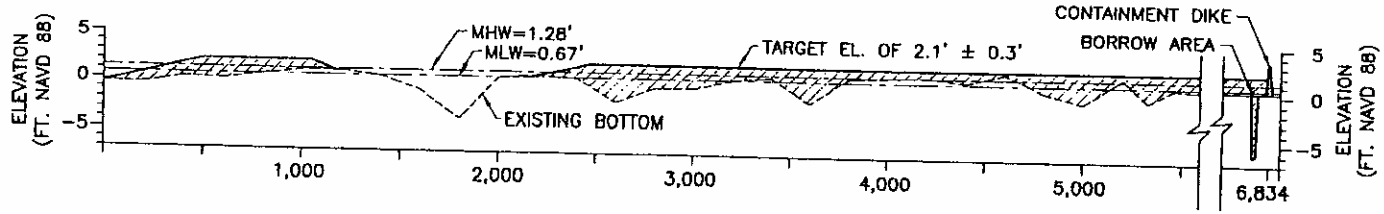
STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

DATE: 9/23/03

SHEET 19 OF 23

SECTION 1
LOOKING EAST



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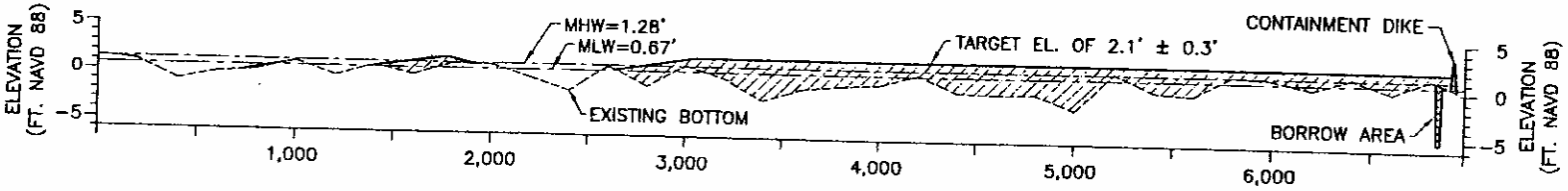

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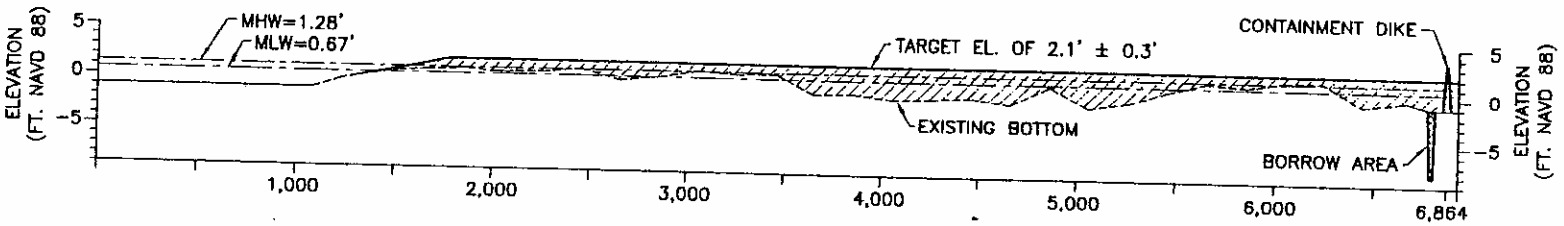

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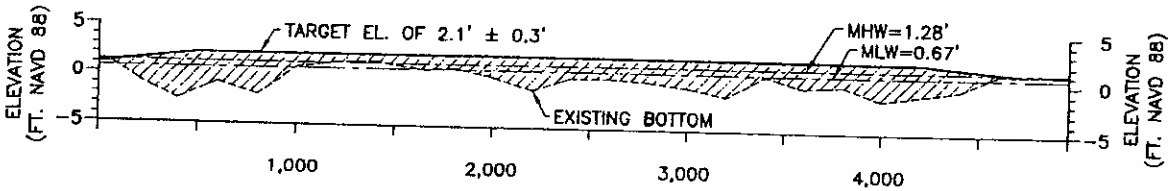
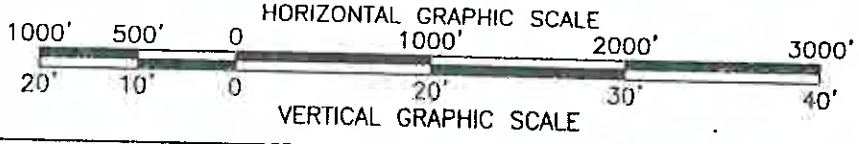
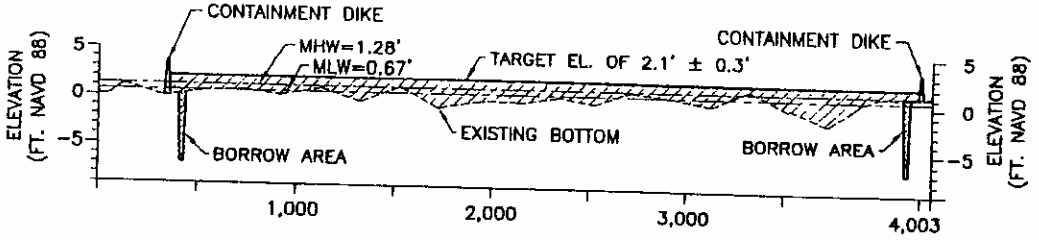




APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	MARSH CREATION CROSS SECTION
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E. / APPROVED BY: CHRIS KNOTTS, P. E.	STATE PROJECT NUMBER: BA-37 FEDERAL PROJECT NUMBER: BA-37	DATE: 9/23/03 SHEET 20 OF 23

SECTION 5
LOOKING EAST



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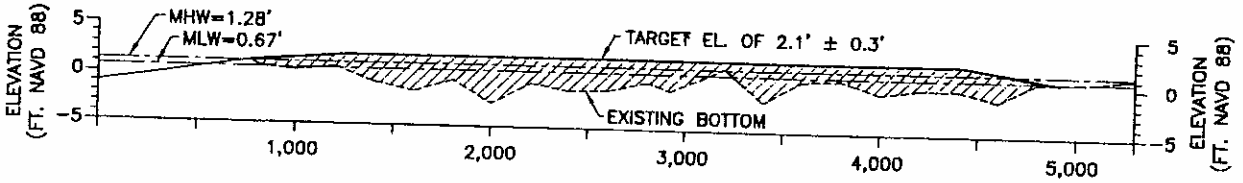

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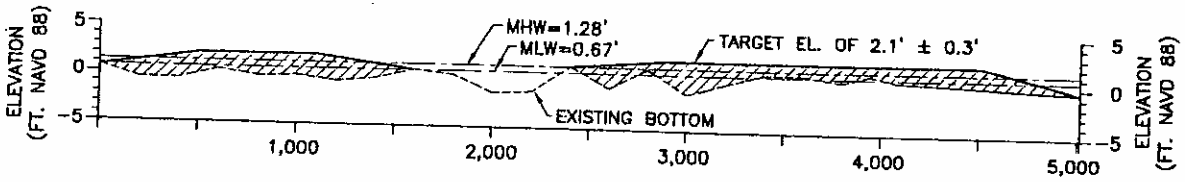

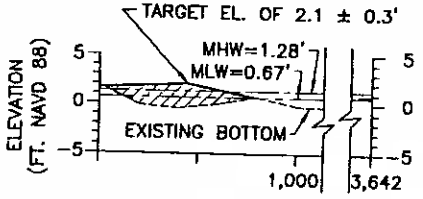

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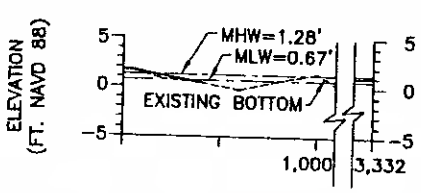

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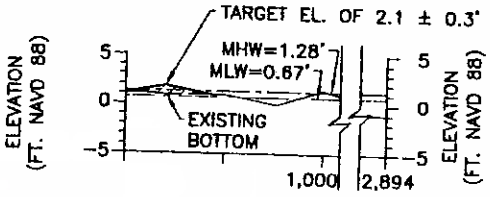

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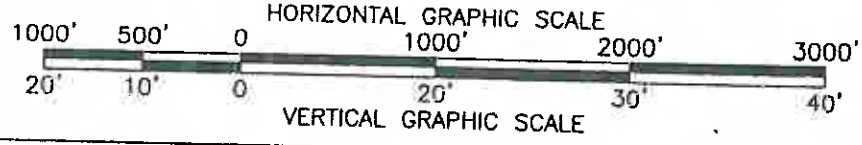
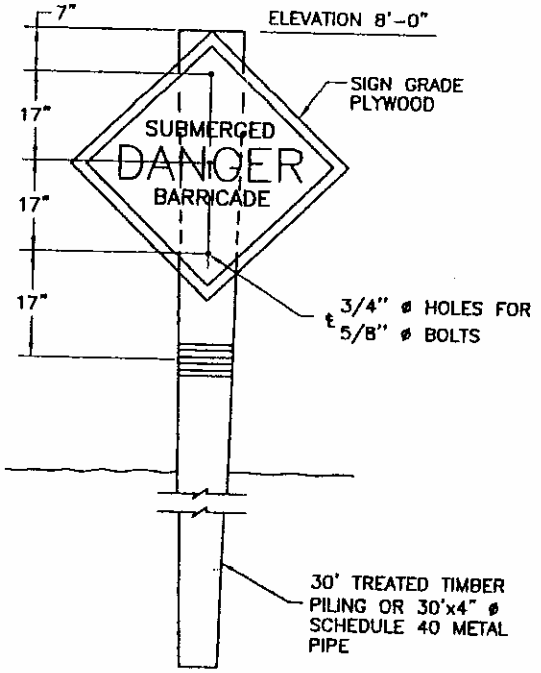
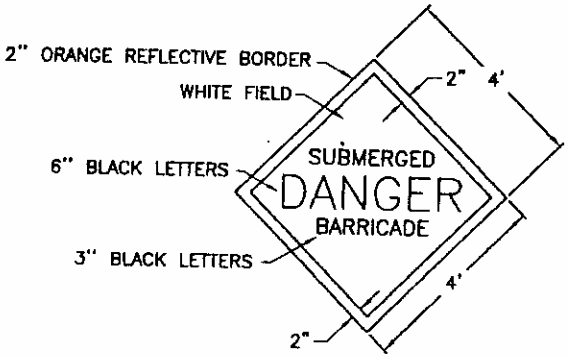


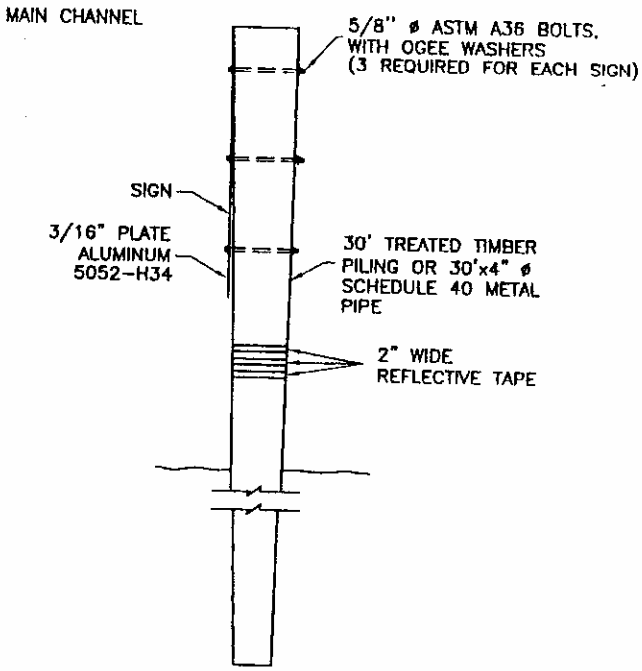
APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	MARSH CREATION CROSS SECTION
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E.	APPROVED BY: CHRIS KNOTTS, P. E.	STATE PROJECT NUMBER: BA-37 FEDERAL PROJECT NUMBER: BA-37	DATE: 9/23/03 SHEET 21 OF 23



TEMPORARY WARNING SIGN ELEVATION
NOT TO SCALE



SIGN DETAIL
NOT TO SCALE

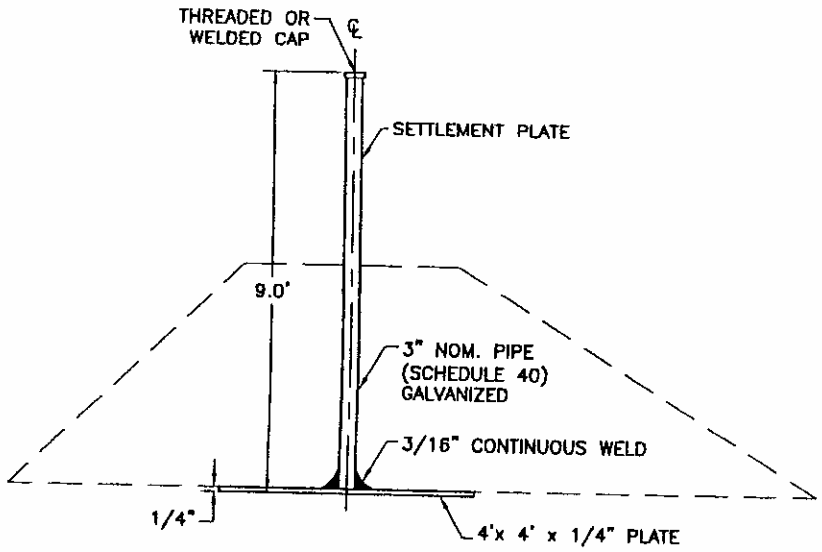


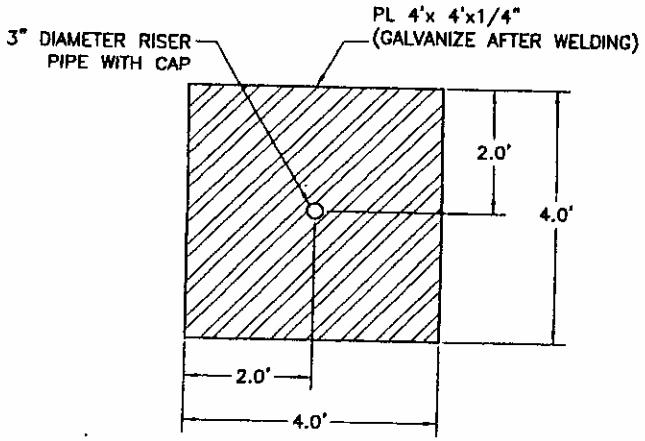
WARNING SIGN SIDE DETAIL
NOT TO SCALE

NOTES:

1. TWENTY-ONE PERMANENT AND TWENTY-ONE TEMPORARY WARNING SIGNS SHALL BE INSTALLED AT LOCATIONS STATED ON SHEET 6.
2. THE 2" BORDER ON THE WARNING SIGNS WILL BE A REFLECTIVE MATERIAL OF ORANGE COLOR. THE LETTERING FIELD WILL BE A REFLECTIVE MATERIAL OF WHITE COLOR. THE LETTERING FOR THE WARNING SIGNS WILL BE BLACK. ALL SIGNS MUST MEET U.S. COAST GUARD STANDARDS; IN ACCORDANCE WITH 33 CFR 330.4 (a)(1) WHICH CAN BE DOWNLOADED AT http://www.access.gpo.gov/nara/cfr/waisidx_02/33cfr330_002.html
3. NEOPRENE WASHERS SHALL BE PLACED BETWEEN THE SIGN AND THE PILING AT ALL POINTS OF CONTACT.
4. HARDWARE FOR TIMBER CONNECTIONS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SECTION 811.5 OF LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION.
5. TIMBER PILES SHALL CONFORM TO SECTIONS 804 AND 1014 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION. PILES SHALL BE TREATED WITH A CREOSOTE SOLUTION CONFORMING TO AWPA P2 TO A MINIMUM RETENTION OF 16 PCF AND CAPPED ACCORDING TO LA DOTD SPECIFICATION 812.06.
6. THE CONTRACTOR HAS THE OPTION OF USING A 30'x4" ø SCHEDULE 40 METAL PIPE OR OTHER APPROVED MATERIAL FOR TEMPORARY SIGNS.
7. TIMBER PILINGS SHALL BE 30-FEET IN LENGTH WITH A NOMINAL 12-INCH DIAMETER BUTT AND 7-INCH MINIMUM DIAMETER AT THE TIP.
8. THE TEMPORARY SIGNS SHALL BE INSTALLED AT NO DIRECT PAY.
9. TEMPORARY WARNING SIGNS SHALL HAVE THE SAME COLORING AND REFLECTIVE TAPE AS PERMANENT SIGNS BUT CONSTRUCTED WITH 3/4" SIGN GRADE PLYWOOD.
10. THE SUPPORTS FOR THE TEMPORARY SIGNS SHALL BE REMOVED TO 5' BELOW MUD LINE OR REMOVED COMPLETELY AFTER PERMANENT SIGNS ARE ACCEPTED.

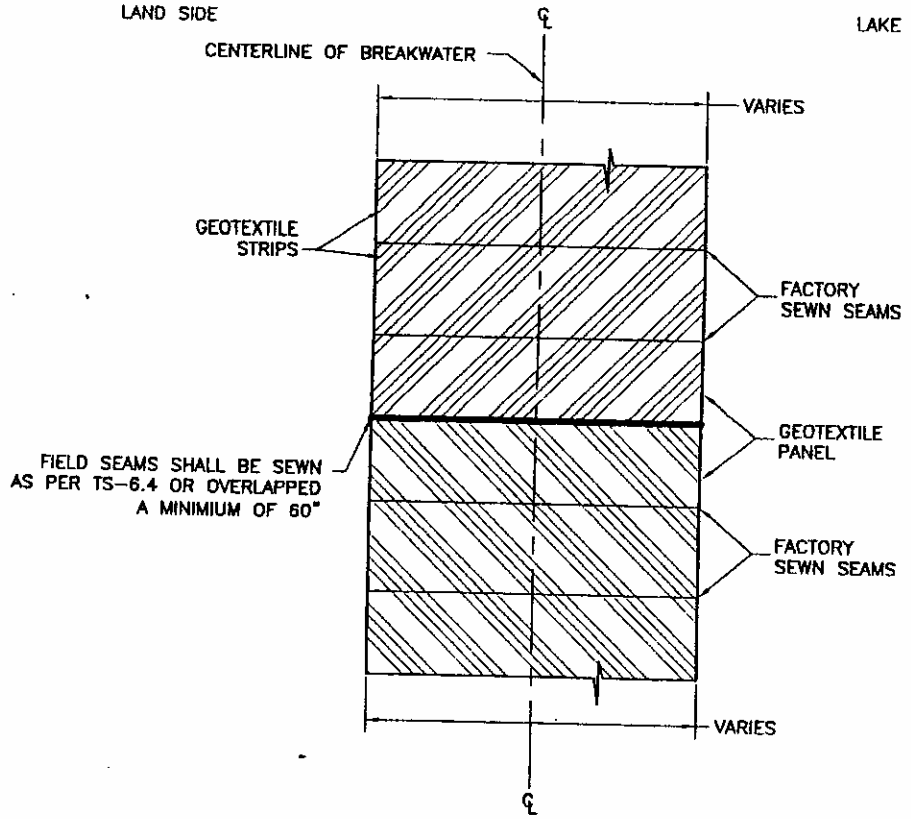
APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	SIGN DETAILS
			STATE PROJECT NUMBER: BA-37	DATE: 9/23/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P.E.	APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 22 OF 23





SETTLEMENT PLATE

NOT TO SCALE



WOVEN GEOTEXTILE LAYOUT

NOT TO SCALE

SETTLEMENT PLATE NOTES:

1. SETTLEMENT PLATES SHALL BE INSTALLED ALONG THE CENTERLINE OF THE BREAKWATER AS SHOWN ON SHEETS 11-16.
2. THE SETTLEMENT PLATES SHALL BE SURVEYED DAILY BY THE CONTRACTOR AND WITNESSED BY THE DNR INSPECTOR UNTIL THE ROCK IS ACCEPTED.
3. SETTLEMENT PLATES SHALL BE BUILT USING ASTM A36 STEEL AND HOT-DIPPED GALVANIZED AFTER FABRICATION.

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	TYPICAL DETAILS
			STATE PROJECT NUMBER: BA-37	DATE: 9/23/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P.E.	APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 23 OF 23

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

April 21, 2005

REPLY TO
ATTENTION OF:

Operations Division
Central Evaluation Section

SUBJECT: MVN-2004-0058-CR

National Marine Fisheries Service
Attn: Richard Hartman
South Stadium Road
Military Science Room
Baton Rouge, Louisiana 70803-7535

Gentlemen:

Revised drawings attached in twenty-four sheets, furnished with your application dated February 24, 2005, covering modification of the dredged material containment plan and adjustment of the volumetric and physical dimensions of specific elements of the Little Lake Shoreline Protection and Marsh Creation Project (BA-37), near Lafitte, Louisiana, within Lafourche Parish, are approved and will be included in your plans for the work authorized by the Secretary of the Army in permit dated January 5, 2004. These drawings supersede drawings attached to your original permit.

The conditions to which the work is made subject, remain in full force and effect.

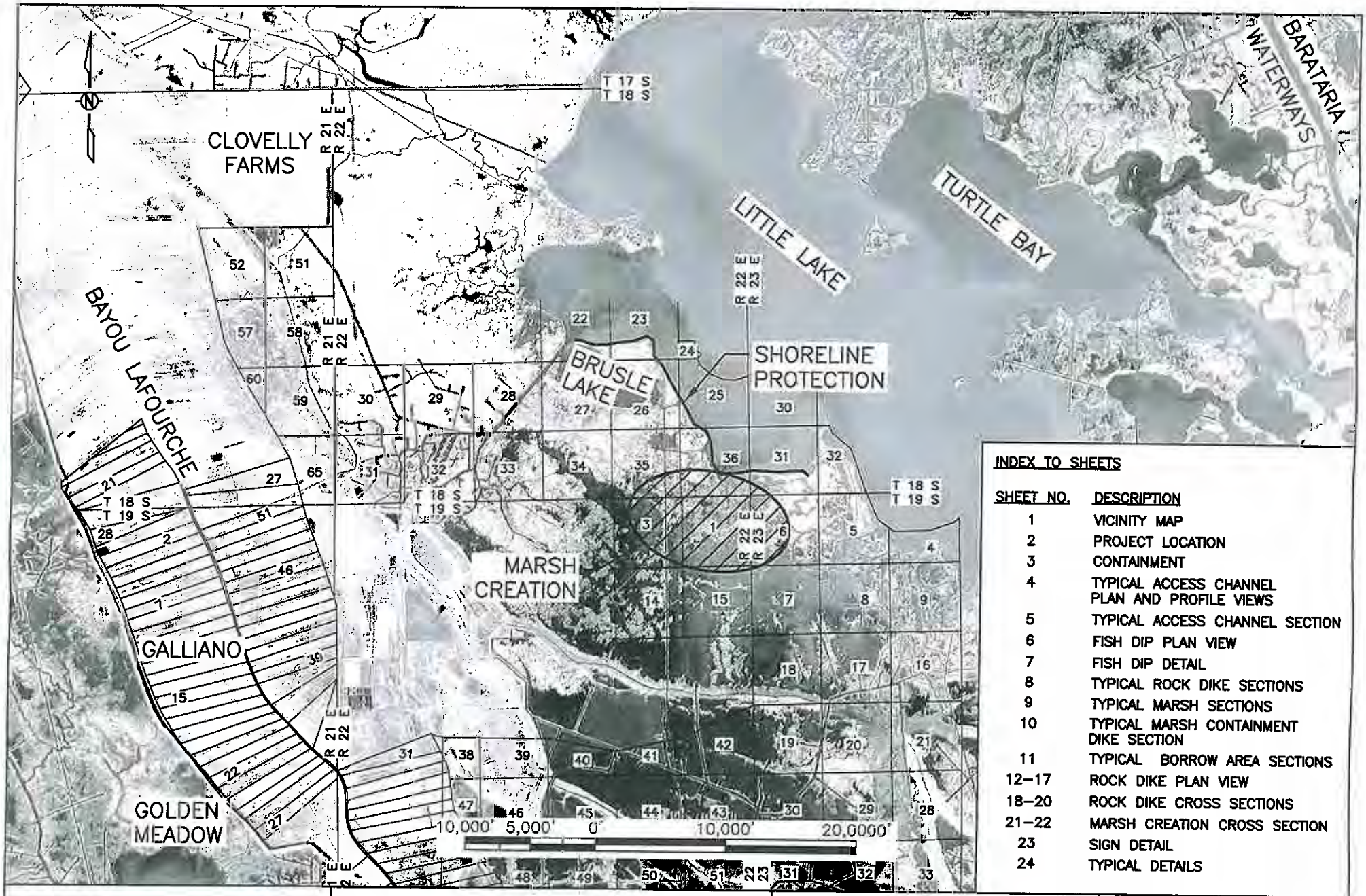
If the structure or work authorized is not completed on or before the date herein specified, this authorization, if not previously revoked or specifically further extended, will cease and become null and void.

A copy of this permit approval letter must be conspicuously displayed at the project site. Also, you must keep a copy of this signed letter, with attached drawings, at the project site until the work is completed.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

Ronald J. Ventola
Chief, Regulatory Branch
for
Peter J. Rowan
Colonel, U.S. Army
District Engineer

RECEIVED
JUN 16 2005



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2	PROJECT LOCATION
3	CONTAINMENT
4	TYPICAL ACCESS CHANNEL PLAN AND PROFILE VIEWS
5	TYPICAL ACCESS CHANNEL SECTION
6	FISH DIP PLAN VIEW
7	FISH DIP DETAIL
8	TYPICAL ROCK DIKE SECTIONS
9	TYPICAL MARSH SECTIONS
10	TYPICAL MARSH CONTAINMENT DIKE SECTION
11	TYPICAL BORROW AREA SECTIONS
12–17	ROCK DIKE PLAN VIEW
18–20	ROCK DIKE CROSS SECTIONS
21–22	MARSH CREATION CROSS SECTION
23	SIGN DETAIL
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APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

VICINITY MAP

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: LUKE LEBAS, P. E.

