

Subject: Narrative Completion Report, Contract DACW29-01-C-0038, Calcasieu River and Pass, Louisiana, Maintenance Dredging, Approximate Mile 14.0, C/L Sta. 740+00, to Approximate Mile 5.0, C/L Sta. 260+00, Cameron Parish, Louisiana

CEMVN-CD-LA

08 May 02

MEMORANDUM THRU: CEMVN-CD-LA, Project Engineer (Brouillette, P.)
CEMVN-CD-LA, Area Engineer (Ashley, C.)
CEMVN-CD, Chief

TO: CEMVN-ED-C

SUBJECT: Contract DACW29-01-C-0038, Calcasieu River and Pass, Louisiana, Maintenance Dredging, Approximate Mile 14.0, C/L Sta. 740+00, to Approximate Mile 5.0, C/L Sta. 260+00, Cameron Parish, Louisiana, Narrative Completion Report

1. SIGNIFICANT DATES/NUMBERS:

Contract Award	4 April 2001
Pre-construction Conference	2 May 2001
Acknowledge of NTP.	8 May 2001
Commencement Date	8 May 2001
Original Completion Date	2 February 2002
Revised Completion Date	N/A
Date Completed	20 January 2002
Original Contract Amount	\$ 7,506,100.00
Modified Contract Amount	\$ 7,481,100.00
Total Earnings Incl. Variations	\$ 7,714,070.72

2. CONTRACTORS: PRIME/SUB

PRIME CONTRACTOR: Great Lakes Dredge and Dock Company, 2122 York Road, Oak Brook, IL 60523

Responsible for dredging operations and dike maintenance, approximately 85% of the contract amount, 47% of which was completed by a subcontractor.

SUBCONTRACTOR: Affolter Contracting Company, P.O. Box 1436, Lamarque, Texas 77568

Responsible for the construction/installation of dikes, spill boxes/weirs in designated upland disposal Areas "F" & "M", approximately 8 % of the contract amount.

SUBCONTRACTOR: Wilco Marsh Buggies, Inc., P.O. Box 710, Marrero, LA. 70073

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Responsible for the construction of dikes and trenasses in Sabine National Wildlife Refuge, approximately 7 % of the contract amount.

SUBCONTRACTOR: Mike Hooks, Inc., P.O. Box 1525, Lake Charles, LA. 70602

Responsible for the dredging from C/L Station 260+00 to Station 610+00 and placement of material into disposal Areas "F" & "M", approximately 47% of the contract amount.

3. ITEMS OF WORK

	ESTIMATED QUAN/UNIT	ESTIMATED AMOUNT	FINAL QUANTITY	FINAL EARNINGS
01. MOB. & DEMOB.	L/S	\$1,773,600.00	100%	\$ 1,773,600.00
02. DREDGING	2,400,000 Cys	\$1.94 per Yd	2,520,088 Cys	
		(Over-run +120,088 Cys)		\$ 4,888,970.72
03. DIKE CONSTRUCTION SABINE NATIONAL WILDLIFE REFUGE	LS	\$449,100.00	100%	\$ 449,100.00
04. ALL OTHER DIKE CONSTRUCTION	LS	\$541,200.00	100%	\$541,200.00
05. TRENASSE CONSTRUCTION	LS	\$ 86,200.00	100%	\$ 86,200.00
06. Alternative Access Route	LS	(\$25,000.00)	100%	\$(25,000.00)
TOTAL AMOUNT EARNED				...\$ 7,714,070.72

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4.EQUIPMENT USED ON THE PROJECT

Prime Contractor: (Great Lakes Dredge & Dock Co)

1 – 8' x 60' Office Trailer
Dredge CALIFORNIA 30" Cutterhead Diesel/Electric
1 - Generator Barge 18,000 HP"Key West"
1-Tug "Miss Melinda" Leased
1-Dredge Tender "First State"
1- Survey Boat "Mystic Bay"
3 - Work Skiffs
1 - Crane Barge "Crane 7"
2 - Supply Barges CM-619 & CM-515
1 - Air Boat Rented
2 - 270 Komatsu Marsh Buggies Rented
1 - 3400 Link Belt Long Armed Marsh Buggy Rented
1 - 400 Miller Welding Machine
1 - Dozer D-6
1 - Dozer D-5 Rented
1 - Cat. 966 Front End Loader
1 - Groves RT-500 Cherry Picker Rented
1 - 180 CMF Air Compressor
60-Wooden Mats Rented
4,000 Feet of Floating Pipeline
15,000 Feet of Land pipe 30 Inch
8,000 Feet of Flanged Land Pipe 30 Inch
8,000 Feet of Submergible Pipe

