

TFG FILES INVENTORY

DATE: 12-15-05

Box Number: 49285543

Alternate Number: 17

Other Identification: LN191

Contents Associated With:

1. Contract DACW29-94-C-0079, Daily Logs, 1180-1-1Q, Lake Pontch, LA & Vic, HLP, London Avenue, Outfall Canal, Mirabeau; Section B, Folder 5, Item 37 b.

A0006527 ✓
A0006524 ✓
A0006531 (maps to be
seaweed)
A0006536 (maps to be
seaweed)
A0006504
A0006499
A0006506
A0006507
A0006509
A0006512

A0006519
A0006522

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2. xxxxxxxx
3. xxxxxxxx

A0006504
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A0006519
A0006522

CELMN-CD-117-Q

5 Dec 96

MEMORANDUM THRU

Area Engineer, NOAO
C/Const Div

ATTN: Contr Admin Br

FOR C/Engr Div

SUBJECT: Contract No. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

1. The above mentioned contract was awarded to B&K Construction Company, Incorporated, 1905 Highway 59, Mandeville, Louisiana 70448 on 11 Jul 94 for the amount of \$4,554,500.00.
2. The Preconstruction Conference was held on Tuesday, 16 Aug 94 at 9:30 a.m. at the New Orleans Area Office. The Notice to Proceed was given and acknowledged on this same day. The date set for completion was 7 Feb 96 for a total of 540 calendar days. The above referenced contract commenced operations on 26 Aug 94 with the processing of submittals. The contractor initialized mobilization on the aforementioned date but was then delayed due to the relocation of the staging area. Physical work commenced on 5 Oct 94 with remobilization and construction of the new staging area. The Preconstruction Safety Conference was held on 28 Sep 94 at the jobsite with contractor and Corps personnel present.
3. The work for this contract consisted of clearing and grubbing; selective demolition; cutting existing steel sheet piling; pulling, cleaning and delivering existing steel sheet piling; placing concrete slope pavement; driving new steel sheet piling including piling under South Central Bell Telephone cables and New Orleans Sewerage and Water Board siphon pipes; relocating Sewerage and Water Board Feeder Cables; modifying existing utilities; degrading existing levees; placing embankment; fertilizing, seeding and mulching; painting; placing erosion control silt fence; and all other incidental work to floodwall construction including site restoration.
4. Clearing and Grubbing - Clearing and grubbing operations began on 30 Sep 94 with installation of safety fence with silt curtain which was installed along construction easements on both sides of London Avenue canal between Mirabeau Avenue and Leon C. Simon Boulevard as shown on the contract drawings. At various times during the course of construction the contractor cut overgrown grass and weeds to maintain appearance of the work area.

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CELMN-CD-NO-Q

SUBJECT; CONTRACT NO. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

5. Selective Demolition - This item of work consisted of removing the existing concrete floodwall and sheet piling, removal of concrete slope pavement and riprap, removal of concrete steps and pedestrian timber bridges near Filmore Avenue and Robert E. Lee Boulevard, and all other structures. Selective demolition work began on 19 Dec 94 with removal of pedestrian bridges and chain link fence at Robert E. Lee Boulevard and Filmore Avenue. Removal and demolition of pedestrian bridges was completed on 28 Dec 94. Existing sheet piling were cut with torches at elevation +6.75' and used for temporary flood protection. The concrete cap and top portion of the sheet piles were then pushed or lifted and placed on protected side (P/S) of levee. The concrete cap was broken up and hauled to Pontchartrain Materials-New Orleans yard for re-cycling. The sheetpile scrap and re-enforcing steel scrap was hauled to Southern Scrap of New Orleans for recycling. After the new wall was completed, the existing sheet piles were either driven or cut to 6" below finished grade. Prime contractor, B & K Construction utilized the following equipment for this operation.

- 1 - Kubota 151 excavator
- 1 - Case 580 backhoe
- 1 - Hydraulic breaker
- 1 - Komatsu 200 excavator
- 1 - Mantis crane
- 2 - Tandem dump trucks

A 240' strip of slope pavement was placed on floodside (F/S) of west I-wall between Station 100+36.71 W B/L and Station 102+78.28, adjacent to telephone cable tray and 10 foot siphon pipe. Existing slope pavement was saw cut and existing sheetpile was removed before placement of 8 inch concrete slab for new slope pavement. This work began on 31 Aug 96 and completed on 30 Sep 96.

6. Cutting Existing Steel Piling - This operation began on 16 Dec 94 by prime contractor B & K Construction and sub-contractor Gill's Crane Service at East B/L Station 119+03. The contractor used cutting torches to cut existing AZ-18, RZ-10, and PZ-27 sheet piles to approx. +6.75' for use as temporary flood protection. The cut-off and scrap pieces of sheet pile were hauled off the jobsite. This work was completed on 24 May 96.

7. Steel Sheet Piling - This phase of work included cutting off and disposing of existing sheet piles, welding #6 Re-bar to steel sheets

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and driving new CZ-101 steel sheetpiling for new I-type floodwall. Temporary cofferdam sheet piling used for temporary flood protection were also driven between Filmore Ave and Pumping Station No. 4. This work was performed by subcontractor Gill's Crane & Dozer Service, Inc., Route 6, Box 244B, New Orleans, Louisiana 70129. This work began on 4 Jan 95 at East B/L Station 119+02.3. The CZ-101 sheet piles were driven in lengths of 21'9", 24-9" and 26'9" to design tip elevations shown on the contract drawings. PSA-23 fabricated sheet piles were driven at corners and concrete collars at end of each floodwall reach. A total of 187,414 sq. ft. of CZ-101 sheet piles and 719.49 sq. ft. of PSA-23 fabricated sheets were driven for this contract. The contractor utilized 1-Koehring 535 crane with MKTV-5 vibratory hammer, 40 foot steel H-beam for alignment, 4-foot bubble level for plumbness and survey instruments for controlling piling alignment and establishing cutoff elevations. This phase of work was completed on 24 May 96.

8. Structural Excavation and Backfill - The existing levee was degraded to elevations specified for the different reaches with temporary flood protection maintained at +6.75 feet. The maximum length of protection below the height of exiting floodwall was 750 linear feet during non-hurricane season and 300 linear feet during hurricane season. Structural excavation began on 4 Jan 95 and completed when last CZ-101 sheet piles were driven on 24 May 96. Structural backfill was placed in 8 inch lifts and compacted within 2 feet of the I-wall. The lifts were compacted using hand tampers and mini-sheeps foot rollers to 90% of maximum dry density with a moisture content of plus 5 to -3 percent of optimum. Two in-place density tests per lift per 500 linear feet were taken to check compaction requirements. In addition one sand cone density test for every ten nuclear in-place density tests was taken to verify compliance of the nuclear tests. These tests were performed by Delta Testing Lab. Contractor utilized a Case 580 backhoe, and Komatsu D-37P dozer to spread and place backfill material before it was compacted. This phase of work was completed on 6 Nov 96 after placement of backfill against the deleted west I-wall floodwall monolith located between C/L Station 100+79 and C/L Station 101+08.

9. Reinforced Concrete Floodwall - This phase of work involved construction of new I-wall to replace exiting concrete capped floodwall on both sides of London Avenue canal between Leon C. Simon Boulevard and Mirabeau Avenue. Work on this phase of work began on 27 Jan 95. A 4-inch stabilization slab was poured around the

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previously driven CZ-101 sheet piles before I-wall forms were set up for each floodwall monolith. Fractured fin texture on floodwall surfaces was placed on all P/S surfaces and on F/S of 1st 7 monoliths adjacent to bridges (except near Mirabeau Ave. bridge) on both sides of London Avenue Canal. Contractor used 1 1/2 cu. yd. bucket with tremie chutes to keep concrete drop inside the forms under 5 ft. vertically. Layers of concrete were placed in lifts of less than 18 inches and concrete vibrators were used to consolidate each layer. Contractor took special precautions during hot weather and cold weather placement. Concrete was poured only if temperature was 32 degrees and rising and ice was added if concrete temperature went above 90 degrees. Alignment and grade were set and established by contractor's survey party. The last I-wall monolith was placed around the cable tray on west side of canal on 27 Aug 96. All exposed surfaces received a Class A finish and curing of concrete floodwall was accomplished by using wet burlene blankets and keeping them wet for 7 days after placement. The finishing work was performed by the Prime - B&K Construction and Subcontractor - Accent Construction. A cementitious coat of paint was applied in a two-coat system following the manufacturer's directions. The paint color was Louisiana gray and applied by airless sprayer. The floodwall was built to a final elevation of +14.4 ft NGVD. The contractor utilized the following equipment:

- Komatsu 200 Excavator (2)
- Komatsu D37P Dozer
- Kubota 151 Excavator
- Case 580 Backhoe
- Koehring 535 Crane
- Kobelco LK500 Loader
- Fiat Allis Motor Grader
- Mantis 3612 Crane
- 1-1/2 & 1-3/4 yd. concrete buckets
- Plastic funnel with 9' & 5' tremies
- (2) 1-1/2" concrete vibrators

10. Relocating Feeder Cables - This phase of work was performed by subcontractor - Walter Barnes Electric, Inc. This work began on 9 Jul 96. The feeder cable that was on existing floodwall was placed on F/S of new I-wall construction and protected with steel plates. Stainless steel anchor bolts were installed into each monolith form that was set and poured. The relocated Fl 400 feeder line was placed in 5" malleable iron clamps on F/S of new I-wall as shown on revised

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drawing #50 of contract drawings. The other FL 422 feeder line was placed under FL 400 on west side of canal between telephone conduit cable tray and 10' siphon pipe and passed thru 12" sleeve of I-wall at Station 101+40. The contractor used a boom truck to lift the feeder cable from its resting position to its new location below the haunch line of the new I-wall. Special cable rollers were used to saddle the cable when it was lifted. Splices were made in the cable wherever more length was needed in order to provide more slack when relocating the feeder line to their final position. This work was completed on 11 Oct 96.

11. Degrading Existing Levees - Existing levee embankment was degraded between elevation +5.00 to +5.50 feet on both sides of London Avenue Canal. This provided an approximate 15 to 20 feet wide area for contractor to move his equipment within the construction easement during construction of new concrete floodwall. Degraded embankment was used as structural backfill after painting of floodwall was completed. This work was done concurrently with floodwall construction for the various reaches of wall.

12. Placing Embankment - Embankment from degraded existing levee was used for new levee embankment after placement of structural backfill was completed along P/S and F/S of each reach of new floodwall construction on both sides of London Avenue Canal. Due to narrow reaches of levee between the new I-wall and resident's fences, the protected side crown was shaped to accommodate grass cutting operations for the Levee Board. The floodside embankment consisted of a minimum 2 foot wide area with a 1 on 2 slope to the canal. Equipment used for this phase of work included a Cat D-4 dozer, a Komatsu D-37P dozer, one Case 580 backhoe, and a Komatsu 200 excavator. Material was placed in 12-inch lifts and compaction achieved by performing 3 passes over completed embankment with a dozer. Placement of embankment began on 4 Sep 96 between Filmore Avenue bridge and Mirabeau Avenue bridge on east side of canal and completed on 5 Nov 96. Final cross sections were taken by contractor's survey party on both sides of floodwall then plotted and submitted to the Area Office.

Fertilizing, Seeding & Mulching - This phase of work began on 14 Oct 96 and completed on 11 Nov 96. All disturbed areas within construction limits and all newly constructed embankments on both sides of floodwall were fertilized, seeded and mulched. After the fertilizer was broadcast, it was cut into a depth of 2 inches with a harrow. Rye grass and unhulled Bermuda grass seed were broadcast and

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then sealed with a pass of a cultipacker. Finally, mulch was applied with the use of a culti-packer. A total of 8.72 acres were seeded, fertilized and mulched. Southeast Erosion Control, Inc. performed this phase of work.

13. There were 24 modifications on this contract and a summary of each follows:

a. P00001 (FM-001) dated 7 Jul 94. This provided additional funds for payment in accordance with SPECIAL CLAUSE H-26, an increase of \$2,000,000.

b. P00002 (CIN05) - dated 10 Oct 94. This modification provided additional funds and time for relocation of staging area and office trailer from Pratt Park to corner of Pratt Dr. and Robert E. Lee Boulevard. This modification increased the contract by \$15,004.19 and contract time was extended 41 days.

c. P00003 (TE-001) dated 11 Nov 94 granted a 3 day time extension due to severe weather conditions during period of 17 Aug thru 31 Oct 94. No increase in funds.

d. P00004 (FM-002) dated 2 Dec 94. This modification increased funds available for payment by \$15,004.19. Total funds available to date is \$4,515,004.19. No contract time extended.

e. P00005 (CAN-01) dated 6 Dec 94. This modification is for contractor's new address:

B&K Construction Company, Inc.
Lock Box No. 95048
New Orleans, LA 70195

f. P00006 (CIN-02) dated 7 Mar 95. Provided for installation of a 6 foot wooden fence on the north, south and west sides of north staging area. This modification added Pay Item #22 to the contract with the amount being \$9,263.77 with no contract time extension.

g. A00007 (TE-002) dated 2 Feb 95 - Granted a 2-day time extension due to severe weather conditions during period of 1 Nov 94 thru 31 Jan 95. No increase in amount of contract was made.

h. P00008 (CIN-04) dated 23 Feb 95 - This modification extended limits of temporary flood protection from 750' to 1625' during

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non-hurricane season between E B/L Stations 102+67.72 to 119+03.06 only. No additional funds were added to the contract but 10 days were added to contract time.

i. P00009 (CIN-03) dated 2 May 95. This modification was for a waterproof connection between siphon pipes and I-wall at Pumping Station #4 around the electrical cable tray penetrating the wall. Contract amount was increased \$939.96 and 1 day time extension was added.

j. P00010, TE-003 dated 1 Jun 95. This modification was made to extend contract time due to unusually high tides and severe weather delays. The contract time was extended 30 days. No additional funds were added to the contract.

k. P00011-UCO-01 dated 31 Jul 95. This modification to the contract was for emergency closure of I-Wall breaches between W B/L Station 108+37 to 109+53, pulling piling up to elevation +11.50. No additional funds and no time extension was given for this modification.

l. P00012, TE004 dated 8 Aug 95 granted a 5 day time extension due to severe weather and high tides during the period 1 May to 31 Jul 95. No additional funds were added to the contract.

m. P00013-CO-02 dated 2 Oct 95. This modification provided for gap closures with flood protection to elevation 11.5 ft. NGVD due to Hurricane Opal.

n. A00001, CIN-05 dated 11 Oct 95. This modification was given to provide emergency gap closures between W B/L Station 108+37 to 109+53 due to Hurricane Erin. This modification finalized Mod P00011, UCO-1 with the contract price increased by \$22,173.00 and contract time increased by 2 calendar days.

o. A00002, CIN-06 dated 12 Oct 95, changed the limits of "No Work" area on east side of London Avenue Canal at Pump Station #4 from E B/L 100+11.29 to E B/L 99+69.22. The contract price was reduced by \$5,100.00 with no change to contract time.

p. A00003, CIN-07 dated 24 Oct 96. This modification was for a VECP which revised the wall realignment between West B/L Station 70+47 to 84+54.77 and 85+90 to 99+83.67 to a position 4 feet to F/S of

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original alignment. Pay items #23 and #24 were added to the contract decreasing the contract price by \$10,800. No additional time was added to the contract.

q. A00004, TE-005 dated 9 Nov 95. The contract was extended 11 days due to adverse weather during period of 1 Aug 95 thru 31 Oct 95. The contract price remained the same.

r. A00005, CIN-08 dated 22 Dec 95. The modification provided for installation and removal of emergency gap closures between E B/L Station 70+30 and 72+95 due to Hurricane Opal. The modification definitized mod P00013 CO-02 with the contract price increased by \$20,287.02 and the contract time increased by 6 calendar days.

s. A00006, TE-006 dated 6 Feb 96, granted a 28 day time extension due to severe and adverse weather delays between 1 Nov 95 - 31 Jan 96.

t. A00007, CIN-09 dated 6 Feb 96. This modification provided for deleting 1 monolith on west side of London Avenue canal at Pumping Station #4 between Station 100+84.14 to 101+12.35. The contract price was reduced by \$428.96. No additional time was granted for this modification.

u. A00008, TE-007 dated 7 May 96, granted a 30 day time extension due to unusually severe weather between 1 Feb thru 30 Apr 96. No additional funds were granted.

v. A00009, CIN-11 dated 23 Jul 96, changed the limits of the "No Work" area on the east side of the canal at Pumping Station No. 4 and cancelled modification A00002 in its entirety. This modification reduced Item No. 10 by \$5,000 and Item No. 14 by \$100. The contract time remained unchanged.

w. A00010, TE-008 dated 5 Aug 96, granted a 43 day time extension due to unusually severe weather between 1 May 96 thru 31 Jul 96. No additional funds were granted for this modification.

x. A00011, TE-009 dated 5 Nov 96, extended the required completion date of the contract 55 calendar days as a result of unusually severe weather for the period between 1 Aug thru 31 Oct 96.

14. The contractor submitted and enforced an adequate Accident

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Prevention Program. The contractor was very cooperative in the performance of the work and performed daily safety inspections in addition to holding weekly safety meetings. There were no lost time accidents throughout the duration of the project.

15. The contractor was efficient and professional in the performance of the work and any extra work required to complete this project. The equipment used was kept in good working condition. Quality control was maintained throughout the life of the contract.

16. Following is a comparison of contract quantities versus actual quantities:

Item	Description	Qty & Unit	Unit Price	Est Amt	Final Qty	Earnings to date
0001	Mob & Demob (P00002)	LS	LS	\$215,004.19	100%	\$215,004.19
0002	Clearing & Grubbing	LS	LS	\$175,000	100%	\$175,000
0003	Selective Demolition	LS	LS	\$260,000	100%	\$260,000
0004	Pedestrian Bridge Demolition	LS	LS	\$15,000	100%	\$15,000
0005	Embankment, Semicompacted Fill	LS	LS	\$11,200	100%	\$11,200
0006	Structural Excavation & Backfill	LS	LS	\$59,000	100%	\$59,000
0007	Fertilizing, Seeding & Mulching	8AC	\$1,250	\$10,000	100%	\$10,000
0008	Cut-off Existing AZ-18, RZ-10 and PZ-27 Sheet Piling	LS	LS	\$53,600	100%	\$53,600
0009	Pull, Clean, Salvage and Deliver Existing	LS	LS	\$20,500	100%	\$20,500

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AZ-18 Steel Sheet Piling						
0010	Redrive Existing AZ-18 Steel Sheet Piling (A00009)	LS	LS	\$5,000	00%	\$0.00
0011	Piling, Steel Sheet, Type PZ-22	187,844SF	8.50	\$1,596,674	187,414.4	1,593,022.4
0012	Piling, Steel Sheet, Type PSA-23	997SF	\$18	\$17,946	719.49SF	\$12,950.82
0013	Painting	LS	LS	\$7,000	100%	\$7,000
0014	Reinforced Concrete Floodwall (P00014), (A00002), (A00007)	LS	LS	\$1,482,731	100%	\$1,482,731
0015	Concrete Slope Pavement	188SY	\$40.00	\$7,520	141 SY	\$5,640.00
0016	Utility Modifications	LS	LS	\$117,000	100%	\$117,000
0017	Temporary Relocation of Feeder Lines	LS	LS	\$38,500	100%	\$38,500
0018	Permanent Relocation of Feeder Lines	LS	LS	\$420,000	100%	\$420,000
0019	Erosion Control					
AA	First 10,670 LF	10,670LF	\$2.00	\$21,340	10,670LF	\$21,340
AB	All over 10,670LF	2,700LF	\$2.00	\$ 5,400	555LF	\$ 1,110
0020	Temporary Flood Protection and Cofferdams (A00001), (A00005)	LS	LS	\$47,460.02	100%	\$47,460.02
0021	Miscellaneous Metals	LS	LS	\$21,500	100%	\$21,500

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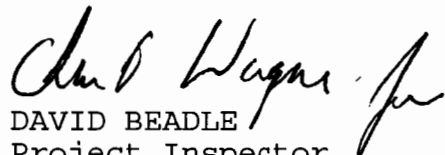
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0022	Fencing (P00006)	LS	LS	\$9,263.77	100%	\$9,263.77
0023	VECP, Wall Realignment (A00003)	LS	LS	(-\$24,000)	100%	(-\$24,000)
0024	VECP, Payment Wall Realignment (A00003)	LS	LS	\$13,200	100%	\$13,200
			TOTAL	\$4,605,838.98		\$4,592,421.78

17. A copy of as-built drawings are attached.

18. The contract was completed in accordance with contract plans and specifications with final acceptance pending, dependent upon final cleanup of staging area. Final acceptance is scheduled to be performed during the second week of December 96.

Atch


DAVID BEADLE
Project Inspector
New Orleans Area Office

CF:
Proj Engr (Wagner)
Proj Insp (Beadle)
Ofc Engr (Urban)
CELMN-CD-Q
CELMN-CT
CELMN-ED-C
CELMN-CD-B
CELMN-CD-CS
CELMN-PM
CELMN-OD-ON

5 Dec 96

MEMORANDUM THRU

Area Engineer, NOAO
C/Const Div

ATTN: Contr Admin Br

FOR C/Engr Div

SUBJECT: Contract No. ~~DACW29~~94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

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CELMN-CD-NO-Q

SUBJECT; CONTRACT NO. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

and driving new CZ-101 steel sheetpiling for new I-type floodwall. Temporary cofferdam sheet piling used for temporary flood protection were also driven between Filmore Ave and Pumping Station No. 4. This work was performed by subcontractor Gill's Crane & Dozer Service, Inc., Route 6, Box 244B, New Orleans, Louisiana 70129. This work began on 4 Jan 95 at East B/L Station 119+02.3. The CZ-101 sheet piles were driven in lengths of 21'9", 24-9" and 26'9" to design tip elevations shown on the contract drawings. PSA-23 fabricated sheet piles were driven at corners and concrete collars at end of each floodwall reach. A total of 187,414 sq. ft. of CZ-101 sheet piles and 719.49 sq. ft. of PSA-23 fabricated sheets were driven for this contract. The contractor utilized 1-Koehring 535 crane with MKTV-5 vibratory hammer, 40 foot steel H-beam for alignment, 4-foot bubble level for plumbness and survey instruments for controlling piling alignment and establishing cutoff elevations. This phase of work was completed on 24 May 96.

8. Structural Excavation and Backfill - The existing levee was degraded to elevations specified for the different reaches with temporary flood protection maintained at +6.75 feet. The maximum length of protection below the height of existing floodwall was 750 linear feet during non-hurricane season and 300 linear feet during hurricane season. Structural excavation began on 4 Jan 95 and completed when last CZ-101 sheet piles were driven on 24 May 96. Structural backfill was placed in 8 inch lifts and compacted within 2 feet of the I-wall. The lifts were compacted using hand tampers and mini-sheeps foot rollers to 90% of maximum dry density with a moisture content of plus 5 to -3 percent of optimum. Two in-place density tests per lift per 500 linear feet were taken to check compaction requirements. In addition one sand cone density test for every ten nuclear in-place density tests was taken to verify compliance of the nuclear tests. These tests were performed by Delta Testing Lab. Contractor utilized a Case 580 backhoe, and Komatsu D-37P dozer to spread and place backfill material before it was compacted. This phase of work was completed on 6 Nov 96 after placement of backfill against the deleted west I-wall floodwall monolith located between C/L Station 100+79 and C/L Station 101+08.