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 9/14/04)

SHEET 1 OF 24

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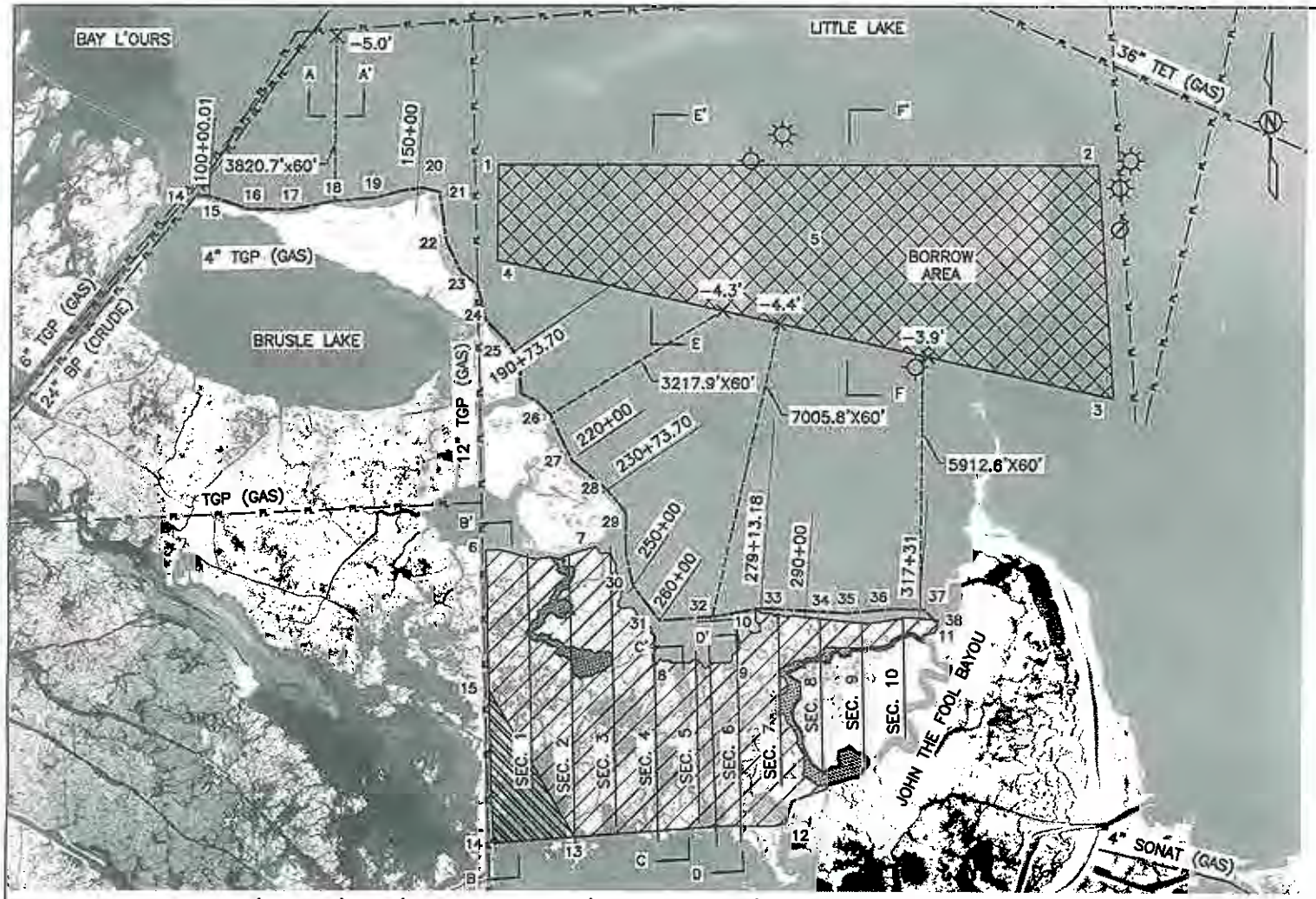

MARSH CREATION AREA BOUNDARY		
PT.	LATITUDE	LONGITUDE
6	29.4769	90.1964
7	29.4771	90.1884
8	29.4694	90.1826
9	29.4694	90.1780
10	29.4728	90.1761
11	29.4721	90.1623
12	29.4588	90.1738
13	29.4577	90.1959

SHORELINE PROTECTION CENTERLINE		
PT.	LATITUDE	LONGITUDE
14	29.5004	90.2185
15	29.5004	90.2174
16	29.4995	90.2143
17	29.4994	90.2112
18	29.4999	90.2080
19	29.5001	90.2048
20	29.5013	90.2013
21	29.5003	90.1997
22	29.4971	90.1995
23	29.4943	90.1971
24	29.4920	90.1965
25	29.4901	90.1945
26	29.4858	90.1916
27	29.4828	90.1900
28	29.4808	90.1873
29	29.4794	90.1859
30	29.4745	90.1853
31	29.4722	90.1833
32	29.4724	90.1793
33	29.4730	90.1757
34	29.4728	90.1723
35	29.4726	90.1691
36	29.4728	90.1660
37	29.4728	90.1633
38	29.4720	90.1624

LEGEND

- BORROW AREA
- MARSH CREATION
- MAX. FILL ELEV.=0.33' NAVD 88
- ADDITIVE ALTERNATE
- P&A DRY WELL
- ACTIVE WELL
- P&A WELL
- SHORELINE PROTECTION
- PIPELINE
- ACCESS CHANNEL
- ELEV. (END OF ACCESS)
- BP BRITISH PETROLEUM
- TGP TENNESSEE GAS PIPELINE
- TET TEXAS EASTERN TRANSMISSION CORP.
- SONAT SOUTHERN NATURAL GAS CO.

BORROW AREA BOUNDARY		
PT.	LATITUDE	LONGITUDE
1	29.5023	90.1955
2	29.5019	90.1501
3	29.4865	90.1490
4	29.4959	90.1956
5	29.4967	90.1725

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

PROJECT LOCATION

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 9/14/04)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: LUKE LEBAS, P. E.

FEDERAL PROJECT NUMBER: BA-37

SHEET 2 OF 24

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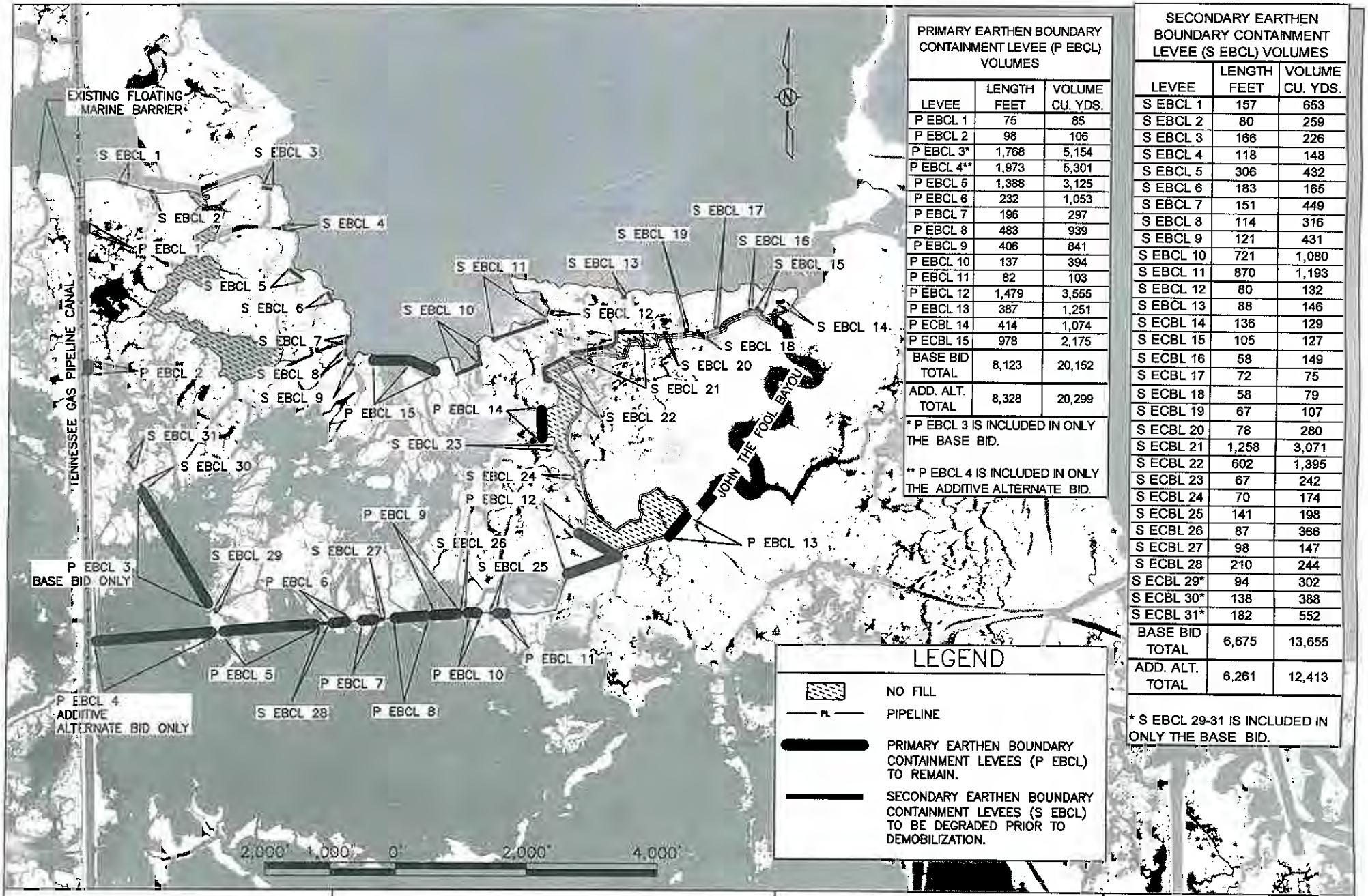

PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEE (P EBCL) VOLUMES

LEVEE	LENGTH FEET	VOLUME CU. YDS.
P EBCL 1	75	85
P EBCL 2	98	106
P EBCL 3*	1,768	5,154
P EBCL 4**	1,973	5,301
P EBCL 5	1,388	3,125
P EBCL 6	232	1,053
P EBCL 7	196	297
P EBCL 8	483	939
P EBCL 9	406	841
P EBCL 10	137	394
P EBCL 11	82	103
P EBCL 12	1,479	3,555
P EBCL 13	387	1,251
P ECBL 14	414	1,074
P ECBL 15	978	2,175
BASE BID TOTAL	8,123	20,152
ADD. ALT. TOTAL	8,328	20,299

* P EBCL 3 IS INCLUDED IN ONLY THE BASE BID.

** P EBCL 4 IS INCLUDED IN ONLY THE ADDITIVE ALTERNATE BID.

SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEE (S EBCL) VOLUMES

LEVEE	LENGTH FEET	VOLUME CU. YDS.
S EBCL 1	157	653
S EBCL 2	80	259
S EBCL 3	166	226
S EBCL 4	118	148
S EBCL 5	306	432
S EBCL 6	183	165
S EBCL 7	151	449
S EBCL 8	114	316
S EBCL 9	121	431
S EBCL 10	721	1,080
S EBCL 11	870	1,193
S EBCL 12	80	132
S EBCL 13	88	146
S ECBL 14	136	129
S ECBL 15	105	127
S ECBL 16	58	149
S ECBL 17	72	75
S ECBL 18	58	79
S ECBL 19	67	107
S ECBL 20	78	280
S ECBL 21	1,258	3,071
S ECBL 22	602	1,395
S ECBL 23	67	242
S ECBL 24	70	174
S ECBL 25	141	198
S ECBL 26	87	366
S ECBL 27	98	147
S ECBL 28	210	244
S ECBL 29*	94	302
S ECBL 30*	138	388
S ECBL 31*	182	552
BASE BID TOTAL	6,675	13,655
ADD. ALT. TOTAL	6,261	12,413

* S EBCL 29-31 IS INCLUDED IN ONLY THE BASE BID.

LEGEND

- NO FILL
- PL — PIPELINE
- PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEES (P EBCL) TO REMAIN.
- SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES (S EBCL) TO BE DEGRADED PRIOR TO DEMOBILIZATION.

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

CONTAINMENT

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: LUKE LEBAS, P. E.

STATE PROJECT NUMBER: BA-37

FEDERAL PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 2/4/05)

SHEET 3 OF 24

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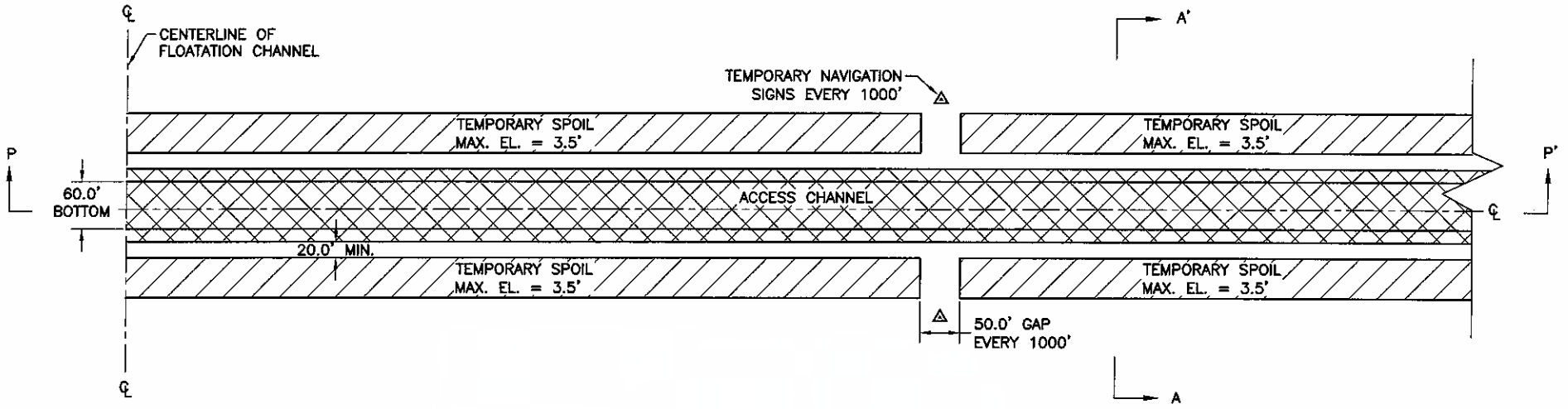
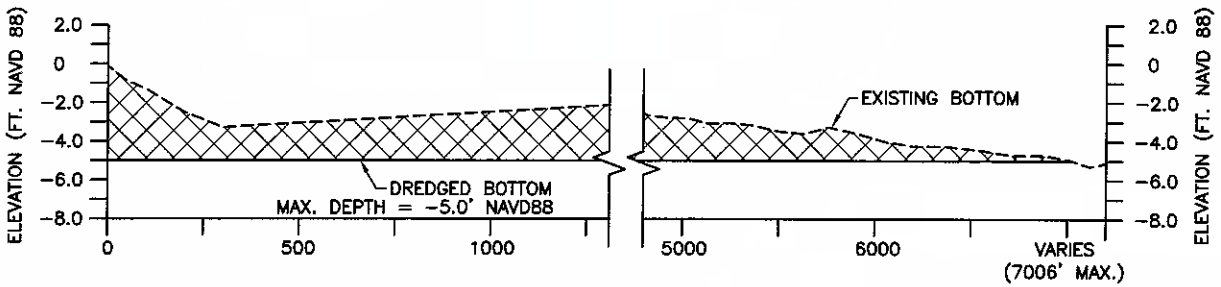


PLAN VIEW

TYPICAL ACCESS CHANNEL

200' 100' 0' 200' 400'



SECTION P–P'

TYPICAL ACCESS CHANNEL

NOTES:
1. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED INTO CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF THE PRE CONSTRUCTION ELEVATIONS.
2. SEE SHEET 5 FOR TYPICAL SECTION A–A'.
3. NO DREDGING ALLOWED OUTSIDE OF THE BORROW AREA, FLOATATION, AND ACCESS CHANNEL.
4. NO PORTION OF ANY EQUIPMENT OR VESSEL SHALL CONTACT THE WATER BOTTOM DURING TRANSIT TO AND FROM PROJECT SITE.
5. SEE SHEETS 12–17 FOR LOCATIONS OF TEMPORARY SPOIL.

HORIZONTAL GRAPHIC SCALE

500' 250' 0 500' 1000'

10' 5' 0 10' 20'

VERTICAL GRAPHIC SCALE

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 256 Baton Rouge, LA 70803–7535	**LOUISIANA DEPARTMENT OF NATURAL RESOURCES** **COASTAL ENGINEERING DIVISION** 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	TYPICAL ACCESS CHANNEL PLAN AND PROFILE VIEWS
			STATE PROJECT NUMBER: BA–37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E.	APPROVED BY: LUKE LEBAS, P. E.	FEDERAL PROJECT NUMBER: BA–37	SHEET 4 OF 24

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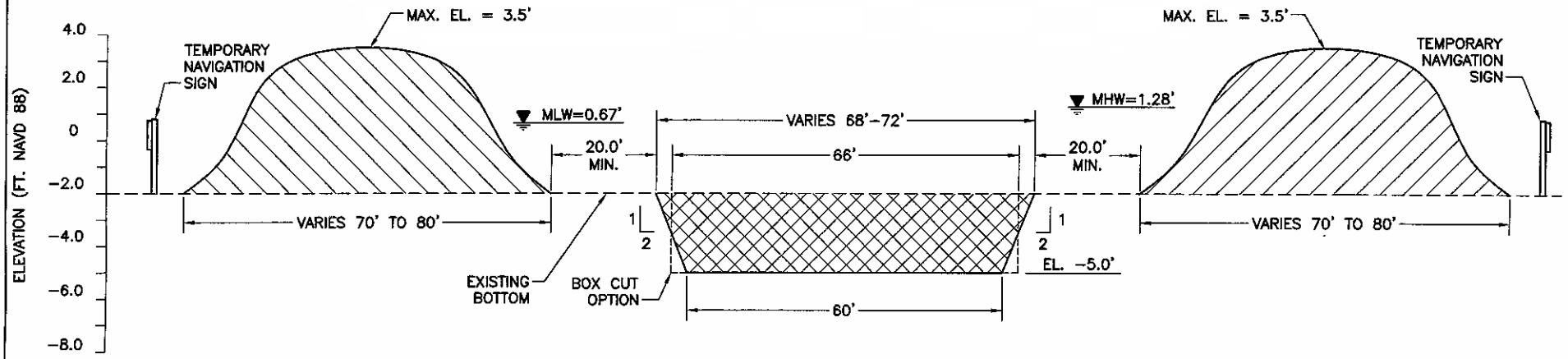
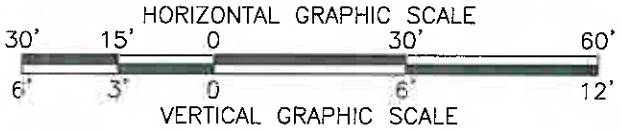
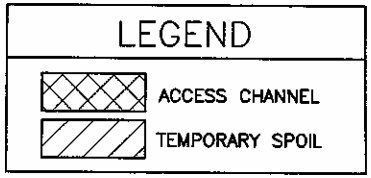
	BEGIN (LAT, LONG)	END (LAT, LONG)	LENGTH	VOLUME (CU. YRDS)
ACCESS CHANNEL #1	29.4998, 90.2076	29.5108, 90.2078	3808'	8400
ACCESS CHANNEL #2	29.4858, 90.1916	29.4925, 90.1786	4662'	16300
ACCESS CHANNEL #3	29.4724, 90.1793	29.4916, 90.1743	6984'	15400
ACCESS CHANNEL #4	29.4728, 90.1636	29.4894, 90.1634	5896'	26400
TOTAL			21350'	66500



SECTION A-A'
ACCESS CHANNEL

NOTES:
1. ACCESS CHANNEL SIDE SLOPES WERE PROVIDED BY GEOTECHINAL CONSULTANTS.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF PRE CONSTRUCTION ELEVATIONS.





APPLICATION BY:
National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

TYPICAL ACCESS CHANNEL SECTION

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 2/4/05)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P.E.

APPROVED BY: LUKE LEBAS, P.E.

FEDERAL PROJECT NUMBER: BA-37

SHEET 5 OF 24

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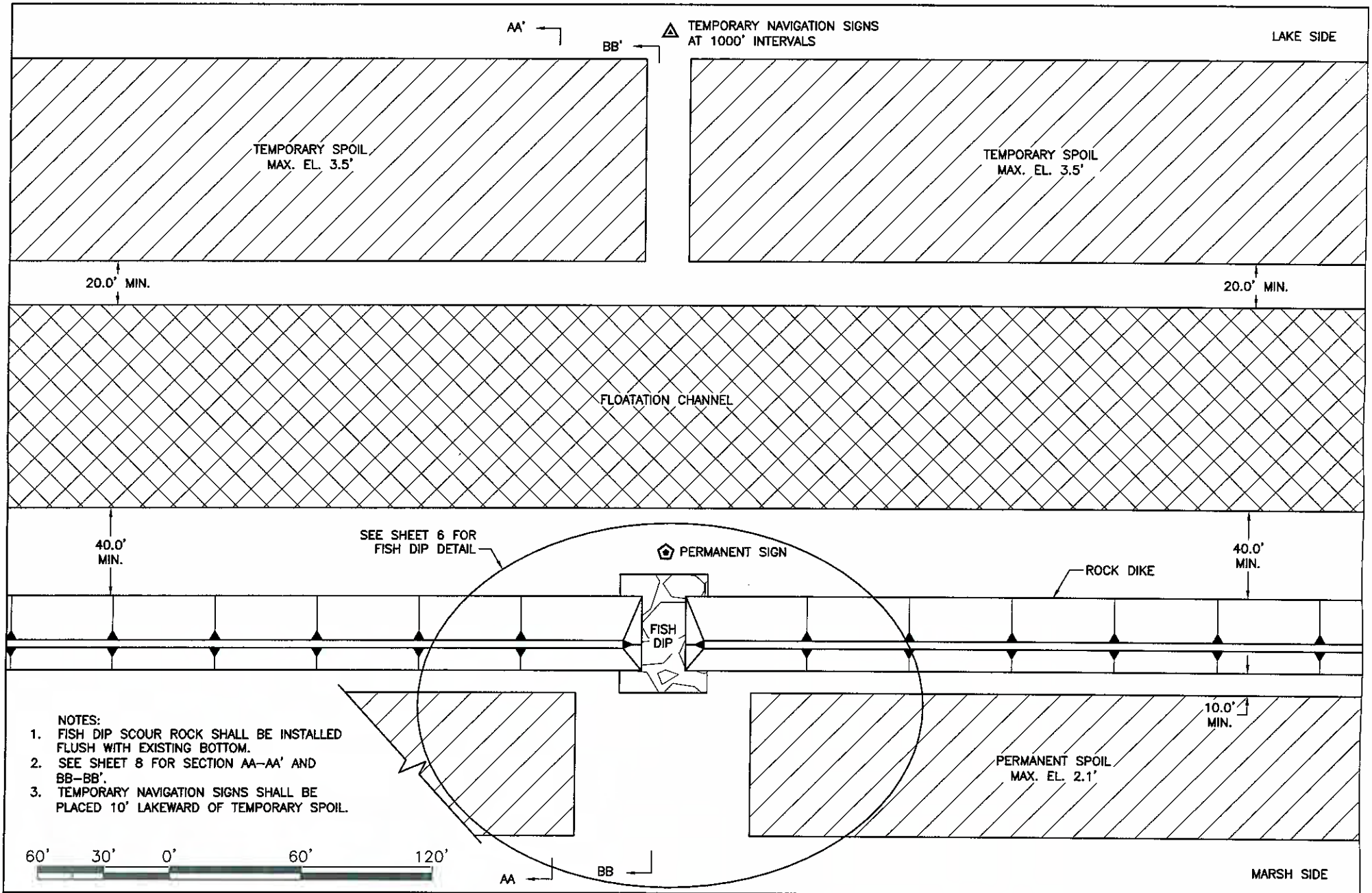

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803–7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

FISH DIP
PLAN VIEW

STATE PROJECT NUMBER: BA–37

DATE: 9/23/03 (REVISION DATE 9/14/04)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: LUKE LEBAS, P. E.