Subcontractor: Wilco Marsh Buggies Inc

(1) 325 Caterpillar Marsh Buggy with 1-1/2 cubic yard bucket w/50'Boom
(1) 270 Komatsu Marsh Buggy with 1-1/2 cubic yard bucket w/41' Boom
(1) 330 Caterpillar Marsh Buggy with 3 cubic yard bucket w/54' Boom
(2) Airboats
(1) Work Skiff w/50 Hp outboard
(1) 1000 Gallon Fuel Tank

Subcontractor: (Affolter Contracting Co.)

(3) 61-B Bucyrus Erie Draglines each with Wooden Mats
(1) 9570 Northwest Dragline with wooden mats

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- (1) Rologon Buggy
- (3) Work Skiffs each equipped with 75 HP Outboards
- (1) D-58P Komatsu Dozer
- (1) D-6, Caterpillar Dozer
- (1) 220 Komatsu Trackhoe Excavator
- (1) Honda 500 Welding Machine
- (1) 1000 Gallon Fuel Tanks on Skids

Subcontractor: Mike Hooks, Inc.

Dredge MIKE HOOKS 27" Cutterhead Diesel/H
3 -Dredge Tenders " PATSY H" -" NICHOLAS"
& "BRYAN"

- 1 - A-Framed Derrick Barge
- 1 - Crane Barge with 98 Link Belt
- 1 - Welding Barge
- 1 - Supply Barge
- 2 - Skidder Barges
- 1 - Survey Boat
- 1 - Pipe Barge
- 1 - Work Skiff
- 2 - Marsh Buggies MX-150 Hitachi & a 200 Kobelco
- 4,000 Feet of Floating Pipeline
- 4,000 Feet of Shorepipe
- 6,000 Feet of Submersible

5.CONTRACT REQUIREMENTS:

The original contract was for the removal of approximately 2,400,000 cubic yards of material characterized as shoaling that had occurred since the channel was last dredged. The limits of work were from C/L Station 260+00 to C/L Station 740+00 and also dredging of a Navigation Gaps at C/L Station 417+00, 430+00, and 287+00. All material was to be pumped in the Corps-designated disposal areas as shown on the contract drawings.

No dredging was required from Sta. 260+00 to Sta. 290+00. Dredging was performed in the remainder of the main channel to a depth of -42.0' MLG and a bottom width of a 400 feet. All slopes were 1 V on 2.5 H. The navigation gap at Station 417+00 was dredged to -8.0' MLG with 100ft bottom and 2,000 feet in length. The two other gaps at C/L Stations 430+00 and 287+00 required no dredging.

6. ITEMS OF WORK/START/FINISH/PROGRESS

(ITEM 0001. MOBILIZATION & DEMOBILIZATION:

The prime contractor was paid a total of 80% for mobilization of its equipment and

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all of the subcontractor's equipment. The remaining 20% was paid upon completion of the work on the project and removal of all equipment from the project. The prime Contractor was paid a total of \$1,773,600.00 for Mob. and Demob.

(ITEM 0002. DREDGING:

The prime contractor subcontracted a portion of the dredging to Mike Hooks Inc. The Dredge "MIKE HOOKS" commenced dredging operations at Station 480+00, heading downstream, on 15 August 2001. The dredge excavated the full channel pumping material in disposal Area "F" with a shore connection at Station 500+00.

On 6 September the dredge commenced dredging of materials over the NGA Pipeline located at Stations 424+72 and 424+24. Work around the pipelines was completed on 8 September 01.

As the Dredge progressed downstream, it also dredged a navigation Gap at Station 417+00 C/L located on the east side of the channel. Of the three gaps shown on the drawings, this was the only one which had to be dredged. The gap was dredged on 16 September 01. Approximately 13,750 cubic yards were pumped into Disposal Area "F". On 18 September, operations resumed on the main channel with the dredge moving to Station 290+00, heading upstream to tie in to the cut at Station 384+00 C/L. The dredge also started using Disposal Area "M" with a shore connection at Station 260+00.