9. Reinforced Concrete Floodwall - This phase of work involved construction of new I-wall to replace existing concrete capped floodwall on both sides of London Avenue canal between Leon C. Simon Boulevard and Mirabeau Avenue. Work on this phase of work began on 27 Jan 95. A 4-inch stabilization slab was poured around the

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SUBJECT; CONTRACT NO. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

previously driven CZ-101 sheet piles before I-wall forms were set up for each floodwall monolith. Fractured fin texture on floodwall surfaces was placed on all P/S surfaces and on F/S of 1st 7 monoliths adjacent to bridges (except near Mirabeau Ave. bridge) on both sides of London Avenue Canal. Contractor used 1 1/2 cu. yd. bucket with tremie chutes to keep concrete drop inside the forms under 5 ft. vertically. Layers of concrete were placed in lifts of less than 18 inches and concrete vibrators were used to consolidate each layer. Contractor took special precautions during hot weather and cold weather placement. Concrete was poured only if temperature was 32 degrees and rising and ice was added if concrete temperature went above 90 degrees. Alignment and grade were set and established by contractor's survey party. The last I-wall monolith was placed around the cable tray on west side of canal on 27 Aug 96. All exposed surfaces received a Class A finish and curing of concrete floodwall was accomplished by using wet burlene blankets and keeping them wet for 7 days after placement. The finishing work was performed by the Prime - B&K Construction and Subcontractor - Accent Construction. A cementitious coat of paint was applied in a two-coat system following the manufacturer's directions. The paint color was Louisiana gray and applied by airless sprayer. The floodwall was built to a final elevation of +14.4 ft NGVD. The contractor utilized the following equipment:

- Komatsu 200 Excavator (2)
- Komatsu D37P Dozer
- Kubota 151 Excavator
- Case 580 Backhoe
- Koehring 535 Crane
- Kobelco LK500 Loader
- Fiat Allis Motor Grader
- Mantis 3612 Crane
- 1-1/2 & 1-3/4 yd. concrete buckets
- Plastic funnel with 9' & 5' tremies
- (2) 1-1/2" concrete vibrators

10. Relocating Feeder Cables - This phase of work was performed by subcontractor - Walter Barnes Electric, Inc. This work began on 9 Jul 96. The feeder cable that was on existing floodwall was placed on F/S of new I-wall construction and protected with steel plates. Stainless steel anchor bolts were installed into each monolith form that was set and poured. The relocated F1 400 feeder line was placed in 5" malleable iron clamps on F/S of new I-wall as shown on revised

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SUBJECT; CONTRACT NO. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

drawing #50 of contract drawings. The other FL 422 feeder line was placed under FL 400 on west side of canal between telephone conduit cable tray and 10' siphon pipe and passed thru 12" sleeve of I-wall at Station 101+40. The contractor used a boom truck to lift the feeder cable from its resting position to its new location below the haunch line of the new I-wall. Special cable rollers were used to saddle the cable when it was lifted. Splices were made in the cable wherever more length was needed in order to provide more slack when relocating the feeder line to their final position. This work was completed on 11 Oct 96.

11. Degrading Existing Levees - Existing levee embankment was degraded between elevation +5.00 to +5.50 feet on both sides of London Avenue Canal. This provided an approximate 15 to 20 feet wide area for contractor to move his equipment within the construction easement during construction of new concrete floodwall. Degraded embankment was used as structural backfill after painting of floodwall was completed. This work was done concurrently with floodwall construction for the various reaches of wall.

12. Placing Embankment - Embankment from degraded existing levee was used for new levee embankment after placement of structural backfill was completed along P/S and F/S of each reach of new floodwall construction on both sides of London Avenue Canal. Due to narrow reaches of levee between the new I-wall and resident's fences, the protected side crown was shaped to accommodate grass cutting operations for the Levee Board. The floodside embankment consisted of a minimum 2 foot wide area with a 1 on 2 slope to the canal. Equipment used for this phase of work included a Cat D-4 dozer, a Komatsu D-37P dozer, one Case 580 backhoe, and a Komatsu 200 excavator. Material was placed in 12-inch lifts and compaction achieved by performing 3 passes over completed embankment with a dozer. Placement of embankment began on 4 Sep 96 between Filmore Avenue bridge and Mirabeau Avenue bridge on east side of canal and completed on 5 Nov 96. Final cross sections were taken by contractor's survey party on both sides of floodwall then plotted and submitted to the Area Office.

Fertilizing, Seeding & Mulching - This phase of work began on 14 Oct 96 and completed on 11 Nov 96. All disturbed areas within construction limits and all newly constructed embankments on both sides of floodwall were fertilized, seeded and mulched. After the fertilizer was broadcast, it was cut into a depth of 2 inches with a harrow. Rye grass and unhulled Bermuda grass seed were broadcast and

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then sealed with a pass of a cultipacker. Finally, mulch was applied with the use of a culti-packer. A total of 8.72 acres were seeded, fertilized and mulched. Southeast Erosion Control, Inc. performed this phase of work.

13. There were 24 modifications on this contract and a summary of each follows:

a. P00001 (FM-001) dated 7 Jul 94. This provided additional funds for payment in accordance with SPECIAL CLAUSE H-26, an increase of \$2,000,000.

b. P00002 (CIN05) - dated 10 Oct 94. This modification provided additional funds and time for relocation of staging area and office trailer from Pratt Park to corner of Pratt Dr. and Robert E. Lee Boulevard. This modification increased the contract by \$15,004.19 and contract time was extended 41 days.

c. P00003 (TE-001) dated 11 Nov 94 granted a 3 day time extension due to severe weather conditions during period of 17 Aug thru 31 Oct 94. No increase in funds.

d. P00004 (FM-002) dated 2 Dec 94. This modification increased funds available for payment by \$15,004.19. Total funds available to date is \$4,515,004.19. No contract time extended.

e. P00005 (CAN-01) dated 6 Dec 94. This modification is for contractor's new address:

B&K Construction Company, Inc.
Lock Box No. 95048
New Orleans, LA 70195

f. P00006 (CIN-02) dated 7 Mar 95. Provided for installation of a 6 foot wooden fence on the north, south and west sides of north staging area. This modification added Pay Item #22 to the contract with the amount being \$9,263.77 with no contract time extension.

g. A00007 (TE-002) dated 2 Feb 95 - Granted a 2-day time extension due to severe weather conditions during period of 1 Nov 94 thru 31 Jan 95. No increase in amount of contract was made.

h. P00008 (CIN-04) dated 23 Feb 95 - This modification extended limits of temporary flood protection from 750' to 1625' during

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non-hurricane season between E B/L Stations 102+67.72 to 119+03.06 only. No additional funds were added to the contract but 10 days were added to contract time.

i. P00009 (CIN-03) dated 2 May 95. This modification was for a waterproof connection between siphon pipes and I-wall at Pumping Station #4 around the electrical cable tray penetrating the wall. Contract amount was increased \$939.96 and 1 day time extension was added.

j. P00010, TE-003 dated 1 Jun 95. This modification was made to extend contract time due to unusually high tides and severe weather delays. The contract time was extended 30 days. No additional funds were added to the contract.

k. P00011-UCO-01 dated 31 Jul 95. This modification to the contract was for emergency closure of I-Wall breaches between W B/L Station 108+37 to 109+53, pulling piling up to elevation +11.50. No additional funds and no time extension was given for this modification.

l. P00012, TE004 dated 8 Aug 95 granted a 5 day time extension due to severe weather and high tides during the period 1 May to 31 Jul 95. No additional funds were added to the contract.

m. P00013-CO-02 dated 2 Oct 95. This modification provided for gap closures with flood protection to elevation 11.5 ft. NGVD due to Hurricane Opal.

n. A00001, CIN-05 dated 11 Oct 95. This modification was given to provide emergency gap closures between W B/L Station 108+37 to 109+53 due to Hurricane Erin. This modification finalized Mod P00011, UCO-1 with the contract price increased by \$22,173.00 and contract time increased by 2 calendar days.

o. A00002, CIN-06 dated 12 Oct 95, changed the limits of "No Work" area on east side of London Avenue Canal at Pump Station #4 from E B/L 100+11.29 to E B/L 99+69.22. The contract price was reduced by \$5,100.00 with no change to contract time.

p. A00003, CIN-07 dated 24 Oct 96. This modification was for a VECP which revised the wall realignment between West B/L Station 70+47 to 84+54.77 and 85+90 to 99+83.67 to a position 4 feet to F/S of

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SUBJECT; CONTRACT NO. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

original alignment. Pay items #23 and #24 were added to the contract decreasing the contract price by \$10,800. No additional time was added to the contract.

q. A00004, TE-005 dated 9 Nov 95. The contract was extended 11 days due to adverse weather during period of 1 Aug 95 thru 31 Oct 95. The contract price remained the same.

r. A00005, CIN-08 dated 22 Dec 95. The modification provided for installation and removal of emergency gap closures between E B/L Station 70+30 and 72+95 due to Hurricane Opal. The modification definitized mod P00013 CO-02 with the contract price increased by \$20,287.02 and the contract time increased by 6 calendar days.

s. A00006, TE-006 dated 6 Feb 96, granted a 28 day time extension due to severe and adverse weather delays between 1 Nov 95 - 31 Jan 96.

t. A00007, CIN-09 dated 6 Feb 96. This modification provided for deleting 1 monolith on west side of London Avenue canal at Pumping Station #4 between Station 100+84.14 to 101+12.35. The contract price was reduced by \$428.96. No additional time was granted for this modification.

u. A00008, TE-007 dated 7 May 96, granted a 30 day time extension due to unusually severe weather between 1 Feb thru 30 Apr 96. No additional funds were granted.

v. A00009, CIN-11 dated 23 Jul 96, changed the limits of the "No Work" area on the east side of the canal at Pumping Station No. 4 and cancelled modification A00002 in its entirety. This modification reduced Item No. 10 by \$5,000 and Item No. 14 by \$100. The contract time remained unchanged.

w. A00010, TE-008 dated 5 Aug 96, granted a 43 day time extension due to unusually severe weather between 1 May 96 thru 31 Jul 96. No additional funds were granted for this modification.

x. A00011, TE-009 dated 5 Nov 96, extended the required completion date of the contract 55 calendar days as a result of unusually severe weather for the period between 1 Aug thru 31 Oct 96.

14. The contractor submitted and enforced an adequate Accident

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SUBJECT; CONTRACT NO. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

Prevention Program. The contractor was very cooperative in the performance of the work and performed daily safety inspections in addition to holding weekly safety meetings. There were no lost time accidents throughout the duration of the project.

15. The contractor was efficient and professional in the performance of the work and any extra work required to complete this project. The equipment used was kept in good working condition. Quality control was maintained throughout the life of the contract.

16. Following is a comparison of contract quantities versus actual quantities:

Item	Description	Qty & Unit	Unit Price	Est Amt	Final Qty	Earnings to date
0001	Mob & Demob (P00002)	LS	LS	\$215,004.19	100%	\$215,004.19
0002	Clearing & Grubbing	LS	LS	\$175,000	100%	\$175,000
0003	Selective Demolition	LS	LS	\$260,000	100%	\$260,000
0004	Pedestrian Bridge Demolition	LS	LS	\$15,000	100%	\$15,000
0005	Embankment, Semicompacted Fill	LS	LS	\$11,200	100%	\$11,200
0006	Structural Excavation & Backfill	LS	LS	\$59,000	100%	\$59,000
0007	Fertilizing, Seeding & Mulching	8AC	\$1,250	\$10,000	100%	\$10,000
0008	Cut-off Existing AZ-18, RZ-10 and PZ-27 Sheet Piling	LS	LS	\$53,600	100%	\$53,600
0009	Pull, Clean, Salvage and Deliver Existing	LS	LS	\$20,500	100%	\$20,500

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SUBJECT; CONTRACT NO. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

AZ-18 Steel Sheet Piling

0010	Redrive Existing AZ-18 Steel Sheet Piling (A00009)	LS	LS	\$5,000	00%	\$0.00
0011	Piling, Steel Sheet, Type PZ-22	187,844SF	8.50	\$1,596,674	187,414.4	1,593,022.4
0012	Piling, Steel Sheet, Type PSA-23	997SF	\$18	\$17,946	719.49SF	\$12,950.82
0013	Painting	LS	LS	\$7,000	100%	\$7,000
0014	Reinforced Concrete Floodwall (P00014), (A00002), (A00007)	LS	LS	\$1,482,731	100%	\$1,482,731
0015	Concrete Slope Pavement	188SY	\$40.00	\$7,520	141 SY	\$5,640.00
0016	Utility Modifications	LS	LS	\$117,000	100%	\$117,000
0017	Temporary Relocation of Feeder Lines	LS	LS	\$38,500	100%	\$38,500
0018	Permanent Relocation of Feeder Lines	LS	LS	\$420,000	100%	\$420,000
0019	Erosion Control					
AA	First 10,670 LF	10,670LF	\$2.00	\$21,340	10,670LF	\$21,340
AB	All over 10,670LF	2,700LF	\$2.00	\$ 5,400	555LF	\$ 1,110
0020	Temporary Flood Protection and Cofferdams (A00001), (A00005)	LS	LS	\$47,460.02	100%	\$47,460.02
0021	Miscellaneous Metals	LS	LS	\$21,500	100%	\$21,500

Check
see *207*

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SUBJECT; CONTRACT NO. DACW29-94-C-0079, Narrative Completion Report, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Mirabeau Avenue to Leon C. Simon Boulevard Floodwall, Orleans Parish, Louisiana

0022	Fencing (P00006)	LS	LS	\$9,263.77	100%	\$9,263.77
0023	VECP, Wall Realignment (A00003)	LS	LS	(-\$24,000)	100%	(-\$24,000)
0024	VECP, Payment Wall Realignment (A00003)	LS	LS	\$13,200	100%	\$13,200
			TOTAL	\$4,605,838.98		\$4,592,421.78

17. A copy of as-built drawings are attached.

18. The contract was completed in accordance with contract plans and specifications with final acceptance pending, dependent upon final cleanup of staging area. Final acceptance is scheduled to be performed during the second week of December 96.

Atch

David Beadle
DAVID BEADLE
Project Inspector
New Orleans Area Office

CF:
Proj Engr (Wagner)
Proj Insp (Beadle)
Ofc Engr (Urban)
CELMN-CD-Q ✓
CELMN-CT
CELMN-ED-C
CELMN-CD-B
CELMN-CD-CS
CELMN-PM
CELMN-OD-ON

MEMORANDUM THRU

Area Engineer, NOAO
C/Const Div ATTN: Contr Admin Br

FOR C/Engr Div

SUBJECT: Narrative Completion Report for Contract No. DACW29-94-C-0003, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection, Pumping Station No. 3 to Mirabeau Avenue Floodwall, Orleans Parish, Louisiana

1. The subject contract dated 15 Oct 93, was awarded to Boh Bros Construction Company, Incorporated, Post Office Drawer 53266, New Orleans, Louisiana 70153. The Notice to Proceed was issued on 18 Nov 93, with construction to start no later than 28 Nov 93. The original completion date was set for 12 May 95, with the estimated amount of the contract being \$6,684,517.00.
2. Required work under this contract included Clearing and Grubbing, Selective Demolition of 13,100 ft. of existing floodwall along with a pedestrian bridge at Mirabeau Avenue and an abandoned vehicular bridge at Benefit Street, construction of 13,100 feet of sheet piling and steel reinforced concrete I-type floodwall, structural excavation and backfill necessary to construct floodwall, embankment along the floodwall, asphalt paving repair, construction of two swing gate structures, complete with steel floodgates at railroad crossing, construction of temporary falsework necessary to build the swing gate structures, modifications of waterlines at several locations, driving of steel "H" piles necessary for swing gate construction, temporary and permanent relocation of electric feeder cables, temporary flood protection & coffer dams, and fertilizing & seeding.
3. The Preconstruction Conference was held at the New Orleans Area Office on 18 Nov 93. Detailed minutes of this meeting are located in the contract file. The Notice to Proceed was signed by the contractor on 18 Nov 93 and the contractor began mobilizing equipment and performing preliminary survey work on 26 Nov 93.
4. The contractor mobilized project trailers on 5 Dec 93 and began installing safety fence and erosion control on 30 Dec 93. The entire jobsite was enclosed during construction with the 48" safety

fence. The contractor installed 10,241 linear feet of 36" silt fence manufactured by Mirafi, Incorporated.

5. This contract provided for 17 major construction phases: (1) Clearing and Grubbing, (2) Selective Demolition, (3) Embankment, (4) Structural Excavation and Backfill, (5) Fertilizing and seeding, (6) Temporary Falsework for R/R Gates, (7) Driving Steel Sheet Piling, Type PZ22 and PSA23, (8) Driving Steel H-Piles, (9) Reinforced Concrete Floodwall, (10) Utility Modifications, (11) Incidental Paving, (12) Temporary and Permanent Relocation of Electric Pump Station Feeder Lines, (13) Structural Steel Gates and Metalwork, (14) Painting, (15) Temporary Flood Protection, (16) Erosion Control, and (17) Relocation of Trees and Shrubs.

6. The contractor started the major phases of work on 13 Jan 94 with the removal of the pedestrian foot bridge located near Mirabeau Avenue. The contractor used hand labor and a small hydraulic boom truck mounted crane to remove the walkway and handrails. The timber pilings were pulled on 9 Dec 94, with the use of Lorain 60-ton motor crane mounted on flexifloats, and the holes left were filled with a cement slurry.

7. In order to provide access to and from the jobsite, the grass on the landside of the existing floodwall was cleared and the existing levee was degraded approximately 2 feet. This material was rolled down the slope and moved around the jobsite to make a 15-20 foot shelf for the contractor's crawler cranes. The contractor used a caterpillar D-5 dozer to clear and degrade the existing levee, and a caterpillar 235 backhoe with a dump truck to move degraded material to stockpile areas. Also, the concrete steps at Mirabeau were removed to provide a clear access from the north. Additional access to the jobsite was also obtained by the contractor through Dillard University on the east side of the canal and the Parkway Commission's property on the east and west sides of the canal. This phase of work began on 25 Jan 95 and was continually maintained during floodwall construction between Mirabeau Avenue and Gentilly Boulevard.

8. The contractor relocated all of the trees and shrubs located along the levee near the residence at Dillard University on 1 Feb 95. The trees were replanted near the Physical Plant in Dillard University and maintained during the life of the project. On 12 Jul 95 all trees and shrubs were replanted at the original location along the levee and all clean-up work was completed at the residence.

9. Demolition of the Benefit Street bridge began on 9 Feb 94 with the contractor mobilizing an American 5299 crawler type crane with

an 80-foot boom, and a 410C caterpillar backhoe with a hydro-hammer, to the jobsite. The bridge deck was broken into sections with the backhoe and lifted out with the crane utilizing a fabricated narness. A small barge placed in the canal was used to catch any broken concrete from the demolition process. The demolition and removal of the bridge deck and beams was completed on 1 Mar 94. The remaining timber pilings were pulled at a later date on 17 Oct 94 by the contractor when the permanent sheetpile for the floodwall were driven in this area and all holes left were filled with a bentonite cement slurry. The contractor utilized an American 5299A crawler crane with an 80' boom to pull these timber pilings.

10. Modification to the existing waterlines began on 3 Mar 94. The existing waterline was replaced with a new 6-inch waterline between E B/L Station 20+60 to 14+31 and E B/L Station 6+36 to 1+23 and a new 4 in waterline encased in a 12" steel pipe between E B/L Station 1+23 to 0+82. All new water lines were Class 150 PVC pipe with a minimum of 3 feet of cover, except under the Railroad, which recieved 5.5 feet of cover. Also installed were five new water meters, three water valves, and one fire hydrant between E B/L Station 0+82 to 6+36. The existing waterline was removed between E B/L Station 0+82 to 1+23, and 6+36 to 13+25 and cut, plugged, and abandoned between E B/L Station 1+23 to 6+36 and 14+31 to 20+60. All newly installed waterline was pressure tested and chlorinated in the presence of a S&WB representative and a government representative. Service through the existing waterlines was not interrupted until all necessary preparations were made to perform the tie-ins at the designated locations. The waterline work was completed on 20 Jun 95.

11. The temporary relocation of the electric feederlines began on 15 Mar 94. A subcontractor, Hazard Construction Company, Inc. performed all relocation work for the contractor. The relocation of Electric Feederline No. 340 from its original position located on existing slope pavement to the vertical face of the concrete channel lining started at E B/L Station 21+00 and continued thru E B/L Station 1+25. Upon completion of this temporary relocation, feederline No. 400 was replaced with new cable in 5" conduit and temporarily installed on the vertical face of the channel lining from W/B/L Station 21+00 to 14+10. The remaining feederline cable (FL-340 from E B/L Station 21+00 to 68+56 and FL-400 from W B/L Station 21+00 to 68+88) was temporarily relocated to a trench located on the floodside of the existing floodwall to protect it during floodwall demolition. The cables were deenergized during relocation work, and tested at the pumping station to assure no damage was done to the cables during the relocation. The cables were all temporarily relocated by 16 Feb 95.

12. On 29 Apr 94 the driving of 283,866.40 sq. ft. of steel sheet piling commenced. The contractor used Syro steel sheet pile type SPZ-22, SPZ-26, and special fabricated zee and tee type sheetpile for this contract. The contractor utilized two separate driving crews on both the east and west sides of the canal. Sheetpile driving started at Mirabeau and proceeded south to pumping station No. 1.

The contractor used the following equipment to drive the sheetpile on the west side of the canal; 1-50 ton American 5299A crane with 80' boom, 1-416 ICE vibratory hammer, 1- clothes pin hammer, and 1-40 feet steel I-beam to maintain alignment. The contractor utilized a 60-ton 670 Lorain motor crane with 80' boom mounted on (6) six-10'x40'x7' and (2) two-10'x20'x7' flexi-float barges equipped with an ICE416 vibratory hammer and a 40' steel I-beam for alignment to drive the sheetpile on the east side of the canal between Mirabeau Avenue and Gentilly Blvd and also between W B/L 17+95 to 14+21.

Prior to driving the sheetpile under interstate 610 and the uncapped sheetpile at the floodgates, the contractor procured the services of Specialty Coatings to apply the approved coal tar epoxy to these sheetpiles. These sheets were sandblasted to white metal finish and the coal tar epoxy was applied (sprayed) in two coats to provide a 16 mil thickness. The sheets under I-610 were field cut into five sections and driven in spliced (welded from interlock to interlock) sections with the use of a Gradall 880 backhoe and an ICE 216 vibratory hammer.

Within the railroad right-of-way, the contractor utilized the American 5299A crane with 100' boom, a Vulcan 08 single acting air hammer, a clothes pin hammer, and a 40' steel I-beam for alignment to drive the cofferdam sheetpile (PMA22) and the new sheetpile under the gate slab. All sheetpile driven on subject contract were driven to grade and work was completed on 25 May 95.

A private testing laboratory was retained by the Orleans Levee District, which monitored vibrations during sheet pile operations.

13. The contractor commenced construction of the reinforced concrete floodwalls on 4 May 94. There were four hundred thirty-eight (438) permanent concreted I-wall monoliths, (6) six temporary concrete I-wall monoliths, and two (2) concrete gate monoliths placed on subject contract. Prior to placing the 4-inch stabilization slab, cathodic protection was installed on the sheetpile at all monolith joints. The I-walls were placed from Elev 3.5, 4.0, and 4.5 to Elev 14.4 on both the east and west sides of

the canal. All rebar was Grade 60 and placed according to contract drawings. An approved three bulb (Tamms/Horn Products) waterstop was placed between each monolith joint along with a fibre expansion joint filler (Sealtight). The contractor used EFCO (Economy Forms Corporation) steel forms along with plyform material backed with steel double channel wales. The forms were connected with 1 1/4" x 1" taper ties spaced according to the contractor's formwork design. A rubber fractured fin form material was attached to the land side form to provide the required finish, except between Station E B/L 21+40.96 to 33+10.96 and W B/L 48+65.18 to 58+55.18 which received a repeated pattern of three BAS- relief architectural panels followed by three fractured fin panels. All formwork was set using a 5299A American Crane. The I-wall monoliths were made in one placement, and the gate monoliths were constructed in two placements.

Concrete was delivered to the jobsite by concrete mixer trucks and placed into forms with a concrete bucket and rubber trunks of various lengths. Concrete pump trucks were utilized for I-wall placements between approximate E B/L station 56+00 to 48+00, E B/L Station 20+70 to 14+50, under the I-610 on both the east and west sides, and for the two gate monoliths. The concrete pump trucks were used due to limited access along the existing levee. Quality control was maintained daily through use of the 1246 checkout list with air content tests, slump tests, temperature checks, and test cylinders done by the contractor. The contractor placed concrete on both sides of the canal simultaneously by two different concrete work crews. These crews started at Mirabeau Avenue and worked behind the sheetpile driving crews proceeding south to the pumping station. Concrete monoliths were moist cured for the entire seven day curing period. The contractor averaged three I-wall placements per week per side, between Mirabeau Avenue and Gentilly Boulevard, and two per week per side south of Gentilly Boulevard. The last concrete I-wall was placed on 8 Jun 95. The contractor utilized the following equipment per side for this item of work; 1-5299A American Crawler-type crane, 1-2CY concrete bucket, 2-concrete vibrators, form oil, several rubber chutes of various lengths, curing blankets, miscellaneous hand tools used for concrete wall construction, and occasionally a Schwing BPL 1200 concrete pump truck equipped with feeder pipe.