FEDERAL PROJECT NUMBER: BA–37

SHEET 6 OF 24

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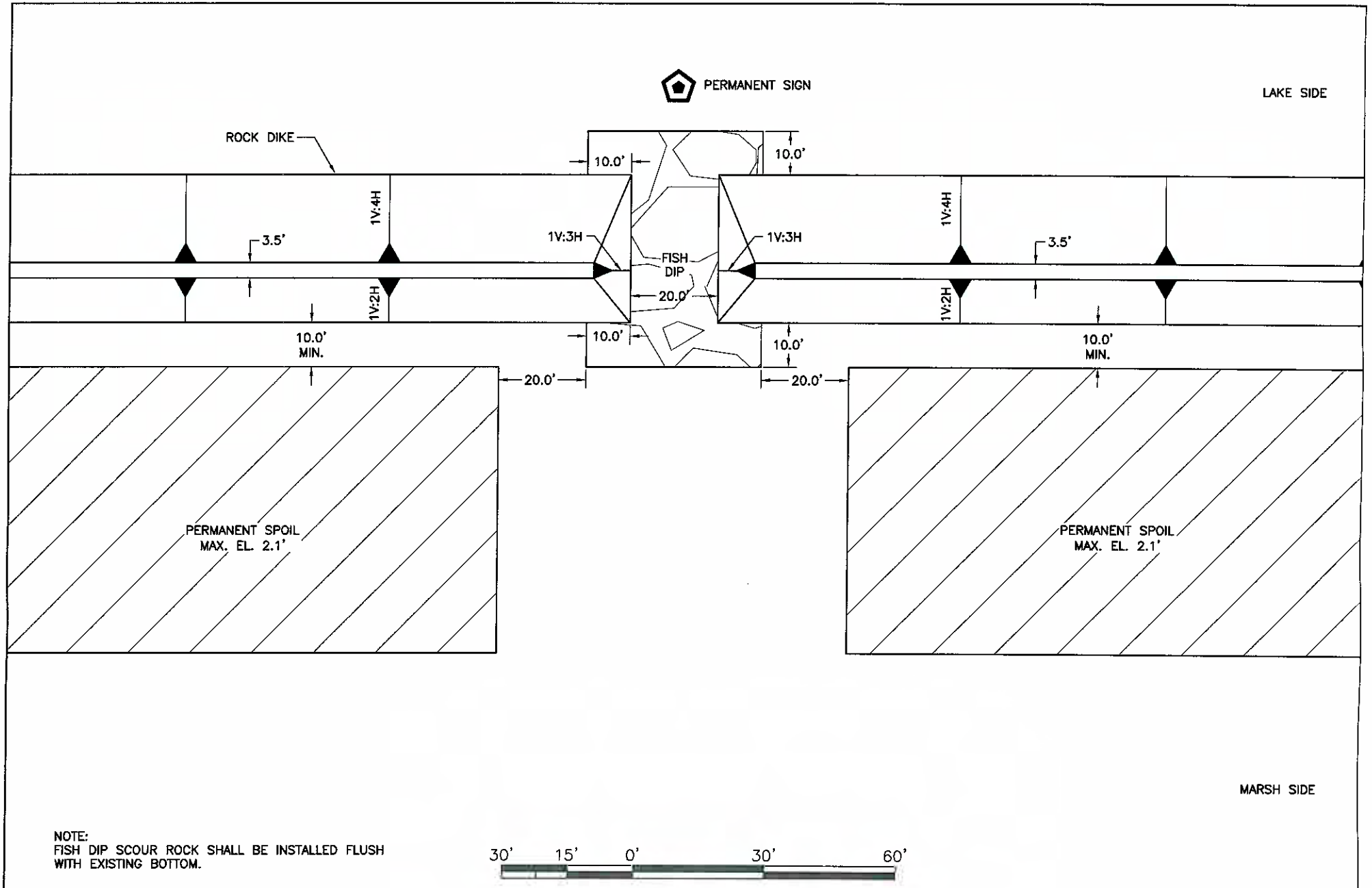

NOTE:
FISH DIP SCOUR ROCK SHALL BE INSTALLED FLUSH WITH EXISTING BOTTOM.

30' 15' 0' 30' 60'

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	FISH DIP DETAIL
		STATE PROJECT NUMBER: BA-37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E. / APPROVED BY: LUKE LEBAS, P. E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 7 OF 24

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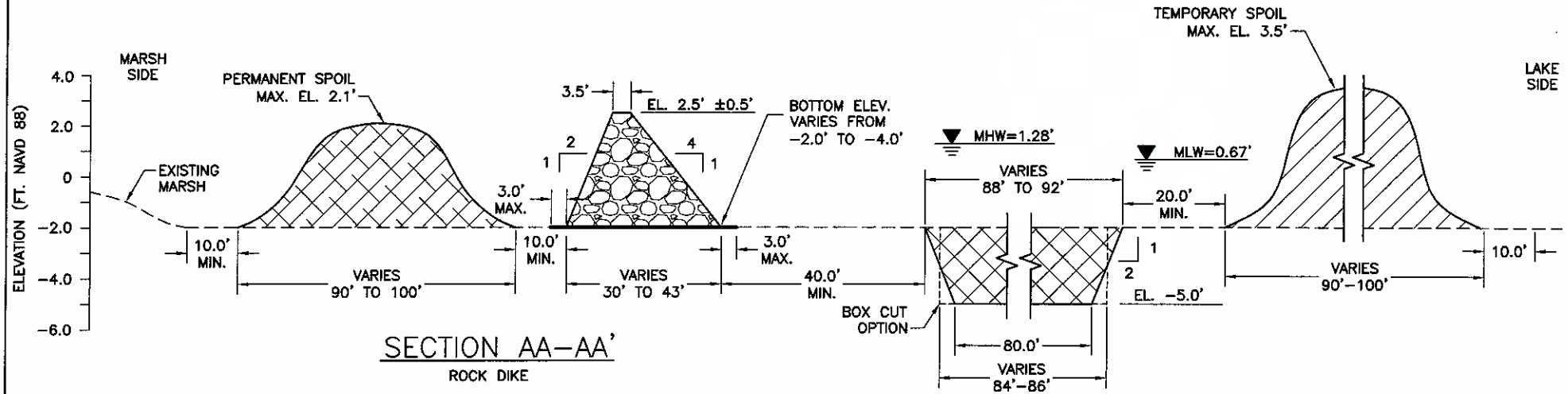
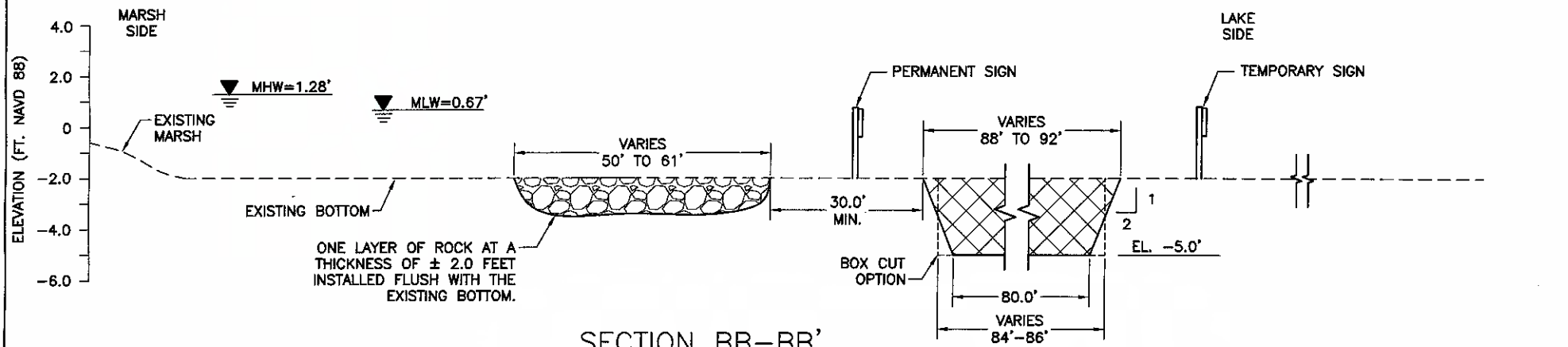


SECTION AA-AA'

ROCK DIKE



SECTION BB-BB'

FISH DIP

NOTES:

1. FLOATATION SIDE SLOPES WERE GIVEN BY GEOTECHINCAL CONSULTANTS. FLOATATION WILL BE DREDGED AS A BOX CUT.
2. THE SPOIL FROM MAINTENANCE DREDGING SHALL BE PLACED ADJACENT TO THE CHANNEL.
3. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF PRE CONSTRUCTION ELEVATIONS.

HORIZONTAL GRAPHIC SCALE

30' 15' 0 30' 60'

6' 3' 0 6' 12'

VERTICAL GRAPHIC SCALE

LEGEND

- FLOATATION CHANNEL
- ROCK DIKE
- GEOTEXTILE

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

TYPICAL ROCK DIKE SECTIONS

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 9/14/04)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P.E.

APPROVED BY: LUKE LEBAS, P.E.

FEDERAL PROJECT NUMBER: BA-37

SHEET 8 OF 24

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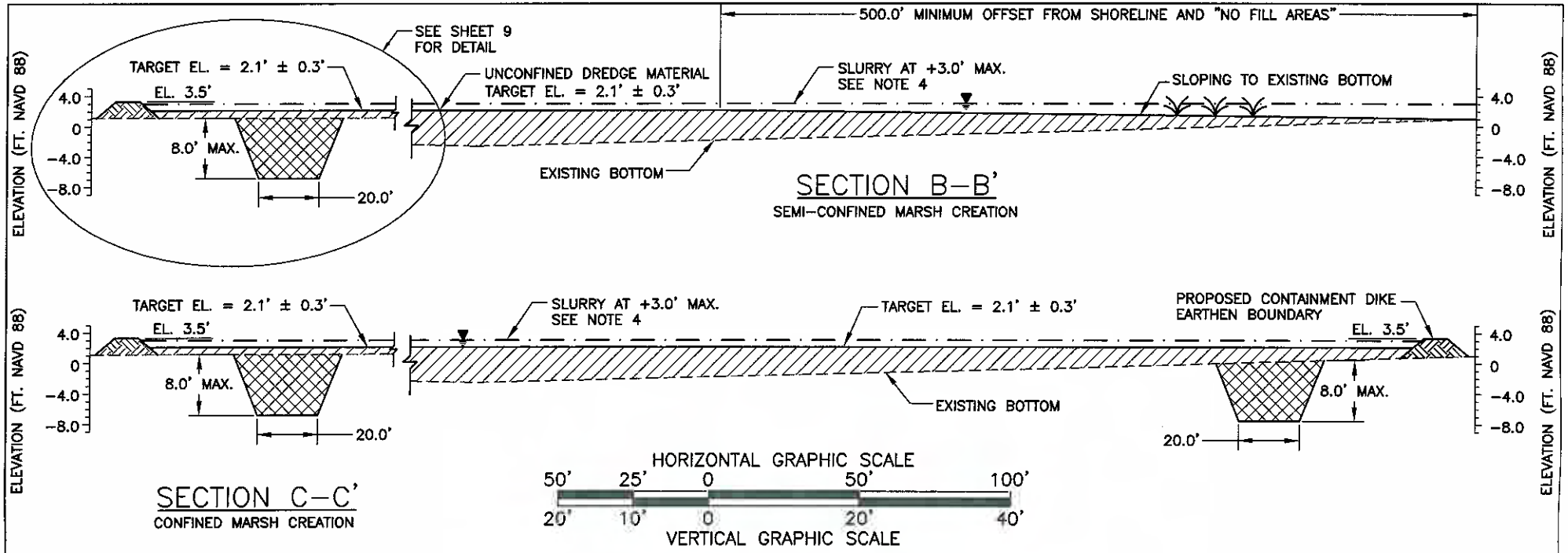

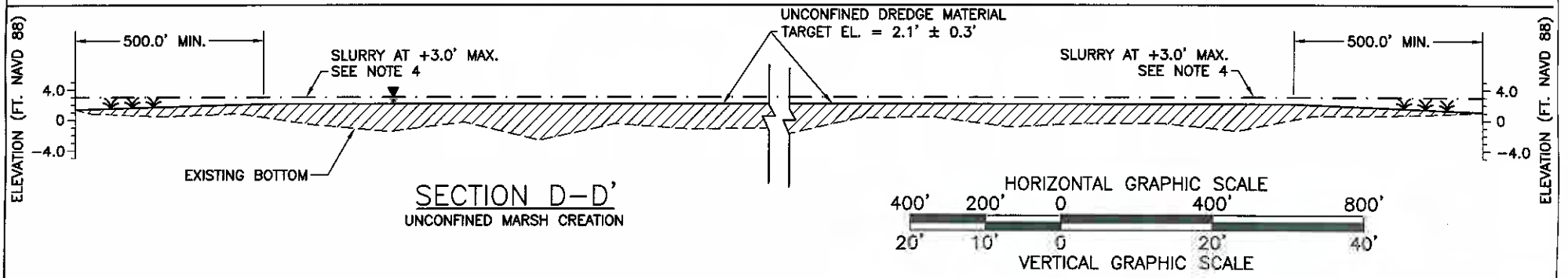

SUMMARY OF AVERAGE MARSH ELEVATION	
PT.	AVERAGE MARSH ELEV. FT. NAVD 88
NW	1.3
CENT.	1.3
SE	1.1
AVER.	1.2

NOTES:
1. DISCHARGE SHALL BE DIRECTED TO RETAIN AS MUCH MATERIAL AS POSSIBLE.
2. NO DISCHARGE POINT SHALL BE WITHIN 500' OF PROJECT BOUNDARY OR ANY AREA DEPICTED TO REMAIN INTERTIDAL WITHOUT PRIOR APPROVAL OF THE ENGINEER.
3. SLURRY WILL BE PUMPED TO A MAXIMUM OF +3.0'. THE SLURRY WILL BE ALLOWED TO REMAIN AT +3.0' FOR A MAXIMUM OF 30 DAYS, LEAVING THE DREDGE MATERIAL AT +2.1' ± 0.3'.
4. APPROXIMATELY 50,000 VEGETATIVE CONTAINERS OF SMOOTH CORDGRASS WILL BE PLANTED WITHIN THE MARSH CREATION AREA. PLANTS WILL BE NURSERY GROWN AND WILL BE MULTI-STEM. VOLUME OF PLANTINGS WITH CONTAINER SOIL IS ESTIMATED TO BE 600 CYS.

LEGEND
- EARTHEN CONTAINMENT DIKE
- CONTAINMENT DIKE BORROW
- FILL AREA

APPLICATION BY:
National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

TYPICAL MARSH SECTIONS

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION 2/4/05)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P.E.

APPROVED BY: LUKE LEBAS, P.E.

FEDERAL PROJECT NUMBER: BA-37

SHEET 9 OF 24

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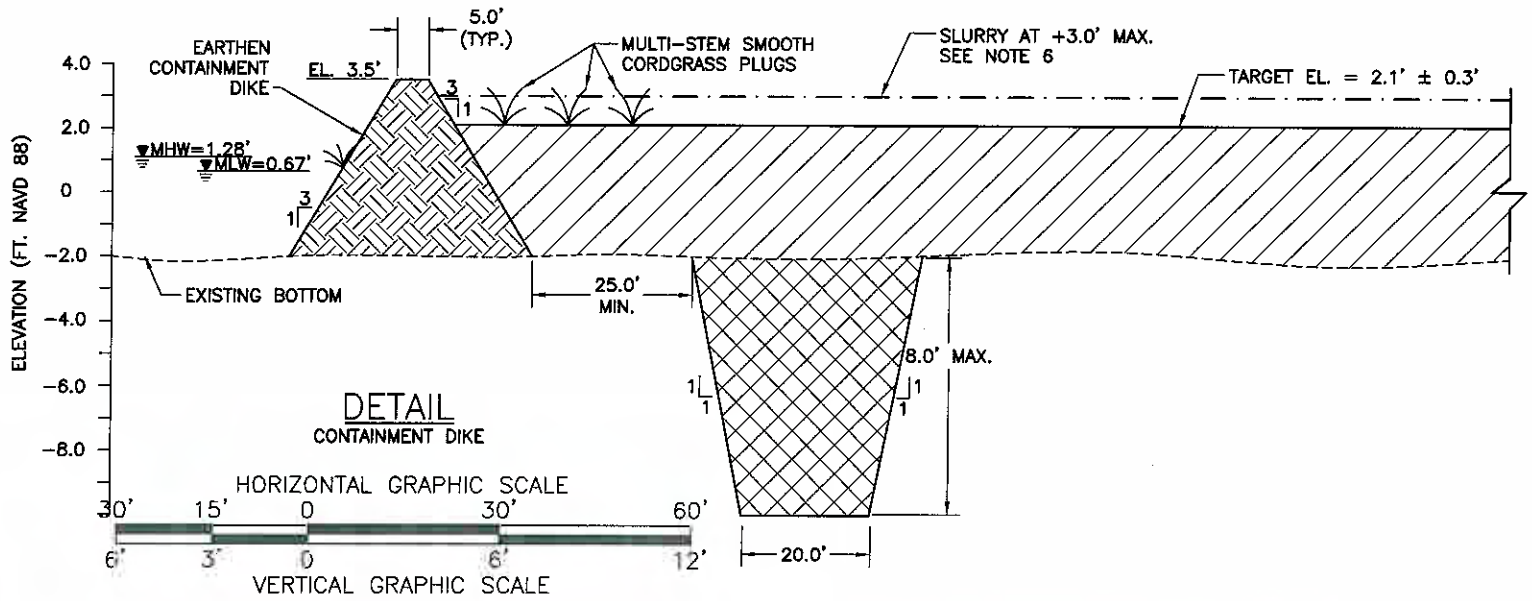

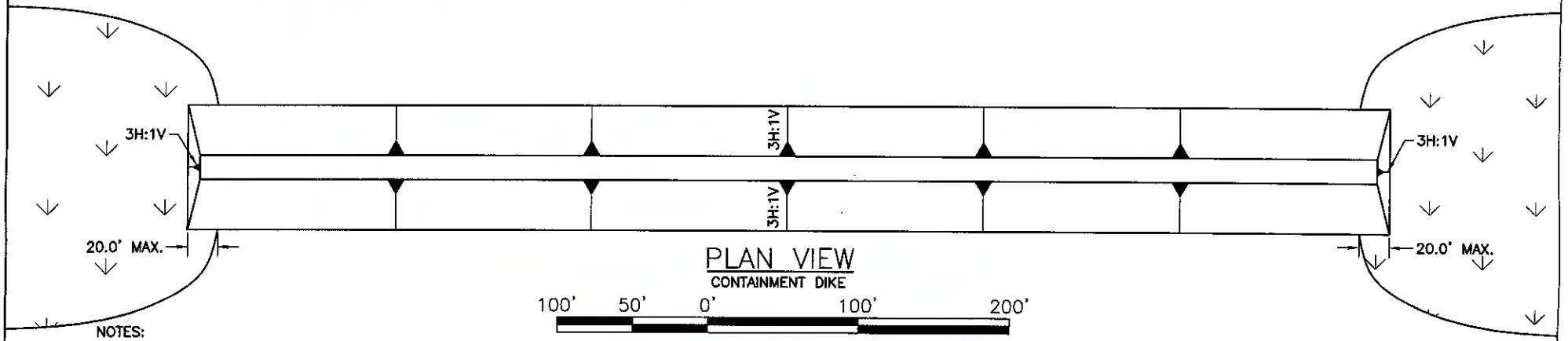

NOTES:

1. APPROXIMATELY 50,000 CONTAINERS OF SMOOTH CORDGRASS WILL BE PLANTED WITHIN THE MARSH CREATION AREA.
2. PLANTS WILL BE NURSERY GROWN AND WILL BE MULTI-STEM.
3. VOLUME OF PLANTINGS WITH CONTAINER SOIL IS ESTIMATED TO BE 600 CU. YDS.
4. CONTAINMENT DIKES WILL BE CONSTRUCTED ONLY IN OPEN WATER ALONG PROJECT BOUNDARY. INTERNAL TRAINING DIKES ARE ALLOWED PROVIDED THEY ARE NO HIGHER THAN 2.4' NAVD 88.
5. THE CONTAINMENT DIKES SHALL HAVE A MAXIMUM 20' TIE-IN TO EXISTING MARSH AS SHOWN ABOVE.
6. SLURRY WILL BE PUMPED TO A MAXIMUM OF +3.0'. THE SLURRY WILL BE ALLOWED TO REMAIN AT +3.0' FOR A MAXIMUM OF 30 DAYS LEAVING THE DREDGE MATERIAL AT 2.1' ± 0.3'.
7. ALL SECONDARY EARTHEN BOUNDARY CONTAINMENT LEVEES SHALL BE DEGRADED TO THE ELEVATION OF THE ADJACENT MARSH PRIOR TO DEMOBILIZATION. HOWEVER, ALL PRIMARY EARTHEN BOUNDARY CONTAINMENT LEVEES WILL REMAIN IN-PLACE. SEE SHEET 3 OF 24 FOR THE LOCATION OF THE CONTAINMENT LEVEES.

LEGEND

- EARTHEN CONTAINMENT DIKE
- CONTAINMENT DIKE BORROW
- FILL AREA

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	TYPICAL MARSH CONTAINMENT DIKE SECTION
		STATE PROJECT NUMBER: BA-37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E. / APPROVED BY: LUKE LEBAS, P. E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 10 OF 24

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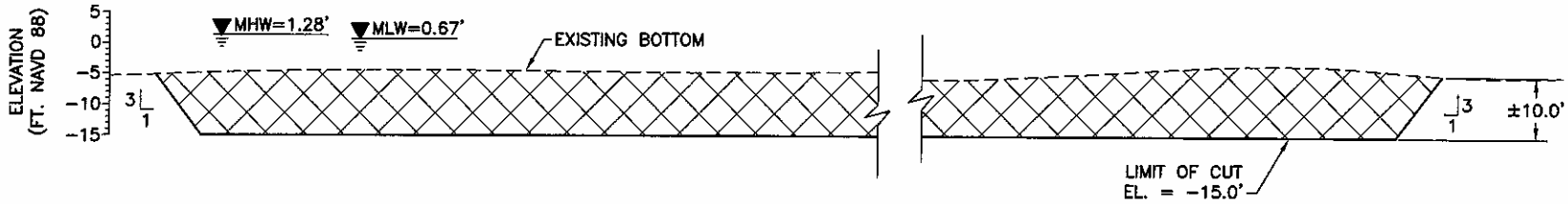
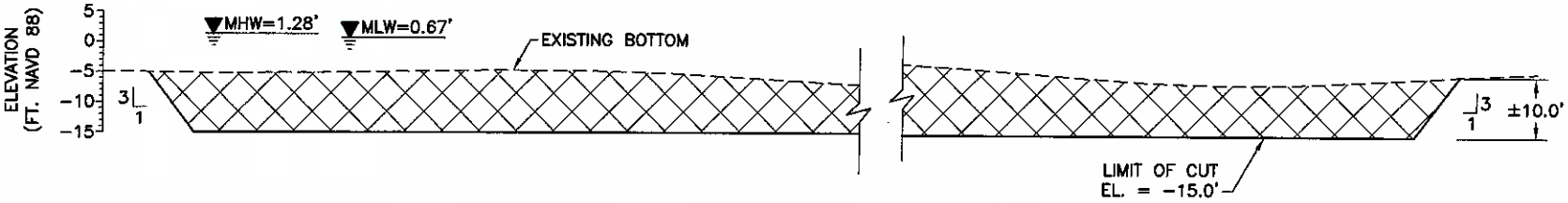


SECTION E–E'
BORROW AREA



SECTION F–F'
BORROW AREA

HORIZONTAL GRAPHIC SCALE

60' 30' 0 60' 120'

30' 15' 0 30' 60'

VERTICAL GRAPHIC SCALE

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803–7535	**LOUISIANA DEPARTMENT OF NATURAL RESOURCES** **COASTAL ENGINEERING DIVISION** 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	TYPICAL BORROW AREA SECTION
			STATE PROJECT NUMBER: BA–37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P.E.	APPROVED BY: LUKE LEBAS, P.E.	FEDERAL PROJECT NUMBER: BA–37	SHEET 11 OF 24

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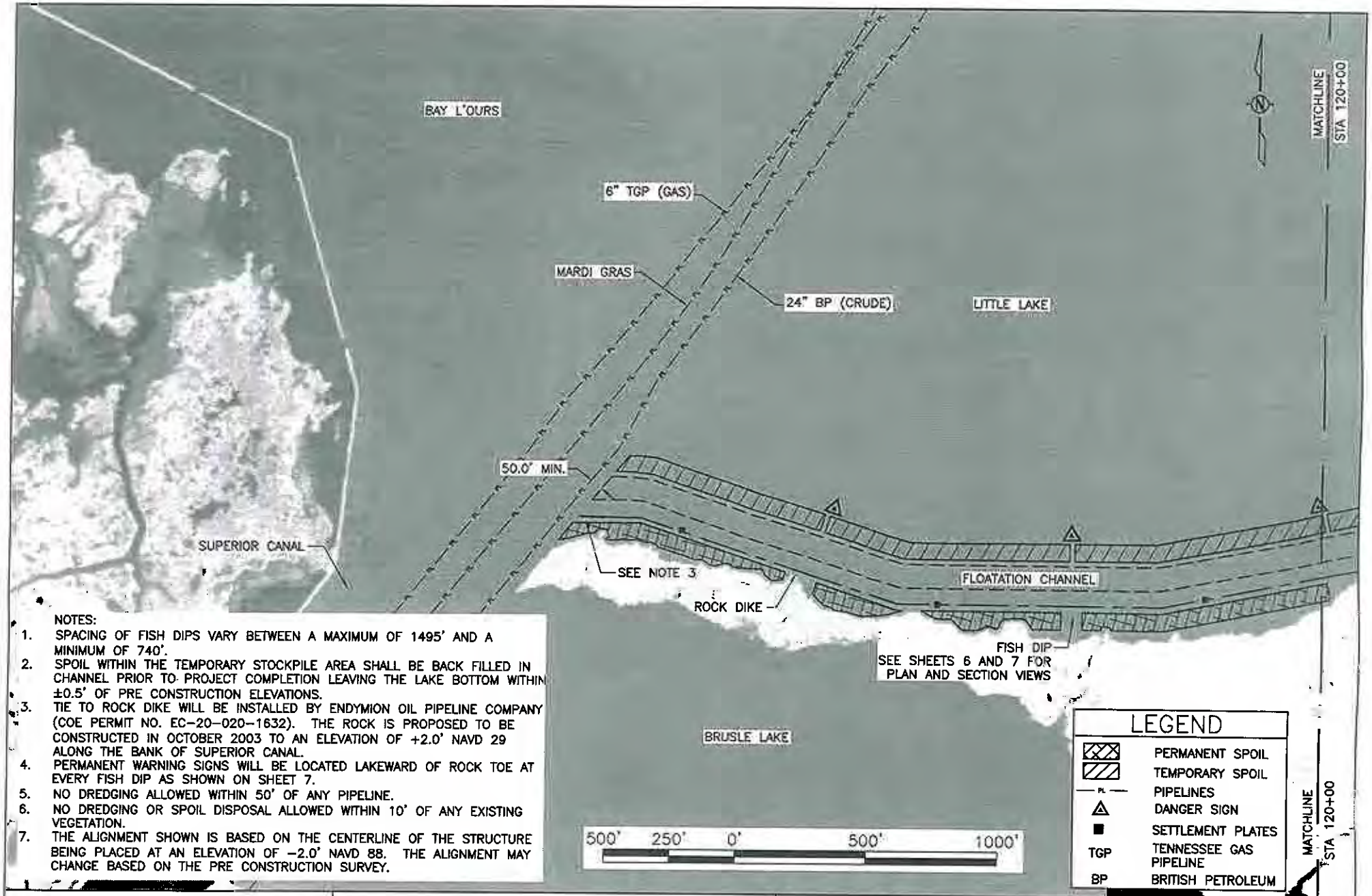

NOTES:

1. SPACING OF FISH DIPS VARY BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF PRE CONSTRUCTION ELEVATIONS.
3. TIE TO ROCK DIKE WILL BE INSTALLED BY ENDYMION OIL PIPELINE COMPANY (COE PERMIT NO. EC-20-020-1632). THE ROCK IS PROPOSED TO BE CONSTRUCTED IN OCTOBER 2003 TO AN ELEVATION OF +2.0' NAVD 29 ALONG THE BANK OF SUPERIOR CANAL.
4. PERMANENT WARNING SIGNS WILL BE LOCATED LAKEWARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 7.
5. NO DREDGING ALLOWED WITHIN 50' OF ANY PIPELINE.
6. NO DREDGING OR SPOIL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
7. THE ALIGNMENT SHOWN IS BASED ON THE CENTERLINE OF THE STRUCTURE BEING PLACED AT AN ELEVATION OF -2.0' NAVD 88. THE ALIGNMENT MAY CHANGE BASED ON THE PRE CONSTRUCTION SURVEY.