On 4 Oct 01, the Dredge excavated material over the Columbia Gulf Pipeline at Station 382+53 C/L. Work was completed around the pipeline on 5 October 01.

On 13 October, the Dredge MIKE HOOKS reached Station 384+00, tying-in to its previous cut which completed all work between C/L Stations 290+00 to 420+00. The dredge moved to Station 590+50 heading upstream using Disposal Area "F" with a shore connection at Station 590+00. On 18 October, the dredge switched shore connections to Station 540+00, still using Disposal Area "F"; using 640' of shore pipe. On 24 October, the dredge switched to another shore connection in Disposal Area "F" at Station 531+00, using approximately 400' of shore pipe.

On 2 November 2001, the Dredge Mike Hooks switched to a shore connection in Disposal area "F" at Station 516+00, using 600 feet of shore pipe. As the dredge progressed upstream, it switched back to the shore connection at Station 590+00, completing work at C/L Station 610+00 on 11 November 01.

The Dredge MIKE HOOKS excavated a total of 2,120,874 cubic yards, gross. All the dredged material was pumped into Disposal Areas "F" & "M". The contractor claimed 1,794,905 cubic yards, net, for pay. This was the total yardage for the reach from C/L Station 290+00 to C/L Station 610+00.

In order to reach Disposal Areas "F" and "M", the subcontractor used approximately

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6,000 feet of submersible pipeline and 4,000 feet of floating pipeline.

The prime contractor, Great Lakes, started building their own pipeline on the proposed alternate route on 31 October 01 after getting final approval from the Corps. The prime contractor acquired a 100' wide Right of Way, approximately 19,350 feet long from private land owners. The Right of Way extended from the northeast corner of Sabine National Wildlife Refuge, to the ship channel at C/L Station 712+00.

On 6 thru 9 November, the prime contractor hired a private firm to make a 30- inch boring under Highway 27. Langley Bros. from Houston Texas was hired to do the boring, assisted by Crane Bros. of Lake Charles, Louisiana, who supplied mats and miscellaneous equipment used by the boring crew.

On 3 December 01, the Dredge CALIFORNIA mobilized to the project. The dredge was unable to get started due to the land pipeline not being ready. The dredge crew performed maintenance on the dredge and generator barge, " Key West".

The pipeline was completed on 30 December 01, and the Dredge CALIFORNIA started pumping in Sabine NWR marsh creation site at 1640 hrs on 1 January 02. The dredge started at C/L Station 707+00, heading upstream.

On 6 January 02, the Dredge CALIFORNIA reached Station 740+00 and turned around and resumed work at Station 714+00, sweeping up to Station 707+00. The dredge continued heading downstream reaching Station 610+00 on 20 January 02. This completed all dredging on the project.

The Dredge CALIFORNIA worked from Station 610+00 to Station 740+00 C/L. The Prime contractor removed 716,290 cubic yards net for pay purposes and 834,416 cubic yards gross, which was pumped into SNWR Marsh Creation Site.

The two dredges on the project, CALIFORNIA & MIKE HOOKS, removed approximately 2,520,088 cubic yards for pay purposes. This was an over-run of 5 %. (+120,088 Cubic Yards). The prime contractor was paid \$ 1.94 per cubic yard. The total amount spent for dredging including overrun was \$ 4,888,970.72.

(ITEM 0003. DIKE CONSTRUCTION-SNWR

The subcontractor, Wilco Marsh Buggies, Inc., mobilized three marsh buggies on the project on 25 May 01. Work on the project started in Sabine National Wildlife Refuge on 30 May 01. Perimeter dikes were constructed to approximately Elevation +6.5. Rear containment dikes were constructed to approximately elevation +5.0 to +5.5 MLG. Approximately 13,700 feet of perimeter dikes and 8,000 feet of containment dikes were constructed in SNWR at a Lump Sum Price of \$449,100.00. All dike construction work in SNWR was completed on 14 July 01.