14. On 20 Jun 94, the contractor commenced demolition of the existing floodwall at E BL Station 12+26.95. The contractor used a caterpillar 325 backhoe equipped with a hydraulic ram (hammer) to break the concrete cap off in pieces between the pump station and approx station 21+00 on both east and west sides. The existing sheetpile were then pulled and hauled off site between E B/L Station 1+46-5+87, 12+26.95-12+85, and 14+50-20+70, and W B/L Station 10+55-12+55, and 14+24-17+95. Within the other reaches the

sheetpile was cut off at elevations from EL 5.0 to 7.0. Between W and E B/L Station 21+00 to Mirabeau Avenue, the existing concrete cap was scored in 30" sections and lifted out with the 325 Backhoe and hauled off site to a recycling yard (Pontchartrain Materials) for disposal. The existing concrete channel lining and the new perm sheetpile served as temporary flood protection in areas where the alignment of the new floodwall coincided with the old floodwall. At no time during hurricane season was there an opening in flood protection more than 300 linear feet, and non-hurricane season of 750 linear feet opened. All existing floodwall was demolished and removed from the jobsite by 25 May 95.

15. The contractor began the permanent installation of electric feeder cable (FL-400) on 26 Aug 94. Hazard construction was the subcontractor that performed all electrical work on the feederlines. Prior to any wall construction, new cable was installed 2' deep, except within LDOTD ROW which was 4' deep, in a 12" wide trench, encapsulated with 3000 psi concrete between W B/L Station 2+60 to 12+70. This new section of cable was spliced to the existing cable at Station 2+60 and new cable at 12+70. Between W B/L Station 12+70 to 14+10 new cable was installed in 5" conduit and secured to the channel lining under the Gentilly Boulevard bridge. The contractor then replaced the existing cable between W/B/L Station 14+10 to 21+00 with new cable encased in 5" conduit and made two splices at each end. This cable was installed on the new floodwall after placement of the 4" incidental paving between the new floodwall and the channel lining. Finally, the contractor relocated the existing cable to the new floodwall between W B/L Station 21+00 to 68+88. This work started at Mirabeau Avenue and proceeded south to allow the contractor to obtain slack in the line. The subcontractor utilized a small truck mounted crane and sling along with hand labor to install the cable on the new wall. The new cable was brought out on large reels and stretched out with use of a 215 caterpillar rubber tire backhoe. The backhoe was also used to excavate and backfill the trench.

The permanent installation of the electric feeder cable FL-340 began on 14 Nov 94. This work consisted of relocating the feederline to the floodside of the new floodwall using bolts and clamps to secure the line to the wall. The line was installed after the new wall was painted and all structural backfill was in place from E B/L station 1+25 to 12+85 and 14+70 to 68+56. Between E B/L Station 12+85 to 14+70, new 3/C #500 15KV cable was installed under the Gentilly Bridge and spliced to the existing FL-340 at both ends. This new cable installation at the above location, was the last electrical work done on the project, and was completed on 29 Jun 95. Also on the east side, FL-432 was passed thru the new permanent

sheetpile at approximate E B/L Station 21+60 installed in a 16" dia. split steel sleeve packed with plastic sealant and sealed with neoprene rubber sleeves.

16. The contractor commenced application of the approved Tammo seal cementitious items paint (1st coat) beginning at Mirabeau Avenue on the floodside to both the east and west floodwalls on 13 Sep 94. The cementitious paint was applied at a rate of 2 pounds/square yard of concrete surface. Upon completion of the floodside, the landside of the floodwalls were painted with the Tammo seal. Two coats of acrylic emulsion paint (Tammo sheen) was then placed over the cementitious paint on the floodside and then the landside. The contractor initially used a sprayer to apply the cementitious paint, but did not fill all voids and pits in the concrete surface. A roller was then used which provided the required finish and filled all voids in the surfaces. The final two coats of acrylic emulsion paint was sprayed on with an air sprayer. The painting operation was completed on 24 Jul 95.

17. Structural backfill was begun on 26 Aug 94 on the floodside of both the east and west floodwalls. The floodside was backfilled first to allow the contractor to relocate the feeder cable to the new wall. The material was cast over the new wall with a 880 Gradall Backhoe and compacted with hand tampers and plate compactors (Mikasa Products). The backfill was placed within 2 feet on both sides of the wall in 8" thick lifts and compacted to 90% of the max dry density. Soil samples were taken to develop standard proctor curves and compaction tests were performed by Alpha Testing Laboratory. The contractor utilized a vibratory roller (RT560-Wacker Corp) and a Tandem vibratory roller (BW90AD-Bomag) to compact the fill on the landside of the floodwall. Make note that at the R/R monoliths, the subballast supplied by Norfolk Southern was compacted as dense as the material in the same area, with hand tampers to the satisfaction of railroad personnel. All structural backfill was completed on 15 Jun 95 when the last lift was placed at E B/L Station 2+00.

18. The work within the railroad rights-of-way commenced on 7 Dec 94. This phase of work consisted of driving cofferdam and permanent sheetpile, pipe piles and steel H-piles, constructing and installing four falsework structures to maintain traffic on the railroad tracks, placing two concrete gate monoliths, and installing two steel swing gates. Prior to any work within the r/R ROW, meetings were held to establish a working relationship with the Railroad Company (Norfolk Southern). At these meetings the railroad POC established a work window for the contractor from 0730 to 1430 within the R/R ROW. During the life of the contract, the contractor was continually denied this allowable schedule and encountered delay time.

The contractor worked on the west side first by driving two rows of steel sheetpile (PMA-22), 20 feet long, perpendicular with the tracks, and one row down the centerline of both sets of tracks. Continuous pipe piles were then driven to EL-60.0 to support the falsework bridges. Structural excavation for the gate base monolith followed. The contractor removed the falsework bridge, excavated the material for the base slab, and reset the falsework bridge for one track in an 8 hour workday. After all structural excavation, the steel H-piles and the permanent sheetpile were driven. Quality assurance was maintained during the driving of the H-piles by using a level, marking the pile footage, and recording blow counts for the 2,016 LF of HP 14x73 steel H-piles. All piles were driven to grade. The contractor then constructed the reinforced gate base slabs and columns using 4000 psi concrete and epoxy coated rebar in the gate sill. The contractor completed the concrete work and removed all falsework (5' below grade) on the west side on 9 Mar 95. The contractor commenced operations on the east side on 13 Mar 95 and completed work on 15 May 95. The following equipment was utilized; 1-5299 American Crane with 100' Boom, 80' pile leads, 1-Vulcan 08 air hammer, 1-clothes pin hammer, 1-880 Gradall backhoe, 1-Schwing 1200 concrete pump truck, crane mats, 2 CY concrete bucket, concrete vibrators, and other miscellaneous hand tools for concrete work.

19. The two railroad swing gates were fabricated and painted by Manufab, Incorporated of Pearlington, Mississippi. Quality assurance was maintained by visits to Manufab's yard. The gates were installed by Manufab on 6 Apr 95 (west) and 22 Jun 95 (east) and two trial operations were conducted. Some adjustments were made on both gates and they were accepted on 24 Jul 95. The contractor used a Caterpillar 325 backhoe to set the gates

20. After all floodwall was constructed and painted, the contractor started rebuilding and reshaping the landside levee. The embankment was built to the lines and grades shown on the plans from the existing levee material using D-4 and D-5 caterpillar dozers, 1-235 caterpillar backhoe, 1-215 caterpillar backhoe, and several dump trucks. Work commenced on 2 Feb 95 and was completed on 5 Jul 95.

21. Fertilizing, seeding, and mulching of the completed levee on the east and west side began on 19 Jun 95 between Mirabeau Avenue and Gentilly Blvd. Subcontractor, Economy Grassing performed this phase of work. After harrowing the dressed levee, an approved fertilizer and unhulled Bermuda seed was broadcast and cultipacked and wood cellulose fiber mulch was sprayed over the entire bare surface of levee. The subcontractor completed this first section 21 Jun 95. The area between the pumping station no. 1 and Gentilly

Boulevard was completed on 13 Jul 95. The following equipment was used; 1-2130 John Deere tractor, 1-seed broadcaster, 1- spike tooth harrow and 1-Hydro mulch sprayer.

22. The last phase of work was to repave London Avenue between E B/L Station 2+35 to 5+75 and W B/L Station 14+00+0 17+75, and the Benefit Street Bridge ramps on both sides of the canal. The areas damaged along London Avenue during construction operations received a 3.5" binder and 1.5" wearing course. The areas previously occupied by the Benefit Street bridge ramps received a 8" thick crushed concrete base course compacted to 95% max dry density, along with the overlay. All asphalt work was started and completed on 26 Jul 95. The following equipment was used; 1- vibratory roller, 1-D3 Caterpillar dozer, 1-Paving machine and other incidental equipment.

23. The contractor had difficulty in coordinating with utility owners for relocation of their lines located with contract R.O.W.. There were Cox Cable lines crossing the canal and running parallel with the canal located within the ROW not shown on the contract drawings. No substantial construction delays were encountered by the contractor, however, the coordination efforts of the contractor were increased due to the utility owners poor relocation work.

24. There were twenty-two modifications on this contract and a summary of each follows:

a. P00001 (FM-001) dated 23 Mar 94. This modification provided additional funds for payment in accordance with SPECIAL CLAUSE H-26, an increase of \$1,972,000.00.

b. P00002 (CIN-01) dated 31 Mar 94. This modification corrected stationing and offsets, and dimension discrepancies found after award, and increased the amount of coated sheetpile due to an error in the original stations on the east side. The modification increased the contract by \$3,879.22 with no time extension.

c. P00003 (TE-001) dated 11 Apr 94. This modification extended the required completion date of the contract (7) seven calendar days due to unusually severe weather encountered between 18 Nov 93 to 31 Mar 94. The contract price remains the same.

d. P00004 (UCO-01) dated 25 Apr 94. This modification was to provide approximately 200 feet of additional 15 KV feederline cable to be installed under the east side of Gentilly Boulevard bridge. The existing cable was damaged prior to any electrical work commencing. The UCO was written in order for the contractor to obtain the additional cable within a reasonable time from the supplier due to manufacturing time restraints. This modification

was settled at a later date.

e. P00005 (FM-002) dated 25 Apr 94. This modification provided additional funds for payment in accordance with SPECIAL CLAUSE H-26, an increase of \$3,884,517.00.

f. P00006 (CIN-03) dated 2 May 94. This modification substituted acrylic emulsion paint for cementitious paint on the landside BAS-relief architectural monoliths, and to provide a sack rubbed finish to these surfaces. The originally specified cementitious paint would cover the detail of the artwork panels. The modification increased the contract by \$5,799.30 with no time extension.

g. P00007 (CIN-02) dated 29 Jun 94. This modification changed the type and number of sill plates, stiffeners, and railroad plate deflectors, added cofferdam sheeting, modified the falsework pipe piles and changed all rebar to be epoxy coated within the gate sills on both the east and west sides. The Norfolk Southern Railroad Company requested these changes prior to contract award. The modification increased the contract by \$23,005.20 with no time extension.

h. P00008 (CIN-05) dated 29 Jun 94. This modification changed the size of the new waterline installed between E B/L Station 2+08 to 6+36 from 4" to 6" diameter and realigned the waterline to eliminate two bends. The S&WB of New Orleans requested a larger size waterline that was supplying a fire hydrant due to fire prevention codes. The modification increased the contract by \$1,500.00 with no time extension.

i. P00009 (TE-002) dated 11 Jul 94. This modification extended the required completion date of the contract eleven (11) calendar days due to unusually severe weather encountered between 1 Apr 94 to 30 Jun 94. The contract price remains the same.

j. P00010 (CIN-06) dated 5 Aug 94. This modification was to replace the 200 linear feet of additional electric feederline under the east side of Gentilly Boulevard. The existing cable was damaged prior to any work done on this cable. This modification definitizes UCO-01. The modification increased the contract by \$24,993.59 with an increase in contract time of ten (10) calendar days.

k. P00011 (CIN-07) dated 12 Sep 94. This modification added a feederline cable splice to the existing FL400 at W B/L Station 14+10. Due to the closing of Gentilly Boulevard Bridge, this additional splice was needed to allow the contractor to stay clear from working under the bridge for safety purposes and not be

impacted or delayed in his progress of work. The modification increased the contract by \$5,000.00 with no time extension.

l. P00012 (UCO-02) dated 16 Sep 94. This modification directed the contractor to close any gaps in hurricane protection due to expected high tides from an approaching hurricane. This work took place on 15 and 16 Sep 94 in which the contractor pulled 60' of sheet pile up to EL 11.5 between E B/L Station 20+80 to 21+40. This modification was settled at a later date.

m. P00013 (TE-003) dated 18 October 94. This modification extended the required completion date of the contract seven (7) calendar days due to unusually severe weather encountered between 1 Jul 94 to 30 Sep 94. The contract price remains the same.

n. P00014 (CIN-08) dated 17 Nov 94. This modification was for the contractor to close the gaps in hurricane protection due to an approaching hurricane. This modification definitizes UCO-02. The modification increased the contract amount by \$12,620.00 with an increase in contract time of six (6) calendar days.

o. P00015 (CIN-10) dated 12 Apr 95. This modification was for formwork modifications made by the contractor due to varying elevations of the concrete channel liner. The channel liner elevation differed in places as much as 6 inches from the plan elevation. This modification increased the contract by \$10,200.00 with no time extension.

p. P00016 (TE-004) dated 14 Apr 95. This modification extended the required completion date of the contract thirteen (13) calendar days due to unusually severe weather encountered between 1 Oct 94 to 31 Mar 95. The contract price remains the same.

q. P00017 (CIN-11) dated 23 May 95. This modification added slope pavement and reinforced retaining walls at the two railroad gates. The original contract drawings provided no details at these two ends of the job. The modification increased the contract price by \$7,500.00 with no time extension.

r. P00018 (CIN-09) dated 9 Jun 95. This modification was to remove approximately 1300 linear feet of sheetpiling above elevation 7.5 to allow placement of slope pavement and for additional demolition costs due to the sheetpile extending further in the concrete cap than shown. The contract drawings contained discrepancies as to the actual elevation of the existing sheetpile embedded in the existing concrete cap. The modification increased the contract price by \$43,000.00 with an increase in contract time of fourteen (14) calendar days.

s. P00019 (FM-003) dated 19 Jun 95. This modification provided additional funds for payment in accordance with SPECIAL CLAUSE H-26 and Contract Clause I-18, an increase of \$105,742.10.

t. P00020 (TE-005) dated 12 Jul 95. This modification extended the required completion date of the contract fifteen (15) calendar days due to unusually severe weather encountered between 1 Apr 95 to 30 Jun 95. The contract price remains the same.

u. Pending time modification (TE-006) for an additional twenty-two (22) calendar days due to unusually severe weather encountered between 1 Jul 95 to 17 Aug 95. The contract price will remain the same.

25. The contractor submitted a claim on August 11, 1995, in the amount of \$144,917.74 for construction delays encountered while working within Norfolk Southern Railroad Rights-of-Way. The claim is being analyzed for merit.

26. The following is a list of major suppliers on the subject contract:

- a. Steel Sheet Piles - Syro, Inc., Girard, OH
- b. Reinforcing Steel - Lulich Steel Corp., Slidell, LA
- c. Concrete - Carlo Ditta, Inc., New Orleans, LA
- d. Waterstop/Silt Fence/Expansion Joint Filler/Form Oil/Cementitious and Acrylic Emulsion Paint-Building Specialties, Incorporated, New Orleans, LA
- e. Waterline Supplies - Louisiana Utilities, Jefferson, LA
- f. 15 KV Feederline Cable-Okonite Co., Ramsey, NJ
- g. Feederline Splice Kits - Mac Products, Inc., Kearney, NJ
- h. Misc. Electric Feederline Supplies - Nulite Electrical, New Orleans, LA
- i. Asphalt - T. L. James & Co., Kenner, LA
- j. Crushed Concrete - Pontchartrain Materials Corp., New Orleans, LA
- k. Steel H-Piles - LB Foster Co., Pittsburgh, PA

- l. Floodgates & Metal Items - Manufab, Pearlinton, MS
- m. Coal Tar Epoxy Application - Specialty Ctgs, Kenner, LA
- n. Formwork - EFCO, Des Moines, IW
- o. Seed - Alexandria Seed, Alexandria, LA
- p. Hi-potential feederline tests - Point Eight, Belle Chasse,
LA
- q. Density Tests - Alpha Testing, Kenner, LA
- r. Artwork Molds - H. H. Horil & Assn., Mobile, AL

27. Subcontractors performing work on this project along with the contract responsibilities are as follows:

a. Hazard Construction & Drayage Company, 701 S. Alexandar, New Orleans, LA 70119. All electrical relocation work.

b. Economy Grassing, Innc., 7054 W. T. Hall Roadd, Ethel, LA 70730. Seeding, Fertilizing, and Mulching.

28. The contractor submitted and enforced an adequate Accident Prevention Program. The contractor was very cooperative in the performance of the work and performed daily safety inspections in addition to holding weekly safety meetings. There were no lost time accidents throughout the duration of the project.

29. The contractor was efficient and professional in the performance of the work and any extra work required to complete this project. The equipment used was kept in good working condition. Quality Control was maintained throughout the life of the contract.

30. Following is a comparison of contract quantities versus actual quantities:

Item	Description	Qty & Unit	Unit Price	Est. Amt	Final Qty	Earnings to Date
0001	Mob & Demob	LS	LS	\$100,000	100%	\$100,000
0002	Clearing & Grub	LS	LS	\$ 20,000	100%	\$ 20,000
0003	Selective Demo (P00018)	LS	LS	\$282,000	100%	\$282,000

0004	Ped. Bridge Demo	LS	LS	\$ 5,000	100%	\$ 5,000
0005	Embankment Semicompact. fill	LS	LS	\$40,000	100%	\$40,000
0006	Structural Excav and backfill	LS	LS	\$400,000	100%	\$400,000
0007	Fertilizing & Seeding	LS	LS	\$10,000	100%	\$10,000
0008	Temp. Falsework for gates (P00007)	LS	LS	\$113,505.20	100%	\$113,505.20
0009	Piling Steel Sht Type PZ-22 (P00002)					
				273,573SF \$8.58	\$2,347,256.34	283,886.40SF \$2,435,573.71
0010	Piling, Steel Sht Type PSA-23					
				1,110 SF \$18	\$19,980	850.29SF \$15,305.22
0011	Furnish & Deliver H piles	2,020LF	\$16	\$32,320	2,016LF	\$32,256
0012	Driving Piles (Steel H piles)	2,020	\$5	\$10,100	2,016LF	\$10,080
0013	Reinforced Concrete Floodwall (P00002),(P00006) (P00015),(P00017)	LS	LS	\$2,113,569.57	100%	\$2,113.569.57
0014	Utility Mods. (P00008)	LS	LS	\$ 168,500	100%	\$168,500
0015	Temp. Relocation of Feeder lines	LS	LS	\$400,000	100%	\$400,000
0016	Permanent Relocation of Feeder lines (P00010) (P00011)	LS	LS	\$429,993.59	100%	\$429,993.59
0017	Structural Steel Gates & Misc. Metals	LS	LS	\$ 70,000	100%	\$70,000
0018	Painting (P00002)	LS	LS	\$134,469.61	100%	\$134,469.61

0019 Railroad Ins.	LS	LS	\$ 7,000	100%	\$ 7,000
0020 Temp. Flood Protc & Coffe Dams	LS	LS	\$ 5,000	100%	\$ 5,000
0021 State Req Performance Bond	LS	LS	\$70,000	100%	\$70,000
0022 Erosion Control					
AA. First 13,900	13,900LF	\$2	\$27,800	10,241LF	\$20,482
BB. All over 13,900	1,450LF	\$2	\$ 2,900		
0023 Temp Flood Protection (P00014)	LS	LS	\$12,620.	100%	\$12,620

31 A copy of as-built drawings are attached.

32. The contract was completed in accordance with contract plans and specifications with final acceptance on 17 Aug 95.

Jules Boudreaux
Project Engineer
New Orleans Area Ofc

CF:
Proj Engr (Boudreaux)
Proj Insp (Bollent)
Ofc Engr w/as-built
CELMN-CD-Q ✓
CELMN-PA
CELMN-CT
CELMN-ED-C
CELMN-CD-CS
CELMN-CD-B
CELMN-PP
CELMN-OD-ON

25 Aug 94

MEMORANDUM THRU

Area Engineer, NOAO
C/Const Div ATTN: Contr Adm Br

FOR C/Engr Div

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0077, Lake Pontchartrain, La. & Vicinity, Hurricane Protection Levee, New Orleans Lakefront Levee West of I.H.N.C., Orleans Avenue Canal Flood Protection Improvement, Phase II-D (West Side: Sta. 2+39.00 to 29+07.50 B/L), Orleans Parish, LA

1. The subject contract dated 18 June 93, was awarded to T. L. James and Co., Inc., P. O. Box 20115, New Orleans, La 70141-0115. The Notice to Proceed was issued on 22 July 93, with construction to start no later than 1 August 1993. The original completion date was set for 22 July 94, with the estimated amount of the contract being \$1,540,966.50.
2. Required work under this contract included construction of sheet piling and concrete I-type floodwall plus cofferdam, demolition of the existing wall concrete cap and sheet piling, clearing and grubbing, driving steel sheet piling, degrading and placing backfill, fertilizing and seeding, and all other incidental work.
3. The preconstruction Conference was held at the New Orleans Area Office on 22 July 93. Detailed minutes of this meeting are located in the contract file. The Notice to Proceed was signed by the contractor on 22 July 93, and the contractor began setting up field office on 26 July 93. The contractor set up the safety fence on 17 August 93, and started clearing and grubbing on 20 August 93.
4. This contract provided for 7 major construction phases: (1) cofferdam, (2) sheet pile driving, (3) I-wall construction, (4) removal of old I-wall, (5) structural excavation and backfill, (6) fertilizing, seeding and mulching, and (7) cleaning and painting of retaining wall.
5. The contractor began driving FZ-27 sheetpiles for the cofferdam on 27 Sep 93. The contractor used a 50T American 797 crane with a 90' boom, 235 Cat crawler backhoe and vibratory hammer to drive the sheet piles. Piles were pinned with a H-8 clothes pin hammer. This phase continued until 30 May 94.

CELMN-CD-NO-0

SUBJECT: Contract No. DACW29-93-C-0077, Lake Pontchartrain, Louisiana and Vicinity, High Level Plan, New Orleans Lakefront Levee, West of IHNC, Orleans Avenue Canal Flood Protection Improvement, Phase II-D, New Orleans, LA

6. The driving of steel sheet piles for the floodwall began on 20 October 93. Syro SPZ-22 cold rolled substitute sheets were driven to grade using a ICE 216 vibratory hammer. The crane was a 50T American crane with 90' boom. As monolith sections were completed, #6 rebars were welded across the top of the sheets. Cathodic cables were welded to the monoliths at the joints. Under the I-610 bridge, the sheet piles were driven in three segments. The contractor drove SPZ-22 type sheets for tie-ins to existing wall. All sheets were driven to grade and within allowable tolerance. The sheet pile driving operation was completed with the tie-in sheets under the I-610 bridge on 19 May 94.

7. The contractor began construction on the reinforced concrete floodwall on 29 Nov 93. The contractor used a subcontractor, American Rebar and Cable Co., for tying the rebar. The contractor placed the concrete using a 797 American crane, concrete bucket and chute. Each monolith was placed continuously. The lower half of the monolith was placed with the concrete bucket and chute. Then the top form section (protected side) was set and the top section placed using a hopper and 5' long rubber trunk. The last monolith was placed on 25 May 94.

8. The contractor used a EB-40 backhoe, American 797 crane with clam bucket, and D4 dozer for structural excavation and backfill. Structural excavation and backfill was performed concurrent to other work. The contractor began final dressing of the levee on 14 June 94. Concrete slope pavement was placed under the I-610 bridge between 13 July 94 to 19 July 94.

9. The next operation was to remove the old existing concrete cap and sheet pile down to elevation 4.00. The contractor started on 1 June 94, using a EB-40 backhoe to cut existing steel sheet pilings and remove the existing concrete floodwall. An American 797 crane was used to load blocks onto flatbeds for removal. The areas with corrugated sheet piles were easily cut and removed. The sheet pile in the other areas were cut using two torches. The last section was removed on 27 June 94.

10. The next phase of work was to clean and paint the retaining wall. The contractor started cleaning the wall on 6 July 94, using two pressure washers. Tammscoat was then applied using an airless sprayer. A final clear coat was applied by brush. The operation was finished on 18 July 94.

CELMN-CD-NO-Q

SUBJECT: Contract No. DACW29-93-C-0077, Lake Pontchartrain, Louisiana and Vicinity, High Level Plan, New Orleans Lakefront Levee, West of IHNC, Orleans Avenue Canal Flood Protection Improvement, Phase II-D, New Orleans, LA

11. Fertilizing, seeding and mulching of completed levee as well as disturbed area was the final phase of work. This operation was begun and completed on 30 July 94. Two farm tractors were used along with a harrow, culti-packer, mechanical spreader, and mulch slurry tank. After harrowing, fertilizer was broadcast over the entire levee section. Hauled bermuda grass seed (60 lbs/acre) was then broadcast and culti-packed. Finally, fiber mulch was sprayed over the seeded areas.