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

ROCK DIKE PLAN VIEW

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 9/14/04)

FEDERAL PROJECT NUMBER: BA-37

SHEET 12 OF 24

DRAWN BY: KRISTI CANTU | DESIGNED BY: CLARK ALLEN, P. E. | APPROVED BY: LUKE LEBAS, P. E.

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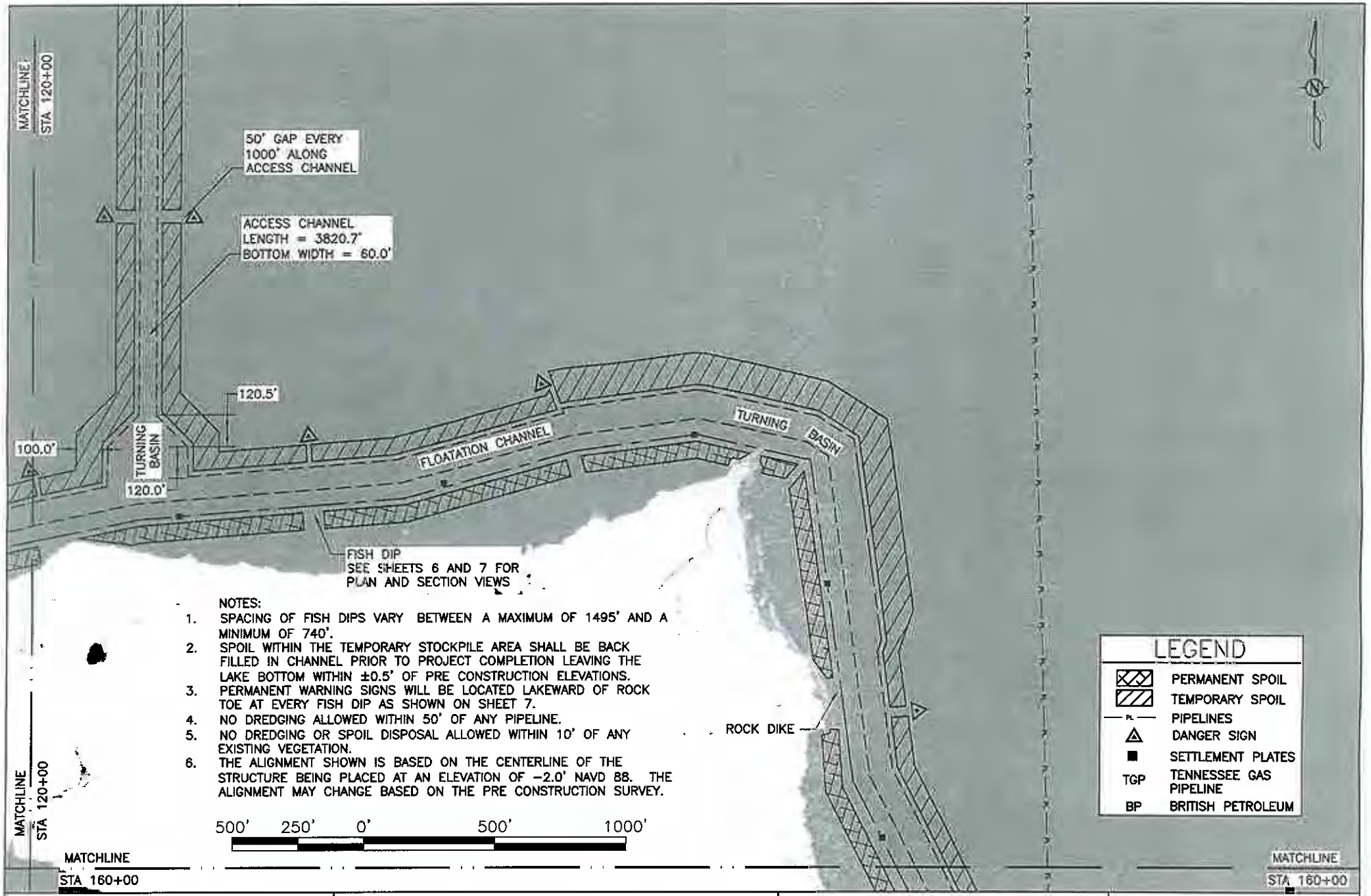

NOTES:

1. SPACING OF FISH DIPS VARY BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF PRE CONSTRUCTION ELEVATIONS.
3. PERMANENT WARNING SIGNS WILL BE LOCATED LAKEWARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 7.
4. NO DREDGING ALLOWED WITHIN 50' OF ANY PIPELINE.
5. NO DREDGING OR SPOIL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
6. THE ALIGNMENT SHOWN IS BASED ON THE CENTERLINE OF THE STRUCTURE BEING PLACED AT AN ELEVATION OF −2.0' NAVD 88. THE ALIGNMENT MAY CHANGE BASED ON THE PRE CONSTRUCTION SURVEY.

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

ROCK DIKE PLAN VIEW

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 9/14/04)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: LUKE LEBAS, P. E.

FEDERAL PROJECT NUMBER: BA-37

SHEET 13 OF 24

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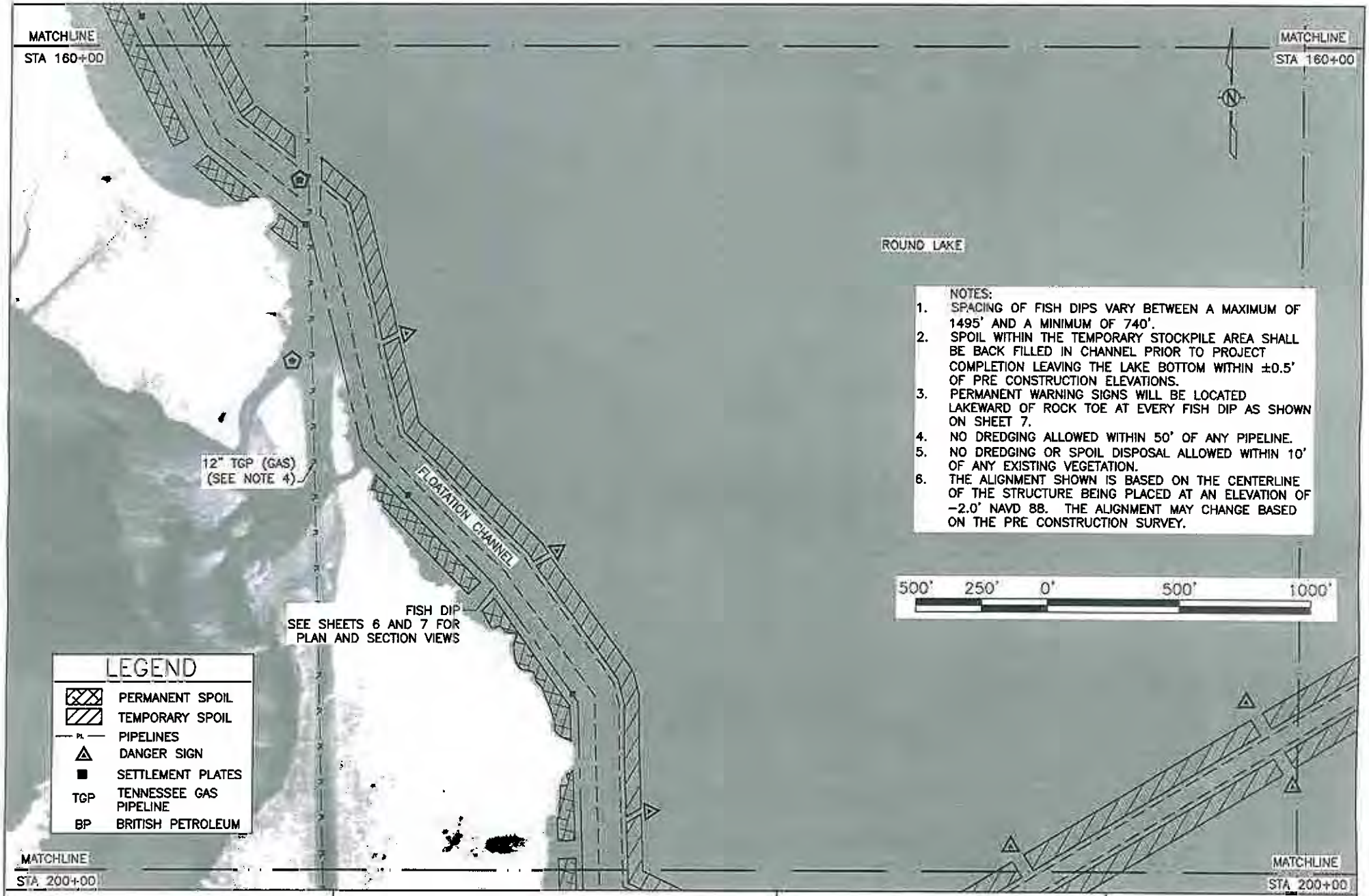

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

ROCK DIKE PLAN VIEW

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 9/14/04)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: LUKE LEBAS, P. E.

FEDERAL PROJECT NUMBER: BA-37

SHEET 14 OF 24

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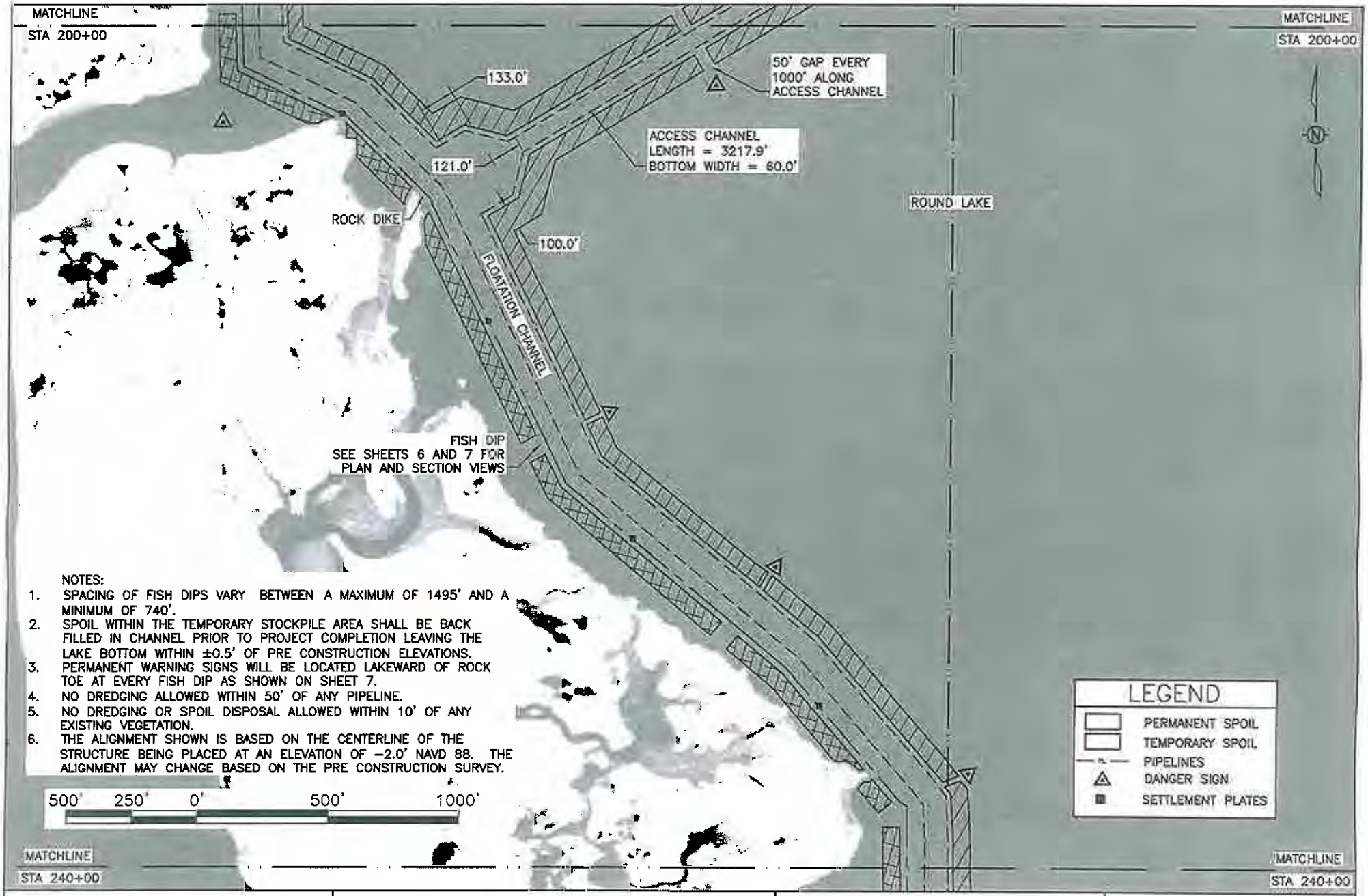

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	ROCK DIKE PLAN VIEW
		STATE PROJECT NUMBER: BA-37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E. / APPROVED BY: LUKE LEBAS, P. E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 15 OF 24

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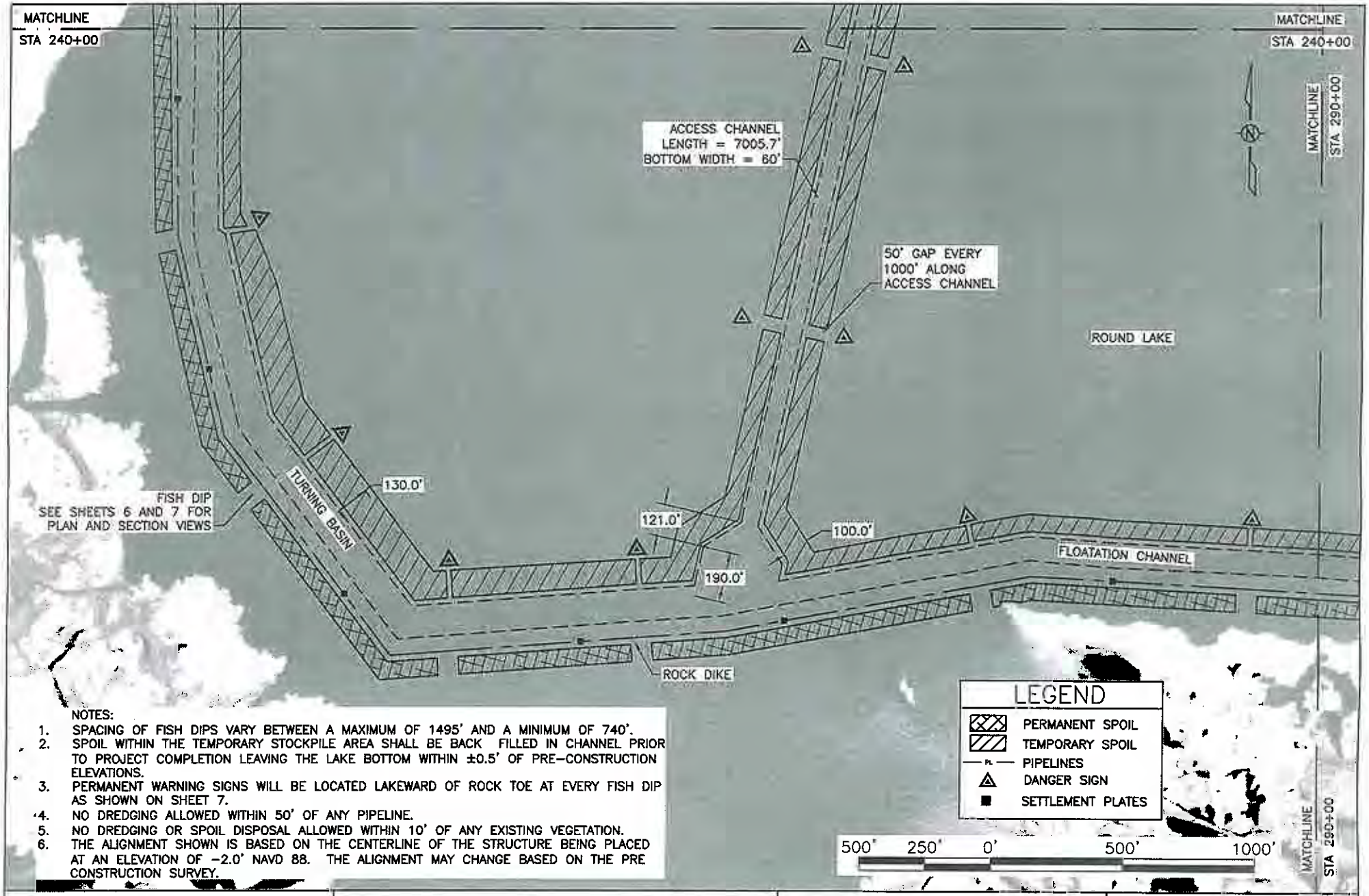

NOTES:

1. SPACING OF FISH DIPS VARY BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF PRE-CONSTRUCTION ELEVATIONS.
3. PERMANENT WARNING SIGNS WILL BE LOCATED LAKEWARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 7.
4. NO DREDGING ALLOWED WITHIN 50' OF ANY PIPELINE.
5. NO DREDGING OR SPOIL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
6. THE ALIGNMENT SHOWN IS BASED ON THE CENTERLINE OF THE STRUCTURE BEING PLACED AT AN ELEVATION OF -2.0' NAVD 88. THE ALIGNMENT MAY CHANGE BASED ON THE PRE CONSTRUCTION SURVEY.

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

ROCK DIKE PLAN VIEW

DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E.	APPROVED BY: LUKE LEBAS, P. E.	STATE PROJECT NUMBER: BA-37
			FEDERAL PROJECT NUMBER: BA-37
			DATE: 9/23/03 (REVISION DATE 9/14/04)
			SHEET 16 OF 24

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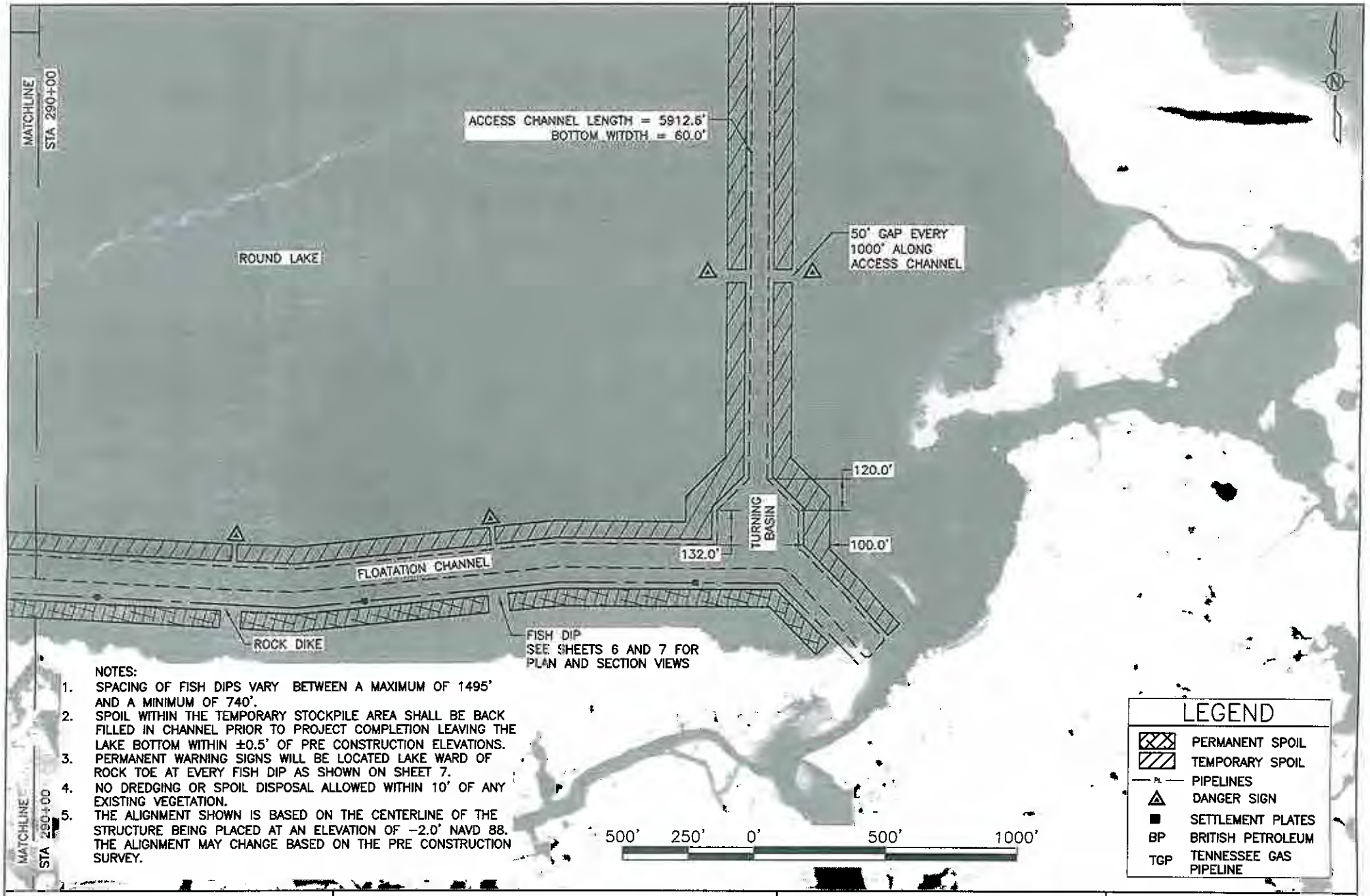

NOTES:

1. SPACING OF FISH DIPS VARY BETWEEN A MAXIMUM OF 1495' AND A MINIMUM OF 740'.
2. SPOIL WITHIN THE TEMPORARY STOCKPILE AREA SHALL BE BACK FILLED IN CHANNEL PRIOR TO PROJECT COMPLETION LEAVING THE LAKE BOTTOM WITHIN ±0.5' OF PRE CONSTRUCTION ELEVATIONS.
3. PERMANENT WARNING SIGNS WILL BE LOCATED LAKE WARD OF ROCK TOE AT EVERY FISH DIP AS SHOWN ON SHEET 7.
4. NO DREDGING OR SPOIL DISPOSAL ALLOWED WITHIN 10' OF ANY EXISTING VEGETATION.
5. THE ALIGNMENT SHOWN IS BASED ON THE CENTERLINE OF THE STRUCTURE BEING PLACED AT AN ELEVATION OF −2.0' NAVD 88. THE ALIGNMENT MAY CHANGE BASED ON THE PRE CONSTRUCTION SURVEY.

