

**CS-04 A (B) LEVEE BREACHES
PROJECT COMPLETION REPORT**

PROJECT NAME CS-04 A (B) Levee Breaches

CWPPRA/STATE PROJECT NO. N26521

LGH PROJECT NO. 2007 - 28

Report Date: May 21, 2008

1. Project Managers/Contracting Officer:

LADNR Project Manager Patrick Landry Telephone 337.482.0680

LADNR Construction Project ManagerDewey Billodeau Telephone 337.482.0664

Engineer Lonnie G. Harper & Associates Telephone 337.905.1079

2. Location and description of projects as approved for construction by the Louisiana Department of Natural Resources.

The CS-04 A(B)Levee Breaches are located at various locations along the Southeast bank of Calcasieu Lake. The project site is bounded by property owned by Henry A. McCall Jr., North American Land Co., Miami Corporation, and the Sabine National Wildlife Refuge c/o Glen Harris. The federal sponsor for this project is the U.S. Fish and Wildlife Service (USFWS) and the local sponsor is the Louisiana Department of Natural Resources (LADNR). Implementation of this project allows for the restoration of the levee system associated with the Cameron Creole watershed. This levee was damaged due to the effects of Hurricane Rita. To repair and close off the breaches, sheet pile structures supported by batter piles with rip rap placed at the base of each structure were installed in these breaches.

The project consisted of the construction of 4 new structures and the restoration of the levees surrounding the structures along the banks of Calcasieu Lake.

AS BUILT DESCRIPTIONS

- **Structure A: Mangrove Bayou**
 - Eight (8) – sixty (60) foot 18" diameter batter piles with top twenty (20) feet coal tar epoxy coated

- 52'-6" long sheet pile wall of 40' long sheets (PZ-35) with top twenty (20) feet coal tar epoxy coated
- 265 tons rip rap
- 120 SY of geotextile fabric
- **Structure B: Grand Bayou**
 - Sixteen (16) – sixty (60) foot 18" diameter batter piles with top twenty (20) feet coal tar epoxy coated
 - 82'-8" long sheet pile wall of 45' long sheets (PZ-35) with top twenty (20) feet coal tar epoxy coated
 - 1760 tons rip rap
 - 150 SY of geotextile fabric
- **Structure C: Lambert Bayou**
 - Twenty Eight (28) – seventy (70) foot 18" diameter batter piles with top twenty (20) feet coal tar epoxy coated
 - 203'5" long sheet pile wall of 60' long sheets (PZ-35) with top twenty (20) feet coal tar epoxy coated
 - 7245 tons rip rap
 - 320 SY of geotextile fabric
- **Structure D: No Name**
 - Forty (40) – sixty (60) foot 18" diameter batter piles and two (2) forty (40) foot 18" diameter batter piles with top twenty (20) feet coal tar epoxy coated
 - 203'5" long sheet pile wall of 50' long sheets (PZ-35) and 25'-0" long addition to the sheet pile wall with 45' long (PZ-35) sheets with top twenty (20) feet coal tar epoxy coated
 - 4022 tons rip rap
 - 210 SY of geotextile fabric

3. Construction Activities

Contractor cleared site of any foreign debris and prepared site for construction activities. Contractor installed a template as a guide for driving the sheet piles. Contractor then proceeded to construct a sheet pile wall system with batter piles. The surrounding levees were covered with a geotextile fabric to minimize settlement of the crushed stone. Once the fabric was in place; the crushed stone was used to cover the levees to provide support and to reduce erosion. This same process was carried out for all four of the structures associated with this project.

4. Items of Work Construction

Item No.	Description	Est. Qty.	Unit	Sch. Value	Final Qty	Bid Unit Price	Final Amount	Percent Difference
1	Mobilize Mangrove	1	LS	\$85,000.00	1	\$85,000.00	\$85,000.00	0%
2	Mobilize Grand	1	LS	\$73,000.00	1	\$73,000.00	\$73,000.00	0%
3	Mobilize Lambert	1	LS	\$69,000.00	1	\$69,000.00	\$69,000.00	0%
4	Mobilize No Name	1	LS	\$77,563.00	1	\$77,563.00	\$77,563.00	0%
5	Temp Signs Mangrove	1	LS	\$4,000.00	1	\$4,000.00	\$4,000.00	0%
6	Temp Signs Grand	1	LS	\$4,000.00	1	\$4,000.00	\$4,000.00	0%
7	Temp Signs Lambert	1	LS	\$3,000.00	1	\$3,000.00	\$3,000.00	0%
8	Temp Signs No Name	1	LS	\$3,000.00	1	\$3,000.00	\$3,000.00	0%
9	Stone Mangrove	500	TON	\$54,000.00	265	\$108.00	\$28,620.00	(47.67%)
10	Stone Grand	3000	TON	\$228,000.00	1760	\$76.00	\$133,760.00	(41.33%)
11	Stone Lambert	15000	TON	\$1,012,500.00	7245	\$67.50	\$489,037.50	(51.70%)
12	Stone No Name	6000	TON	\$384,000.00	4022	\$64.00	\$257,408.00	(32.97%)
13	Sheet Pile Mangrove	2100	SF	\$107,100.00	2100	\$51.00	\$107,100.00	0%
14	Sheet Pile Grand	3724	SF	\$171,304.00	3724	\$46.00	\$171,304.00	0%