12. There were eight modifications on this contract and a summary of significant ones follows:

a. P00002 (CIN-01), dated 13 Jan 94. The modification was necessary because of differing site conditions. The modification required the probing for unknown obstructions below the limits of structural excavation. The modification increased the contract by \$4,000 and added seven calendar days to the contract time.

b. P00003 (CIN-02), dated 2 Feb 94. This modification called for an additional 30 feet of I-wall and coated sheet piling. The contract was increased by \$18,200 and added 9 calendar days to the contract time.

c. P00005 (CIN-03), dated 14 Feb 94. This modification changed the contract under "Type of Finish/Structure or Portion of structure". The contract price was increased by \$10,396 with no time extension.

d. P00008 (CIN-04), dated 18 June 94. This modification was for removal and disposal of tree stumps and other subsurface debris found in the sheetpile line of construction. The contract price was increased by \$15,865.00 with no time extension.

13. The contract time was increased by 36 days.

14. Following is a list of major suppliers and subcontractors on the subject contract:

- a. Reinforcement - Lulich Steel Corp., Slidell La.
- b. Sheet Piles - Syro Steel, Girard, Ohio
- c. Concrete - Carlo Ditta Inc., Harvey La.
- d. American Rebar and Cable Co., Inc., installed the reinforcement

CELMN-CD-NO-Q

SUBJECT: Contract No. DACW29-93-C-0077, Lake Pontchartrain, Louisiana and Vicinity, High Level Plan, New Orleans Lakefront Levee, West of IHNC, Orleans Avenue Canal Flood Protection Improvement, Phase II-D, New Orleans, LA

e. Economy Grassing provided erosion control as well as fertilizer, seed and mulching to complete levee section and any disturbed areas.

15. Professional Services Industries, Inc., of Jefferson, La. monitored ground vibrations.

16. The contractor submitted and enforced an adequate Accident Prevention Program. The contractor was very cooperative in the performance of the work and performed daily safety inspections in addition to holding weekly safety meetings. There was no lost time accidents throughout the duration of the project.

17. The contractor was efficient and professional in the performance of the work and any extra work required to complete this project. The equipment used was kept in good working condition. Quality control was maintained throughout the life of the contract.

18. Following is a comparison of contract quantities versus actual quantities:

Item No.	Description	Qty & Unit	Unit Price	Est. Amt	Final Qty	Earnings to Date
1	Mob & Demob	LS	LS	\$100,000	\$100,000	\$100,000
2	Clearing & Grubbing	LS	LS	\$15,433	\$15,433	\$15,433.00
3	Structural Exc. & Backfill (P00003)	LS	LS	\$40,800	\$40,800	\$40,800.00
4	Piling, Steel Sheet, PSA-23	480SF	\$10	\$4,800	510.85SF	\$5,108.50
5	Piling, Steel Sheet, PZ-27 (P00003)	73,371SF	\$9.50	\$697,024.50	72,401.51SF	\$687,814.34
6	Piling, Steel Sheet, PZ-27 In segments	3,780SF	\$13.00	\$49,140	4,007.90	\$52,102.70

CELMN-CD-NO-Q

SUBJECT: Contract No. DACW29-93-C-0077, Lake Pontchartrain, Louisiana and Vicinity, High Level Plan, New Orleans Lakefront Levee, West of IHNC, Orleans Avenue Canal Flood Protection Improvement, Phase II-D, New Orleans, LA

7	Piling, Steel Sheet, CL47 Cofferdam (P00003)	LS	LS	\$120,250	\$120,250	\$120,250.00
8	Fertilizing, Seed & Mulch	LS	LS	\$2,000	\$2,000	\$2,000.00
9	Selective Demolition	LS	LS	\$30,100	\$30,100	\$30,100.00
10	Reinforced Concrete Floodwalls	LS	LS	\$467,396	\$467,396	\$467,396.00
11	Misc Metalwork & Specialty Items	LS	LS	\$3,500	\$3,500	\$3,500.00
12	Concrete Slope Pavement	LS	LS	\$10,000	\$10,000	\$10,000.00
13	Clean & Coat Existing Retaining Wall	LS	LS	\$16,000	\$16,000	\$16,000.00
14	Erosion Control AA 1st 2310LF AB All Add. LF 100LF	2,310LF 100LF	\$2.35 \$2.35	\$5,428.50 \$235.00	2,310LF 235LF	\$5,428.50 \$552.25
15	Underground Probing (P00002)	LS	LS	\$4,000	\$4,000	\$4,000.00
16	LS Adj for Add. 30' I-Wall & Coated PZ-27 Sheet Pile (P00003)	LS	LS	\$7,455.50	\$7,455.50	\$7,455.50
17	Remove & Dispose Debris Under Floodwall					

CELMN-CD-NO-Q

SUBJECT: Contract No. DACW29-93-C-0077, Lake Pontchartrain, Louisiana and Vicinity, High Level Plan, New Orleans Lakefront Levee, West of IHNC, Orleans Avenue Canal Flood Protection Improvement, Phase II-D, New Orleans, LA

(P00008) LS LS \$15,865 \$15,865 \$15,865.00

19. A copy of the As-Built Drawings are attached.

20. The contract was completed in accordance with the contract plans and specifications with final acceptance on 3 Aug 94.

Bernard Brogna

BERNARD BROGNA
Quality Assurance Representative
New Orleans Area Office

CF:

Proj Engr (Gonzalez)

Proj Insp (Brogna)

Ofc Engr w/as-built

CELMN-CD-Q w/as-built ✓

CELMN-PA

CELMN-CT

CELMN-ED-C

CELMN-CD-B

CELMN-CD-CC

CELMN-PP

MEMORANDUM THRU Area Engineer, NOAO
C/Const Div, ATTN: Contr Admin Br

FOR C/Engr Div

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

1. The subject contract dated 8 Jun 93 was awarded to Johnson Brothers Corporation of Louisiana, 2002 20th Street, Suite B101, Kenner, Louisiana 70062. The Notice to Proceed was issued on 25 Jun 93 with construction to start no later than 5 Jul 93. The original completion date was set for 17 Dec 94, with the estimated amount of the contract being \$5,078,484.
2. Required work under this contract included the construction of a pile supported, reinforced concrete, T-type floodwall; clearing, grubbing, and degrading of existing levee for structure construction as well as structural backfill; furnishing and driving 86,724 linear feet of prestressed concrete piles, approximately 86,361 square feet of permanent steel sheet piling, and steel sheet piling for cofferdam; placement of cofferdam backfill; dewatering; demolition of existing wall concrete cap and sheet piling; fertilizing, seeding, and mulching; cleaning and coating of existing retaining wall; placing erosion control silt fence; performing miscellaneous paving; and all other incidental work to floodwall constructions including site restoration.
3. The Preconstruction Conference was held at the New Orleans Area Office on 25 Jun 93. Detailed minutes of this meeting are located in the contract file.
4. The Notice to Proceed was signed by the Contractor on 25 Jun 93. The contractor began mobilizing equipment, preparing staging area T-4, and performing preliminary survey work on 28 Jun 93. The project trailer and the T-4 yard area including security fence were completed by 12 Jul 93. Work on staging area T-5 began on 27 Jul 93. Driving of cofferdam sheets began on 18 Aug 93. A P&H 670 crane, Ice 612 vibratory hammer with power pack, and a 17-foot motorized flatboat was mobilized for this task.

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

5. This contract provided for 14 major construction phases: (1) Clearing and Grubbing, (2) Fertilizing, Seeding, and Mulching (3) Structural Excavation and Backfill, (4) Cofferdam Backfill, (5) Steel Sheet Piling, Type PSA-23, (6) Steel Sheet piling, PZ-27, (7) Steel Sheet Piling, PZ-22, (8) Steel Sheet Piling, PZ-27 and PSA-23, Cofferdam, (9) Piling, Concrete Precast, Prestressed, (14-inch x 14-inch), (10) Reinforced Concrete Floodwall, (11) Miscellaneous Metalwork and Specialty Items, (12) Sidewalk Concrete, (13) Selective Demolition, (14) Clean and Coat Existing Retaining Wall. Some of the work phases were of a routine nature; however, there were some phases that required a certain amount of skill to obtain satisfactory results such as the reinforced concrete floodwall and driving the precast concrete piles.

6. The driving of cofferdam sheets began on 18 Aug 95 with the closure at approximate Wall-Line Sta. 35+87. The 58-foot-long CZ-114 sheets were driven to a tip elevation of -47.5 feet using stationary barges as a template. The cofferdam was composed of 8 cells with additional closures at Wall-Line Sta's. 33+29, 31+29, 28+92, 25+40, 19+97, 16+44, 12+82, and 9+88. Work primary to each cell was completed before the next cell was started, with the sheets being advanced from one cell to the next. Equipment used in this phase of work was one 4000 Manitowoc crane, two 30- by 120-foot barges, one Ice 612 vibratory hammer, one P&H 670 crane (initially), and one 17-foot motorized flatboat. The last of the cofferdam sheets were extracted on 21 Jul 95.

7. On 23 Nov 93, the driving of 85,602 square feet of CZ-114, 493.3 square feet of PSA-23, and 266 square feet of PZ-22 permanent steel sheet piling began. A cold rolled sheet piling substitute (CZ-114) was used instead of the PZ-27, PZ-22, and most of the PSA-23 sheets; two CZ101 sheets were substituted for PSA-23 sheets as well. Pilings were driven from wall-line stations 9+95.17 to 35+80.21. The sheets were aligned using secured mats for a template, and all were driven to tip elevation of -38.5 feet. Cathodic protection was installed concurrent with the installation of the structural reinforcement. Equipment used to drive the piling was one 4000 Manitowoc crane, two 30- by 120-foot barges, one Ice 612 vibratory hammer with power pack, and one 17-foot motorized flatboat. This phase of work was completed on 6 Jun 95.

8. The driving of the first 14- by 14-inch precast, prestressed concrete piles began on 10 Dec 93. A total of 396 77-foot 3-inch piles and 726 79-foot 3-inch piles were driven on a 2V to 1H

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

batter. A Manitowoc 4000 barge-mounted crane was used to drive the concrete piles. During driving operations, an extensive guide template was used to assure correct alignment. Quality assurance was maintained during the driving by using a transit, marking the pile footage, and recording blow counts for the 86,724 linear feet of 14-inch-square, prestressed, precast piles. All concrete piles were driven to grade. Equipment used included one 4000 Manitowoc crane, two 30- by 120-foot barges, one Vulcan 512 air hammer, and one 17-foot motorized flatboat. Concrete pile driving was completed on 31 May 95.

9. The contractor commenced construction of the reinforced concrete floodwall on 11 Jan 94. The work consisted of constructing 66 T-type concrete monoliths. The contractor used a forming system designed and supplied by Karlson Forming Specialties, Inc. A gang form construction technique was used employing laminated sheeting and wooden structural members secured with she-bolts and braced with screwjacks attached to the footing and/or concrete deadmen. The floodwall was constructed atop its footing in 2 placements throughout the first 16 monoliths, W/L Sta's 35+75-29+51. Following the deletion by modification P00013 of the construction joint at elevation 4.00 feet, they were placed monolithically. The concrete was delivered to the job site by concrete mixer trucks and was placed into the forms by use of elephant trunks (tremees) of various lengths. One and three yard concrete buckets were used. In addition, the following equipment/material was used: one Manitowoc 4000 crane (occasionally); one 599 American crane; two concrete dump buckets; two concrete vibrators; form oil; curing compound; miscellaneous hand tools; two electric generators; and electrically driven power tools. Quality control was maintained daily through use of 1246 check-out list. Air content tests, slump tests, and molding of test cylinders were performed by Delta Testing. All concrete cylinders were tested at the soils lab at the New Orleans District. This phase of work was completed on 23 Jun 95.

10. On 26 Aug 93, the contractor began excavating the first cell. Structural backfill and excavation were performed on an intermittent basis depending on cell requirements and weather conditions. Backfill material was also placed as cofferdam backfill until deleted in compliance with modification P0002, which raised the bottom of the footing to elevation -6.33 feet. Thereafter, excavated fill was stored and processed at the west levee storage area. In addition to the on-site material, 11,276 truck-yards of spillway material was incorporated into the structural backfill. Because of the sequential nature of the

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

work necessitated by the use of multiple cells, the backfill operation became a critical choke point in the steady progression of the work. As a result of untimely rains, which adversely effected the backfill operations, work over the entire project was sometimes halted. Equipment used for this phase of work included at one time or another the following: one Mikasa vibratory roller; one plate compactor; one Cat D-8 dozer; one Cat D-5 dozer; one Cat D-4 dozer; one Cat 235 backhoe; four dump trucks; one 166 Bantam backhoe; and occasionally the 4000 Manitowoc with clam bucket. Structural Excavation of the final cell ended on 2 May 95; Structural Backfill was completed on 24 Jul 95.

11. Selective Demolition began on 15 Sep 93 and concluded on 29 Apr 95 with the removal of approximately 2,600 feet of concrete cap and sheet piles. Concrete cap was crushed with a La Bounty hydraulic concrete crusher either mounted on a 235 Cat backhoe or the 4000 Manitowoc crane. The existing sheet piles were extracted with the Ice 612 vibratory hammer. Equipment used consisted of one La Bounty concrete crusher, one 235 Cat backhoe, one 4000 Manitowoc crane, one Ice vibratory hammer, and one dump truck.

12. Cementitious paining of the floodwall began on 27 Apr 95 and continued intermittently through 11 Aug 95. The cleaning and coating of the existing retaining wall began on 11 Aug 95 and was completed on 12 Aug 95. The subcontractor presented several test panels before one was found acceptable. The cementitious coat was applied in a two-coat system following the manufacturer's directions, followed by two coats of Acrylic Emulsion. The cementitious coat was applied with rollers, while the Acrylic was both rolled and applied by hairless sprayer. The retaining wall received one coat of Acrylic Emulsion, as well as one coat of clear sealer. Both the floodwall and retaining wall were cleaned with a 2,500 psi pressure washer. Equipment used included the pressure washer, one 8- by 24-foot barge, one airless sprayer, and miscellaneous hand tools.

13. The subcontractor, Economy Grassing, Inc., performed the fertilizing, seeding, and mulching phases of work. Work began on 23 Aug 95 with the protected side of the west embankment, which was completed on 24 Aug 95. The east levee embankment, storage sites, and yard area were started on 2 Oct 95 and completed on 3 Oct 95. After the fertilizer was broadcast, it was cut-in to a depth of 2 inches with a harrow. Bermuda grass seed was broadcast and then sealed with a pass of a culti-packer. Finally, mulch was applied with a Hydro-mulcher. A total of 4.93

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

acres was prepared. The contractor used one farm tractor, one spike-tooth harrow, one Hydro-mulch sprayer, one culti-packer, one tractor-mounted rotary broadcaster, and one farm tractor.

14. There were 19 modifications on the contract, and a summary of each follows.

a. P00001, dated 14 Sep 93, modified the contract by adding a remittance address to Block 16 on SF-1442.

b. P00002, dated 28 Oct 93, modified the contract to raise the T-wall base elevation to -6.33.

c. P00003, dated 12 Nov 93, extended the required completion date of the contract 2 calendar days as a result of unusually severe weather.

d. P00004, dated 19 Jan 94, modified the contract to provide funds for payment in accordance with Special Clause H-28, an increase of 1,427,000.

e. P00005, dated 26 Jan 94, modified the contract to exclude the raised garland, column patterns, chamfer, dummy joints, and urns from receiving a cementitious finish. The contract price was increased by \$4,158.09 and the contract time remained unchanged.

f. P00006, dated 28 Jan 94, defined the parameters of UCO-01, Mod P00002. Bid Item 0016, Adjustment of T-wall Elevation, was added, which increased the contract price by \$230,019.80 and increased the contract time by 95 calendar days.

g. P00007, dated 7 Feb 94, extended the required completion date of the contract 8 calendar days as a result of unusually severe weather.

h. P00008, dated 26 Apr 94, modified the contract to provide funds for payment in accordance with Special Clause H-28, an increase of \$1,989,484.

i. P00009, dated 4 May 94, extended the required completion date of the contract 8 calendar days as a result of unusually severe weather.

j. P00010, dated 6 Jun 94, modified the contract to drive

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

6,151.25 square feet of PZ-27 steel sheet piling 2-feet 0-inches from the protected side face of the existing floodwall from B/L Sta. 65+79 to Sta. 67+64. Note Mod P00011.

k. P00011, dated 20 Jul 94, modified the contract by adding Bid Item 0017, Lump Sum Adjustment for driving steel sheet piling between Sta's. 65+79 and 67+64. The contract price was increased by \$18,403.74 and the contract time was increased by 2 calendar days.

l. P00012, dated 2 Aug 94, extended the required completion date of the contract 44 calendar days as a result of unusually severe weather.

m. P00013, dated 15 Sep 94, modified the contract to remove the construction joints on the floodwall via a Value Engineering change proposal. Bid Item 0018, Removal of Construction Joints, and Bid Item 0019, VECP Payment Lump Sum for Removal of Construction Joints, were added. The contract price was decreased by \$10,800 with no change in contract time.

n. P00014, dated 18 Oct 94, modified the contract to tie-in the open areas at each end of the emergency sheet piling. Bid Item 0020, Emergency Flooding Protection (CIN-05). The contract price was increased by \$905 with no change in contract time.

o. P00015, dated 9 Nov 94, extended the required completion date of the contract 18 calendar days as a result of unusually severe weather.

p. P00016, dated 13 Feb 95, extended the required completion date of the contract 11 calendar days as a result of unusually severe weather.

q. P00017, dated 8 May 95, extended the required completion date of the contract 50 calendar days as a result of unusually severe weather.

r. P00018, dated 15 Aug 95, extended the required completion date of the contract 29 calendar days as a result of unusually severe weather.

s. A0001, dated 8 Nov 95, extended the required completion date of the contract 38 calendar days as a result of unusually severe weather.

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

15. Following is a list of major suppliers on the subject contract:

- a. Concrete - Carlo Ditta, Inc., Harvey, LA
- b. Reinforcing Steel - Lulich Steel Corp., Slidell, LA
- c. Concrete Piling - Gulf Coast Pre-Stress, Inc., Pass Christian, MS.
- d. Waterstop - Building Specialties, Inc., New Orleans, LA.
- e. Steel Sheet Pilings - Casteel Group, Inc., Covington, La.
- f. Cathodic Protection - Cathodic Protection Services Co., Metairie, LA.
- g. Cementitious Paint - Construction Materials, Inc., Baton Rouge, LA.
- h. Forms - Karlson Forming Specialties, Inc., Amery, WI.
- i. Spillway Material - Hamps Trucking Co., New Orleans, LA.

16. Subcontractors performing work on this project along with subcontractor amounts and contract responsibilities are as follows:

- a. McMillion Dozer Service, Inc., 11204 Jefferson Highway, River Ridge, LA 70123. This subcontract payment was over \$100,000. with payment made under 04 - Structural Excavation and Backfill.
- b. Scott Derr Painting Co., 1904 San Joaguin Parkway, Friedship, TX 77546. This subcontract payment was for under \$50,000. with payment made under Items 11 and 15 - Reinforced Concrete Floodwall and Clean and Coat Existing Retaining Wall, respectively.
- c. Economy Grassing Inc., 7054 W. T. Hall Rd., Ethel, LA 70002. This subcontract payment was for under \$25,000. with payment made under Item 3 - Fertilizing, Seeding, and Mulching.

17. The contractor submitted and enforced an adequate Accident Prevention Program. Weekly tool box safety meetings were held. The contractor was cooperative in the performance of the work, and there were no lost time accidents.

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

18. The contractor was efficient and professional in the performance of the work and the extra work required to complete this project. The equipment used was generally in excellent condition and capable of performing the work. The contractor maintained an adequate quality control organization and system which helped him complete the project on schedule.

19. Included herewith is a comparison of contract quantities versus actual quantities. A copy of the as-built drawings and surveys of the reference marker elevations are also enclosed.

Item No.	Description	Qty & Unit	Unit Price	Est. Amt.	Qty	Earnings to Date
1	Mob & Demob	LS	LS	\$ 150,000	100%	\$ 150,000
2	Clear & Grubbing	LS	LS	\$ 29,000	100%	\$ 29,000
3	Fert, Seed, and Mulch.	LS	LS	\$ 5,000	100%	\$ 5,000
4	Struc Excavation & Backfill	LS	LS	\$ 350,000	100%	\$ 350,000
5	Cofferdam Backfill	LS	LS	\$ 20,000	100%	\$ 20,000
6	Piling, Steel Sheet, Type PSA-27	465 SF	30.	\$ 13,950	493.3	\$ 14,799
7	Piling, Steel Sheet, Type PZ-27	85,441 SF	9.	\$ 768,969	85,602	\$ 770,418
8	Piling, Steel Sheet, Type PZ-22	244 SF	9.	\$ 2,196	266	\$ 2,394
9	Piling, Steel Sheet Type, PZ-27 & PSA-23 Cofferdam	LS	LS	\$ 850,000	100%	\$ 850,000
10	Piling, Concrete Precast, Prestressed, (14-Inch 14-Inch)	86,724 LF	12.25	\$1,062,369	86,724	\$1,062,369
11	Reinforce Concrete Floodwall	LS	LS	\$1,504,158.09	100%	\$1,504,158.09

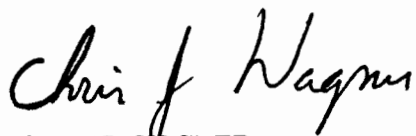
CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity, High Level Plan, New Orleans Lakefront Levee West of IHNC, Orleans Avenue Canal Flood Protection Improvement Phase II-B, (West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L), Orleans Parish, Louisiana

12	Misc. Metalwork & Specialty Items	LS	LS	\$ 3,000	100%	\$ 3,000
13	Sidewalk Concrete	LS	LS	\$ 4,000	100%	\$ 4,000
14	Selective Demolition	LS	LS	\$ 300,000	100%	\$ 300,000
15	Clean and Coat Existing Retaining Wall	LS	LS	\$ 20,000	100%	\$ 20,000
16	Change in Elevation of T-wall, Base Slab (P00006)	LS	LS	\$230,019.80	100%	\$ 230,019.80
17	Lump Sum Adj. for Driving Sheet Piling between Sta. 65+79 & to Sta. 67+64	LS	LS	\$18,403.74	100%	\$18,403.74
18	Removal of Const. Joint	LS	LS	(\$ 24,000)	100%	(\$ 24,000)
19	VECP Payment for Removal of Const. Joints	LS	LS	\$ 13,200	100%	\$ 13,200
20	Emergency Flood- ing Protection	LS	LS	\$ 905	100%	\$ 905

20. The contract was completed in accordance with the contract plans and specifications with final acceptance on 12 Dec 95.

Encl



CHRIS WAGNER
Project Engineer
New Orleans Area Office

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No.
DACW29-93-C-0071, Lake Pontchartrain, Louisiana & Vicinity,
High Level Plan, New Orleans Lakefront Levee West of IHNC,
Orleans Avenue Canal Flood Protection Improvement Phase II-B,
(West Side: Sta. 64+51.53 B/L to Sta. 90+26.91 B/L),
Orleans Parish, Louisiana

CF:

CELMN-CD-Q ✓

CELMN-PA

CELMN-CT

CELMN-ED-C

CELMN-CD-B

CELMN-PP

CELMN-CD-CS

CELMN-OD-ON

Proj Engr (Wagner)

Proj Insp (B. Brogna)

Ofc Engr w/as-built

JS
MAR 28 1994

CELMN-CD-NO-Q

24 Mar 94

MEMORANDUM THRU

Area Engineer, NOAO
C/Const Div ATTN: Contr Admin Br

FOR C/Engr Div

SUBJECT: Narrative Completion Report for Contract No.
DACW29-93-C-0050, Lake Pontchartrain, Louisiana and Vicinity,
London Avenue, Outfall Canal, HPL, First Lift, Orleans Parish,
Louisiana

1. The subject contract dated 22 Apr 93 was awarded to River Road Construction, Incorporated, Post Office Box 1406, Mandeville, Louisiana 70470-1406. The Notice to Proceed was issued on 18 May 93 and contractor commenced operations on 26 May 93. The original date set for completion was 12 Feb 94 (270 days). The estimated amount of the contract was \$1,112,350.00.
2. The original contract provided for clearing and grubbing of the existing levee, placement of approximately 97,000 cubic yards of semicompacted fill, degrading approximately 38,000 cubic yards of existing east and west levees, placement of erosion control hay bales and safety fence, construction of a pipeline bridge, relocating and planting of new trees and shrubs, and fertilizing, seeding and mulching of new embankment.
3. There was one subcontractor used on this project: Mcleary & Werchon, Incorporated, Post Office Box 3562, Morgan City, Louisiana 70381, performed the fertilizing, seeding and mulching operations.
4. The Preconstruction Conference was held at the New Orleans Area Office on 18 May 93. Detailed minutes of this meeting are located in the contract file. The On-The-Job Preconstruction Coordination Meeting and the Preconstruction Safety Conference were held on the jobsite on 26 May 93.
5. The original contract provided for 8 major construction phases of work: (1) Clearing and Grubbing of existing levee, (2) Semicompacted fill levee construction, (3) Degrading the existing levees and excavation of the keyway trenches, (4) Fertilizing, seeding and mulching new levee, (5) Installation of safety fence, (6) Planting new trees and shrubs, (7) Erosion control hay bale placement, and (8) Pipeline bridge construction.