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803−7535	**LOUISIANA DEPARTMENT OF NATURAL RESOURCES** **COASTAL ENGINEERING DIVISION** 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	ROCK DIKE PLAN VIEW
			STATE PROJECT NUMBER: BA−37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E.	APPROVED BY: LUKE LEBAS, P. E.	FEDERAL PROJECT NUMBER: BA−37	SHEET 17 OF 24

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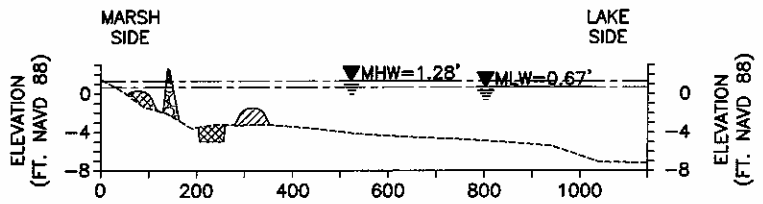
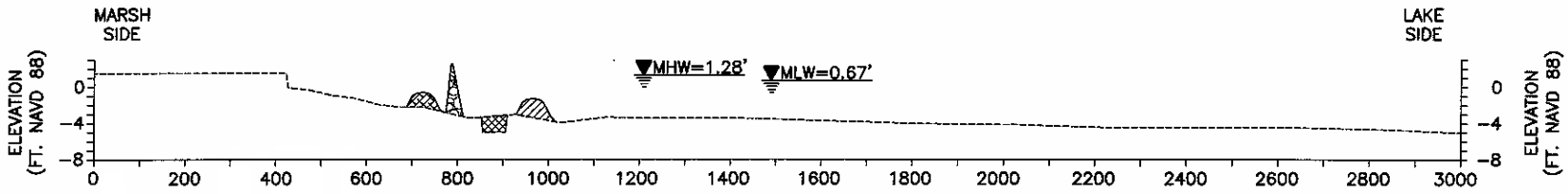


STA 100+00.01



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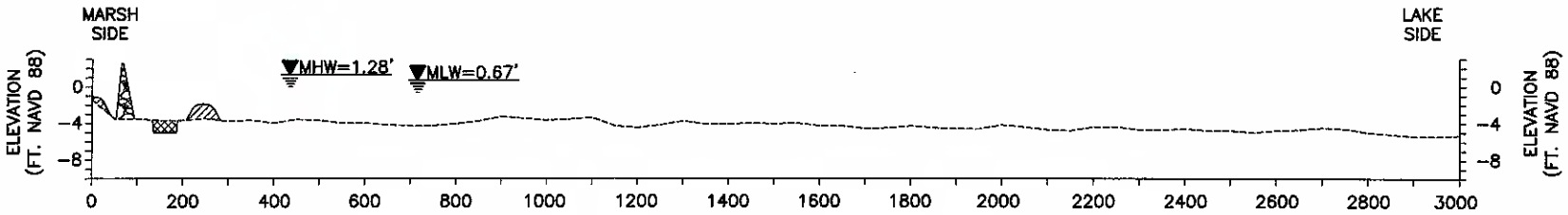

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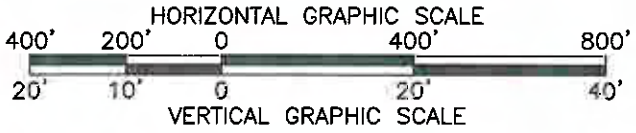

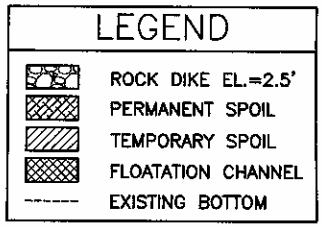

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	**LOUISIANA DEPARTMENT OF NATURAL RESOURCES** **COASTAL ENGINEERING DIVISION** 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	ROCK DIKE CROSS SECTIONS
			STATE PROJECT NUMBER: BA-37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E.	APPROVED BY: LUKE LEBAS, P. E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 18 OF 24

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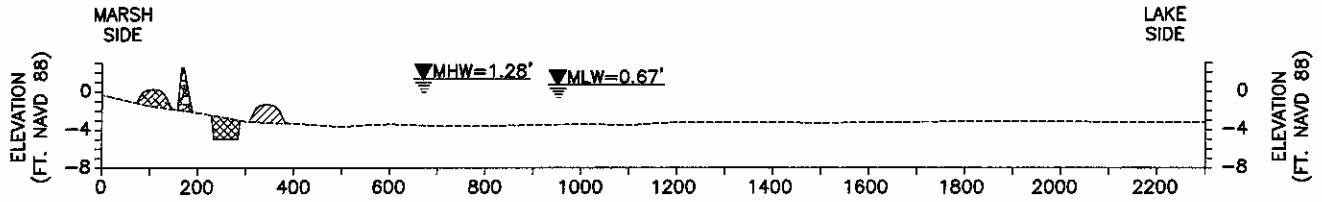

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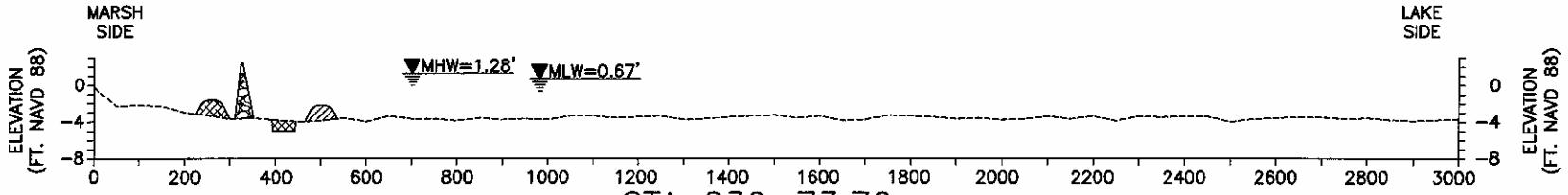

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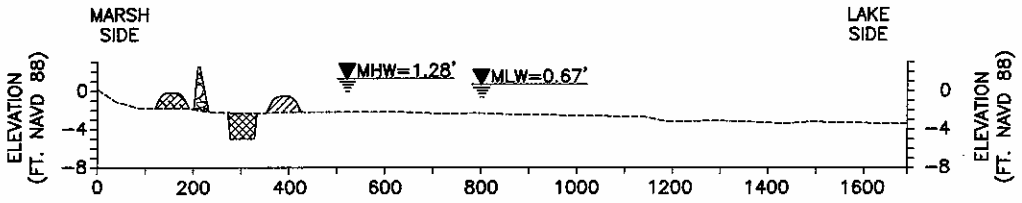

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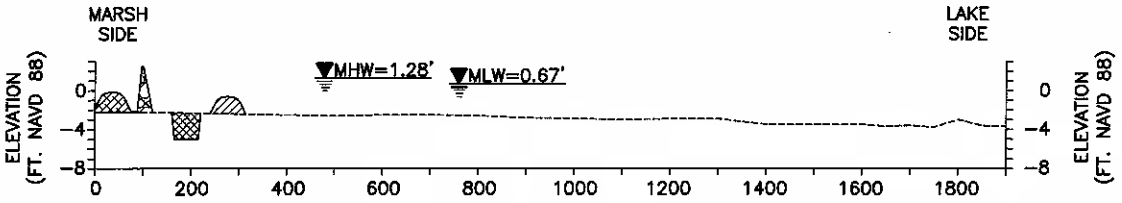

STA 260+00

HORIZONTAL GRAPHIC SCALE

400' 200' 0 400' 800'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

LEGEND

- ROCK DIKE EL.=2.5'
- PERMANENT SPOIL
- TEMPORARY SPOIL
- FLOATATION CHANNEL
- EXISTING BOTTOM

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

ROCK DIKE CROSS SECTIONS

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION DATE 9/14/04)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: LUKE LEBAS, P. E.

FEDERAL PROJECT NUMBER: BA-37

SHEET 19 OF 24

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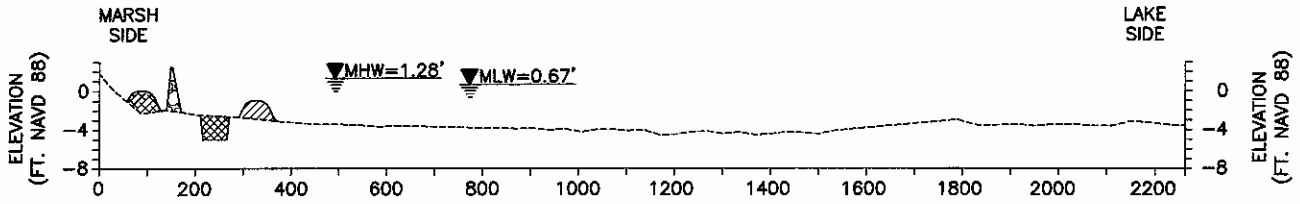

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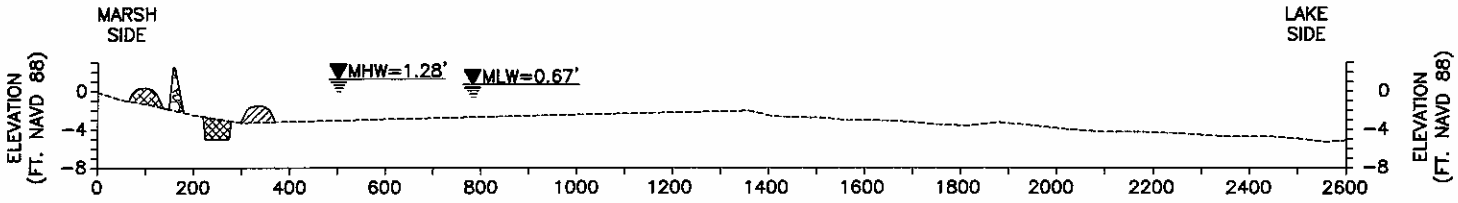

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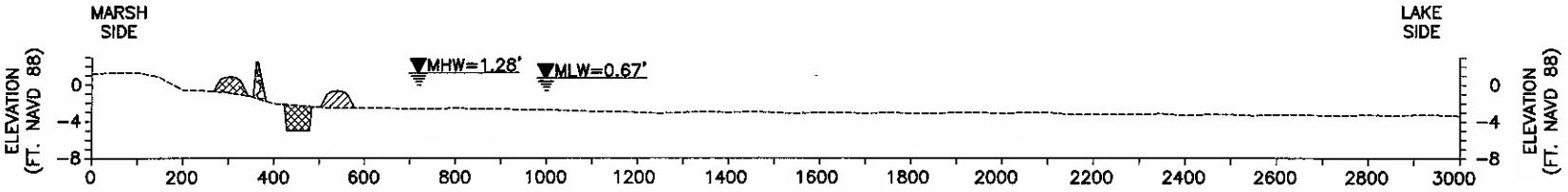

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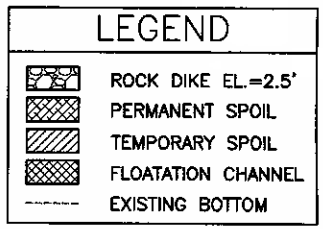

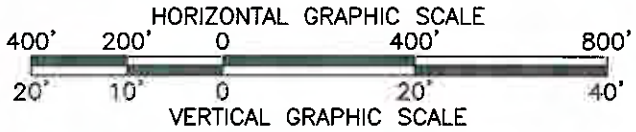

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	**LOUISIANA DEPARTMENT OF NATURAL RESOURCES** **COASTAL ENGINEERING DIVISION** 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	ROCK DIKE CROSS SECTIONS
		STATE PROJECT NUMBER: BA-37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E. / APPROVED BY: LUKE LEBAS, P. E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 20 OF 24

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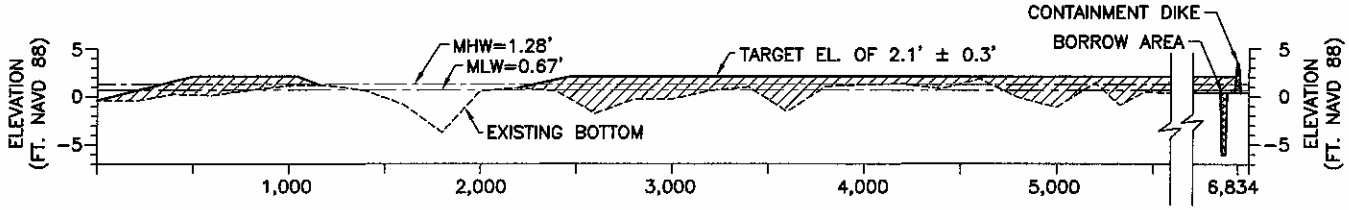
SECTION 1
LOOKING EAST



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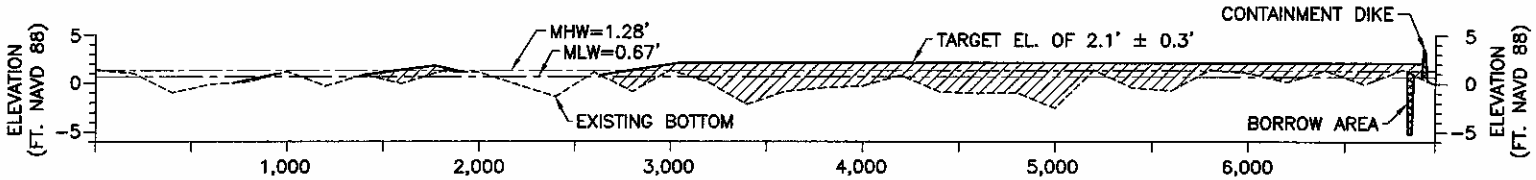

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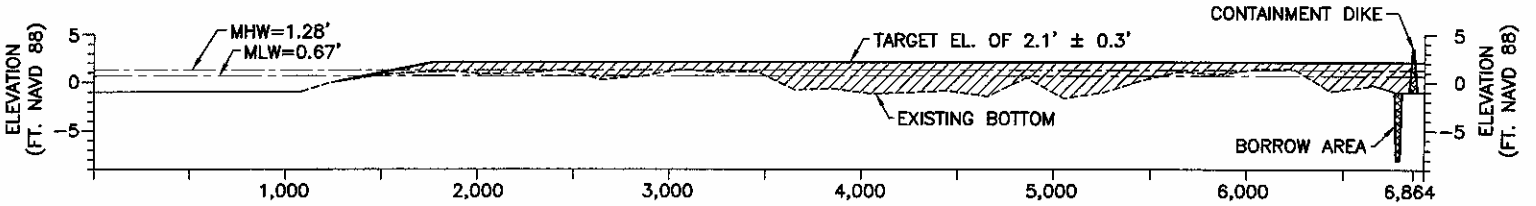

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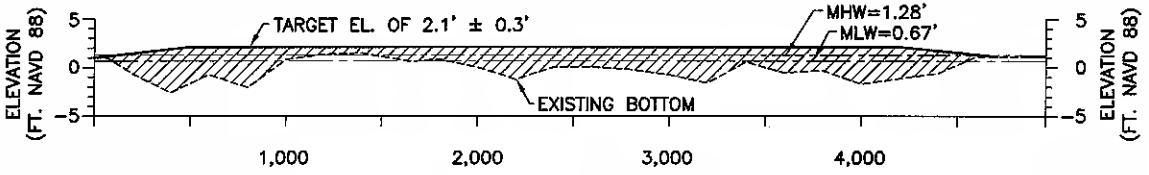

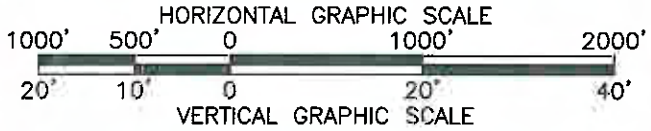

APPLICATION BY:

National Marine Fisheries Service
South Stadium Road, Military Science Room 266
Baton Rouge, LA 70803-7535

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION

MARSH CREATION CROSS SECTION

STATE PROJECT NUMBER: BA-37

DATE: 9/23/03 (REVISION 9/14/04)

DRAWN BY: KRISTI CANTU

DESIGNED BY: CLARK ALLEN, P. E.

APPROVED BY: LUKE LEBAS, P. E.

FEDERAL PROJECT NUMBER: BA-37

SHEET 21 OF 24

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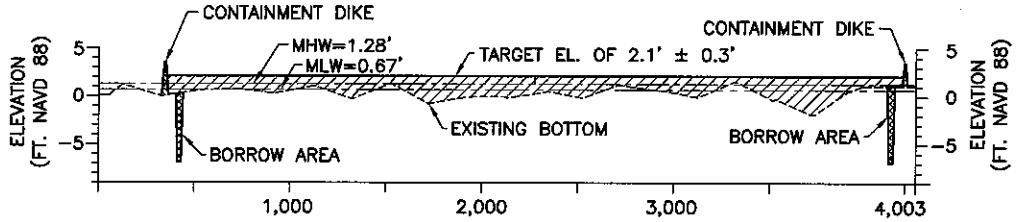
SECTION 5
LOOKING EAST



SECTION 6
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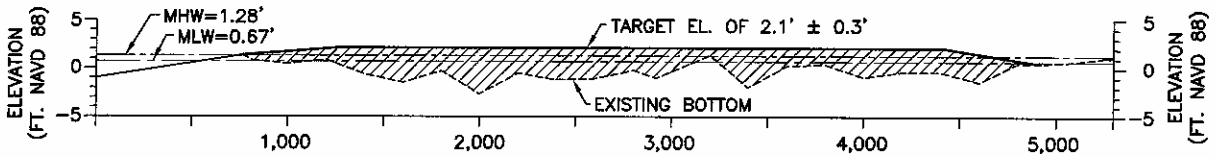

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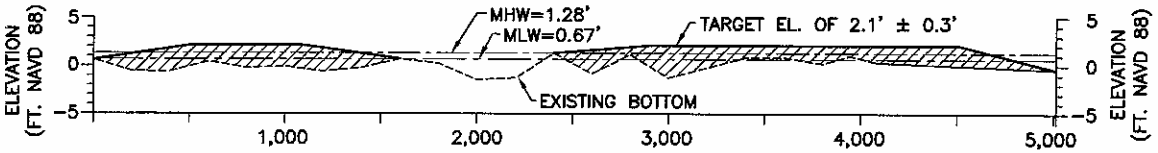

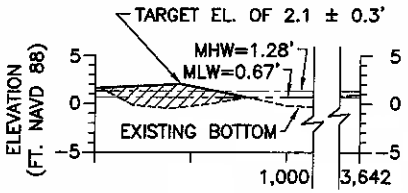

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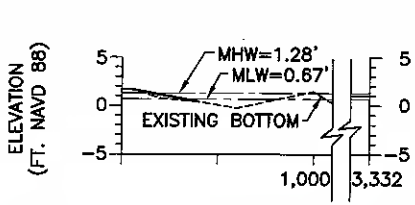

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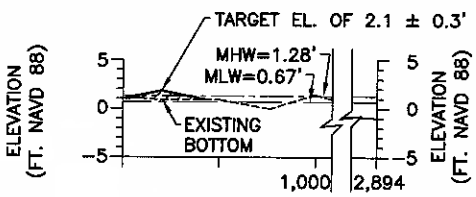

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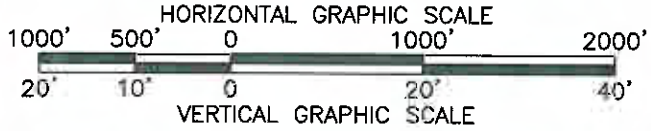

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	**LOUISIANA DEPARTMENT OF NATURAL RESOURCES** **COASTAL ENGINEERING DIVISION** 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	MARSH CREATION CROSS SECTION
			STATE PROJECT NUMBER: BA-37	DATE: 9/23/03 (REVISION 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P. E.	APPROVED BY: LUKE LEBAS, P. E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 22 OF 24

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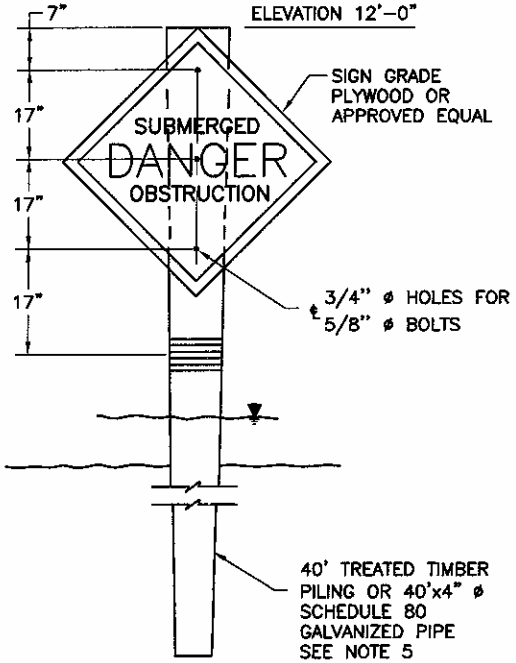

TEMPORARY WARNING SIGN ELEVATION

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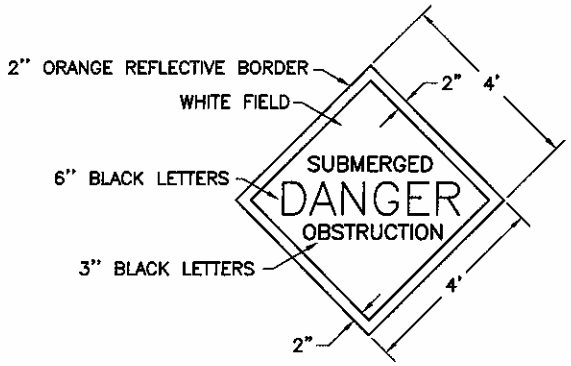

TEMPORARY AND PERMANENT SIGN DETAIL

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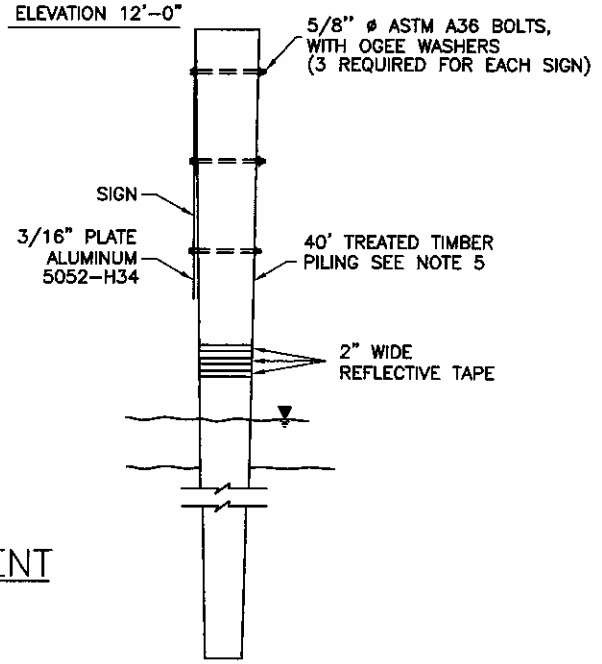


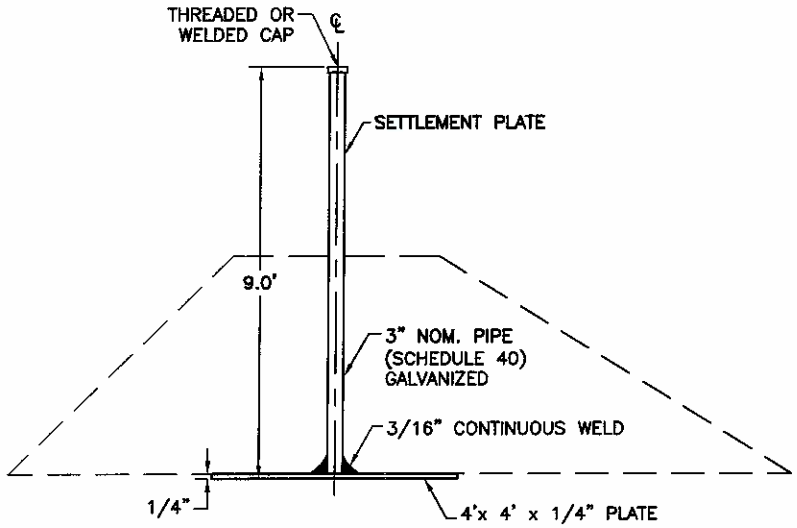
PERMANENT WARNING SIGN SIDE DETAIL

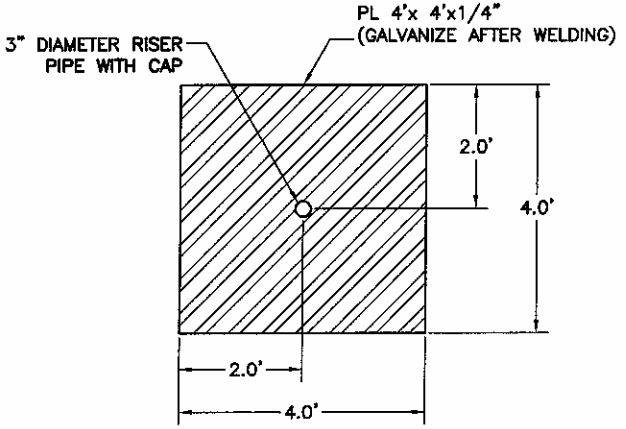
NOT TO SCALE

NOTES:

1. TWENTY-ONE PERMANENT AND TWENTY-ONE TEMPORARY WARNING SIGNS SHALL BE INSTALLED AT LOCATIONS STATED ON SHEET 7.
2. THE 2" BORDER ON THE WARNING SIGNS WILL BE A REFLECTIVE MATERIAL OF ORANGE COLOR. THE LETTERING FIELD WILL BE A REFLECTIVE MATERIAL OF WHITE COLOR. THE LETTERING FOR THE WARNING SIGNS WILL BE BLACK. ALL SIGNS MUST MEET U.S. COAST GUARD STANDARDS; IN ACCORDANCE WITH 33 CFR 330.4 (a)(1) WHICH CAN BE DOWNLOADED AT http://www.access.gpo.gov/nara/cfr/waisidx_02/33cfr330_002.html
3. NEOPRENE WASHERS OR GASKETS SHALL BE PLACED BETWEEN THE SIGN AND CONNECTING HARDWARE AT ALL POINTS OF CONTACT. THE NEOPRENE GASKET SHALL EXTEND PAST THE CONNECTION HARDWARE A MINIMUM OF 1/8".
4. HARDWARE FOR TIMBER CONNECTIONS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SECTION 811.5 OF LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION.
5. TIMBER PILES SHALL CONFORM TO SECTIONS 804 AND 1014 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION. PILES SHALL BE TREATED WITH A CREOSOTE SOLUTION CONFORMING TO AWPA P2 TO A MINIMUM RETENTION OF 16 PCF AND CAPPED ACCORDING TO LA DOTD SPECIFICATION 812.06.
6. THE CONTRACTOR HAS THE OPTION OF USING A 30"x4" ø SCHEDULE 40 METAL PIPE OR OTHER APPROVED MATERIAL FOR TEMPORARY SIGNS.
7. TIMBER PILINGS SHALL BE 30-FEET IN LENGTH WITH A NOMINAL 12-INCH DIAMETER BUTT AND 7-INCH MINIMUM DIAMETER AT THE TIP.
8. THE TEMPORARY SIGNS SHALL BE INSTALLED AT NO DIRECT PAY.
9. TEMPORARY WARNING SIGNS SHALL HAVE THE SAME COLORING AND REFLECTIVE TAPE AS PERMANENT SIGNS BUT CONSTRUCTED WITH 3/4" SIGN GRADE PLYWOOD.
10. THE SUPPORTS FOR THE TEMPORARY SIGNS SHALL BE REMOVED TO 5' BELOW MUD LINE OR REMOVED COMPLETELY AFTER PERMANENT SIGNS ARE ACCEPTED.