15	Sheet Pile Lambert	12210	SF	\$537,240.00	12210	\$44.00	\$537,240.00	0%
16	Sheet Pile No Name	13963	SF	\$614,372.00	13963	\$44.00	\$614,372.00	0%
17	Batter Pile Mangrove	480	LF	\$134,400.00	480	\$280.00	\$134,400.00	0%
18	Batter Pile Grand	720	LF	\$180,000.00	720	\$250.00	\$180,000.00	0%
19	Batter Pile Lambert	1960	LF	\$442,960.00	1960	\$226.00	\$442,960.00	0%

20	Batter Pile No Name	2280	LF	\$540,360.00	2280	\$237.00	\$540,360.00	0%
21	Geotextile Mangrove	120	SY	\$480.00	120	\$4.00	\$480.00	0%
22	Geotextile Grand	150	SY	\$600.00	150	\$4.00	\$600.00	0%
23	Geotextile Lambert	320	SY	\$1,280.00	320	\$4.00	\$1,280.00	0%
24	Geotextile No Name	210	SY	\$840.00	210	\$4.00	\$840.00	0%
16.1	Sheet Pile No Name (C/O 4)	1125	SF	\$49,500.00	1125	\$44.00	\$49,500.00	0%
20.1	Batter Pile No Name (C/O 4)	80	LF	\$18,960.00	80	\$237.00	\$18,960.00	0%
25	Warning Signs	1	LS	\$9,165.00	1	\$9,165.00	\$9,165.00	0%
26	C/O 4 Material Escalation Cost	1	LS	\$8,971.00	1	\$8,971.00	\$8,971.00	0%
			TOTAL	\$4,805,624.00		TOTAL	\$4,044,920.50	(15.83%)

5. Construction and Construction Oversight

Prime Construction Contractor	F. Miller Construction
Subcontractors	None
Original Construction Contract	\$4,727,999.00
Change Orders	\$77,652.00, \$8,971.00, (\$769,674.50)
Over/(Under Run)	(\$683,078.50)
Final Construction Contract	\$4,044,920.50

Construction Oversight Contractor **Lonnie G. Harper & Assoc., Inc.**

6. Major Equipment Used

The construction contractor utilized two (2) barges, one (1) crane with both vibratory and drop hammers, two (2) outboard motor boats, one (1) track hoe, and other miscellaneous small tools necessary to complete the project.

7. Construction Sequence and Activities

- a. 08/28/2007: The notice to proceed was given to the contractor.
- b. 09/20/2007: Contractor began fabricating, coating, and testing materials.
- c. 10/15/2007: Contractor transported equipment to the Lambert Breach
- d. 10/18/2007: Construction at the Lambert Breach site began.
- e. 11/08/2007: Construction at the Mangrove Breach site began.
- f. 12/27/2007: LADNR and FEMA personnel inspected construction progress at Lambert Breach.

- g. 01/11/2008: Contractor began placing rip rap at the Lambert Breach.
- h. 01/12/2008: One crew member was severely injured on spud barge.
- i. 01/26/2008: Construction began at the No Name Breach site.
- j. 02/07/2008: Construction began at the Grand Breach site.
- k. 05/08/2008: All four breaches were inspected by LADNR, LGH & Assoc., NRCS, USFWS, and FEMA.
- l. 05/12/2008: All construction was completed.

8. Construction Change Orders and Field Changes:

Change Order No. 1 was issued to extend the contract time by 30 days.

Change Order No. 2 was issued to further extend the contract time by 45 days

Change Order No. 3 was issued to extend the No-Name breach 25 feet to the North.

Change Order No. 4 was issued for the material costs increases associated with the 25' extension of the No-Name sheet pile wall.

Change Order No. 5 was issued to adjust the final quantities for the project.

9. Safety and Accidents:

One accident occurred during the time of construction of this project. An employee from F. Miller Construction was severely injured on a spud barge. Employee was struck in the head by a spud pin while anchoring the barge. The employee was rushed to a medical facility where he had to undergo surgery. Work was terminated for approximately two days after the accident and safety meeting took place before work resumed.

10. Additional Comments Pertaining to Construction, Completed Project, etc.

All work performed by the contractor was of satisfactory workmanship, and all construction activities were completed in a timely manner.

11. Project Timeline

Description	Date
Bid Opening	May 10, 2007
Construction Contract Award	January 16, 2008
Pre-Construction Conference	August 23, 2008
Notice to Proceed	August 28, 2008
Construction Start	September 20, 2007
Substantial Completion	May 10, 2008
Construction Completion	May 12, 2008