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0050, Lake Pontchartrain, Louisiana and Vicinity, London Avenue, Outfall Canal, HPL, First Lift, Orleans Parish, Louisiana

6. Contractor began mobilizing personnel, equipment and office trailers to the jobsite on 26 May 93. The contractor's survey party began layout of safety fence on the east levee section on the same day. Safety fence was first installed on the east levee section beginning at the Lakeshore Drive seawall near the London Avenue Canal Bridge extending south along designated R/W next to the University of New Orleans. Safety fence was also placed on the west levee section along Pratt Street from Robert E. Lee Boulevard to Lakeshore Drive. Erosion control hay bales were placed inside of safety fence to keep mud and other runoff from levee construction from getting on adjacent streets. It took approximately 3 days to install safety fence and erosion control hay bales on each side of levee. A total 7,917 linear feet of erosion control hay bales were placed for this project. Contractor also excavated new drainage ditch on F/S of east levee section between Station 134+10 to Station 152+50 B/L. The drainage ditch was dug to provide drainage of east levee section during construction and was reshaped at completion of work on this side with approval of UNO Maintenance Department and COE personnel.

7. Degrading of existing levee embankment began on 24 Jun 93, with contractor excavating keyway trench on F/S of existing east side levee at Station 29+49 C/L. Keyway trench was excavated to approximate bottom elevation of 0.0 feet, with 1V on 2H slopes as shown on contract drawings. The first lift was placed 6" thick and compacted by 1150E Case dozer, and each additional lift was placed approximately 12" thick and also compacted by 1150E dozer. Contractor took a soil sample of each lift and ran a moisture content test on fill material as required in section C3-6.1.2 Moisture Control of the contract specs. Contractor utilized the following equipment for degrading of existing levee and excavation of keyway trench: 1-Kobelco 909 backhoe, 1-Kobelco 907 backhoe, 3-1150 Case Dozers, 1 Cat D-4 dozer and 1-Case 980K Front End Loader.

8. Embankment construction began on 24 Jun 93, at C/L Station 29+49 of east levee section. Borrow material for the new levee embankment was hauled from an approved alternate borrow pit in New Orleans East located off Chef Menteur Highway. The borrow material was mixed with existing levee material and placed in 12" lifts. The excavated borrow material was hauled to the jobsite using company owned and independently owned tandem and trailer dump trucks. Each lift of semicompacted fill was compacted with three parallel passes of Case 1150E dozer and final dressing was performed by using Cat D-4 dozer. Construction of east levee section was completed 28 Sep 93. Construction of west levee

CELMN-CD-NO-0

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0050, Lake Pontchartrain, Louisiana and Vicinity, London Avenue, Outfall Canal, HPL, First Lift, Orleans Parish, Louisiana

section began on 27 Jul 93 and completed on 16 Dec 93. During embankment construction, the contractor utilized the following equipment: 1 - Fiat Allis 65-B motor grader, 1 - Kobelco 909 and 907 backhoes, 1 - Cat D4H dozer, 1 - John Deere 4x4 tractor w/disc and sweeper, 3 - Case 1150E dozers, 1-Case 850 dozer, 1-Case 980K front end loader, and 1 - Volvo flatbed with water tank and sprayer for dust control.

9. The subcontractor Mcleary & Werchen, Inc. fertilized, seeded and hydromulched the new levee embankment. After harrowing, fertilizer was incorporated into the areas with the required seed following immediately afterward. The wood cellulose fiber mulch was then applied over the entire areas that were seeded. The east levee section was seeded 5 Oct 93 and 6 Oct 93 and the west levee section was seeded on 27 Dec 93 and 28 Dec 93. A total of 24 acres was fertilized, seeded and hydromulched for this contract. The subcontractor utilized 2 farm tractors, 1 - seed spreader, 2 - spike tooth harrows and 1 hydromulch truck for this phase of work.

10. During the course of embankment construction on the west levee section, the contractor removed 4 existing oak trees, 1 maple tree and 15 oleander bushes that were within the new levee section. They were replaced with 12 new oak trees, 3 new maple trees and 30 new oleander bushes. These new trees and bushes were planted on 30 and 31 Dec 93 throughout the west levee section as shown on approved tree plan and in accordance with Section C4 - Trees & Shrubs of the contract specifications.

11. The last phase of work was to construct a pipeline bridge near the vehicle access area on the west side to protect against damage to the existing gas line. The bridge was constructed of timber mats and placed over the existing NOPSI gas line near the northwest corner of the west levee section at Pratt Dr. and Lake Shore Drive. The contractor never utilized the pipeline bridge during his hauling operation so it was removed and the bare areas of vegetation were reseeded.

12. The contractor was cooperative in the performance of the work. The submitted Accident Prevention Program was adequate and well-enforced. There were no lost-time accidents on this project.

13. There were thirteen modifications on the contract and a summary of each follows.

CELMN-CD-ND-Q

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Louisiana

a. P00001, dated July 23, 1993 was UCO-01 which directed a change to the contract to lower the design grade elevation of the east levee to +14.0 from Station 152+90 to 159+05.

b. P00002, dated July 29, 1993 was UCO-02 which was UCO-02 which directed a change to the contract to lower the design grade elevation, realign the levee, and reduce the amount of trees to be relocated on the west side levee.

c. P00003, dated August 20, 1993, modified the contract to provide funds for payment in accordance with Special Clause H-26, an increase of \$350,000.00.

d. P00003, dated August 24, 1993, extended the required completion date of the contract two (2) calendar days as a result of unusually severe weather.

e. P00005, dated October 6, 1993, definitized the settlement of UCO-01 which required the lowering of the design grade of the east levee elevation +14.0 between Stations 152+90 to 159+05. The contract price was decreased by \$42,900.00 and the contract time remained unchanged.

f. P00006, dated October 25, 1993, modified the contract to provide funds for payment in accordance with Special Clause H-26, an increase of \$59,000.00.

g. P00007, dated November 8, 1993, definitized the settlement of UCO-02, which lowered the west levee design grade elevation, realigned the west levee, and reduced the number of trees to be relocated. The contract price was decreased by \$84,037.00 and the contract time was decreased by fifteen (15) calendar days.

h. P00008, dated November 12, 1993, extended the required completion date of the contract eleven (11) calendar days as a result of unusually severe weather.

i. P00009, dated November 16, 1993, modified the contract to substitute replacement trees at a 3:1 ratio in lieu of relocating four existing trees (3 oaks and 1 maple). The contract price was decreased by \$5,206.00 with the contract time unchanged.

j. P00010, dated November 17, 1993, modified the contract to provide funds for payment in accordance with Special Clause H-26, an increase of \$160,450.00.

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k. P00011, dated November 23, 1993, modified the contract by changing Modification P00005, Block 14, Item 0004, "Amount of Change" from (+) \$215.55 to (+) \$251.55.

l. P00012, dated January 5, 1994, modified the contract by changing Modification P00009, CHANGES TO THE CONTRACT PRICE, from \$5,260.00" to read \$5,206.00."

m. P00013, dated February 3, 1994, modified the contract by changing the C/L offset and alignment from B/L station 147+90.2 to B/L Station 149+41.9, west levee. The contract price was increased by \$1,193.30 and the contract time remained unchanged.

14. The contractor was efficient and professional in the performance of the work. The equipment used was generally in excellent condition and capable of performing the work required. The contractor had a good quality control organization and system which helped him complete the project ahead of schedule.

15. The following equipment was used on this project:

- a. 3 - Case 1150 bulldozers
- b. 1 - 907 Kobelco backhoe
- c. 1 - 909 Kobelco backhoe
- d. Fiat-Allis 65-B motor grader
- e. Caterpillar D4H bulldozer
- f. F-7000 Ford Water Truck
- g. Case 980-K front end loader
- h. 3 - Ford 8000 tri-axle dump trucks

16. Following is a comparison of contract quantities versus actual quantities.

Item No.	Description	QTY & Unit	Unit Price	Est Amt	Qty	Earnings To Date
0001	Mobil & Demob	LS	LS	\$40,000	100%	\$40,000
0002	Clearing & Grubbing	LS	LS	\$141,650	100%	\$141,650
0003	Embankment, Semi-compacted Fill	76939	\$7.00	\$538,573	74944	\$524,608
0004	Degrading Existing Levees	39,132CY	\$2.15	\$84,133.80	46105	\$99,125.75

CELMN-CD-NO-0

SUBJECT: Narrative Completion Report for Contract No. DACW29-93-C-0050, Lake Pontchartrain, Louisiana and Vicinity, London Avenue, Outfall Canal, HPL, First Lift, Orleans Parish, Louisiana

0005	Fertilizing, Seeding and Mulching	LS		LS \$26,000	100%	\$26,000
0006	Safety Fence	LS		LS \$62,000	100%	\$62,000
0007	Relocating or Planting New Trees & Shrubs	LS		LS \$36,384	100%	\$36,384
0008	Erosion Control					
0008AA	First 7,000 LF	7,000LF	\$2.00	\$14,000	7000	\$14,000
0008AB	All Over 7000LF	2,000LF	\$2.00	\$4,000	917	\$1,834
0009	Pipeline Bridge	LS	LS	\$14,000	100%	\$14,000
0010	Adjustment to Lower East Levee to +14.0 (P00005)	LS	LS	\$7,185.45	100%	\$7,185.45
0011	Adjustment to Lower & Realign West Levee (P00007)	LS	LS	\$11,496.75	100%	\$11,496.75
0012	Change C/L Offset	LS	LS	\$1,977.30	100%	\$1,977.30
				\$981,400.30		\$980,261.25

17. On future levee projects for the Orleans Levee District, the following recommendation should be incorporated into the plans and specifications. Erosion control hay bales shall be removed from the jobsite upon completion of fertilizing and seeding operations.

18. A copy of the as-built drawings are attached.

19. The subject contract was accepted as substantially complete on 10 Feb 94 by an authorized representative of the Contracting Officer. Some remedial work was required which included the removal of dispersed hay bales and dressing of the west levee protected side berm. Final acceptance was on 2 Mar 94.

Atch

for *Chris A. Hegner*
DAVID BEADLE
Quality Assurance Representative
New Orleans Area Office

CELMN-CD-NO-Q

SUBJECT: Narrative Completion Report for Contract No.
DACW29-93-C-0050, Lake Pontchartrain, Louisiana and Vicinity,
London Avenue, Outfall Canal, HPL, First Lift, Orleans Parish,
Louisiana

BA
Lee

CF:

- Proj Engr (Wagner)
- Proj Insp (Beadle)
- Ofc Engr w/as-built
- CELMN-CD-Q ✓
- CELMN-PA
- CELMN-CT
- CELMN-ED-C
- CELMN-CD-CC
- CELMN-CD-B

MEMORANDUM THRU Area Engineer, NOAO
C/Const. Div, ATTN: Contr Admin Br

FOR C/Engr Div

SUBJECT: Contract No. DACW29-95-C-0093, Lake Pontchartrain, Louisiana and Vicinity, Floodproofing Veterans Boulevard Bridges at 17th Street Canal, Orleans and Jefferson Parishes, Louisiana, Narrative Completion Report

1. The subject contract dated 24 Aug 95 was awarded to Johnson Bros. Corp. of LA, 2002 20th Street, Suite A202, Kenner, LA 70062. The Notice to Proceed was issued on 21 Sep 95, with construction to start no later than 01 Oct 95. The original completion date was set for 12 Jun 97, with the original contract amount at \$4,021,422.00.
2. Required work under this contract included constructing two precast concrete girder bridges on Veterans Blvd. over 17th Street Canal, constructing approach slabs and asphalt overlays on bridge approaches, constructing floodwall tie-ins and floodgates adjacent to the bridges, constructing a floodgate at I-10, constructing surface drain inlets and drainlines, constructing landscaping, demolition of the existing bridges, riprap removal and dredging 17th Street Canal, fertilizing and seeding, and all other incidental work.
3. The Preconstruction Conference was held at the New Orleans Area Office on 21 Sep 95. Detailed minutes of this meeting are located in the contract file. The Notice to Proceed was signed by the contractor on 21 Sep 95, and the contractor began mobilizing field offices to the site on 01 Nov 95. The contractor started setting up the safety fences and staging area fences on 01 Nov 95.
4. This contract provided for nineteen (19) major construction phases; (1) Demolition of existing bridges, (2) Maintenance of traffic, (3) Driving 24" concrete piles, (4) Driving steel sheet piles, (5) Driving steel "H" piles, (6) Casting and installation of precast concrete girders, (7) Constructing two new floodproof bridges, (8) Constructing nine floodwall panels, (9) Installation of five floodgates, (10) Asphaltic concrete overlay, (11) Installation of four drain inlets and drain lines, (12) Detour construction, (13) Painting, (14) Permanent Pavement Markings, (15) Dredging, (16) Riprap removal, (17) Erosion control, (18) Construction of Approach slabs and curb/gutter, (19) Landscaping, and (20) Pile Tests.
5. The project was performed in six separate phases of work. These phases were changed from the original sequence of work by a Value Engineering proposal made by the contractor, and accepted by the government. The project phases are summarized as follows; Phase I - Remove median and construct asphalt crossovers. Phase II - Demolish outside westbound bridge lane and use girders to construct temporary lane on the existing eastbound bridge. Phase III - Demolish

remaining westbound bridge and construct new westbound bridge in its entirety. Phase IV - Shift traffic to new westbound bridge and demolish existing eastbound bridge. Construct new eastbound bridge in its entirety. Phase V - Remove median crossovers and restore median with landscaping. Phase VI - Completion.

The flow of traffic was maintained through the use of temporary concrete jersey barriers, signs, barrels, and stripping. Two lanes of traffic in both directions remained opened during the entire duration of the project. The contractor periodically closed one lane of traffic for delivery of materials during non peak hours (9 a.m. to 4 p.m.). However, during pile driving operations the contractor stopped all lanes of traffic for approximately five minutes at a time in order to off load the 24" concrete piles. The traffic phases were as follows; Phase I - Shift traffic to two outside lanes for median crossover work. Phase II - Shift traffic to two inside lanes for widening of the eastbound bridge. Phase III - Shift all traffic to temporarily widened eastbound bridge. Phase IV - Shift all traffic to new westbound bridge. Phase V - Shift traffic to two outside lanes for median restoration. Phase VI - Completion. The concrete jersey barriers used on subject contract were furnished by the Orleans Levee District thru the LDOTD. A total of 145 barriers were provided to the contractor, and 20 were supplied by the contractor for use on subject contract.

6. The contractor started the major phases of work on 11 Nov 95 by beginning the removal of the existing medians between C/L Stations 16+90 & 19+70, and 22+60 & 25+75, in preparation for the required Asphaltic Concrete Pavement Crossovers for traffic detours. Contractor placed the required 6" layer of crushed concrete base course material for the temporary asphalt crossover on 16 Dec 95, and Subcontractor (Barriere) placed 6" Asphaltic Binder/Wear Course Material for temporary asphalt crossover on 19 Dec 95.

7. The contractor began demolition of the existing bridges over 17th Street Canal on 27 Jan 96 by removing the outside lane of the westbound bridge, between C/L Stations 21+49 and 22+24, 39.17' to 54.17' left of C/L, using Cat. 235 Backhoe w/2000# hydraulic breaker. Barges were placed under bridges to catch debris from bridge demolition, and to prevent debris from falling into the canal. Demolition of the existing bridges was completed on 10 Mar 97, with the removal of the existing 20" x 20" x 37.5' concrete piles from the location of the existing Abutment "C". The piles were pulled with an ICE 612 Vibratory Extractor and the American 9260 Crane on the flexifloat barges. All holes left by extraction of the existing 20" concrete piles at existing Abutments "A" thru "D" were filled with bentonite slurry mix as required.

8. The Dredging and Riprap Removal phase of work under this contract, began on 19 Jun 96 and was completed on 06 May 97. The contractor used a Cat 225 Long reach Backhoe set on 10 - 40' X 10' X 5' Flexi-Float barges to perform all dredging excavation. All material dredged from the 17th Street Canal (including riprap), was placed onto the barges where it was permitted to drain overnight as required, prior to being loaded into trucks and hauled to the designated disposal site, north of Airline Highway (U.S. Hwy. 61) adjacent to Ormond Boulevard in St. Charles Parish, LA. The contractor use a subcontractor, Hamps Inc. to haul the dredge material with watertight trucks approved by the LDEQ. All trucks were washed on wash racks at the Veterans site and at the disposal site prior to leaving the sites. The truck wash rack at the disposal site was purchased by the government for use on the ongoing Corps levee project Phase IIB in the area. During

dredging operations, the government stayed in contact with the S&WB Pumping Station No. 6. All dredging operations were halted during times when the pumping station was in operation. A total of 10 hours of standby time was accumulated during the work. Some areas along the slopes of the excavated area were filled with graded stone to assure stability of the cut. A total of 782 tons of graded stone was placed on the southeast side slopes. Contractor dredged an estimated 12,894 cubic yards of material from the 17th Street Canal.

9. The contractor performed a pile load test program which started on 16 Jan 96 by driving one 24" precast prestressed concrete pile to tip elevation -89.0 after reaching refusal of 96 blows per foot, and one steel HP14X73 H-pile to tip elevation -95.0. A modification was issued to allow the concrete piles to be jetted down to El-60 and change the location of the test pile to 25' south of Veterans Boulevard. The original location was adjacent to the Stewart Building, and moved due to concern of damaging the building during pile driving operations. The piles were driven with a Vulcan 512 Air Hammer with a D-2000 air compressor, and the American 9260 Crane. The concrete pile reached refusal and was driven with the aid of water jetting at pressures of 50 psi to 300 psi. The H pile was spliced in 60' and 50' sections. The contractor used "Chance" spiral anchor systems for support piles and loaded the H-pile and concrete pile in accordance with the specified schedule. After allowing 21 days to elapse from driving the piles, the pile test program began on 21 Feb 96 with testing of the H-pile which was concluded on 24 Feb 96. The concrete pile test began on 28 Feb 96 and was concluded on 2 March 96. Delta Testing laboratory performed the load test for both piles. Both piles were tested to the full 300% of the service loads (Service Load H-pile= 65 tons Concrete pile=119 tons). The test piles were cut off 4' below natural ground and all voids filled with a cement- bentonite slurry to 2' below ground. The remaining hole was backfilled with earthen material.

10. Steel sheetpiling was driven on both sides of the canal, continuous from one existing I-wall, thru the abutments, to the other existing I-wall. The contractor used Skyline Steel type CZ113 cold rolled sheetpile for the I-walls on the Orleans Parish side, Bethlehem type PSA23 sheetpile in the abutments, and Frodingham type IB sheetpile for the I-walls on the Jefferson Parish side. The Frod type IB sheetpile were furnished by the East Jefferson Levee District for use by the contractor. All sheetpile were driven with a hairpin drop hammer, An ICE 612 vibratory hammer, the American 9260 Crane, and a steel H-beam template for maintaining alignment.

11. The driving of the 24" x 24" x 97.5' prestressed precast concrete piles for the new floodproof bridges began on 26 Aug 97 at location of Bent Cap WB-4, left of C/L Sta. 21+80 for the new westbound bridge. Contractor completed the driving of the 24" concrete piles on 31 May 97 at Bent Cap EB-4, right of C/L Sta. 21+80. Concrete piles were driven with an American 9260 Crane/Piledriver, with a Vulcan 512 Air Hammer with a D-2000 air compressor. All piles were driven with the aid of water jetting above elevation -60.0' NGVD. Concrete piles were driven to approx. tip elevations of -88.0' to -92.5', depending on refusal elevation. Piles were driven until piles received 96 blows per foot of penetration. All refusal lengths of piles, above point-of-cut elevations, were removed by contractor as required. All concrete piles were cast by Gulf Coast Prestress, Inc. in Pass Christian, MS. The jet pipes used were 3" steel weld pipe that was set alongside the concrete piles to aid the driving thru the dense upper sand layer.

In addition, the requirement to halt all driving operations if the vibrations caused by the pile driving exceeded .5 in/sec was added by modification. The driving operations was monitored by two separate testing laboratories (Alpha and Eustis Testing). At no times did the vibrations exceed the max .5 in/sec range. The piles on the westbound bridge were driven with the Air Hammer while the jetting process was performed to obtain 15 to 25 blows per foot. Some piles were driven out of tolerance in West Bent Caps 4 & 3 (most west) which required the widening of these two bent caps. A proposal by the contractor was accepted to allow the piles to be jetted down to El -50.0 without striking the pile with the hammer. This method was used on the eastbound bridge for all the concrete piles, and no piles were driven out of tolerance on this side. The contractor was instructed to drive the piles down to grade one at a time in the westbound bridge due to unsafe conditions from the amount of pile sticking out above ground (70-75').

12. The H-piles were driven at the abutments with the American 9260 Crane, the Vulcan 512 Air Hammer, and a fabricated pile template. The piles were driven without jetting down to the required tip Elevation of -95. All piles were spliced together in 60' and 50' sections and driven as one continuous pile. Pile heads were cut off at the required elevations. A total of 12 pieces of the 60' long piles were used for the temporarily widened eastbound bridge. After the existing eastbound bridge was demolished, the piles were used in the abutments for the new eastbound bridge.

13. The installation of the precast concrete girders began on 15 Nov 96, with the contractor setting 14 pieces of concrete girders between Bent Cap WB-4 and Abutment "B". The girders were set with the American 9260 Crane on the barges in the canal. Contractor completed the installation of the precast concrete girders on 25 Jun 97, with 5 concrete girders being installed between Abutment "C" and Bent Cap EB-1, and 5 concrete girders being installed between Bent Cap EB-1 and Bent Cap EB-2. Contractor installed 1" x 10" x 50" elastomeric bearing pads under each concrete girder, and also installed 1/2" x 10" compressible fill material between concrete girders, below shear keys, as required. Contractor installed 1" dywidag tension rods through all concrete girders, and tensioned all dywidag rods to 5 kips as required. All concrete girders were secured to Abutments and Bent Caps by 7" x 7" x 1/2" steel plate washers and 1-1/2" 0 galvanized nuts installed on 1-1/2" Anchor Bolts that were embedded into each Abutment and Bent Cap. After all concrete girders were secured in-place, contractor then began filling all shear-keys with a cementitious non-shrink grout, installing a 6" dumbbell waterstop in each shear-key approx. 3-1/2" from top of girders, then filled shear keys to tops of girders with non-shrink grout as required. The tie rod holes were also filled with non-shrink grout. The non-shrink cementitious grout was used in lieu of the original specified epoxy grout. The contractor proposed this substitution which was a Value engineering change accepted by the government. The change substituted the grout and modified the method of waterstop installation. The original waterstop installation was to splice the stops longitudinally along the shear keys that were to be cast into the concrete girders.

14. Contractor began placement of Class "A" Concrete (3800# mix) on 18 Jul 96, by placing concrete for the first (bottom) section of Abutment "B" at C/L Sta. 22+23, left of C/L. All bridge bent caps, abutments, approach slabs, transition barrier rails on approach slabs, curb and gutters, bolster blocks, and all ten I-walls (including the I-10 Gate Monolith) were placed with Class "A"

concrete. All rebar was Grade 60 and placed to contract drawings. An approved 9" three bulb waterstop (Vinylex Corporation) was placed between the I-wall joints, and a 6" three bulb (Vinylex Corporation) was placed between the bridge barrier (Class AA) joints. The 6" dumbbell waterstop (Vinylex) was placed at the abutments to provide waterproofing at construction joints. "L" type waterstop (Buckhorn Rubber Products) was placed at locations specified in the drawings for sealing the I-walls to the bridge barriers and floodgate monoliths. The contractor used wooden forms for placement of the I-walls and bridge barriers. Steel EFCO forms were used for abutment and bent cap placements. All I-wall placements were made in one placement and the abutments were made in two placements. The final placement of Class "A" concrete was the curb and gutter for the inside lane of the eastbound lane of traffic on Veterans Boulevard. After placement of the abutments, riprap was placed with fabric on the slopes under the bridges for erosion control.