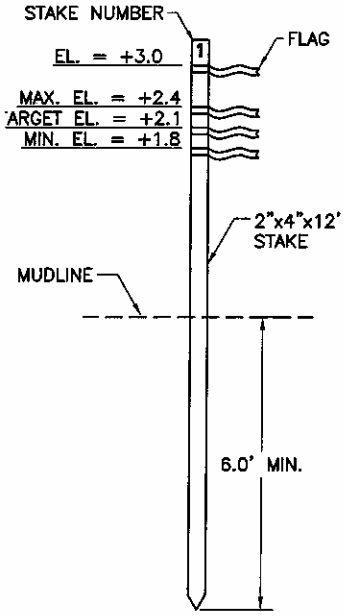
APPLICATION BY:	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	SIGN DETAILS
National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803-7535	617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		STATE PROJECT NUMBER: BA-37	DATE: 9/23/03 (REVISION DATE 2/4/05)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P.E.	APPROVED BY: LUKE LEBAS, P.E.	FEDERAL PROJECT NUMBER: BA-37	SHEET 23 OF 24





SETTLEMENT PLATE

NOT TO SCALE



GRADE STAKE DETAIL

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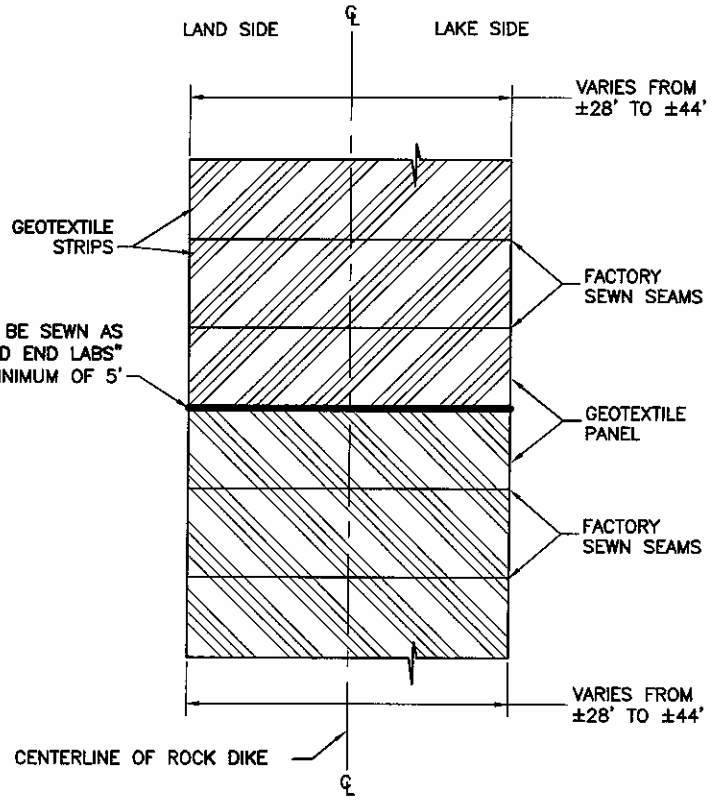

WOVEN GEOTEXTILE LAYOUT

NOT TO SCALE

PI

SETTLEMENT PLATE NOTES:

1. SETTLEMENT PLATES SHALL BE INSTALLED ALONG THE CENTERLINE OF THE ROCK DIKE AS SHOWN ON SHEETS 12–17.
2. THE SETTLEMENT PLATES SHALL BE SURVEYED DAILY BY THE CONTRACTOR AND WITNESSED BY THE DNR INSPECTOR UNTIL THE ROCK IS ACCEPTED.
3. SETTLEMENT PLATES SHALL BE BUILT USING ASTM A36 STEEL AND HOT–DIPPED GALVANIZED AFTER FABRICATION.
4. MARSH SETTLEMENTS WILL BE IDENTICAL EXCEPT THE VERTICAL PIE WILL BE 8 FEET LONG WITH 7 FEET ABOVE THE PLATE AND 1 FOOT BELOW THE PLATE FOR STABILITY.

APPLICATION BY: National Marine Fisheries Service South Stadium Road, Military Science Room 266 Baton Rouge, LA 70803–7535	**LOUISIANA DEPARTMENT OF NATURAL RESOURCES** **COASTAL ENGINEERING DIVISION** 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION	TYPICAL DETAILS
			STATE PROJECT NUMBER: BA–37	DATE: 9/23/03 (REVISION DATE 9/14/04)
DRAWN BY: KRISTI CANTU	DESIGNED BY: CLARK ALLEN, P.E.	APPROVED BY: LUKE LEBAS, P.E.	FEDERAL PROJECT NUMBER: BA–37	SHEET 24 OF 24

G:\Users\Autocad\BASINS\BA\LITTLE LAKE BA-37\Permit Drawings\P23-24 Typical Details.dwg, Permit 23

State of Louisiana

Department of Environmental Quality

KATHLEEN BABINEAUX BLANCO
GOVERNOR

MIKE D. McDANIEL, Ph.D.
SECRETARY

April 21, 2005

National Marine Fisheries Service
Louisiana State University
Baton Rouge, LA 70803

Attention: Richard Hartman

RE: Water Quality Certification BB 031006-01 /AI 117430 / CER 20030001
Corps of Engineers Permit CR-20-040-0058
Coastal Management Permit C20030250
Tangipahoa Parish

Dear Mr. Hartman,

The Department has received an application for the revision of your Corps of Engineers permit for the Little Lake Shoreline Protection and Marsh Creation Project. The projects goal is to restore some of the natural and man made marsh loss in the Barataria Basin. The location of the project is 9.5 miles Northeast of Gallino, Louisiana.

The requirements for Water Quality Certification have been met in accordance with LAC 33:IX.1507.A-E. Based on the information provided in your application, we have determined that the placement of the fill material will not violate the water quality standards of Louisiana provided for under LAC 33:IX.Chapter 11. Therefore, the Department has no objection to this project.

Sincerely,

Thomas R. Griggs

Thomas R. Griggs
Engineer Manager
Registrations and Certifications Section

TRG/bb

c: Corps of Engineers, New Orleans, LA
Coastal Management Division-C20030250

State of Louisiana

KATHLEEN BABINEAUX BLANCO
GOVERNOR

SCOTT A. ANGELLE
SECRETARY

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL RESTORATION AND MANAGEMENT

December 13, 2004

Mr. Richard Hartman
Chief, Baton Rouge Office
National Marine Fisheries Service
Habitat Conservation Division
c/o Louisiana State University
Baton Rouge, LA 70803-7535

RECEIVED
DEC 14 2004
BY:

RE: **C20030250,** Coastal Zone Consistency Modification
--National Marine Fisheries Service -
Direct Federal Action
Little Lake Shoreline and Marsh Creation CWPPRA Project BA-37; modification involving realignment of access channels and other minor changes, **Lafourche Parish, Louisiana**

Dear Mr. Hartman:

The above referenced modification has been reviewed for consistency with the approved Louisiana Coastal Resource Program (LCRP) as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. The modification, as proposed in the application, is consistent with the LCRP.

If you have any questions concerning this determination please contact Brian Marcks of the Consistency Section at (225)342-7939 or 1-800-267-4019.

Sincerely,

David W. Frugé
Administrator

DWF/JH/bgm
cc: Fred Dunham, LDWF
Jess Curole, Lafourche Parish
Kirk Kilgen, CMD/FC
Ron Ventola, NOD-COE
Gregory Grandy, CRD

KATHLEEN BABINEAUX BLANCO
GOVERNOR

State of Louisiana
DEPARTMENT OF WILDLIFE AND FISHERIES
OFFICE OF WILDLIFE

DWIGHT LANDRENEAU
SECRETARY

W. PARKE MOORE, III
ASSISTANT SECRETARY

RECEIVED
NOV 1 8 2004
BY:

November 12, 2004

Mr. Richard Hartman
Habitat Conservation Division
NOAA Fisheries
c/o Louisiana State University
Baton Rouge, LA. 70803

Re: C20030250 Revised, Little Lake Shoreline Protection and Marsh Creation Project (BA-37)

Dear Mr. Hartman:

The professional staff of the Office of Wildlife reviewed your application/request for the above referenced action.

We have no objections.

The Department of Wildlife and Fisheries seeks to work with you in a facilitative manner on this and future such endeavors. Please call my staff should you need further assistance.

Sincerely,

W. Parke Moore III
Assistant Secretary

fod

The following ordinance was presented by Harrison Cheramie, Jr., who moved its adoption, and was seconded by Irvin Melancon, Jr.

ORDINANCE NO. 2

AN ORDINANCE ESTABLISHING THE RULES AND REGULATIONS TO BE FOLLOWED BY ANY INDIVIDUAL, PARTNERSHIP, AGENCY, FIRM OR CORPORATION FOR THE CONSTRUCTION OF ANY STRUCTURE, PERMANENT OR TEMPORARY, OR THE PERFORMANCE OF ANY WORK EFFECTING THE DITCHES, CANALS, BAYOUS, LAKES, STREAMS, RIVERS, AND ALL OTHER BODIES OF WATER WHICH ARE EFFECTED BY THE EBB AND FLOW OF TIDE SITUATED IN THE TENTH WARD OF LAFOURCHE PARISH, LOUISIANA.

BE IT ORDAINED, by the Board of Commissioners of the Greater Lafourche Port Commission:

Section 1. That it shall be unlawful for any individual, partnership, agency, firm or corporation to construct any type of structure, above or below water level, within the canals, bayous, lakes , streams, rivers and all other bodies of water which are effected by the ebb and flow of tide situated in the Tenth Ward of Lafourche Parish , Louisiana, without first securing a "Letter of No Objection" from the Greater Lafourche Port Commission.

Section 2. That it shall be unlawful for any individual, partnership, agency, firm or corporation to conduct seismic operations, geophysical explorations of any kind or character, or logging operations of any kind or character, within the canals, bayous, lakes, streams, rivers and all other bodies of water which are effected by the ebb and flow of tide situated in the Tenth Ward of Lafourche Parish, Louisiana, without first securing a "Letter of No Objection" from the Greater Lafourche Port Commission.

Section 3. An applicant for a "Letter of No Objection" must make application in writing to the Commission office. The application must state the name and address of applicant, his status, and detailed plans or plats, along with specifications of the work proposed to be done. After review by the Board of Commissioners, the applicant shall be given written notice of the acceptance or rejection of his request.

Section 4. The work shall be performed strictly in accordance with the plans and specifications submitted.

Section 5. The applicant shall erect suitable barricades and place suitable lights and warning devices around and in from of this work, whenever it is necessary to protect the traveling public or navigation.

Section 6. That if the display of lights and signals on any work hereby authorized is not otherwise provided for by law, such lights and signals as may be prescribed by the Greater Lafourche Port Commission shall be installed and maintained by and at the expense of the owner.

Section 7. If, in the judgement of the Greater Lafourche Port Commission, the said permittee does not at all times exercise due caution in the handling of oil, gas or other pollutive, noxious, or lethal substances to prevent conditions deleterious to health or seafood, or hazardous to navigation, or dangerous to persons or property engaged in commerce or otherwise on said waters, or fails on demand to remove promptly any structure or structures or parts thereof, no longer used for the purpose for which they are constructed, this "Letter of No Objection" may be revoked and all operations authorized by it may be terminated.

Section 8. That all crossings in all water bottoms are properly back-filled and the fill leveled off and finished to the grade that existed prior to the pipeline construction.

Section 9. Upon completion of the structure, the applicant shall remove from the premises all material left from the construction, all scaffolding, forms, extra excavation, etc., and is to thoroughly clean up and leave the premises in good condition as determined by the Board of Commissioners.

Section 10. That should it become necessary in the future to alter the dimensions or alignments or to construct or deepen, relocate and/or widen the bayous, streams, waters, and existing or proposed channels obstructed by the improvements or permanent fixtures of the applicant, then the applicant, agents and/or assigns, shall promptly make such changes on request of this Commission and shall bear the entire cost of whatever alterations may be necessary for any future improvements for commerce and navigation in the entire port area.

Section 11. This authorization is wholly unconnected and unconcerned with the ownership of or rights in the underlying soil and creates no property rights.

Section 12. Under no condition will the Greater Lafourche Port Commission be responsible for any trespass upon adjacent, or any other property, or any injury thereto, and the applicant shall indemnify the Greater Lafourche Port Commission or any claim for damages made against the Commission arising through the applicants operations.

Section 13. That if any clause, sentence or paragraph or portion of this ordinance shall for any reason, be declared illegal or constitutional, such declaration shall not effect the validity of any other section, sentence, paragraph or portion of this ordinance, which shall remain in full force and effect.

Section 14. That all ordinances, or parts of ordinances in conflict or inconsistent herewith be, and the same are hereby repeated.

This ordinance having been submitted in writing, having been read and adopted by sections at a public meeting of said Commission was then submitted to an official vote as a whole, the vote thereon being as follows:

YEAS: Nolty Theriot, Tomcy Doucet, Irvin Melancon, Jr., Harrison Cheramie, Jr., Adam Gisclair, Jr., and Anson Toups

NAYS: None

ABSENT: Andrew Martin and Loyman Terrebonne

VACANT: One

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, FL 33702
(727) 570-5312; Fax 570-5517
http://caldera.sero.nmfs.gov

AUG 25 2003

F/SER3:JJ

MEMORANDUM FOR: John D. Foret, Ph.D.
SEFSC/Estuarine Habitats & Coastal Fisheries Center

FROM: Roy E. Crabtree, Ph.D.
Regional Administrator

SUBJECT: Section 7 Consultation Regarding the Little Lake Shoreline Protection/Dedicated Dredging Project Near Round Lake in Louisiana (I/SER/2003/00894)

This is in response to your June 26, 2003 letter and accompanying information requesting section 7 consultation from NOAA Fisheries' Protected Resources Division (PRD), pursuant to the Endangered Species Act of 1973 (ESA). The project involves protecting, nourishing, and creating wetlands in the southwestern area of Little Lake in the Barataria Basin, Lafourche Parish, Louisiana. The project involves dredging and creating a rock dike. The applicant indicated that the project will not likely adversely affect listed species. As discussed below, this consultation concurs with the conclusion that ESA-listed species and critical habitat under NOAA Fisheries' jurisdiction are not likely to be adversely affected by the proposed action. Please refer to consultation number I/SER/2003/00894 in future correspondence on this project.

The project is located approximately one-third of the distance between Lake Salvador and Barataria Pass in the southern half of Barataria Basin. Little Lake is a large estuarine circulation system with brackish water.

Your office provided us with a copy of the report "Environmental Assessment of Little Lake Shoreline Protection/Dedicated Dredging Near Round Lake; CWPPRA Project BA-37," prepared by GOTECH, Inc. The Preferred Alternative involves dredging (bucket or hydraulic) 90 acres of water bottom; constructing a 22,200 foot (43 acre) rock dike in order to prevent erosion along 4 miles of shoreline; creating 551 acres of intertidal wetlands; nourishing and maintaining 406 acres of intermediate marsh by placing 6-12 inches of dredged material on top; dredging 1,300 acres of Little Lake to use as fill using a bucket dredge or hydraulic pipeline dredge; planting smooth cordgrass; constructing retention dikes along selective portions of the perimeter; and reducing land loss rates by 50 percent over the 20-year life of the project. The project will also involve fish gaps in the rock dike to allow for marine organism passage.

ESA-listed species under the purview of NOAA Fisheries which are often found near the project location in the Gulf of Mexico include the green (*Chelonia mydas*), loggerhead (*Caretta caretta*), Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*) sea turtles. The EA describes the project area as not providing suitable forage or habitat for sea turtles. Additionally, dredging activity conducted by bucket or hydraulic dredge has not been shown to adversely affect sea turtles, which are highly mobile and will likely be frightened away from the project area by dredging activity and noise (August 29, 1997, Biological Opinion to the U.S. Army Corps of Engineers, South Atlantic Division). Therefore, sea turtles are not likely to be adversely affected by this project.

The project area is not within green turtle, hawksbill turtle, or leatherback turtle critical habitat and therefore the project will not destroy or adversely modify designated critical habitat for these species.

The threatened Gulf sturgeon is managed jointly by NOAA Fisheries and the U.S. Fish and Wildlife Service. Historically, Gulf sturgeon occurred from the Mississippi River to Tampa Bay; sporadic occurrences have been recorded as far west as the Rio Grande River, and as far east and south as Florida Bay. There are no occurrence records of Gulf sturgeon in Little Lake. If Gulf sturgeon were present during the project, because of their mobility, they should be able to avoid the slow moving dredge equipment when they detect the approaching draghead. Therefore, Gulf sturgeon are not likely to be adversely affected by this project.

Gulf sturgeon critical habitat was designated March 19, 2003 (68 FR 13370). Because the project area is not within designated Gulf sturgeon critical habitat, the project will not destroy or adversely modify designated critical habitat for this species.

The action agency is also reminded that, in addition to its protected species/critical habitat consultation requirements with PRD pursuant to section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NOAA Fisheries' Habitat Conservation Division (HCD) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act's requirements for essential fish habitat (EFH) consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also understand the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will receive separate consultation correspondence on NOAA Fisheries letterhead from HCD regarding their concerns and/or finalizing EFH consultation. Consultation is not complete until EFH and ESA concerns have been addressed. If you have any questions about EFH consultation for this project, please contact Mr. Richard Hartman, HCD, at (225) 389-0508.

Based on your description of the proposed activity and your commitment to protect federally-listed species, we concur with your determination that this project will not likely adversely affect federally-listed species or designated critical habitat under NOAA Fisheries' purview. We believe that the requirements of section 7 of the ESA have been satisfied and no further consultation is required. However, obligations under section 7 of the Act must be reconsidered if: (1) there is a take; (2) new information reveals impacts of the identified action that may affect listed species or critical habitat in a manner not previously considered; (3) this action is subsequently modified in a

manner which was not considered in this assessment; or (4) a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions about this ESA consultation, please contact Ms. Jennifer Jacukiewicz, natural resource specialist, at the number listed above or by e-mail at Jennifer.Jacukiewicz@noaa.gov.

cc: F/PR3
F/SER44 - R. Hartman

File: 1514-22f.1 (LA)

o:\section 7\informal\00894 little lake dredge shoreline protection.wpd

U.S. Department of Homeland Security

United States Coast Guard

Commander
Eighth Coast Guard District
Hale Boggs Federal Building

501 Magazine Street, Room 1218
New Orleans, LA 70130-3396
Staff Symbol: OAN
Phone: (504) 589-6236
Fax: (504) 589-6654
Email: D8OANPaton@D8.USCG.Mil

6565
16518/COE
May 24, 2005

CERTIFIED MAIL – RECEIPT REQUESTED

National Marine Fisheries Service
ATTN: Mr. Richard Hartman
South Stadium Road
Military Science Room
Baton Rouge, LA 70803-7535

Gentlemen:

ARMY CORPS OF ENGINEERS, PERMIT NO. MVN-2004-0058-CR

We have reviewed the subject permit and determined this project must be marked with private aids to navigation.

Enclosed is an application (CG-2554) to establish and maintain private aids to navigation.

Any further information may be obtained by contacting the Private Aids Section at (504) 589-6236 or fax (504) 589-6654.

Sincerely,

R. N. HARRISON, Jr.
Chief, Private Aids to Navigation
U.S. Coast Guard
By direction

Encl: (1) CG-2554 Private Aids to Navigation Application
(2) Copy of Code of Federal Regulations Part 66

Copy: COE New Orleans District

U. S. COAST GUARD

PRIVATE AIDS TO NAVIGATION APPLICATION

INSTRUCTIONS

1. The rules, regulations, and procedures pertaining to private aids to navigation are set forth in the copy of Code of Federal Regulations; Title 33, Chapter 1, Part 66, on the back of this page.

2. Three copies of the application for private aids shall be forwarded to the Commander of the Coast Guard District in which the aids will be located 30 days in advance of the proposed action. Sections of charts or sketches showing the work proposed shall accompany each application.

3. When making application for private aids to mark structures and mooring buoys in navigable waters or to mark the excavating or depositing of material therein, evidence is required of the authorization obtained from Corps of Engineers, Department of the Army, for such work. (Code of Federal Regulations; Title 33, Part 209.120.)

4. The applicant shall complete all of Blocks 1, 2, 3, 4, 5, 9 and 10 for all new applications. When an aid is being discontinued, Block 3 need not be completed. Block 6 shall be completed whenever authorization is required to be obtained from Corps of Engineers (See Instruction No. 3). Columns of Block 7 will be completed as follows:

a. Unlighted buoys - 7a, 7e, 7f, and 7j.
b. Lighted buoys - 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h, and 7j.
c. Daybeacons - 7a, 7e, 7f (if applicable), 7h, 7i, and 7j.
d. Light on a structure - 7a, 7b, 7c, 7d, 7e, 7f (if applicable), 7g, 7h, 7i, and 7j.

When an aid is being changed, Block 8 shall be used to describe the nature of the change.

5. The required information for each column includes the following:

(7a) Proposed number or letter to be assigned to the aid.
(7b) Period of light (time in seconds for one complete cycle).
(7c) Flash length in seconds. For complex or multiple flashes, explain in column (7j).
(7d) Color of light.
(7e) Position by two or more horizontal angles, or bearing and distance from a prominent charted landmark. If a prominent charted landmark is not available, show latitude and longitude as precisely as the chart permits.
(7f) Depth of water at buoy or structure (if marine site). All depths are measured from mean low water except on Great Lakes where depths are measured from low water datum.
(7g) Candlepower, if known; otherwise, include the following information in column (7j); lens size, lamp voltage and amperage if electric, or details of other illuminant to be used.
(7h) Height of light or unlighted structure above water. Height is measured from mean high water except in the Great Lakes where heights are measured from low water datum shown on U.S. Lake Survey Charts. The height of a light on a buoy is measured from the water line.
(7i) Include details of structure (type, color).
(7j) Used for the following specific information, plus any other useful details: a. buoys - size, shape, color, and reflective material used; b. structures - daymark shape and color; c. fog signal on a buoy or structure - type and model, audible range, and characteristic (number of strokes or blasts, period and blast length).

6. This form may be used to cover more than one aid in the same geographic area. Draw a line between each aid as indicated in example. Attach separate sheet if additional space is required.

7. Attach a section of chart showing the proposed location of the aid(s) to navigation.

8. a. After receipt of the approved form the applicant will advise the District Commander by telegram or other rapid means of communications when the work authorized is actually accomplished.
b. If the aids have not been installed within one year of the approval date, the approved application is automatically cancelled.
c. Any discrepancy in the operation of the aid(s) at any time shall be reported to the Disctrict Commander by telegram or other rapid means of communication in order that Notices to Mariners may be issued. A discrepancy exists whenever the aid is not as described in the approved application, i.e., lack of signal, incorrect light characteristic, or improper color, shape of position of shore structure or buoy. The correction of the discrepancy will also be reported by the same method.

9. All classes of private aids to navigation shall be maintained in proper condition. They are subject to inspection by the Coast Guard at any time and without prior notice to the maintainer.

7. APPLICANT WILL FILL IN APPLICABLE REMAINING COLUMNS

FOR DISTRICT COMMANDERS ONLY		EXAMPLE OF USE OF APPLICATION									
			LIGHT						STRUCTURE	
LIGHT LIST NUMBER OR PAGE	NAME OF AID	NO. OR LTR. (7a)	PER. (7b)	FLASH LGTH. (7c)	COLOR (7d)	POSITION (7e)	DEPTH OF WATER (7f)	CAN-DLE POWER (7g)	HT. ABOVE WATER (7h)	TYPE, COLOR, AND HEIGHT (7i)	REMARKS *(See Instructions)* (7j)
		1	4s	0.4s	WHITE	205°T, 3540 yds from tank, Bayview, VA.	9 Ft.	20	6 Ft.		5' Lighted buoy - black
		2				200°T, 3425 yds from tank, Bayview, VA.	7 Ft.				Nun buoy - Red White reflector
		3				210°T, 2810 yds from tank, Bayview, VA.	2 Ft.		7 Ft.	Single pile	2' square daymark - black
		5	2.5s	0.5s	WHITE	218.5°T, 330 yds from tank, Bayview, VA.	8 Ft.	20	13 Ft.	5 - pile	3' square daymark - black

FEDERAL REGULATIONS CONCERNING PRIVATE AIDS TO NAVIGATION, 33 CFR 86

§ 66.01-1 Basic provisions.

(a) No person, public body or instrumentality not under the control of the Commandant, exclusive of the Armed Forces, shall establish and maintain, discontinue, change or transfer ownership of any aid to maritime navigation, without first obtaining permission to do so from the Commandant.

(b) For the purposes of this subpart, the term private aids to navigation includes all marine aids to navigation operated in the navigable waters of the United States other than those operated by the Federal Government (Part 62 of this subchapter) or those operated in State waters for private aids to navigation (Subpart 66.05).

(c) Coast Guard authorization of a private aid to navigation does not authorize any invasion of private rights nor grant any exclusive privileges, nor does it obviate the necessity of complying with any other Federal, State or local laws or regulations.

(d) With the exception of shore based radar stations, operation of electronic aids to navigation as private aids will not be authorized.

§ 66.01-3 Delegation of authority to District Commanders.

(a) Pursuant to the authority in 49 CFR 1,4(g), the Commandant delegates to the District Commanders within the confines of their respective districts (see Part 3 of this Chapter for descriptions) the authority to grant permission to establish and maintain, discontinue, change or transfer ownership of private aids to maritime navigation, and otherwise administer the requirements of this subpart.

(b) The decisions of the District Commander may be appealed within 30 days from the date of decision. The decision of the Commandant in any case is final.

§ 66.01-5 Application procedure.

Application to establish and maintain, discontinue, change or transfer ownership of a private aid to navigation shall be made to the Commander of the Coast Guard District in which the private aid to navigation is or will be located. Application forms (CG-2554) will be provided upon request. The applicant shall complete all parts of the form applicable to the aid to navigation concerned, and shall forward the application in triplicate to the District Commander. The following information is required:

(a) The proposed position of the aid to navigation by two or more horizontal angles, or bearings and distance from charted landmarks. A section of chart or sketch showing the proposed location of the aid to navigation shall be included.

(b) The name and address of the person at whose expense the aid will be maintained.

(c) The name and address of the person who will maintain the aid to navigation.

(d) The time and dates during which it is proposed to operate the aid.

(e) The necessity for the aid.

(f) For lights: The color, characteristic, height above water, and descriptions of illuminating apparatus.

(g) For log signals: Type (whistle, horn, bell etc.) and characteristic.

(h) For buoys or daybeacons: Shape, color, number, or letter, depth of water in which located or height above water.

§ 66.01 - 10 Characteristics.

The characteristics of a private aid to navigation shall conform to the standard U.S. system to aids to navigation characteristics described in subpart 62.25 of Part 62 of this subchapter, except that only tungsten-incandescent light sources will be approved for electric lights.

§ 66.01 - 15 Action by Coast Guard.

(a) The District Commander receiving the application will review it for completeness and will assign the aid one of the following classifications:

Class I: Aids to navigation on marine structures of other works which the owners are legally obligated to establish, maintain and operate as prescribed by the Coast Guard.

Class II: Aids to navigation exclusive of Class I located in waters used by general navigation.

Class III: Aids to navigation exclusive of Class I located in waters not ordinarily used by general navigation.

(b) Upon approval by the District Commander, a signed copy of the application will be returned to the applicant.

§ 66.01 - 20 Inspection.

All classes of private aids to navigation shall be maintained in proper operating condition. They are subject to inspection by the Coast Guard at any time and without prior notice.

§ 66.01 - 25 Discontinuance and removal.

(a) No person, public body or instrumentality shall change, move or discontinue any authorized private aid to navigation required by statue or regulations (Class I § 66.01-15) without first obtaining permission to do so from the District Commander.

(b) Any authorized private aid to navigation not required by statue or regulation (Classes II and III, § 66.01-15) may be discontinued and removed by the owner after 30 days' notice to the District Commander to whom the original request for authorization for establishment of the aid was submitted.

(c) Private aids to navigation which have been authorized pursuant to this part shall be discontinued and removed without expense to the United States by the person, public body or instrumentality establishing or maintaining such aids when so directed by the District Commander.

§ 66.01-30 Corps of Engineers' approval.

(a) Before any private aid to navigation consisting of a fixed structure is placed in the navigable waters of the United States, authorization to erect such structure shall first be obtained from the District Engineer, U.S. Army Corps of Engineers in whose district the aid will be located.

(b) The application to establish any private aid to navigation consisting of a fixed structure shall show evidence of the required permit having been issued by the Corps of Engineers.

§ 66.01-35 Marking of structures and floating obstructions.

Any structure, mooring, mooring buoy, or dam, in or over the navigable waters of the United States shall display the lights and other signals for the protection of maritime navigation as may be prescribed by the Commandant. The prescribed lights and signals shall be installed, maintained and operated by and at the expense of the owner, or operator. After obtaining such approval or a statement of no objection from the Corps of Engineers as is required by law, the owner or operator shall apply in accordance with § 66.01-5 to the District Commander having jurisdiction over the waters in which the structure or floating obstruction will be located for a determination of the lights and other signals to be displayed. This requirement includes the temporary lights and signals to be displayed during the construction of a structure. If no regulation exists prescribing the lights or other signals required to mark any work or obstruction, each case shall be considered individually by the District Commander, who will prescribe such lights and signals as he considers necessary for the safety of navigation.

§ 66.01-40 Exemptions.

(a) Nothing in the preceding sections of this subpart shall be construed to interfere with or nullify the requirements of existing laws and regulations pertaining to the marking of vessels and other obstructions sunk in the navigable waters of the United States (Part 64 of this subchapter), the marking of artificial islands and structures which are erected on or over the seabed and subsoil of the outer Continental Shelf (Part 67 of this subchapter), or the lighting of bridges over navigable waters of the United States (Part 68 of this subchapter).

(b) Persons marking structures pursuant to Part 64 or Part 58 of this subchapter are exempted from the provisions of § 66.01-5 and 66.01-35.

§ 66.01-45 Penalties.

Any person, public body or instrumentality, excluding the Armed Forces, who shall establish, erect or maintain any aid to maritime navigation without first obtaining authority to do so from the Coast Guard or who shall violate the regulations relative thereto issued in this part, is subject to the provision of 14 U.S.C. 83. Any owner or operator of a fixed structure, excluding an agency of the United States, who violates any of the rules or regulations prescribed with respect to lights and other signals for fixed structures, is subject to the provision of 14 U.S.C. 85.

§ 66.01-50 Protection of private aids to navigation.

Private aids to navigation lawfully maintained under these regulations are entitled to same protection against interference or obstruction as is afforded by law to Coast Guard aids to navigation (Part 70 of this subchapter). If interference or obstruction occurs, a prompt report containing all the evidence available should be made to the Commander of the Coast Guard District in which the aids are located.

§ 66.01-55 Transfer of ownership.

(a) When any private aid to navigation authorized by the District Commander, or the essential real estate or facility with which the aid is associated, is sold or transferred, both parties to the transaction shall submit application (§ 66.01-5) to the Commander of the Coast Guard District in which the aid is located requesting authority to transfer responsibility for maintenance of the aid.

(b) The party relinquishing responsibility for maintenance of the private aid to navigation shall indicate on the application form (CG-2554) both the discontinuance and the change of ownership of the aid sold or transferred.

(c) The party accepting responsibility for maintenance of the private aid to navigation shall indicate on the application form (CG-2554) both the establishment and the change of ownership of the aid sold or transferred.

(d) In the event the new owner of the essential real estate or facility with which the aid is associated refuses to accept responsibility for maintenance of the aid, the former owner shall be required to remove the aid without expense to the United States. This requirement shall not apply in the case of any authorized private aid to navigation required by statute or regulation (Class I, § 66.01-15) which shall be maintained by the new owner until the conditions which made the aid necessary have been eliminated.

U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD
CG-2554 (Rev. 06-04)

PRIVATE AIDS TO NAVIGATION APPLICATION

(See attached instructions and copy of Code of Fed. Reg., Title 33, Chap. 1, Part 66)

Form Approved
OMB-1625-0011

NO PRIVATE AID TO NAVIGATION MAY BE AUTHORIZED UNLESS A COMPLETED APPLICATON FORM HAS BEEN RECEIVED (14 U.S.C. 83; 33 C.F.R. 66.01-5).

1. ACTION REQUESTED FOR PRIVATE AIDS TO NAVIGATION: A. ☐ ESTABLISH AND MAINTAIN B. ☐ DISCONTINUE C. ☐ CHANGE D. ☐ TRANSFER OWNERSHIP

2. DATE ACTION TO START

3. AIDS WILL BE OPERATED: A. ☐ THROUGHOUT THE YEAR B. ☐ TEMPORARILY UNTIL _____ C. ☐ ANNUALLY _____ TO _____

4. NECESSITY FOR AID *(Continue in Block 8)*

5. GENERAL LOCALITY

6. CORPS OF ENGINEERS AUTHORIZED THIS STRUCTURE OR BUOY BY ☐ PERMIT OR ☐ LETTER *(file and date)*

FOR DISTRICT COMMANDERS ONLY | **7. APPLICANT WILL FILL IN APPLICABLE REMAINING COLUMNS**

LIGHT LIST NUMBER OR PAGE	NAME OF AID	LIGHT: NO. OR LTR. (7a)	LIGHT: PER. (7b)	LIGHT: FLASH LGTH. (7c)	LIGHT: COLOR (7d)	POSITION (7e)	DEPTH OF WATER (7f)	CAN-DLE POWER (7g)	HT. ABOVE WATER (7h)	STRUCTURE: TYPE, COLOR, AND HEIGHT ABOVE GROUND (7i)	REMARKS *(See Instructions)* (7j)

8. ADDITIONAL COMMENTS

9a. NAME AND ADDRESS OF PERSON IN DIRECT CHARGE OF AID

9b. TELEPHONE NO.

10a. NAME AND ADDRESS OF PERSON OR CORPORATION AT WHOSE EXPENSE

10b. THE APPLICANT AGREES TO SAVE THE COAST GUARD HARMLESS WITH RESPECT TO ANY CLAIM OR CLAIMS THAT MAY RESULT ARISING FROM THE ALLEGED NEGLIGENCE OF THE MAINTENANCE OR OPERATION OF THE APPROVED AID(S).

10c. DATE

10d. SIGNATURE AND TITLE OF OFFICIAL SIGNING

FOR USE BY DISTRICT COMMANDER

SERIAL NO.

CLASSIFICATION OF AIDS

RECD.

CHART

L. N. M.

DATE APPROVED

SIGNATURE *(By direction)*

PREVIOUS EDITIONS ARE OBSOLETE

REMARKS

DATE	REFERENCE	ACTION AND REMARKS

	J	F	M	A	M	J	J	A	S	O	N	D

NAME OF AID	LIGHT LIST NO.	PAGE

(h) Prevailing and historical weather conditions;

(i) Length of time that the obstruction has been in existence;

(j) History of vessel incidents involving the obstruction; and

(k) Whether the obstruction is defined as a hazard to navigation under other statutes or regulations.

[CGD 91-031, 57 FR 43403, Sept. 21, 1992]

§ 64.33 Marking by the Coast Guard.

(a) The District Commander may mark for the protection of maritime navigation any structure, sunken vessel or other obstruction that is not suitably marked by the owner. Markings established by the Coast Guard do not relieve the owner's duty or responsibility to mark the sunken vessel or other obstruction, or to remove it as required by law.

(b) Costs for markings established by the Coast Guard will be determined in accordance with part 74 of this Chapter.

(c) Costs for marking of a sunken vessel or other obstruction shall be charged to the owner and shall continue until:

(1) The vessel or other obstruction is removed;

(2) The right of the owner to abandon is legally established and has been exercised; or

(3) The District Commander directs otherwise.

NOTE: When the needs of navigation permit, the owner may be given reasonable opportunity to establish and maintain the necessary markings.

PART 66—PRIVATE AIDS TO NAVIGATION

Subpart 66.01—Aids to Navigation Other Than Federal or State

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66.01-3 Delegation of authority to District Commanders.
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Subpart 66.10—Uniform State Waterway Marking System

66.10-1 General.
66.10-5 [Reserved]
66.10-10 [Reserved]
66.10-15 Aids to navigation.
66.10-35 Navigation lights.

AUTHORITY: 14 U.S.C. 83, 84, 85; 43 U.S.C. 1333; Pub. L. 107-296, 116 Stat. 2135; Department of Homeland Security Delegation No. 0170.1.

Subpart 66.01—Aids to Navigation Other Than Federal or State

SOURCE: CGFR 68-152, 33 FR 19816, Dec. 27, 1968, unless otherwise noted.

§ 66.01-1 Basic provisions.

(a) No person, public body or instrumentality not under the control of the Commandant, exclusive of the Armed Forces, shall establish and maintain, discontinue, change or transfer ownership of any aid to maritime navigation, without first obtaining permission to do so from the Commandant.

(b) For the purposes of this subpart, the term private aids to navigation includes all marine aids to navigation operated in the navigable waters of the United States other than those operated by the Federal Government (part 62 of this subchapter) or those operated

in State waters for private aids to navigation (subpart 66.05).

(c) Coast Guard authorization of a private aid to navigation does not authorize any invasion of private rights, nor grant any exclusive privileges, nor does it obviate the necessity of complying with any other Federal, State or local laws or regulations.

(d) With the exception of radar beacons (racons) and shore based radar stations, operation of electronic aids to navigation as private aids will not be authorized.

[CGFR 68-152, 33 FR 19816, Dec. 27, 1968, as amended by CGD 85-057, 51 FR 11448, Apr. 3, 1986]

§ 66.01-3 Delegation of authority to District Commanders.

(a) Under Section 888 of Pub. L. 107-296, 116 Stat. 2135, the Commandant delegates to the District Commanders within the confines of their respective districts (see Part 3 of this chapter for descriptions) the authority to grant permission to establish and maintain, discontinue, change or transfer ownership of private aids to maritime navigation, and otherwise administer the requirements of this subpart.

(b) The decisions of the District Commander may be appealed within 30 days from the date of decision. The decision of the Commandant in any case is final.

[CGFR 68-152, 33 FR 19816, Dec. 27, 1968, as amended by USCG-1998-3799, 63 FR 35526, June 30, 1998; USCG-2003-14505, 68 FR 9535, Feb. 28, 2003]

§ 66.01-5 Application procedure.

To establish and maintain, discontinue, change, or transfer ownership of a private aid to navigation, you must apply to the Commander of the Coast Guard District in which the aid is or will be located. You can find application form CG-2554 at *http://www.uscgboating.org/safety/aton/aids.htm* or you can request a paper copy by calling the Boating Safety Information line at (800) 368-5647. You must complete all parts of the form applicable to the aid concerned, and must forward the application to the District Commander. You must include the following information:

(a) The proposed position of the aid to navigation by two or more horizontal angles, bearings and distance from charted landmarks, or the latitude and longitude as determined by GPS or differential GPS. Attach a section of chart or sketch showing the proposed position.

(b) The name and address of the person at whose expense the aid will be maintained.

(c) The name and address of the person who will maintain the aid to navigation.

(d) The time and dates during which it is proposed to operate the aid.

(e) The necessity for the aid.

(f) For lights: The color, characteristic, range, effective intensity, height above water, and description of illuminating apparatus. Attach a copy of the manufacturer's data sheet to the application.

(g) For sound signals: Type (whistle, horn, bell, etc.) and characteristic.

(h) For buoys or daybeacons: Shape, color, number, or letter, depth of water in which located or height above water.

(i) For racons: Manufacturer and model number of racon, height above water of desired installation, and requested coding characteristic. Equipment must have FCC authorization.

[CGFR 68-152, 33 FR 19816, Dec. 27, 1968, as amended by CGD 85-057, 51 FR 11448, Apr. 3, 1986; USCG-2000-7466, 68 FR 68238, Dec. 8, 2003; USCG-2000-7466, 69 FR 12541, Mar. 17, 2004; USCG-2001-10714, 69 FR 24982, May 5, 2004]

§ 66.01-10 Characteristics.

The characteristics of a private aid to navigation must conform to those prescribed by the United States Aids to Navigation System set forth in subpart B of part 62 of this subchapter.

[USCG-2000-7466, 68 FR 68238, Dec. 8, 2003]

§ 66.01-11 Lights.

(a) Except for range and sector lights, each light approved as a private aid to navigation must:

(1) Have at least the effective intensity required by this subpart omnidirectionally in the horizontal plane, except at the seams of its lensmold.

(2) Have at least 50% of the effective intensity required by this subpart within ±2° of the horizontal plane.

(3) Have a minimum effective intensity of at least 1 candela for a range of 1 nautical mile, 3 candelas for one of 2 nautical miles, 10 candelas for one of 3 nautical miles, and 54 candelas for one of 5 nautical miles. The District Commander may change the requirements for minimum intensity to account for local environmental conditions. For a flashing light this intensity is determined by the following formula:

$Ie=G/(0.2+t_2-t_1)$

Where:

Ie = Effective intensity
G = The integral of the instantaneous intensity of the flashed light with respect to time
t_1 = Time in seconds at the beginning of the flash
t_2 = Time in seconds at the end of the flash
t_2-t_1 is greater than or equal to 0.2 seconds.

(4) Unless the light is a prefocused lantern, have a means of verifying that the source of the light is at the focal point of the lens.

(5) Emit a color within the angle of 50% effective intensity with color coordinates lying within the boundaries defined by the corner coordinates in Table 66.01–11(5) of this part when plotted on the Standard Observer Diagram of the International Commission on Illumination (CIE).

TABLE 66.01–11(5)—COORDINATES OF CHROMATICITY

Color	Coordinates of chromaticity	
	x axis	y axis
White	0.500	0.382
	0.440	0.382
	0.285	0.264
	0.285	0.332
	0.453	0.440
	0.500	0.440
Green	0.305	0.689
	0.321	0.494
	0.228	0.351
	0.028	0.385
Red	0.735	0.265
	0.721	0.259
	0.645	0.335
	0.665	0.335
Yellow	0.618	0.382
	0.612	0.382
	0.555	0.435
	0.560	0.440

(6) Have a recommended interval for replacement of the source of light that ensures that the lantern meets the minimal required intensity stated in paragraph (a)(3) of this section in case of degradation of either the source of light or the lens.

(7) Have autonomy of at least 10 days if the light has a self-contained power system. Power production for the prospective position should exceed the load during the worst average month of insolation. The literature concerning the light must clearly state the operating limits and service intervals. Low-voltage disconnects used to protect the battery must operate so as to prevent sporadic operation at night.

(b) The manufacturer of each light approved as a private aid to navigation must certify compliance by means of an indelible plate or label affixed to the aid that meets the requirements of § 66.01–14.

[USCG–2000–7466, 68 FR 68238, Dec. 8, 2003]

§ 66.01–12 May I continue to use the private aid to navigation I am currently using?

If, after March 8, 2004, you modify, replace, or install any light that requires a new application as described in § 66.01–5, you must comply with the rules in this part.

[USCG–2000–7466, 68 FR 68239, Dec. 8, 2003]

§ 66.01–13 When must my newly manufactured equipment comply with these rules?

After March 8, 2004, equipment manufactured for use as a private aid to navigation must comply with the rules in this part.

[USCG–2000–7466, 68 FR 68239, Dec. 8, 2003]

§ 66.01–14 Label affixed by manufacturer.

(a) Each light, intended or used as a private aid to navigation authorized by this part, must bear a legible, indelible label (or labels) affixed by the manufacturer and containing the following information:

(1) Name of the manufacturer.

(2) Model number.

(3) Serial number.

(4) Words to this effect: "This equipment complies with requirements of the U.S. Coast Guard in 33 CFR part 66."

(b) This label must last the service life of the equipment.

(c) The manufacturer must provide the purchaser a data sheet containing the following information:

(1) Recommended service life based on the degradation of either the source of light or the lamp.

(2) Range in nautical miles.

(3) Effective intensity in candela.

(4) Size of lamp (incandescent only).

(5) Interval, in days or years, for replacement of dry-cell or rechargeable battery.

[USCG–2000–7466, 68 FR 68239, Dec. 8, 2003]

§ 66.01–15 Action by Coast Guard.

(a) The District Commander receiving the application will review it for completeness and will assign the aid one of the following classifications:

Class I: Aids to navigation on marine structures or other works which the owners are legally obligated to establish, maintain and operate as prescribed by the Coast Guard.

Class II: Aids to navigation exclusive of Class I located in waters used by general navigation.

Class III: Aids to navigation exclusive of Class I located in waters not ordinarily used by general navigation.

(b) Upon approval by the District Commander, a signed copy of the application will be returned to the applicant. Approval for the operation of radar beacons (racons) will be effective for an initial two year period, then subject to annual review without further submission required of the owner.

[CGFR 68–152, 33 FR 19816, Dec. 27, 1968, as amended by CGD 85–057, 51 FR 11448, Apr. 3, 1986]

§ 66.01–20 Inspection.

All classes of private aids to navigation shall be maintained in proper operating condition. They are subject to inspection by the Coast Guard at any time and without prior notice.

§ 66.01–25 Discontinuance and removal.

(a) No person, public body or instrumentality shall change, move or discontinue any authorized private aid to navigation required by statute or regulation (Class I, § 66.01–15) without first obtaining permission to do so from the District Commander.

(b) Any authorized private aid to navigation not required by statute or regulation (Classes II and III, § 66.01–15) may be discontinued and removed by the owner after 30 days' notice to the District Commander to whom the original request for authorization for establishment of the aid was submitted.

(c) Private aids to navigation which have been authorized pursuant to this part shall be discontinued and removed without expense to the United States by the person, public body or instrumentality establishing or maintaining such aids when so directed by the District Commander.

§ 66.01–30 Corps of Engineers' approval.

(a) Before any private aid to navigation consisting of a fixed structure is placed in the navigable waters of the United States, authorization to erect such structure shall first be obtained from the District Engineer, U.S. Army Corps of Engineers in whose district the aid will be located.

(b) The application to establish any private aid to navigation consisting of a fixed structure shall show evidence of the required permit having been issued by the Corps of Engineers.

§ 66.01–40 Exemptions.

(a) Nothing in the preceding sections of this subpart shall be construed to interfere with or nullify the requirements of existing laws and regulations pertaining to the marking of structures, vessels and other obstructions sunken in waters subject to the jurisdiction of the United States (Part 64 of this subchapter), the marking of artificial islands and structures which are erected on or over the seabed and subsoil of the Outer Continental Shelf (Part 67 of this subchapter), or the lighting of bridges over navigable waters of the United States (Subchapter J of this subchapter).

(b) Persons marking bridges pursuant to Subchapter J of this title are exempted from the provisions of § 66.01–5.

[CGD 78–156, 48 FR 11268, Mar. 17, 1983]

§ 66.01–45 Penalties.

Any person, public body or instrumentality, excluding the armed forces,

who shall establish, erect or maintain any aid to maritime navigation without first obtaining authority to do so from the Coast Guard, with the exception of those established in accordance with §64.10 of this chapter, or who shall violate the regulations relative thereto issued in this part, is subject to the provisions of 14 U.S.C. 83.

[CGD 78–156, 48 FR 11268, Mar. 17, 1983]

§ 66.01–50 Protection of private aids to navigation.

Private aids to navigation lawfully maintained under these regulations are entitled to the same protection against interference or obstruction as is afforded by law to Coast Guard aids to navigation (Part 70 of this subchapter). If interference or obstruction occurs, a prompt report containing all the evidence available should be made to the Commander of the Coast Guard District in which the aids are located.

§ 66.01–55 Transfer of ownership.

(a) When any private aid to navigation authorized by the District Commander, or the essential real estate or facility with which the aid is associated, is sold or transferred, both parties to the transaction shall submit application (§66.01–5) to the Commander of the Coast Guard District in which the aid is located requesting authority to transfer responsibility for maintenance of the aid.

(b) The party relinquishing responsibility for maintenance of the private aid to navigation shall indicate on the application form (CG–2554) both the discontinuance and the change of ownership of the aid sold or transferred.

(c) The party accepting responsibility for maintenance of the private aid to navigation shall indicate on the application form (CG–2554) both the establishment and the change of ownership of the aid sold or transferred.

(d) In the event the new owner of the essential real estate or facility with which the aid is associated refuses to accept responsibility for maintenance of the aid, the former owner shall be required to remove the aid without expense to the United States. This requirement shall not apply in the case of any authorized private aid to navigation required by statute or regulation (Class I, §66.01–15) which shall be maintained by the new owner until the conditions which made the aid necessary have been eliminated.

Subpart 66.05—State Aids to Navigation

SOURCE: CGFR 66–32, 31 FR 10320, July 30, 1966, unless otherwise noted.

§ 66.05–1 Purpose.

The purpose of the regulations in this subpart is to prescribe the conditions under which state governments may regulate aids to navigation owned by state or local governments, or private parties. With the exception on the provisions of subpart 66.10, which are valid until December 31, 2003, aids to navigation must be in accordance with the United States Aids to Navigation System in part 62 of this subchapter.

[CGD 97–018, 63 FR 33573, June 19, 1998]

§ 66.05–5 Definitions.

(a) The term *State waters for private aids to navigation* means those navigable waters of the United States which the Commandant, upon request of a State Administrator, has designated as waters within which a State government may regulate the establishment, operation, and maintenance of marine aids to navigation, including regulatory markers. The Commandant will entertain requests to make such designations with respect to navigable waters of the United States not marked by the Federal government. These designations when approved will be set forth in separate sections by States in this subpart and will briefly describe or identify waters so designated.

(b) The term Uniform State Waterway Marking System (USWMS) means the system of private aids to navigation which may be operated in State waters. Subpart 66.10, which describes the USWMS, expires on December 31, 2003.

(c) The term *State Administrator* means the official of a State having power under the law of the State to regulate, establish, operate or maintain maritime aids to navigation on

waters over which the State has jurisdiction.

(d) The term *State aids to navigation* means all private marine aids to navigation operated in State waters for private aids to navigation, whether owned by a State, political subdivisions thereof or by individuals, corporations, or organizations.

(e) The term *regulate State maritime aids to navigation* means to control the establishment, disestablishment, operation and maintenance of State aids to navigation.

[CGFR 66-32, 31 FR 10320, July 30, 1966, as amended by CGD 97-018, 63 FR 33573, June 19, 1998]

§ 66.05–10 State waters for private aids to navigation; designations; revisions, and revocations.

(a) A State Administrator who desires to regulate State maritime aids to navigation in the navigable waters of the United States not marked by the Federal Government, shall request the Commandant to designate the specific bodies of water involved as State waters for private aids to navigation.