15. Contractor began placement of Class "AA" Concrete (4200# mix) on 11 Dec 96, by placing concrete for Interior and Exterior Barrier Wall Panels #2, between C/L Stations 21+80 and 22+02.50 for the new westbound bridge. All bridge decks, interior and exterior barrier panels, and traffic barrier panels were all placed with Class "AA" concrete. The final placement of Class "AA" concrete was for eastbound traffic barrier panels #1 and #3, C/L Stations 22+02.50 to 22+25 and 21+57.50 to 21+80, respectively. The 5" concrete deck was placed with an automatic paving machine called the "Bidwell Paving unit". Concrete was delivered to the job site by concrete mixer trucks. The concrete bridge decks were placed with pump trucks starting on one end and continuously placing to the other end. The I-walls, bent caps, abutments, and bridge barriers were placed with the American 9260 Crane and/ or Cat 225 Backhoe with a concrete bucket and rubber trunks of various lengths. Quality Control was maintained daily through the use of the 1246 checkout list, with air content tests, slump tests, temperature checks, and test cylinders done by the contractor.

16. The five steel swing gates were fabricated and set in place by Manufab Inc. The gates on the Jefferson Parish side were double swing gates and the gates on the Orleans Parish side were single swing gates. The concrete monoliths were placed with steel sheetpile embedded into them. Manufab installed the gates with a Cat rubber tired Backhoe. Modifications issued concerning the gates were as follows; Relocate the gate near I-10 to the south side of I-10, Increase the width of the two Jefferson Parish side gates from 5' to 8', and move the locking device to the protected side for the Jeff Parish gates.

17. The Asphaltic Concrete Pavement phase of this project, was performed by Barriere Const., Inc. of New Orleans, LA. which included the paving of the temporary traffic cross-overs and the paving of the required asphalt taper overlays on all approaches to the new east and west bound bridges. This phase of work began on 19 Dec 95, and was completed on 20 Aug 97 with the installation (placement) of the 1-1/2" Asphaltic Wear Course for the eastbound taper approaches for the new eastbound bridge. This subcontractor also placed/installed the required 2" thick by 5' wide ACP sidewalks on all four (4) corners of new bridges for pedestrian walkways.

18. Subcontractor, Scott Derr, performed the painting of all concrete floodwall panels, interior and exterior barrier panels, and traffic barrier panels. All floodwalls were painted with the

required two coats system, and all bridge barrier panels (interior, exterior and traffic) were painted with a one coat system. All concrete bridge and I-wall panels were painted pearl gray, with the exception of the inset frame panels of floodwall panels #5 thru #9, on Orleans Parish side of 17th Street Canal, which were painted buckskin color.

19. The Landscaping phase of work for this project, was performed by Charvet's Nursery of Metairie, LA. This work began on 30 Sept 97 and was completed on 22 Oct 97. This work consisted of the installation of 20-Crepe Myrtles, 8-Shumark Oak Trees, 72-Spruce Pine Trees, 8-Bald Cypress Trees, 19-Indica Azaleas, 10-Saop Palm Tres, 155-Indian Hawthorns, 76-Shore Junipers, 580-Green Liriope, and 273-Annual Colors. The seeding and fertilizing of disturbed areas was performed by subcontractor, Economy Grassing of Ethel, LA. on 21 Oct 97 & 6 Nov 97. All landscaping will be maintained by the contractor for one full year.

20. There were thirty-four (34) modifications on this contract. A summary of each is as follows:

a. P0001 (FM-001) dated 30 Nov 95, provides for additional funds available for payment for work performed under this contract, in the amount of \$110,000.00

b. P0002 (FM-002) dated 21 Dec 95, provides for additional funds available for payment for work performed under this contract, in the amount of \$555,000.00.

c. P0003 (CAN-02) dated 08 Jan 96, changes the amount in the 5th sentence of Mod. P0002, Block 14, to read \$555,000.00.

d. A00001 (CAN-01) dated 31 Oct 95, changes the contractor's mailing address to P.O. Box 54778, New Orleans, LA 70154.

e. A00002 (CIN-04) dated 08 Dec 95, revised the "Order of Work" for this contract. The contract price remains unchanged.

f. A00003 (CIN-02) dated 20 Dec 95, is a Value Engineering Change Proposal (VECP) changing the "Construction Sequence" of this project. This mod adds Pay Items #026 and #027 to the contract. The contract price was decreased by \$24,300.00, and the contract time was decreased by 18 calendar days.

g. A00004 (CIN-01) dated 28 Dec 95, is a Value Engineering Change Proposal (VECP) changing the installation of the 6" Dumbbell Waterstop by permitting the use of a non-shrink grout in lieu of epoxy grout. This mod adds Pay Items #028 and #029 to the contract. The contract price was decreased by \$25,527.70, and the contract time was increased by 07 calendar days.

h. A00005 (CIN-03 & CIN-06) dated 05 Jan 96, changes the location of the pile load test (CIN-03), and allows the jetting of concrete piles (CIN-06). This mod adds Pay Item #030, to the contract. The contract price was increased by \$3,300.00, and the contract time remained unchanged.

i. A00006 (CIN-07) dated 22 Feb 96, provides for the use of A572 steel in lieu of A588 steel for the steel H-piles. This mod decreased Pay Item #006 by \$3,351.20, therefore, the contract price also decreased by \$3,351.20. The contract time remained unchanged.

j. A00007 (CIN-08) dated 01 Mar 96, changes the pile type for the temporary widening of the eastbound bridge from 14" diameter steel pipe piles to steel HP14X73 piles at 60 feet long, and adds the requirement to halt driving operations when ground velocities reach or exceed 0.5 inches per second. The contract price and time remained unchanged.

k. P00004 (FM-003) dated 20 Mar 96, provides for additional funds available for payment for work performed under this contract by \$1,300,000.00.

l. A00008 (CIN-05) dated 15 Mar 96, revises the widths of two gate openings, relocates one gate opening, and revises miscellaneous elevations and details. This mod increases Pay Item #011 by \$28,000.00. The total contract price was increased by \$28,000.00, and the contract time remained unchanged.

m. A00009 (TE-001) dated 07 Jun 96, increases the contract time by four (4) calendar days due to unusually severe weather during the period from 21 Sep 95 through 31 May 96.

n. P00005 (FM-004) dated 17 Sep 96, provides for additional funds available for payment for work performed under this contract by \$143,700.00.

o. P00006 (FM-005) dated 15 Oct 96, provides for additional funds available, for payment for work performed under this contract by a total amount of \$547,740.00, which includes an increase of \$47,740.00 for Pay Item #023AB of this contract.

p. A00010 (CIN-10) dated 18 Oct 96, provides for the purchase by the Government from the contractor of the truck wash rack at the north end of the Airline Highway concrete bridge entrance to the dredged material disposal site. This mod adds Pay Item #031 to the contract. The contract price was increased by \$6,744.17, and the contract time remained unchanged.

q. A00011 (TE-002) dated 04 Nov 96, increases the contract time by five (5) calendar days due to unusually severe weather during the period from 01 Jun 96 through 31 Oct 96.

r. A00012 (CIN-11) dated 22 Nov 96, provides for the change of the grout around the Dywidag tie-rods from an epoxy to a cementitious base grout. The total contract price was decreased by \$2,700.00, and the contract time remained unchanged.

s. P00007 (FM-006) dated 21 Feb 97, provides for additional funds available for payment for work performed under this contract by \$96,818.83.

t. A00013 (TE-003) dated 13 Feb 97, increases the contract time by seven (7) calendar days due to unusually severe weather and two (2) calendar days due to high tidal stages during the period from 01 Nov 96 through 31 Jan 97.

u. A00014 (CIN-12) dated 04 Feb 96, provides for additional asphaltic concrete base course material. This mod adds Pay Item #032 to the contract. The contract price was increased by \$21,700.00 and the contract time was increased by one (1) calendar day.

v. P00008 (FM-007) dated 11 Apr 97, provides for additional funds available for payment for work performed under this contract by \$1,160,024.27.

w. A00015 (CIN-13) dated 25 Mar 97, provides for an extension of time due to an overrun on Bid (Pay) Item #023AB, "Dredging". The contract time was increased by twenty (20) calendar days.

x. A00016 (CIN-14) dated 21 Apr 97, provides for the cutting of the concrete and steel test piles 4 feet below existing ground in lieu of pulling the piles from the ground. Pay Item #016 was decreased by \$1,600.00. The total contract price was decreased by \$1,600.00, and the contract time remained unchanged.

y. A00017 (CIN-15) dated 23 Apr 97, is provided to reduce the width of floodgate panel number 4 and to demolish a section of the adjacent floodwall. This mod increases Pay Item #008 by \$1,351.00. The total contract price was increased by \$1,351.00, and the contract time remained unchanged.

z. A00018 (TE-004) dated 02 May 97, increases the contract time by fifteen (15) calendar days due to unusually severe weather during the period from 01 Feb 97 through 30 Apr 97.

aa. A00019 (CIN-18) dated 30 Jun 97, provides for the placement of additional riprap in the areas of excess dredging caused by stump removal. This mod increases Pay Item #001 and adds Pay Item #033 to the contract. The total contract price was increased by \$35,375.00, and the contract time was increased by eight (8) calendar days.

bb. P00009 (FM-008) dated 29 Apr 97, provides for additional funds available for payment for work under this contract by \$13,860.00.

cc. A00020 (CIN-17) dated 17 Jul 97, the installation of the latching devices of two (2) gates from the floodside to the protected side. This mod increases Pay Item #011 by \$2,420.00. The total contract price was increased by \$2,420.00, and the contract time remained unchanged.

dd. A00021 (CIN-19) dated 12 Aug 97, provides for the delays due to changes in pile driving procedures, obstructions encountered and sawcutting, chipping and removal of concrete pile refusal lengths.

ee. A00022 (CIN-20) dated 11 Sep 97, provides for demolition and removal of additional curb from the inside eastbound and westbound lanes between stations 22+25 and 25+90. This mod increases Pay Item #002 by \$2,386.57. The total contract price was increased by \$2,386.57, and the contract time remained unchanged.

ff. A00023 (TE-005) dated 12 Sep 97, increases the contract time by thirty (30) calendar days for unusually severe weather and two (2) calendar days for high tidal stages during the period from 01 May 97 through 31 Jul 97.

gg. P00010 (FM-009) dated 10 Oct 97, provides for additional funds available for payment for work under this contract by \$38,581.57.

hh. A00024 (TE-006) dated 25 Nov 97, increased the contract time by ten (10) days for unusually severe weather during the period of 1 Aug 97 thru 31 Oct 97.

21. Subcontractors performing work on this project, along with their contract responsibilities were as follows:

a. Barriere Const. Co., Inc., P.O. Box 13565, New Orleans, LA, 70185. Cold milling of existing asphalt roadway. Installation of asphaltic base, binder & wearing courses. Installation of all asphaltic concrete pavement sidewalks.

b. Ax Reinforcement Co., 2148 Grape Place, Terrytown, LA, 70056. Installation of all reinforcement steel for Class "A" Concrete, and Class "AA" Concrete.

c. Jack B. Harper, Inc., Contractor, P.O.Box 309, Mandeville, LA 70470. Installation and maintenance of the Impact Attenuators, Temporary Lane Stripping, and Permanent Pavement Markings.

d. Work Zone, Inc., P.O. Box 1630, Harvey, LA 70059. Installation, maintenance, and removal of all arrow boards, signs, barrels, lights for barrels, reflectors on temporary concrete barriers, for the 6 Phases of Traffic Controls.

e. Charvet's Garden Center, 4511 Clearview Parkway, Metairie, LA 70006. Installation and maintenance of all required plants, bushes, and trees for landscaping of project.

f. Hamps Enterprises, Inc. 1319 Newton Street, New Orleans, LA 70114. Construct and maintain the containment dike, wash rack, and limestone road at disposal site. Spread hauled dredged material into containment dike. Wash trucks at disposal site and haul dredged material from jobsite to disposal site.

g. Scott Derr Painting, 1904 San Joaquin Parkway, Friendswood, TX, 77546. Application of Special Surface Finishes to all floodwall panels, bridge barriers, and transition barriers associated with this project.

h. Economy Grassing, Route 2, Box 2351, Ethel, LA. Seeding and fertilizing of all disturbed areas.

22. The following is a list of major suppliers on the subject contract:

- a. Concrete - Carlo Ditta, Inc., New Orleans, LA.
- b. Precast Concrete Girder & 24" Piles - Gulf Coast Prestress, Inc., Pass Christian, MS.
- c. Paint/Filter Fabric/Waterstops/Grout/Etc. - Building Specialties, Inc, New Orleans, LA.
- d. Gates and Misc. Metalwork - Manufab, Inc., Kenner, LA.
- e. Steel Sheet Pile - Skyline Steel, Metairie, LA.
- f. Reinforcing Steel - Capitol Steel, Inc., Slidell, LA.
- g. Rip-Rap and Crushed Concrete - Pontchartrain Materials Corp., New Orleans, LA.
- h. Density Test/Asphalt Cores/Asphalt Plant QC/Concrete Sampling - Alpha Testing, Inc.,
- i. Concrete Pipe - La. Industries, Inc.
- j. Precast Catchbasins and Manholes - Brooks Products, LaPlace, LA.
- k. Compression Seals/Bearing Pads - D.S. Brown, Roswell, GA
- l. Steel H-Piles - L.B. Foster Co., Slidell, LA.
- m. Concrete Barriers - Standard Materials, Slidell, LA.
- n. Strip Seal Joints - Capitol City Steel, Austin, TX.
- o. Tension Rods - Dywidag Systems, Inc., Arlington, TX.

23. The contractor submitted and enforced an adequate Accident Prevention Program. The contractor performed daily safety inspections, in addition to holding weekly safety meeting with employees, and holding monthly safety meetings with supervisors. There were no lost time accidents throughout the duration of this project.

24. The following is a comparison of contract quantities versus actual quantities:

Item No.	Description	Quantity & Unit	Unit Price	Est. Amt.	Act. Qty.	Earnings To-Date
0001	Mob & Demob (A00019)	L.S.	L.S.	\$103,375.00	100%	\$103,375.00
0002	Demolition (A00022)	L.S.	L.S.	\$402,386.57	100%	\$402,386.57
0003	Maint. Of Traffic	L.S.	L.S.	\$400,000	100%	\$400,000.00
0004	Furnish & Deliver 24" Prestress Concrete Piles	5,635 LF	\$32.00	\$180,320	5,460 LF	\$174,720.00
0005	Driving 24" Prestress Conc. Piles	5,635 LF	\$10.00	\$56,350	5,212.10 LF	\$ 52,121.00
0006	Furnish & Deliver Steel H-Piles(A0006)	2,840 LF	\$18.82	\$53,448.80	2,828.20 LF	\$ 53,226.72

0007	Driving Steel H-Piles	2,840 LF	\$ 8.00	\$22,720	2,828.20 LF	\$ 22,625.60
0008	Class "A" Concrete (A00017)	L.S.	L.S.	\$401,351	100%	\$401,351.00
0009	Class "AA" Conc.	L.S.	L.S.	\$300,000	100%	\$300,000.00
0010	Precast, Prestressed Concrete Girders (A00012)	L.S.	L.S.	\$997,300	100%	\$997,300.00
0011	Misc. Metalwork (A0008 &20)	L.S.	L.S.	\$270,420	100%	\$270,420.00
0012	Asphaltic Conc. Pavement	L.S.	L.S.	\$ 75,000	100%	\$ 75,000.00
0013	Floodwall Gate Near I-10	L.S.	L.S.	\$ 25,000	100%	\$ 25,000.00
0014	Steel Sheet Piles	3,220 SF	\$20.00	\$ 64,400	3,21.46 SF	\$64,289.20
0015	Driving Gov't Furnished Sheet Piles	L.S.	L.S.	\$ 6,000	100%	\$ 6,000.00
0016	Furnish & Drive Test Piles (A00016)	2 EA.	\$19,200	\$38,400	2 EA	\$ 38,400.00
0017	Pile Load Test	2 EA.	\$20,000	\$40,000	2 EA	\$ 40,000.00
0018	Permanent Pave. Markings	L.S.	L.S.	\$50,000	100%	\$ 50,000.00
0019	Drainage Structures	L.S.	L.S.	\$95,000	100%	\$ 95,000.00
0020	Landscaping	L.S.	L.S.	\$60,000	100%	\$ 60,000.00
0021	Maintenance of Landscaping	L.S.	L.S.	\$ 5,000	0%	\$ 0.00
0022	Detour Construction	L.S.	L.S.	\$100,000	100%	\$100,000.00

0023	Dredging					
	AA. First 8,000 CY	8,000 CY	\$30.00	\$240,000	8,000 CY	\$240,000.00
	BB. All Over 8,000 CY	2,200 CY	\$22.00	\$ 48,400	4,894 CY	\$107,668.00
0024	Erosion Control					
	AA. First 800 LF	800 LF	\$ 5.00	\$ 4,000	800 LF	\$ 4,000.00
	BB. All Over 800 LF	180 LF	\$ 4.00	\$ 720	45 LF	\$ 180.00
0025	Standby Cost (Dredging)					
	AA. First 64 Hours	64 HR	\$125.00	\$8,000	10 HR	\$ 1,250.00
	BB. All Over 64 Hours	32 HR	\$116.00	\$3,712	0 HR	\$ 0.00
0026	VECP (A0003) Construction Sequence	L.S.	L.S.	(-\$54,000)	100%	(-\$54,000.00)
0027	VECP, Payment Const. Sequence (A0003)	L.S.	L.S.	\$29,700	100%	\$ 29,700.00
0028	VECP Waterstop Change (A0004)	L.S.	L.S.	(-\$56,728.22)	100%	(-\$56,728.22)
0029	VECP, Payment Waterstop Change (A0004)	L.S.	L.S.	\$31,200.52	100%	\$ 31,200.52
0030	Jetting Setup (A0005)	L.S.	L.S.	\$ 3,300	100%	\$ 3,300.00
0031	Purchase of Truck Wash Rack (A00010)	L.S.	L.S.	\$6,744.17	100%	\$ 6,744.17
0032	Additional Asphaltic Base Course (A00014)	350 Tons	\$62.00	\$21,700	226 Tons	\$ 14,012.00
0033	Repair Excess Dredging (A00019)	800 Tons	\$40.00	\$32,000	782 Tons	\$ 31,280.00
0034	Delays Driving 24" Piles(A00021)	L.S.	L.S.	\$16,045.19	100%	\$ 16,045.19
	Totals			\$ 4,081,265.03		\$ 4,105,866.75

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25. A copy of the "As-Built" drawings are attached.

26. The contract was completed in accordance with contract plans and specifications, with the Substantial Completion on 3 Dec 97.

Jules Boudreaux

JULES BOUDREAUX
Project Engineer
New Orleans Area Office

CF:

Proj Engr (Boudreaux)

Proj Insp (Bryant)

Ofc Engr (w/as-built)

✓CEMVN-CD-Q

CEMVN-PA

CEMVN-CT

CEMVN-ED-C

CEMVN-CD-CS

CEMVN-CD-B

CEMVN-PP

CEMVN-OD-ON

MEMORANDUM THRU

Area Engineer, New Orleans Area Office
Chief, Construction Division ATTN: Contr Adm Br

FOR Chief, Engineering Division

SUBJECT: Contract No. DACW29-97-C-0029, Lake Pontchartrain, Louisiana and Vicinity, High Level Plan, Hurricane Protection Project, Orleans Avenue Canal Flood Protection, Phase II-A Floodwall, Orleans Parish, Louisiana, Narrative Completion Report

1. The subject contract dated 11 March 1997 was awarded to Maharrey-Houston Construction Company, P. O. Box 70250, Memphis, Tennessee 38107-0250. The Notice to Proceed was issued 8 April 1997, with construction to commence no later than 18 April 1997. The completion date was set for 13 May 1998 with the contract amount being \$2,885,733.99.
2. The contract provided for the construction of approximately 8,352 linear feet of steel reinforced concrete I-wall. In conjunction with the floodwall, 126,001 square feet of steel sheet piling was driven. The contract also required degrading the existing levee, backfilling next to the I-wall, and fertilizing, seeding, and mulching all disturbed areas.
3. There was one subcontractor on the project, Louisiana Erosion Control, 35952 Highway 75, Plaquemines, Louisiana 70764. This subcontractor was responsible for fertilizing, seeding, and mulching.
4. The preconstruction conference was held 8 April 1997 at the New Orleans Area Office. The on-site prework coordination and safety meetings were held 22 April 1997.
5. The contract had 6 major construction phases:
 - a. clearing and grubbing
 - b. structural excavation and backfill
 - c. degrading of the existing levee
 - d. piling, steel sheet, type PZ-22 and PSA-23
 - e. reinforced concrete floodwalls
 - f. fertilizing, seeding, and mulching
6. The contractor began mobilizing equipment to the site 22 April 1997. The office trailer were brought to the site 30 April 1997, and the contractor began constructing the equipment staging areas and safety fence at this time.
7. The first phase of work was clearing and grubbing. The preparatory meeting for this phase was held 20 May 1997 with work commencing the same day. A John Deere 450 dozer and Caterpillar 416 backhoe were used to remove all vegetation and debris from the work areas. This phase of work was ongoing throughout the contract period and was finally completed 22 May 1998.
8. The second phase of work was driving steel sheet piles. The preparatory meeting for this phase was held 28 May 1997 with work commencing 29 May 1997. This phase of work consisted of driving 126,001 square feet of PZ-22 and PSA-23 steel sheet piling. A John Deere 790D backhoe equipped with an approved vibratory hammer was used to drive the piles to the prescribed elevations. All piles were driven plumb and interlocked with the adjoining sheets. Cathodic protection was provided on the sheets by welding #6 rebar to the top of the piles except at the monolith joints where approved bonding cables were installed. This phase of work was completed 12 December 1997.

9. The third phase of work was degrading of the existing levees. The preparatory meeting for this phase was held 20 May 1997 with work commencing 12 June 1997. The levee was degraded as specified. Interim flood protection per the contract drawings was left in place until construction in the area was completed. Degrading of the existing levees was ongoing throughout the contract period and was finally completed 22 May 1998.

10. The fourth phase of work was reinforced concrete floodwall. The preparatory meeting for this phase was held 10 June 1997 with work commencing 17 June 1997. This phase of work consisted of constructing 8,350 linear feet of steel reinforced concrete I-wall. Formwork was a combination of wood and steel with an inner fractured fin molded rubber lining. The forms were checked for proper line and grade prior to concrete placement. Prior to and during each concrete placement, the QC manager with QA representative present performed slump and air tests on the concrete to assure compliance with the contract specifications. Four compression test cylinders were molded for each pour - three were delivered to the Corps of Engineers New Orleans District for testing, and one was sent for testing at an independent lab by the contractor. Once cured, the I-wall was painted with a base coat of thoro seal compound followed by two coats of thoro sheen paint in the color prescribed in the contract specifications. This phase of work was completed 6 May 1998.

11. The fifth phase of work was structural excavation and backfill. The preparatory meeting for this phase was held 19 August 1997 with work commencing 26 August 1997. This phase of work consisted of excavation for sheet pile driving and I-wall construction as well as backfilling against the wall after the proper curing period. Backfill was placed in lifts not greater than 8 inches, and each lift was compacted to 95% compaction. A John Deere 450 dozer and 790 excavator were used in this operation. Structural excavation and backfill was ongoing throughout the project and was finally completed 22 May 1998.

12. Fertilizing, seeding, and mulching was the final phase of work. The preparatory meeting for this phase was held 28 October 1997 with work commencing the same day. This phase consisted of fertilizing, seeding, and mulching all disturbed areas with a fertilizer containing a minimum of 60 pounds nitrogen, 60 pounds phosphorus, and 60 pounds potash per acre. Seed was in the quantities and of the type prescribed for the time of year that the seeding took place. Fertilizing, seeding, and mulching was ongoing throughout the project and was finally completed 21 May 1998.

13. Both the contractor and subcontractor were cooperative in performing their respective work. The contractor's Accident Prevention Program was adequately enforced on the project, and there were no lost time accidents.

14. The personnel working on the project were skilled and performed their duties in a professional manner. The equipment used at the job site was inspected, found to be in good condition, and was maintained throughout the project.

15. All contractor surveying was performed by the contractor's own survey party. All surveys were plotted and submitted to the government with the survey books. The surveys assured contract compliance.

16. Included herewith is a comparison of the initial contract quantities and actual contract quantities. A copy of "As-Built" drawings is also attached.

<u>Item</u>	<u>Description</u>	<u>Contract Qty</u>	<u>Unit Price</u>	<u>Actual Qty</u>	<u>Actual Amt</u>
0001	Mobilization and Demobilization	Lump Sum			48,000.00
0002	Clearing and Grubbing	Lump Sum			41,210.43
0003	Structural Excavation and Backfill	Lump Sum			46,000.00

<u>Item</u>	<u>Description</u>	<u>Contract Qty</u>	<u>Unit Price</u>	<u>Actual Qty</u>	<u>Actual Amt</u>
0004	Degrading Existing Levee	12,430 CY	3.00	12,430 CY	37,290.00
0005	Erosion Control	310 LF	4.00	310 LF	1,240.00
0006	Piling, Steel Sheet Types PZ-22 and PSA-23				
0006A	Materials	125,480 SF	6.58	126,001 SF	829,086.58
0006B	Installation	125,480 SF	4.42	126,001 SF	556,924.42
0006C	Cut Offs - Cut	EA	10.00	4	40.00
0006D	Cut Offs - Material	SF	7.70	45.5	350.35
0007	Reinforced Concrete Floodwalls	Lump Sum			1,312,190.00
0008	Fertilizing, Seeding, and Mulching	Lump Sum			22,000.00
0009	Remove Ramp	Lump Sum			6,500.00

17. There were 11 modifications to the contract. A summary of the four work related contract modifications follows:

a. A00001, CIN-02, dated 8 July 1997 to increase the limits of levee degrading. This modification gave the contractor permission to advance an additional 800 feet, with Contracting Officer approval, provided that the existing levee is not degraded beyond the limit of the floodside crown.

b. A00002, CIN-03, dated 22 December 1997 to change the geometry of the special I-wall monolith at the 30" water line. This modification impacted the Steel Sheet Piling and Reinforced Concrete Floodwall payment items.

c. A00004, CIN-04, dated 27 March 1998 to remove and dispose of dead trees within the right-of-way. This modification impacted the Clearing and Grubbing payment item.

d. A00005, CIN-05, dated 4 June 1998 to remove the earthen ramp at station 20+40. This modification added Item No. 0009 to the Bid Schedule.

18. The contract was substantially complete 26 May 1998. A final inspection will be scheduled in early July 1998.


 Henry Carr
 Construction Representative
 New Orleans Area Office

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Claw to

RT

CF:
Proj Engr (Lauto)
Const Rep (Carr)
Ofc Engr w/As-Built
CEMVN-CD-Q w/As-Built
CEMVN-CT
CEMVN-ED-C
CEMVN-CD-B
CEMVN-CD-CS
CEMVN-PP
File

MEMORANDUM THRU Area Engineer, NOAO
C/Const Div ATTN: Contract Admin Sec.

FOR C/Eng Div.

SUBJECT: Contract Number **DACW29-99-C-0025**, Lake Pontchartrain, Louisiana and Vicinity, High Level Plan, Orleans Avenue Outfall Canal Phase I-C, Filmore and Harrison Avenue Bridges, Orleans Parish, Louisiana.

1. The subject contract dated 11 Mar 99, was awarded to Angelo Iafrate Construction, L.L.C., PO Box 20136, New Orleans, LA 70141-0136. The Notice to Proceed was issued on 19 Mar 99, with construction to start no later than 29 Mar 99. The original completion date was set 12 Apr 00, with the original contract amount at \$2,360,264.00.
2. The work consists of constructing two (2) slab span bridges; capping existing uncapped sheet piling; furnishing and driving prestressed concrete piles and floodwall steel sheet piling; constructing reinforced concrete I-walls; demolition of two (2) existing bridges (substructures and superstructures); modifying existing bridge approaches; structural excavation and backfill; fertilizing, seeding, and other incidental work.
3. The Preconstruction Conference was held at the New Orleans Area Office on 13 Apr 99. Detailed minutes of this meeting are located in the contract file. The Notice to Proceed was signed by the contractor on 19 Mar 99, and the contractor began mobilizing field offices to the site on 1 May 99. The contractor started setting up the safety fences and staging area fences on 8 Jun 99.
4. This contract provided for 20 major construction phases; (1) Pile test, (2) Clearing and grubbing, (3) Demolition of two bridges and four approach slabs, (4) Driving 24" concrete piles, (5) Driving steel H-piles, (6) Driving steel sheet piles, (7) Excavation and backfill, (8) Substructure and superstructure concrete, (9) Construction of approach slabs, (10) Construction of curb, gutter, and sidewalks, (11) Construction of nine floodwall panels, (12) Installation of four floodgates, (13) Asphaltic concrete overlay, (14) Painting, (15) Temporary and permanent placement of sewer force main (Harrison Avenue only), (16) Stone revetment, (17) Permanent pavement markings, (18) Fertilizing and seeding, (19) Electrical work, (20) Guard rail (Filmore Avenue only).

5. This project was performed in seven separate phases of work. The project phases are summarized as follows; Phase I - Test piles and bridge closure. Phase II – Demolition of existing bridges. Phase III – Driving of permanent piles and construct new bridge at Filmore Avenue. Phase IV – Driving of permanent piles and construction of new bridge at Harrison Avenue. Phase V – Completion of Filmore bridge and opening of roadway. Phase VI – Completion of Harrison Bridge and opening of roadway. Phase VII – General cleanup and completion of project. Both bridges were supposed to open together but the Filmore Bridge and roadway was completed and opened earlier than required.
6. The contractor started the major phases of work on 19 May 99 by jetting and driving the 24” concrete test pile (TP-1) at Harrison Avenue. They finished driving support piles by 27 May 99. They then began driving the 24” concrete test pile (TP-2) at Filmore Avenue on 2 Jun 99. The 20” support piles for this test pile were driven on 4 Jun 99. Finally they drove the H-pile (TP-3) on 4 Jun 99, and drove the support piles on 22 Jun 99. Compression test for TP-1 began on 17 Jun 99 with the test load failing on 19 Jun 99 at 250% of the required load. Compression test for concrete pile (TP-2) began on 23 Jun 99. This test load failed on 25 Jun 99 at 270% of the required load. Compression test for H-pile (TP-3) began on 29 Jun 99 with the test load failing on 1 Jul 99 at 250% of the required load. At Filmore Avenue, the H-pile was pulled from the ground and the concrete pile was broken off at a minus 10 feet and backfilled. The test pile at Harrison Avenue was broken off at a minus 15 feet and crushed into small pieces and steel cut off at the required depth. The area was then backfilled.
7. Closure for both bridges occurred on 26 Jul 99. The contractor began demolition of Filmore Avenue bridge on 27 Jul 99. The contractor drove false work (1 false bent between the existing bents) for the bridge to facilitate the driving of the new concrete piles. The sequence for the demolition of both bridges was the west abutment was demolished and all existing piles and debris were removed from the abutment area. The contractor then removed each section of the existing bridge to each station that a new pile bent was to be driven. After driving the 24” concrete piles for the new bent, the contractor would remove the existing bridge to the next station where the new pile bent was to be driven. Each bridge was demolished in six phases starting with the west abutment and ending with the east abutment with four sections of bridge to be removed. A track backhoe with hydraulic concrete breaker was used to demolish the roadway and a steel caddy was hung under the existing bridge to catch the falling debris. The LS338 Linkbelt crane then hoisted the broken out sections of bridge and placed in staging yard to be broken down and hauled to Kenner yard. Filmore Avenue Bridge was completely demolished on 3 Dec 99.
8. The Harrison Avenue Bridge demolition began on 28 Sep 99 and finished on 15 Dec 99. The bridge had to be shored up with false work similar to the Filmore Avenue Bridge. The existing bridge was inspected and the contractor determined that additional false work must be installed in order to safely support the crane on the bridge for the demolition process. An additional seven false bents were constructed

to accommodate the weight of the LS338 Linkbelt crane. During the demolition of the Harrison Avenue Bridge, the contractor had to mobilize the crane back to Filmore Avenue to pull existing west abutment piles and drive the new H-piles and sheet piles.

9. The contractor began driving the 24" concrete piles for bents at Filmore Avenue on 3 Aug 99. Twenty-one 24" concrete piles of 92' were driven to grade using the LS338 Linkbelt crane and ICE model 160 impact hammer. Three bents of seven piles each, with the two end piles on a batter were driven. Contractor used a fabricated template to assure that piles were in alignment and plumb. The contractor completed driving the 24" concrete piles for Filmore Avenue on 26 Aug 99.
10. The contractor began driving the 24" concrete piles for bents at Harrison Avenue on 11 Nov 99. Eighteen 24" concrete piles of 80' were driven to grade using the LS338 Linkbelt crane and ICE model 160 impact hammer. Three bents of six piles each, with the two end piles on a batter were driven. Contractor used a fabricated template to assure that piles were in alignment and plumb. The contractor completed driving the 24" concrete piles for Harrison Avenue on 23 Nov 99.
11. All piles were jetted down to an elevation of -43.00 feet by use of a jet placed inside the 12" void cast inside the 24" concrete pile. Piles were driven to a tip elevation of -87.00 feet at Filmore Avenue and a tip elevation of -78.50 feet at Harrison Avenue. Piles were driven to grade without coming close to maximum required blow counts at either bridge. All concrete piles were cast by Gulf Coast Prestress, Inc. in Pass Christian, MS. The driving operations were monitored by City Wide testing laboratories. At no time did the vibrations exceed the maximum allowed by the contract.
12. The H-piles were driven at the four abutments with the LS338 Linkbelt crane, the Vulcan 06 Air hammer, and a fabricated template. The driving of the 92' H-piles at Filmore Avenue, 14 in all, began on 31 Oct 99 and finished on 9 Dec 99. The driving of the 80' H-piles at Harrison Avenue, fourteen in all, began on 29 Oct 99 and finished on 22 Dec 99. All piles were driven to grade to an elevation of -89.00 feet at Filmore Avenue and an elevation of -78.50 feet at Harrison Avenue.
13. The steel sheet piling was driven on both sides of the canal, continuous from one existing floodwall thru the abutments, to the other existing floodwall. The contractor used Skyline Steel type CZ-114 cold rolled sheetpile for the floodwalls and SPZ-22 sheetpile in the abutments. All sheet piles were driven using the LS338 Linkbelt crane and ICE model 416 vibratory hammer. The contractor used a steel I-beam template for maintaining alignment.
14. Contractor began placement of Class "A" concrete (3800psi-substructure concrete) on 4 Oct 99 at the Filmore Avenue bridge. All bridge bent caps, abutments, and approach slabs were included in substructure concrete. At Filmore Avenue, the contractor finished the bent caps and abutments on 15 Dec 99, and finished the approach slabs on 11 Feb 00. The contractor began bent cap work at Harrison

Avenue on 5 Jan 00, and finished bent cap and abutment work on 1 Feb 00. The approach slabs were completed on 30 Mar 00. All work was cast-in-place concrete using wood forms placed as indicated in the contract drawings. A 6" three bulb (Vinylex Corporation) waterstop was placed in each abutment and expansion material was placed as shown on the drawings in each bent cap. The Class "A" concrete was placed using a LS338 Linkbelt crane and a concrete bucket.

15. Contractor began placement of Class "AA" concrete (4200 psi-superstructure concrete) on 5 Nov 99, at Filmore Avenue with deck slab #4. All bridge deck slabs, headwalls and barrier railing were superstructure concrete or Class "AA" concrete (4200 psi). At Filmore Avenue, the contractor finished deck slabs on 23 Dec 99 and began headwalls on 8 Dec 99, and finished placing the headwalls at Filmore Avenue on 15 Feb 00. Barrier railing was placed using a slip form for the bridge roadway at Filmore Avenue on 24 Feb 00. The superstructure concrete began at Harrison Avenue on 31 Jan 00. The deck slabs were completed on 25 Feb 00. The contractor began headwalls on 14 Mar 00, and finished on 21 Mar 00. Barrier railing at Harrison Avenue was placed using a slip form for the bridge roadway on 24 Mar 00. All deck slabs were placed using a concrete pump truck. All headwalls were placed using a Grove mobile crane or the LS338 or LS 418A Linkbelt crane and a concrete bucket. The Barrier rails were placed using a slip form machine.

16. Contractor began placement of floodwall concrete (3000 psi) on 3 Dec 99 with monolith #9 at Filmore Avenue. Finished placing floodwalls at Filmore Avenue on 24 Jan 00. A total of four floodwall monoliths with floodgates (located on east side of Orleans canal) installed in monoliths #8 and #9 were placed. Monolith #6 on the west side of Orleans Canal had a "Dancers" mural placed in the center of the monolith. At Harrison Avenue, contractor began placement of floodwall concrete on 25 Feb 00, and finished on 6 Apr 00. A total of five floodwall monoliths at Harrison Avenue were placed. In addition, floodgates were installed in monoliths #3 and #4 located on the east side of Orleans Canal. Monoliths #1 and #2 on the west side of Orleans Canal had a "Runners" mural placed in the center of the monolith. All floodgates were hung and locked and inspected by a representative of Orleans Levee Board and Corp. of Engineers. Floodgates were manufactured by Metfab and hung by the contractor. The floodwalls were placed using a Grove mobile crane or the LS338 or LS 418A Linkbelt crane and a concrete bucket.

17. The asphaltic concrete pavement was placed by the contractor with Filmore Avenue work being completed on 28 Feb 00, and Harrison Avenue being completed on 11 Apr 00 (one day operations at each bridge). The limits of new asphalt at Filmore Avenue were 50 feet on the west approach and from the bolster block to Marconi Avenue on the east approach. Contract was modified for the east approach at Filmore Avenue by extending the asphalt from just 50 feet to include all of the east approach from Marconi Avenue. At Harrison Avenue the limits of new asphalt were 81.5 feet on the west approach and 88.5 feet on the east approach. The asphalt consisted of a 1 1/2" minimum thickness of asphalt overlay on all parts of roadway. The asphalt pavement was placed using an asphalt paving machine.

18. The contractor performed painting of all concrete headwalls, floodwalls, barrier railings, and bridge decks. All the walls were painted on both the protected and flood sides of both bridges. All structures were first painted with one coat of tamoseal cementitious paint to seal and waterproof the structures and then the structures received two coats of tamosheen paint. All structures were painted with a sand color paint to match existing floodwalls.
19. The fertilizing and seeding for the east staging yard and floodwall embankment at Fimore Avenue was performed by Baton Rouge Turf on 8 Apr 00. The subcontractor then returned on 21 Apr 00 to complete the job at the west staging yard at Filmore and both areas of staging yards and embankment at Harrison Avenue. The subcontractor harrowed the area first and then applied the fertilizer and seed mix.
20. The sewer force main that was located on the existing Harrison Avenue Bridge was relocated on to temporary timber pile supports driven next to the bridge. The timber piles were driven on 11 and 12 October 1999 using a LS 338 Linkbelt crane and a Vulcan 06 air hammer. The contractor topped the timber piles using a chain saw and began placing all hardware for the temporary relocation of the sewer force main. The contractor completed placing all hardware and pipe on the timber piles for the temporary sewer force main on 16 October 1999. The contractor used a Bobcat backhoe to excavate for the existing force main on 20 October 1999 and made the tie-in on 21 October 1999. After the contractor constructed the Harrison Avenue Bridge he began setting braces for the permanent sewer force main on 29 March 2000. The contractor employed Laporte Plumbing and Heating to install the permanent sewer force main. The subcontractor installed the pipe on 4 and 5 April 2000 and performed the pressure test on 5 April 200. The final tie-in was completed on 6 April 2000.
21. The stone revetment was placed using a CAT 320L long reach trackbackhoe. The stone was placed at different intervals throughout the contract. The excavation was performed and stone placed in the same day as follows:
 - Filmore East Stone Revetment – 27 October 1999
 - Filmore West Stone Revetment – 17 December 1999
 - Harrison East Stone Revetment – 24 January 2000
 - Harrison West Stone Revetment – 17 February 2000
22. The subcontractor Barnes Electric performed the electrical work. The sub contractor would visit the jobsite at different interval throughout the contract to place the required conduit and pull the wires in the abutments and bridge walls. The six light poles were placed on the Filmore Avenue Bridge on 6 March 2000 and the six light poles were placed on the Harrison Avenue Bridge on 13 April 2000.
23. Subcontractors performing work on this project along with their contract responsibilities were as follows:
 - a. Ax Reinforcement Co., 2148 Grape Place, Terrytown, LA 70056.
Installation of all reinforcement steel for all structures.

- b. Work Zone, Inc. P.O. Box 1630, Harvey, LA 70059.
Installation maintenance, and removal of all traffic detour signs, barrels, lights for barrels, and all arrow boards. Installation of guard railing at Filmore Avenue west approach.
- c. Walter J. Barnes Electric Co., Inc. 432 Dakin, Jefferson, LA
Installation of all electrical conduit and wiring for bridge lights. Installation of 12 light posts and connecting electricity from existing power poles.
- d. Pavement Markings Inc., Mandeville, LA
Installed permanent pavement markings for both bridges and roadways.
- e. LaPorte plumbing and Heating Inc., 452 Iris Avenue, Jefferson, LA
Installed and tested permanent sewer force main at Harrison Avenue.
- f. Baton Rouge Turf, Baton Rouge, LA
Placed the fertilizer and seed for all of job site.

24. The following is a list of major suppliers on the subject contract:

- a. Concrete – Carlo Ditta, Inc., New Orleans, LA
- b. 24” Concrete Piles – Gulf Coast Prestress, Inc. Pass Christian, MS
- c. Paint/Filter Fabric/Waterstops/Grout/Etc. – Building Specialties, Inc., New Orleans, LA
- d. Gates and Misc. Metalwork – Metfab, Inc., New Orleans, LA
- e. Steel Sheetpiles and H-piles – Skyline Steel, Metairie, LA
- f. Reinforcing Steel – Capitol Steel, Inc., Slidell, LA
- g. Density test/Asphalt Cores/Asphalt Plant QC/Concrete Cylinders – PSI Testing, Inc., New Orleans, LA and Alpha Testing, Inc., New Orleans, LA
- h. Compression Seals/Bearing Pads – D.S. Brown, Roswel, GA
- i. Strip Seal Joints – L.B. Foster Co., Slidell, LA
- j. Miscellaneous Equipment – United Rentals, St. Rose, LA
- k. Painting and Sandblasting – Messmer Paint – Westwego, LA
- l. Lumber – Kellet Lumber Co., Kenner, LA
- m. Stone Rip Rap – Construction Aggregates, Inc., New Orleans, LA
- n. Electrical Supplies and Lights-Nu-Light Electrical Wholesalers, Inc., Harahan, LA
- o. Waterstop – Vinylex Co, Knoxville, TN
- p. Vibrating and Impact Hammers – ICE International Equipment, Inc., Matthews, NC
- q. Form Coating and Curing Compound – Unitex, Kansas City, MO

- 1. Included herewith is a comparison of contract quantities versus actual quantities. A copy of the “As Built” drawings are also included.

Item No	Description	Qty & Item	Unit Price	Est. Amount	Act. Qty.	Earnings To-Date
	HARRISON AVENUE BRIDGE					
0001	Mob & Demob	L.S.	L.S.	\$100,000.00	100%	\$100,000.00
0002	Furnish and Maintain Traffic Signs	L.S.	L.S.	\$13,000.00	100%	\$13,000.00
0003	Selective Demolition	L.S.	L.S.	\$75,000.00	100%	\$75,000.00
0004	Clearing and Grubbing	L.S.	L.S.	\$3,500.00	100%	\$3,500.00
0005	Stone Revetment	96 CY	\$180.00	\$17,280.00	103.50 CY	\$18,630.00
0006	Furnish and Deliver HP14x73 Piles	1,120.0 LF	\$24.00	\$26,880.00	1,120.0 LF	\$26,880.00
0007	Driving HP14x73 Piles	1,120.0 LF	\$6.00	\$6,720.00	1,120.0 LF	\$6,720.00
0008	Furnish and Drive Test Piles	1 EA	\$15,000.00	\$15,000.00	1 EA	\$15,000.00
0009	Pile Load Tests	1 EA	\$15,000.00	\$15,000.00	1 EA	\$15,000.00
0010	Furnish and Deliver 24-inch Prestressed Concrete Piles (A00003)	1,472 LF	\$25.25	\$37,168.00	1,481.6 LF	\$37,410.40
0011	Driving 24-Inch Prstressed Concrete Piles (A00002)	1,472 LF	\$46.41	\$68,315.52	1,481.6 LF	\$68,761.06
0012	Piling Steel Sheet, Type CZ101	1,645 SF	\$15.00	\$24,675.00	1,581.6 SF	\$23,724.00
0013	Piling, Steel Sheet, Type CZ114	2,438 SF	\$17.00	\$41,446.00	2,135.4 SF	\$36,301.80
0014	4-Inch Thick Sidewalk Pavement	209 SY	\$33.00	\$6,897.00	212.6 SY	\$7,015.80
0015	Asphaltic Concrete Pavement	75 TON	\$125.00	\$9,375.00	110.20 TON	\$13,775.00
0016	8" Thick Portland Cement Concrete Pavement	146 SY	\$200.00	\$29,200.00	112 SY	\$22,400.00
0017	Concrete Curb	334 LF	\$16.00	\$5,344.00	337 LF	\$5,392.00
0018	Temporary Sewer Force Main	225 LF	\$135.00	\$30,375.00	248 LF	\$33,480.00
0019	Permanent Sewer Force Main	215 LF	\$74.00	\$15,910.00	231 LF	\$17,094.00
0020	Utility Adjustments (A00005)	L.S.	L.S.	\$75.57	100%	\$75.57
0021	Permanent Signing and Striping	L.S.	L.S.	\$2,000.00	100%	\$2,000.00
0022	Fertilizing and Seeding	L.S.	L.S.	\$1,500.00	100%	\$1,500.00
0023	Substructure Concrete	L.S.	L.S.	\$110,000.00	100%	\$110,000.00
0024	Superstructure Concrete	L.S.	L.S.	\$308,000.00	100%	\$308,000.00
0025	Floodwall Concrete	L.S.	L.S.	\$99,000.00	100%	\$99,000.00
0026	Floodwall Gates	L.S.	L.S.	\$25,000.00	100%	\$25,000.00
0027	Electrical Work	L.S.	L.S.	\$24,000.00	100%	\$24,000.00
	FILMORE AVE BRIDGE					
0028	Mob & Demob	L.S.	L.S.	\$100,000.00	100%	\$100,000.00
0029	Furnish and Maintain Traffic Signs	L.S.	L.S.	\$14,000.00	100%	\$14,000.00
0030	Selective Demolition	L.S.	L.S.	\$75,000.00	100%	\$75,000.00

0031	Clearing and Grubbing	L.S.	L.S.	\$3,500.00	100%	\$3,500.00
0032	Stone Revetment	96 CY	\$180.00	\$17,280.00	125.3 CY	\$22,554.00
0033	Furnish and Deliver HP14x73 Piles	1,302.0 LF	\$24.00	\$31,248.00	1,293.8 LF	\$31,051.20
0034	Driving HP14x73 Piles	1,302.0 LF	\$6.00	\$7,812.00	1,293.8 LF	\$7,762.80
0035	Furnish and Drive Test Piles (A00001, A00009)	2 EA	\$11,757.34	\$23,514.68	2 EA	\$23,514.68
0036	Pile Load Tests	2 EA	\$15,000.00	\$30,000.00	2 EA	\$30,000.00
0037	Furnish and Deliver 24- inch Prestressed Concrete Piles	1,920 LF	\$38.00	\$72,960.00	1,912.7 LF	\$72,682.60
0038	Driving 24-Inch Prstressed Concrete Piles (A00002)	1,920 LF	\$46.41	\$89,107.20	1,912.7 LF	\$88,768.41
0039	Piling Steel Sheet, Type CZ101	1,124 SF	\$15.00	\$16,860.00	1,280.6 SF	\$19,209.00
0040	Piling, Steel Sheet, Type CZ114	2,058 SF	\$19.00	\$39,102.00	1,576.5 SF	\$29,953.50
0041	Guard Rail	L.S.	L.S.	\$19,000.00	100%	\$19,000.00
0042	4-Inch Thick Sidewalk Pavement	118 SY	\$48.00	\$5,664.00	118.9 SY	\$5,707.20
0043	Asphaltic Concrete Pavement	30 TON	\$200.00	\$6,000.00	70.7 TON	\$14,140.00
0044	8" Thick Portland Cement Concrete Pavement	66 SY	\$150.00	\$9,900.00	52.5 SY	\$7,875.00
0045	Concrete Curb	200 LF	\$18.00	\$3,600.00	193.8 LF	\$3,488.40
0046	Utility Adjustments	L.S.	L.S.	\$1,000.00	100%	\$1,000.00
0047	Permanent Signing and Striping	L.S.	L.S.	\$2,000.00	100%	\$2,000.00
0048	Fertilizing and Seeding	L.S.	L.S.	\$1,500.00	100%	\$1,500.00
0049	Substructure Concrete	L.S.	L.S.	\$120,000.00	100%	\$120,000.00
0050	Superstructure Concrete	L.S.	L.S.	\$375,000.00	100%	\$375,000.00
0051	Floodwall Concrete	L.S.	L.S.	\$93,000.00	100%	\$93,000.00
0052	Floodwall Gates	L.S.	L.S.	\$30,000.00	100%	\$30,000.00
0053	Electrical Work	L.S.	L.S.	\$24,200.00	100%	\$24,200.00
0054	VECP to Allow Jetting of 24-inch Prestressed Concrete Piles (A00002)	L.S.	L.S.	\$6,694.03	100%	\$6,694.03
0055	VECP to Deliver Concrete Piles as Needed (A00003)	L.S.	L.S.	\$10,322.40	100%	\$10,322.40
0056	Additional Asphaltic Paving on Filmore Avenue (A00007)	30 TON	\$162.50	\$4,875.00	35.4 TON	\$5,752.50

2. The modifications to the contract and a summary of each follows:

P00001 (CAN-01) – dated 31 March 99, added omitted amendment 0002 pages to the contract.