(b) The request shall be forwarded to the District Commander in whose district the bodies of water are located. The request shall give the name and description of the waterway; the extent of use being made of the waterway for marine navigation, in general terms; an appropriate chart or sketch of the area; and a general outline of the nature and extent of the State aids to navigation which the Administrator plans to establish in the waterway.

(c) The District Commander shall review the request and consult with the State Administrator concerning the terms of an initial agreement to be entered into under provisions of § 66.05–20. When they have arrived at terms of an agreement satisfactory to both, the District Commander shall forward the request to the Commandant with recommendations and the terms of agreement mutually settled upon. If they cannot reach such agreement, the District Commander shall forward the request with recommendations and a statement of the points agreed upon and the points remaining at issue.

(d) Upon receipt of the request, the Commandant will determine whether or not approval of the request is in the public interest and will inform the State Administrator and the District Commander of the Coast Guard's decision. If the request is approved, the designation by the Commandant of the waters in question as State waters for private aids to navigation will be also defined and described in this subpart.

(e) The Commandant may, upon his or her own initiative or upon request, revoke or revise any designations of State waters for private aids to navigation previously made by him or her. Written notice shall be given the State Administrator of the action contemplated by the Commandant. The State Administrator will be afforded a period of not less than 30 days from the date of the notice in which to inform the Commandant of the State's views in the matter before final action is completed to revoke or revise such designation.

[CGFR 66-32, 31 FR 10320, July 30, 1966, as amended by USCG-2001-10714, 69 FR 24982, May 5, 2004]

§ 66.05–20 Coast Guard-State agreements.

(a) The District Commander in whose District a waterway is located may enter into agreements with State Administrators permitting a State to regulate aids to navigation, including regulatory markers, in State waters for private aids to navigation, as, in the opinion of the District Commander, the State is able to do in a manner to improve the safety of navigation. When a waterway is located within the area of jurisdiction of more than one Coast Guard District, the District Commander in whose District the State capital is located shall execute the agreement in behalf of the Coast Guard. All such agreements shall reserve to the District Commander the right to inspect the State aids to navigation without prior notice to the State. They shall stipulate that State aids to navigation will conform to the Uniform State Waterway marking System or to the U.S. Aids to Navigation System and that the State Administrator will modify or remove State aids to navigation without expense to the United States when so directed by the District Commander, subject to the

right of appeal on the part of the State Administrator to the Commandant.

(b) A Coast Guard-State agreement shall become effective when both parties have signed the agreements. In lieu of the procedure prescribed in § 66.01–5, the agreement shall constitute blanket approval by the Commandant, of the State aids to navigation, including regulatory markers, established or to be established in State waters for private aids to navigation designated or to be designated by the Commandant.

(c) In addition to the matters set forth in paragraph (a) of this section, Coast Guard-State agreements shall cover the following points, together with such other matters as the parties find it desirable to include:

(1) A description, in sufficient detail for publication in Notices to Mariners, of all aids to navigations under State jurisdiction in navigable waters of the United States in existence prior to the effective date of the agreement which have not been previously approved under procedures of § 66.01–5.

(2) Procedures for use by the State administrator to notify the District Commander of changes made in State aids to navigation, as required by § 66.05–25.

(3) If prior to December 21, 2003, specification of the marking system to be used, whether the U.S. Aids to Navigation System or the Uniform State Waterway Marking System.

(4) Specification of standards as to minimum size and shape of markers, the use of identifying letters, the use of reflectors or retroreflective materials, and any other similar standards so as to enable Coast Guard inspectors to determine compliance with Statewide standards.

[CGD 86–031, 52 FR 42645, Nov. 6, 1987, as amended by CGD 97–018, 63 FR 33573, June 19, 1998]

§ 66.05–25 Change and modification of State aids to navigation.

Wherever a State Administrator determines the need for change in State aids to navigation, he or she must inform the District Commander of the nature and extent of the changes, as soon as possible, but not less than 30 days in advance of making the changes.

[USCG–2001–10714, 69 FR 24982, May 5, 2004]

§ 66.05–30 Notice to Mariners.

(a) To improve public safety, the District Commander may publish information concerning State aids to navigation, including regulatory markers, in the Coast Guard Local Notices to Mariners.

(b) Notices to Mariners which concern the establishment, disestablishment, or change of State aids to navigation, including regulatory markers, may be published whenever the aids to navigation concerned are covered by navigational charts or maps issued by the National Ocean Service or the U.S. Army Corps of Engineers.

[CGFR 66–32, 31 FR 10320, July 30, 1966, as amended by USCG–2000–7223, 65 FR 40055, June 29, 2000; USCG–2001–9286, 66 FR 33640, June 25, 2001; USCG–2001–10714, 69 FR 24982, May 5, 2004]

§ 66.05–35 Private aids to navigation other than State owned.

(a) No person, public body or other instrumentality not under control of the Commandant or the State Administrator, exclusive of the Armed Forces of the United States, shall establish, erect or maintain in State waters for private aids to navigation any aid to navigation without first obtaining permission to do so from the State Administrator. Discontinuance of any State aids to navigation may be effected by order of the State Administrator.

§ 66.05–40 Corps of Engineers' approval.

(a) In each instance where a regulatory marker is to be established in navigable waters of the United States which have been designated by the Commandant as State waters for private aids to navigation, the State Administrator is responsible for obtaining prior permission from the District Engineer, U.S. Army Corps of Engineers concerned, authorizing the State to regulate the water area involved, or a statement that there is no objection to the proposed regulation of the water area. A copy of the Corps of Engineers permit or letter of authority shall be

provided by the Administrator to the District Commander upon request.

(b) Similarly, where an aid to navigation is to be placed on a fixed structure or a mooring buoy is to be established in State waters for private aids to navigation, the State Administrator shall assure that prior permission or a statement of no objection to the structures or mooring buoys proposed is obtained from the District Engineer concerned. A copy of the permit or letter is not required by the District Commander.

§ 66.05-100 Designation of navigable waters as State waters for private aids to navigation.

In accordance with the procedures contained in § 66.05-10(d), the following navigable waters listed by the State in which they are located, are designated as State waters for private aids to navigation:

(a) *Arizona.* The portion of Lake Havasu within the State, except that portion within Havasu Lake National Wildlife Refuge.

(b) *Louisiana.* The portion of Toledo Bend Reservoir within the State.

(c) *Missouri.* Teach water within the State except the:

(1) Mississippi River; and

(2) Missouri River.

(d) *Montana.* The portion of Missouri River between the U.S. Highway 287 bridge near Townsend and Great Falls including the following impoundments:

(1) Black Eagle Dam Reservoir.

(2) Canyon Ferry Reservoir.

(3) Hauser Lake.

(4) Holter Lake.

(5) Rainbow Dam Reservoir.

(e) *North Carolina.* Navigable waters within the State not marked with Coast Guard aids to navigation on June 1, 1973.

(f) *Pennsylvania.* The portion of Youghiogheny River Reservoir within the State.

(f-1) *South Carolina.* (1) The portion of Lake Wylie within the State; (2) Lake Marion; (3) Lake Moultrie; and (4) Lake Murray.

(g) *Texas.* The portion of Toledo Bend Reservoir within the State.

(h) *Virginia.* (1) Claytor Lake, on the New River in Pulaski County.

(2) Leesville Lake, on the Roanoke River below Smith Mountain Dam.

(3) The portions of the following reservoirs within the State:

(i) Gaston.

(ii) Holston.

(iii) John H. Kerr.

(iv) Philpott.

(i) *Wisconsin.* Navigable waters within the State not marked with Coast Guard aids to navigation as of May 1, 1996.

[CGD 72-154R, 38 FR 33473, Dec. 5, 1973, as amended by CGD 76-015, 41 FR 12879, Mar. 29, 1976; CGD 80-132, 46 FR 27643, May 21, 1981; CGD 98-3604, 63 FR 55947, Oct. 20, 1998; USCG-2001-10714, 69 FR 24982, May 5, 2004]

Subpart 66.10—Uniform State Waterway Marking System

§ 66.10-1 General.

(a) Until December 31, 2003, the Uniform State Waterway Marking System's (USWMS) aids to navigation provisions for marking channels and obstructions may be used in those navigable waters of the U.S. that have been designated as state waters for private aids to navigation and in those internal waters that are non-navigable waters of the U.S. All other provisions for the use of regulatory markers and other aids to navigation shall be in accordance with United States Aid to Navigation System, described in part 62 of this subchapter.

(b) The USATONS may be used in all U.S. waters under state jurisdiction, including non-navigable state waters.

[CGD 97-018, 63 FR 33574, June 19, 1998]

§ 66.10-5 [Reserved]

§ 66.10-10 [Reserved]

§ 66.10-15 Aids to navigation.

(a) USWMS aids to navigation may have lateral or cardinal meaning.

(b) On a well defined channel including a river or other relatively narrow natural or improved waterway, an aid to navigation shall normally be a solid colored buoy. A buoy which marks the left side of the channel viewed looking upstream or toward the head of navigation shall be colored all black. A buoy which marks the right side of the channel viewed looking upstream or toward

APPENDIX K

DNR ACCEPTANCE OF WORK

NOTICE BY OWNER OF ACCEPTANCE OF WORK

TO ALL WHOM IT MAY CONCERN, AND ESPECIALLY TO SUBCONTRACTORS, WORKMEN, LABORERS AND FURNISHERS OF MATERIALS.

PUBLIC NOTICE IS HEREBY GIVEN, ACCORDING TO LAW, THAT THE UNDERSIGNED OWNER HAS ACCEPTED THE WORK FOR LITTLE LAKE SHORELINE PROTECTION AND MARSH CREATION PROJECT (BA-37) FOR DEPARTMENT OF NATURAL RESOURCES, LAFOURCHE PARISH, DONE BY PINE BLUFF SAND AND GRAVEL COMPANY.

IN ACCORDANCE WITH THE CONTRACT DATED JUNE 21, 2005, AND RECORDED IN THE MORTGAGE RECORDS OF LAFOURCHE PARISH, UNDER ORIGINAL INSTRUMENT NUMBER: 985352, RECORDING PAGES: 12, BOOK NO. 1140 AND PAGE 515, ALL SUBCONTRACTORS, WORKMEN, LABORERS, MECHANICS, FURNISHERS OF MATERIALS OR OTHER CLAIMANTS MUST ASSERT WHATEVER CLAIM, IF ANY, THEY MAY HAVE AGAINST SAID CONTRACT, GROWING OUT OF THE EXECUTION AND PERFORMANCE OF SAID CONTRACT, ACCORDING TO LAW, WITHIN FORTY-FIVE (45) DAYS FROM RECORDATION HEREOF:

BATON ROUGE, LOUISIANA

DATE ACCEPTED: MARCH 30, 2007

APPROVED: MAY 23 2007
(DATE)

DIVISION OF ADMINISTRATION

BY: _____
DENISE LEA
DIRECTOR OF STATE PURCHASING

STATE OF LOUISIANA

DEPARTMENT OF NATURAL RESOURCES

BY: _____
SCOTT A. ANGELLE
SECRETARY

FILE NUMBER: M 25952 DL

PURCHASE ORDER NUMBER: 3906571
& PO# 3092488

RECEIVED
JUN 05 2007

APPENDIX L

CLEAR LIEN CERTIFICATE

Pine Bluff Sand & Gravel Company
W. SCOTT McGEORGE, PRES.
RIVER CONTRACTORS
REVETMENTS DREDGING PILE DIKES
POST OFFICE BOX 7008
PINE BLUFF, ARK. 71611-7008

July 20, 2007

Mr. Jeffery M. Pena, P.E.
Shaw Coastal, Inc.
197 Elysian Drive
Houma, LA 70363

RE: Little Lake Shoreline Protection
& Marsh Creation Project
BA – 37, La. Dept. of Natural Resources
LaFourche Parish, LA

Dear Sir:

Attached please find a Clear Lien Certificate from the LaFourche Parish Clerk of Court and our final invoice in the amount of $985,584.03 in connection with the above referenced project.

Sincerely,

PINE BLUFF SAND & GRAVEL COMPANY

Mark Lemoine, Project Engineer
River Operations

JUL 2 3 2007

PBB

CLEAR LIEN CERTIFICATE

STATE OF LOUISIANA

PARISH OF LAFOURCHE

I, **VERNON H. RODRIGUE**, Clerk of Court and Ex-Officio Recorder, duly commissioned, qualified and sworn, in and for the aforesaid State and Parish, represented herein by MARIE R. FORET, Deputy Clerk of Court, do hereby certify that from the mortgage records of my office, from June 21, 2005, up to and including, July 20, 2007 at 8:30 o'clock A.M., there are no liens, judgments or other encumbrances appearing of record in the name of **PINE BLUFF SAND AND GRAVEL COMPANY** affecting the contract entered into by and between **PINE BLUFF SAND AND GRAVEL COMPANY AND STATE OF LOUISIANA, DEPARTMENT OF NATURAL RESOURCES,** dated June 21, 2005 and recorded on July 11, 2005, in Mortgage Book No. 1140, Page No. 515, Entry No. 985352 for the Contractor shall furnish all labor and materials and perform all of the work required to build, construct and complete in a thorough and workmanlike manner: For Little Lake Shoreline Protection and Mash Creation Project (BA-37) at Department of Natural Resources, LaFourche Parish in strict accordance with Contract Documents prepared by the agency.

I hereby further certify that the Notice By Owner of Acceptance of Work of said contract was filed for recordation in this office on June 4, 2007 and duly recorded on the same day and date in Mortgage Book No. 1261, Page No. 103, Entry No. 1026807.

IN TESTIMONY WHEREOF,

Witness my hand and seal of office at Thibodaux,

Louisiana, this 20th day of July, A.D., 2007.

VERNON H. RODRIGUE
LAFOURCHE PARISH CLERK OF COURT
AND EX-OFFICIO RECORDER

BY: Marie R. Foret

MARIE R. FORET, DEPUTY CLERK OF COURT

APPLICATION FOR PAYMENT NO. 20 (FINAL)

OWNER: Louisiana Department of Natural Resources
PROJECT NAME: Little Lake Shoreline Protection and Marsh Creation Project
FILE NUMBER: M 25952 DL
PURCHASE ORDER NUMBER: 3906571
OWNER PROJECT NUMBER: BA-37
ENGINEER PROJECT NUMBER: 116478
Work Completed Through March 30, 2007
Original Contract Total: $17,899,156.40
Contract Total with Approved Change Orders No. 1, No. 2, No. 3, No. 4 & No. 5: $ 19,711,680.55

ITEM NO	DESCRIPTION	EST. QUANTITY	UNIT	UNIT PRICE	EST. AMOUNT	CURRENT QUANTITY	CURRENT REVENUE	TOTAL QUANTITY	TOTAL REVENUE	UNEARNED QUANTITY	UNEARNED REVENUE
BASE BID											
1	Mobilization and Demobilization	1	LS	$ 2,100,000.00	$ 2,100,000.00	0%	$ -	100%	$ 2,100,000.00	0%	$ -
*2	Surveying	1	LS	$ 486,000.00	$ 486,000.00	0%	$ -	100%	$ 486,000.00	0%	$ -
**3	Primary Earthen Boundary Containment Levee	11,273	LF	$ 34.00	$ 383,282.00	-	$ -	11,273	$ 383,282.00	0	$ -
4	Secondary Earthen Boundary Containment Levee	6,675	LF	$ 32.00	$ 213,600.00	-	$ -	6,424	$ 205,568.00	0	$ -
5	Internal Training Dikes (3,165' Min.)	1	LS	$ 225,000.00	$ 225,000.00	0%	$ -	100%	$ 225,000.00	0	$ -
***6	Hydraulic Dredging	2,828,974	CY	$ 2.45	$ 6,930,986.30	-	$ -	2,828,974	$ 6,930,986.30	0	$ -
7	Woven Geotextile Fabric	118,693	SY	$ 6.25	$ 741,831.25	-	$ -	113,294	$ 708,087.50	0	$ -
8	Rock Settlement Plates	24	EA	$ 600.00	$ 14,400.00	-	$ -	24	$ 14,400.00	0	$ -
9	250 Pound Class Rock	151,103	TONS	$ 28.50	$ 4,306,435.50	-	$ -	145,528	$ 4,147,548.00	0	$ -
10	Temporary Warning Signs	63	EA	$ 250.00	$ 15,750.00	-	$ -	34	$ 8,500.00	0	$ -
11	Permanent Warning Signs	25	EA	$ 850.00	$ 21,250.00	-	$ -	25	$ 21,250.00	0	$ -
12	Grade Stakes and Flagging	207	EA	$ 350.00	$ 72,450.00	-	$ -	207	$ 72,450.00	0	$ -
13	Marsh Settlement Plates	5	EA	$ 1,000.00	$ 5,000.00	-	$ -		$ -	0	$ -
14	Access and Flotation Channels	1	LS	$ 1,200,000.00	$ 1,200,000.00	0%	$ -	100%	$ 1,200,000.00	0	$ -
	TOTAL BASE BID:				$ 16,715,985.05		$ -		$ 16,503,071.80		$ -
ADDITIVE ALTERNATIVE BID											
15	Hydraulic Dredging	422,361	CY	$ 4.25	$ 1,795,034.25	0	$ -	336,147	$ 1,428,624.75	0	$ -
16	Grade Stakes and Flagging	15	EA	$ 350.00	$ 5,250.00	0	$ -	15	$ 5,250.00	0	$ -
17	Primary Earthen Boundary Containment Levee	205	LF	$ 36.00	$ 7,380.00	0	$ -	205	$ 7,380.00	0	$ -
18	Secondary Earthen Boundary Containment Levee	6,261	LF	$ 35.00	$ 219,135.00	0	$ -	6,261.00	$ 219,135.00	0	$ -
19	Internal Training Dikes	1	LS	$ 75,000.00	$ 75,000.00	0%	$ -	100%	$ 75,000.00	0	$ -
20	R650 Corps Class Rock	30,000	TONS	$ 49.50	$ 1,485,000.00	0	$ -	29,762	$ 1,473,219.00	0	$ -
	TOTAL ADDITIVE ALTERNATE BID:				$ 3,586,799.25		$ -		$ 3,208,608.75		$ -
	TOTAL AMOUNT:				$ 20,302,784.30		$ -		$ 19,711,680.55		$ -
*2	Surveying, Change Order No. 1 included in Base Bi	1	LS	$ 36,000.00	$ 36,000.00						
**3	Primary Earthen Boundary Containment Levee Change Order No. 2 included in Base Bid	3,150	LF	$ 34.00	$ 107,100.00						
***6	Excess Yardage Pumped, Change Order No. 3	316,542	CY	$ 2.45	$ 775,527.90						
20	R250 Corps Class Rock, C.O. No. 4	30,000	TONS	$ 49.50	$ 1,485,000.00						

INVOICE TOTAL	$ 19,711,680.55
LESS RETAINAGE (5%)	$ -
LESS PRIOR INVOICES	$ 18,726,096.52
DUE THIS INVOICE	**$ 985,584.03**

CONTRACTORS CERTIFICATION

The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied to discharge in full obligations of CONTRACTOR incured in connection with Work covered in prior Applications for Payment numbered 1 through 1 inclusive; and (2) title to all materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, claims, security interest and encumbrances (except such as covered by Bond acceptable to OWNER).

PINE BLUFF SAND AND GRAVEL COMPANY
Contractor

By: _____ Date: July 20, 2007

Payment of AMOUNT DUE THIS APPLICATION is recommended.

SHAW COASTAL, INC.
Engineer

By: _____ Date: 7/29, 2007

PLEASE REMIT PAYMENT TO:

Pine Bluff Sand and Gravel Company
P.O. Box 7008
Pine Bluff, AR. 71611

APPENDIX M

STAFF GAUGE SPECIFICATIONS

Depth Gauge Specifications

N-DG424

Contruction:
Engineer-Grade Reflectiive Sheeting applied to a substrate of .120 FRP. Depth gauge is 24" high x 4" wide.



Reflective Sheeting:
Avery Dennison Engineer-Grade reflective sheeting with pressure-sensitve urethane adhesive applied with pressure rollers to a rigid substrate of FRP. Sheeting has an outdoor durability of 7 years. Depth gauge measurements and numbers are screenprinted with Avery 7TS Black ink on Avery T1500 White Engineer-Grade reflective sheeting

FRP Substrate:
FRP (Fiberglass Reinforced Plastic) sign blanks are a fiberglass reinforced thermoset polyester laminate which is acrylic modified and UV stabilized for outdoor weatherability. FRP is .120" thick with a tensile strength exceeding .0050" aluminum. FRP material is white or gray in color and is totally dielectric and non-conductive. FRP panel strength and impact resistance is not appreciably affected over a temperature range of -65°F to 212°F.

Holes may be punched per customer requirements.

Printing:
Sreen printed. Background colors are printed with Avery 7TS Transparent inks over White reflective sheeting in Red, Yellow, Green, Blue and Brown. Transparent inks color the sheeting yet still allow the refelctive properties to be retained. Black numbers are 2½" in height. Lines and numbering is per customer specifications

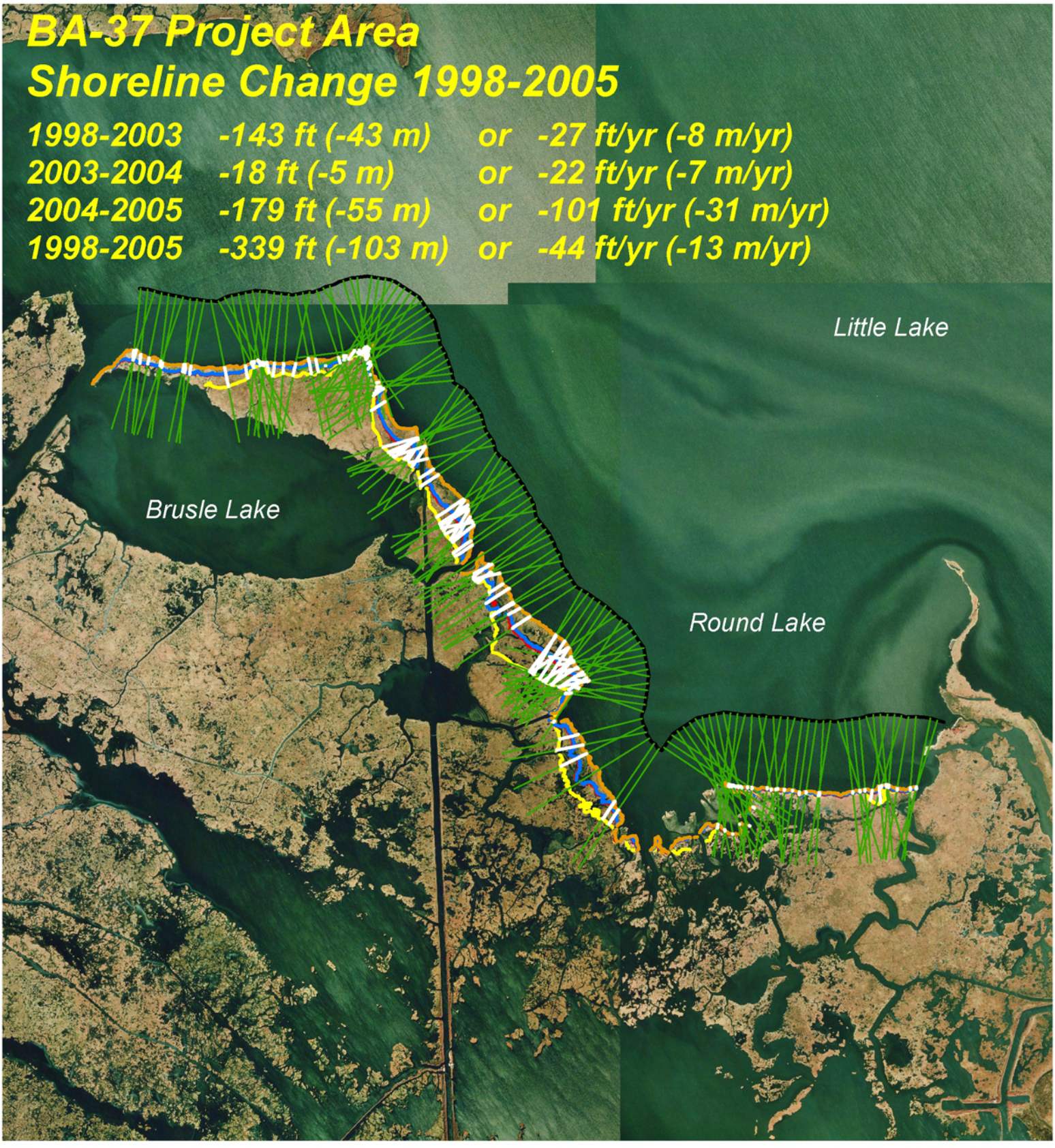
1-17-06

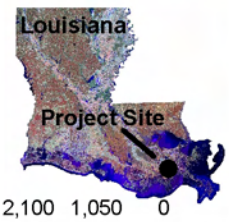
APPENDIX N

SHORLINE CHANGE 1998 - 2005

BA-37 Project Area
Shoreline Change 1998-2005

1998-2003	-143 ft (-43 m)	or	-27 ft/yr (-8 m/yr)
2003-2004	-18 ft (-5 m)	or	-22 ft/yr (-7 m/yr)
2004-2005	-179 ft (-55 m)	or	-101 ft/yr (-31 m/yr)
1998-2005	-339 ft (-103 m)	or	-44 ft/yr (-13 m/yr)







2,100 1,050 0 2,100 4,200 6,300 Feet

710 355 0 710 1,420 2,130 Meters

Data Source:
LA Dept. of Natural Resources
Coastal Restoration Division
Biological Monitoring Section

1998 DOQQ

Date: October 3, 2006
Map ID: 2006-TFO-022

- *Shoreline Change*
- *1998 Project Shoreline*
- *2003 Project Shoreline*
- *2004 Project Shoreline*
- *2005 Project Shoreline*
- *Baseline*
- *Transects*

APPENDIX O

REPORT ON CD-ROM