P00002 (CAN-02) – dated 28 April 99, incorporated the EFT clause to the contract.

P00003 (CAN-03) – dated 15 July 99, included additional classifications and wage rates.

P00004 (FM-001) - dated 29 October 99, provided for additional funds available for payment for work performed under this contract in the amount of \$1,951,030.65.

P00005 (CAN-04) – dated 3 November 99, corrected P00004 contract value and obligation total.

P00006 (FM-002) – dated 18 November 99, provided for additional funds available for payment for work performed under this contract in the amount of \$395,075.57.

P00007 (FM-003) – dated 23 March 99, provided for additional funds available for payment for work performed under this contract for modifications and variations in estimated quantities in the amount of \$26,658.44.

A00001 (CIN-02) – dated 13 May 99, modified the contract to allow the use of steel H-piles that conform to ASTM-A-709 for the test piles only. This modification decreased Item No. 0035 and the contract price by \$303.50. The contract time remained unchanged.

A00002 (CIN 01 & CIN-03) – dated 18 May 99, modified the contract to allow for jetting of the concrete piles (CIN-01, VECP) and changes the test pile to receive the 42 inch casing from TP-1 to TP-2 (CIN-03). This modification decreased Item No. 0011 by \$5,284.48, decreased Item No. 0038 by \$6,892.80, and created Item No. 0054 in the amount of \$6,694.03 and decreased the contract price by \$5,483.25. The contract time remained unchanged.

A00003 (CIN-04) - dated 15 July 99, VECP for the contractor to have the concrete piles delivered on an as needed basis in lieu of stockpiling at the jobsite. This modification decreased Item No. 0010 by \$18,768.00 and created Item No. 0055 in the amount of \$10,322.40 and decreased the contract price by \$8,445.60. The contract time remained unchanged.

A00004 (CIN-06) - dated 22 September 99, modified the contract to lower the design grade for the riprap. This modification was performed at no cost to the Government The contract time remained unchanged.

A00005 (CIN-05) – dated 29 September 99, modified the contract to delete the two inch diameter gas line under the Harrison Ave Bridge. This modification decreased Item No. 0020 and the contract price by \$924.43. The contract time remained unchanged.

A00006 (TE-001) – dated 5 January 00, increased the contract time by five (5) calendar days due to unusually severe weather and high canal stages during the period from 20 March 99 through 31 Dec 99.

A00007 (CIN-08) – dated 27 January 00, modified the contract to extend the street paving on Filmore Avenue. This modification added Item No. 0056 and increased the contract price by \$4,875.00. The contract time remained unchanged.

A00008 (CIN-10) – dated 21 March 00, modified the contract to accept the work in four phases. This modification was performed at no cost to the Government. The contract time remained unchanged.

A00009 (CIN-08) – dated 15 March 00, modified the contract to delete the removal of the concrete test piles. This modification decreased Item No. 0035 and the contract price by \$6,181.82. The contract time remained unchanged.

A00010 (TE-002) – dated 6 April 00, increases the contract time by five (6) calendar days due to unusually severe weather and high canal stages during the period from 1 January 00 through 31 March 00.

(CIN 11) – modified the contract to add handrails to the end of the west sidewalks on both sides of the Filmore Avenue bridge.

3. The contractor submitted and enforced an Accident Prevention Program. The contractor performed daily safety inspections and weekly toolbox safety meetings. Monthly manager's safety meetings were also held.
4. The contractor was efficient, professional and cooperative in the performance of the contract work, and Quality Control activities were performed throughout the life of the project. All noted deficiencies were promptly corrected.
5. The contract was accepted as substantially complete on 17 April 2000 by an authorized representative of the Contracting Officer.

Mike Steagall
Quality Assurance Representative

SUBJECT: Narrative Completion Report for Contract Number DACW29-99-C-0025,
Lake Pontchartrain, Louisiana and Vicinity, High Level Plan, Orleans Avenue Outfall
Canal Phase I-C, Filmore and Harrison Avenue Bridges, Orleans Parish, Louisiana.

Project Engineer (Waits)
Project Inspector (Steagall)
Team Leader (Wagner)
Office Engineer w/ as built (Thurmond)
CEMVN-CD-CS w/ as built
CEMVN-CD-C
~~CEMVN-CD-C~~
CEMVN-CT
CEMVN-ED-C
CEMVN-ED-TF
CEMVN-PM

CEMVN-CD-NO-Q

19-May-00

MEMORANDUM THRU Area Engineer, NOAO
C/Const Div ATTN: Contract Admin Sec.

FOR C/Eng Div.

SUBJECT: Contract Number ~~DACW29-98-C-0082~~, Lake Pontchartrain, LA and Vicinity, High Level Plan, London Avenue Outfall Canal, Parallel Protection Floodproofing Leon C. Simon Blvd. Bridge, Orleans Parish, Louisiana.

1. The subject contract dated 23 Sep 98 was awarded to Miller Excavating Services, Inc., 823 Salvador Road, St. Rose, LA 70062. The Notice to Proceed was issued on 1 Oct 98, with construction scheduled to commence no later than 11 Oct 98. The original completion date was for 1 Oct 99, with an original contract amount of \$3,858,728.25.
2. Required work under this contract included the construction of a precast girder bridge on Leon C. Simon Blvd. over the London Avenue Canal; demolition of the existing bridge; construction of approach slabs; improvement of Leon C. Simon Blvd. on both sides of the bridge; construction of floodwalls and floodwall gate adjacent to the bridge; construction of surface drain inlets and drain lines; landscaping; site cleaning; and fertilizing and seeding.
3. The preconstruction conference was held at the New Orleans Area Office on 22 Oct 98. Detailed minutes are located in the contract file. The notice to proceed was signed by the contractor on 1 Oct 98.
4. The contractor began casting of the prestress girders at Gulf Coast Prestress in Pass Christian MS on 19 March 99 and completed casting of all girders on 21 May 99.
5. The contractor began at the jobsite by performing a pile load test. The contractor drove 1-30" diameter pipe pile and 1-14" H-pile to a -90.0 NGVD tip elevation and 1-14" H-pile to a -100.0 NGVD elevation. This was done with a Lorain motor crane and two Vulcan hammers (V-10 and V-12). The pile test began on 7 Apr 99, and was completed on 16 Apr 99.
6. All traffic was maintained by routing it down Robert E. Lee over the London Outfall Canal. This was done with flashboards, barrels, signs and barriers. Traffic control devices were maintained throughout the contract by Work Zone. The road was closed to traffic on 24 May 99 and was not reopened until 17 Apr 00.

7. The contractor began installing the temporary flood protection on 15 Jun 00. This was done with sandbags and sheet pile. The flood protection was maintained at elevation 11.75 during hurricane season and 8.75 throughout the contract.
8. The contractor began the demolition of the old bridge on 24 Jun 99. The bridge was demolished one section at a time starting on the east side and working west. This was done with a cat 325 track backhoe, a 2000# breaker, a 70t Bucyrus Erie crane and a debris basket. After the demolition of each section the contractor would drive the 30" pipe piles for the new bents using a Manitowoc 4000, leads and a Vulcan 012 hammer. On 13 July 99 the contractor began driving the first set of pipe piles for bent No 3 and placed the reinforcing steel and the concrete in this set on 20 July 99. Demolition on the second section of the old bridge was resumed on 21 July 99. On 5 August 99 the contractor began driving pipe piles for bent No. 2 and completed them by placing reinforcing steel and concrete on 11 August 99. The contractor began demolition of the third section of the bridge on 16 August 99 and started driving pipe piles for bent No. 1 on 26 August 99. Reinforcing steel and concrete was placed in the bent No. 1 pipe piles on 1 Sept 99 completing all pipe pile driving operations. Demolition of the last section of the bridge was completed on 29 Nov 99.
9. The contractor began driving H-piles in abutment "B" on 10 Sep 99 and completed operations on 17 Sept 99. This was done with an American 5299, pile leads and a Vulcan 010 hammer. The contractor also drove the sheet pile in this abutment using a ICE 416 starting on 23 Sept 99. They finished pile driving on 28 Sept 99 with the concrete being placed for the northend on 28 Oct99 and the southend on 1 Nov 99. The contractor began driving H-piles in abutment "A" on 9 Dec 99 and completed these on 16 Dec 99. This was done with an American 5299, pile leads and a vulcan 010 hammer. The contractor also drove the sheet pile in this abutment using a ICE 416 starting on 17 Dec 99. They finished driving sheets on 22 Dec 99 and placed the concrete for the abutment on 13 Jan 00.
10. The contractor began placing the bent caps on 10 Sep 99 and completed them on 6 Dec 99. The caps were placed ½ at a time using EFCO forms, a 70t Bucyrus Erie crane and a pump truck. The concrete for the bent caps were placed as follows:
 - Northend Bent No. 2 – 10 Sept 99
 - Southend Bent No. 2 – 24 Sept 99
 - Northend Bent No. 1 – 22 Oct 99
 - Southend Bent No. 1 – 2 Nov 99
 - Northend Bent No. 3 – 18 Nov 99
 - Southend Bent No 3 – 6 Dec 99The contractor had problems with the high canal tides during this period and was using only one set of forms. The tide was above the bottom of the bent caps and hindered the placement of the bents.
11. The z-web steel sheet pile for the floodwalls were driven on both sides of the east abutment beginning on 13 October 99 with the first floodwall panel being placed on 24 Nov 99. The contractor continued driving the floodwall sheetpile on the west side

of the canal after driving the abutment sheetpile and completed driving all floodwall sheet pile on 3 Feb 00. The last floodwall panel was completed on 23 Feb 00. The contractor used a 70 ton crane with ICE 416, ICE 612 and a MKTV20 hammers to drive the floodwall sheet piling.

12. The contractor began placing riprap next to the abutments starting on the west side on 20 Jan 00 and moved to the east side and completed the placement of riprap on 27 Jan 00.
13. The installation of the precast prestressed girders began on 31 Jan 00, starting on the west side working east. The girders were placed with a 150 ton P&H motor crane. There were 19 girders set in each span and a total of four spans for a total of 76 girders to complete placement from abutment "A" to abutment "B". Each girder was set with a 1" elastomeric bearing pad under it and ½" preformed closed cell polyethylene joint filler material between them. All girders were set and the contractor grouted the tension spaces on 8 Feb 00. Grouting of the longitudinal joints and waterstop began on 9 Feb 00. The cementitious grout was mixed in an onsite mixer and was completed on 22 Feb 00.
14. The contractor began forming the first barrier wall on 24 Feb 00 and placed concrete for that wall on 28 Feb 00 using a Grove Crane, metal forms and a concrete bucket. The contractor worked continuously on the bridge barrier walls until they were completed. Concrete for the last wall was placed on 15 March 00.
15. After the barrier walls were completed, the contractor began placing steel and forming the bridge decking on 14 Mar 00. They completed setting the reinforcing steel on 22 Mar 00. After the reinforcing steel was in place, the contractor began setting up equipment to place the concrete for the 5" deck slab. On 24 Mar 00, the contractor placed the 5" concrete deck slab continuous from abutment "A" to abutment "B". This was done with two pump trucks and two Bidwell screeds.
16. On 2 Dec 99 the contractor placed concrete for the first roadway section (east side, east bound first half). They then moved to form and set steel on the west side and placed concrete on 6 Dec 99 for a portion of the west side west bound road. The roads were worked intermittently with a portion being formed at a time and all roadways, curbs, sidewalks and approach slabs were completed on 5 Apr 00.
17. On 10 Apr 00, the contractor begun installing guardrails, striping of the roads, fertilizing and seeding of the new embankment and painting of the floodwalls and bridge walls. These items were completed on 14 Apr 00 and the bridge was reopened to traffic on 17 Apr 00.
18. Subcontractors performing work on this contract along with their responsibilities were also follows:
 - a. Boh Bros. 730 Conti Street, New Orleans, LA
Bridge, floodwalls, roadways, drainage and fertilize and seed.

- o
- b. Gulf Coast Prestress, Pass Christian, MS 39571 - Girders
 - c. Carlo Ditta, 1445 McArthur Avenue, Harvey, LA 70058 - Concrete
 - d. Building Specialties, Co., 527 Third Street, New Orleans, LA 70130
Water stop, geotextile fabric, curing compound etc.
 - e. Eustis Eng., 3011 28th Street, Metairie, LA 70002 - Vibration monitoring
 - f. Alpha Testing, 2601-A Lexington Avenue, Kenner, LA 70062
Soil and concrete testing
 - g. Pavement Marking, Inc., 70393 Covington, LA 70433 - Striping
 - h. Work Zone, 851 McArthur Avenue, Harvey, LA 70059 - Traffic control
 - i. Aquatica Inc., Lafayette, LA 70509 - Diving service.
 - j. Caddo Fab., 945 Cochrah Street., Shreveport, LA 71077 - Floodgate
 - k. Ponchatrain Material, New Orleans, LA 70182 - Crushed concrete and rip rap
 - l. Met Fab., New Orleans, LA 70117 - Anchor bolts
 - m. Skyline Steel, Metairie, LA 70001 - Pipe pile
 - n. J.D. Fields, New Orleans, LA 70153 - Sheet pile
 - o. Lulich Steel, Slidell, LA 70459 - Resteel
 - p. D.S.I., Inc., Bolingbrook, IL 60440 - Tension rods

19. Included herewith is a comparison of contract quantities versus actual quantities. A copy of the "As Built" drawings are also included.

Item No	Description	Qty & Item	Unit Price	Est. Amount	Act. Qty.	Earnings To-Date
0001	Mob & Demob	L.S.	L.S.	\$425,000.00	100%	\$425,000.00
0002	Traffic Control Installation and Maintenance (A00005)	L.S.	L.S.	\$150,500.41	100%	\$150,500.41
0003	Selective Demolition	L.S.	L.S.	\$300,000.00	100%	\$300,000.00
0004	Temporary Flood Protection	L.S.	L.S.	\$10,000.00	100%	\$10,000.00
0005	Structural Excavation and Backfill (A00014)	L.S.	L.S.	\$11,403.59	100%	\$11,403.59
0006	Furnish and Deliver Steel H-Piles	2,260 LF	\$25.80	\$58,308.00	2,232.10 LF	\$57,588.18
0007	Driving Steel H-Piles	2,260 LF	\$12.65	\$28,589.00	2,232.10 LF	\$28,236.07
0008	Furnish and Deliver Steel Pipe Piles	3,350 LF	\$107.20	\$359,120.00	3,380.50 LF	\$362,389.60
0009	Driving Steel Pipe Piles	3,350 LF	\$13.60	\$45,560.00	3,380.50 LF	\$45,974.80
0010	Furnish and Drive Test Piles (A00001)	3 EA	\$9,835.12	\$29,505.36	3 EA	\$29,505.36
0011	Pile Load Tests	2 EA	\$9,600.00	\$19,200.00	2 EA	\$19,200.00
0012	Furnish and Deliver Z-Web Steel Sheet Piling	16,125 SF	\$10.80	\$174,150.00	13,372.50 SF	\$144,423.00
0013	Driving Z-Web Steel Sheet Piling	16,125 SF	\$1.85	\$29,831.25	13,372.50 SF	\$24,739.13
0014	Furnish and Deliver Straight Web Steel Sheet Piling	4,650 SF	\$21.20	\$98,580.00	4,671.50 SF	\$99,035.80
0015	Driving Straight Web Steel Sheet Piling	4,650 SF	\$1.60	\$7,440.00	4,671.50 SF	\$7,474.40
0016	Portland Cement Concrete Pavement (A00016 & A00015)	L.S.	L.S.	\$503,820.35	100%	\$503,820.35
0017	Drainage Structures	L.S.	L.S.	\$75,000.00	100%	\$75,000.00
0018	Permanent Pavement Markings, Markers & Signs	L.S.	L.S.	\$25,000.00	100%	\$25,000.00
0019	Fertilizing and Seeding	L.S.	L.S.	\$5,000.00	100%	\$5,000.00
0020	Substructure Concrete	L.S.	L.S.	\$350,000.00	100%	\$350,000.00
0021	Superstructure Concrete	L.S.	L.S.	\$200,000.00	100%	\$200,000.00
0022	Precast Prestressed Concrete Girders (A00002)	L.S.	L.S.	\$732,847.26	100%	\$732,847.26
0023	Miscellaneous Metalwork	L.S.	L.S.	\$50,000.00	100%	\$50,000.00
0024	Steel Floodwall Gate	L.S.	L.S.	\$50,000.00	100%	\$50,000.00
0025	Stone Riprap	135 TON	\$50.00	\$6,750.00	155 TON	\$6,750.00
0026	Approach Slabs	L.S.	L.S.	\$100,000.00	100%	\$100,000.00
0027	Geometric Layout (A00003)	L.S.	L.S.	\$1,039.07	100%	\$1,039.07
0028	Drive Hurricane Protection Sheetpiling (A00004, A00006)	L.S.	L.S.	\$35,770.00	100%	\$35,770.00
0029	Add #4 "U" Bar Through Sheetpile	L.S.	L.S.	\$419.94	100%	\$419.94

20. The modifications to the contract and a summary of each follows:

P00001 (FM-001) – dated 24 September 98, provided for additional funds available for payment for work performed under this contract in the amount of \$378,000.00.

P00002 (FM-002) – dated 4 March 99, provided for additional funds available for payment for work performed under this contract in the amount of \$1,402,000.00.

P00003 (CAN-01) – dated 9 March 99, incorporated the EFT clause to the contract.

P00004 (FM-003) - dated 16 September 99, decreased available for payment for work performed under this contract in the amount of \$260,000.00.

P00005 (FM-004) – dated 20 October 99, provided for additional funds available for payment for work performed under this contract in the amount of \$1,611,604.75.

P00006 (CAN-02) – dated 15 November 99, corrected a typographical error in block 12 of P0005.

A00001 (CIN-01 & CIN-02) – dated 15 March 99, modified the contract to allow for an alternate design for the pipe pile splice for the test pile (CIN-01), and allowed the use of steel H-piles that conform to ASTM-A-709 for the test piles only (CIN-02). This modification decreased Item No. 0010 and the contract price by \$1,694.65. The contract time remained unchanged.

A00002 (CIN-03) – dated 29 April 99, modified the contract to reduce the curing time of the concrete girders from 6 months to 4 ½ months. This modification decreased Item No. 0022 and the contract price by \$17,152.74. The contract time remained unchanged.

A00003 (CIN-04) - Unilateral Modification – dated 3 June 99, modified the geometric layout for the vertical and horizontal curves. This modification added pay Item No. 0027 and increased the contract price by \$1,039.07. The contract time remained unchanged.

A00004 (CIN-05) - dated 19 July 99, modified the contract to drive sheetpiling on both sides of the Leon C Simon Bridge in order to provide advance hurricane protection during hurricane season. This modification added pay Item No. 0028 and increased the contract price by \$36,500.00. The contract time was increased by 14 calendar days.

A00005 (CIN-06) – dated 5 August 99, modified the contract to improve the traffic flow by adding traffic signage for the westbound traffic at the corner of Leon C. Simon Blvd and Saint Anthony Street. This modification increased Item No. 0002 and the contract price by \$500.41. The contract time remained unchanged.

A00006 (CIN-07) – dated 18 October 99, modified the contract to provide the Government a credit for the contractor's use of a crane that was smaller than that specified in Modification A00004, CIN 05, to drive sheetpiling for advance hurricane

protection. This modification decreased Item No. 0028 and the contract price by \$730.00. The contract time remained unchanged.

A00007 (TE-001) – dated 3 January 00, increased the contract time by forty-one (41) calendar days due to unusually severe weather and high canal stages during the period from 2 Oct 98 through 30 Nov 99.

A00008 (TE-002) – dated 6 January 00, increased the contract time by thirty-one (31) calendar days due to the delays in the removal of utilities by others.

A00009 (CIN-08) – dated 10 January 00, definitized CO-01 which required the contractor to remove the 1” compressible material at the top of the sheetpile in both abutments, and add 1-#4 “U” rebar through each sheetpile handling hole. Also, at the old abutments, cut existing sheetpile to the bottom elevation of the new abutments, and modify the riprap to cover the top of the existing sheetpiling. This modification added pay Item No. 0029 and increased the contract price by \$419.94. The contract time was increased by two (2) calendar days.

A00010 (CO-01) – dated 26 October 99, modified the contract to remove the 1” compressible material at the top of the sheetpile in both abutments, and add 1-#4 “U” rebar through each sheetpile handling hole. Also, at the old abutments, cut existing sheetpile to the bottom elevation of the new abutments, and modify the riprap to cover the top of the existing sheetpiling.

A00011 (CO-02) – dated 1 December 99, modified the contract to change the location of the longitudinal joints, delete some reaches of the longitudinal joints, add two expansion joints in the roadway in lieu of existing transverse joints and offset the C/L roadway striping.

A00012 (CO-03) – dated 14 December 99, modified the contract to change the slip joint details.

A00013 (CIN-14) – dated 6 January 00, modified the contract to increase the contract time due to Governmental delays in the submittal approval process that resulted in girder casting delays. The contract time was increased by seventy-two (72) calendar days.

A00014 (CIN-12) – dated 3 January 00, modified the contract to add separator cloth beneath the rip rap and around the sand backfill adjacent to the new bridge abutments and to add additional sand to the bridge abutment on the west side of the canal. This modification increased Item No. 0005 and the contract price by \$1,403.59. The contract time remained unchanged.

A00015 (CIN-10 & CIN-13) – dated 26 January 00, modified the contract to change the placement of the bolster blocks and to increase the thickness of the last 2’-3” of the roadway slab adjacent to the approach slab (CIN-10), and to add additional concrete to the barrier walls at the corner near the strip seal (CIN-13). This modification increased Item No. 0016 and the contract price by \$700.00. The contract time remained unchanged.

A00016 (CIN-09) – dated 3 January 00, definitized CO-02 to change the location of the longitudinal joints, delete some reaches of the longitudinal joints, add two expansion joints in the roadway in lieu of existing transverse joints and offset the C/L roadway striping. This modification increased Item No. 0016 and the contract price by \$3,120.35. The contract time remained unchanged.

A00017 (CO-04) – dated 23 March 00, modified the contract to change the bridge median transition details.

A00018 (CO-05) – dated 10 April 00, modified the contract to clarify the transition to the existing stairs from the new approach slab on the southeast side of the bridge and add a Type II barricade device on the handrails near the stairs.

A000XX (CIN 17) – modified the contract to add guardrail, concrete pads, and grating to the southeast side of the bridge.

21. The contractor submitted and enforced an adequate Accident Prevention Program. The contractor performed daily safety inspections and weekly toolbox safety meetings. Monthly manager's safety meetings were also held.
22. The contractor was efficient, professional and cooperative in the performance of the contract work, and Quality Control activities were performed throughout the life of the project. All noted deficiencies were promptly corrected.
23. The contract was accepted as substantially complete by an authorized representative of the Contracting Officer on 14 April 2000.

Steve McKinley
Quality Assurance Representative

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SUBJECT: Narrative Completion Report for Contract Number DACW29-98-C-0082,
Lake Pontchartrain, LA and Vicinity, High Level Plan, London Avenue Outfall Canal,
Parallel Protection Floodproofing Leon C. Simon Blvd. Bridge, Orleans Parish,
Louisiana.

Project Engineer (Waits)
Project Inspector (Mckinnely)
Team Leader (Wagner)
Office Engineer w/ as built (Thurmond)
CEMVN-CD-CS w/ as built
CEMVN-CD-C
~~CEMVN-CD-C~~
CEMVN-CT
CEMVN-ED-C
CEMVN-ED-TF
CEMVN-PM