(ITEM 0004. ALL OTHER DIKE CONSTRUCTION:

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The subcontractor, Affolter Contracting Co., was responsible for the dikes constructed in the designated upland disposal areas along the Calcasieu River. This included approximately 18,000 feet of containment dike, berm and training dikes in Disposal Area "F" and 14,000 feet in Disposal Area "M".

The subcontractor started the work on 8 May 01, using 4 draglines and 2 dozers. All work in the two disposal areas was completed on 12 July 01. This included the installment of spill boxes in each disposal area. This item was a Lump Sum in the amount of \$541,200.00.

(ITEM 0005.) TRENASSE CONSTRUCTION

The subcontractor, Wilco Marsh Buggies, Inc. was also associated with the excavation of Trenasses, ditches, in the marsh creation site in SNWR. Approximately 7,000 feet of trenasses were excavated with a marsh buggy excavator, down to elevation -5.MLG. The dirt from the trenasses was placed approximately 40 feet outside the cut and staggered on opposite sides of the trenasses every 500 feet throughout the marsh creation site in SNWR. Work on the trenasses began on 3 June 01 and was completed on 24 June 01. The prime contractor was paid a Lump Sum of \$ 86,200.00 for the Trenasse Construction.

7. DISPOSAL AREAS

DISPOSAL AREA "F": Disposal Area "F" which was located about in the middle of the project contained most of the gross yardage. The reach of work from Station 408+00 to Station 610+00 was pumped into Disposal Area "F", amounting to 1,589,082 cubic yards. Shoreline connections were located at C/L Stations 590+00, 540+00, 531+00, and 516+00. A weir was located at Station 562+00 with the return water going back into the main channel.

DISPOSAL AREA "M": Disposal Area "M" was located on the lower end of the project. Only one shore connection was used in the northern end of the area at C/L Station 500+00. The material dredged from C/L Station 290+00 to Station 408+00, amounting to 531,792 cubic yards gross was pumped in this area. The weir was located at Station 244+00, returning the water into the main channel.

MARSH CREATION SITE, SNWR: The marsh creation site was located in Sabine National Wildlife Refuge which was accessed through the contractor-furnished R/W (alternative route). Entry to the area was at the northeast corner of the SNWR boundary. Approximately 834,416 gross yards of material was pumped from the reach of work from C/L Station 610+00 to Sta. 740+00. The material was to be pumped to a controlled maximum elevation of +4.5' MLG.

The disposal site was separated into two cells by a dike running north and south. Each cell also contained trenasses. On the east side of the dike, approximately 450,000 cubic yards were pumped to approximately elevation +4.4 , which consisted of about 125 acres. On the west side, approximately 78 acres, it is estimated that 235,000 cubic yards

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were pumped to approximately elevation +4.0 MLG. The remaining 150,000 cubic yards went into Brown Lake, along the rear containment dike and outside the confined disposal site.

The cross dikes and the rear containment dikes had to be breached at various locations in order to drift/enhance flow of material to the west cell and toward the overflow weir in the south containment dike located at the SW corner of the west cell and to prevent buildup of material in the east cell to an elevation above the max allowed.

From the northeast corner, the prime contractor constructed approximately 1500' of Shore line on the north perimeter dike. Three marsh buggies were used in the disposal area in an effort to move the effluent to the extreme southwestern end.

8. STRUCTURE OR UTILITY CROSSINGS ON PROJECT:

When dredging the main channel the pipeline companies were notified and representatives were on board the Dredge MIKE HOOKS while working the crossings. As for the structures along Highway 27; the companies were contacted in regards to the 30 inch boring which went under the lines.

The following structures were located on the project:

STRUCTURE	OWNER	STATION	ELEV.
36-Inch Gas P/L	National Gas Pipeline of America (318)774-5975	424+72	-50.0' MLG
30-Inch Gas P/L		424+24	-55.0' MLG
12-Inch Gas P/L	Columbia Gulf Transmission (318)824-3592	382+53	-50.0' MLG
12-Inch Water Line	Cameron Water Dist. (337)478-1615	West of Hwy 27. and adjacent to Canal	3-4' below mudline
Telephone Cables (1-Copper Wire) (1-Fiber Optic)	Cameron Communications (337) 583-8312	East and adjacent to Highway 27	40"below Surface
Overhead Power Line	Jeff-Davis Electric (337)775-5332	Approx. 8' West of Hwy 27	25 ' Above Ground

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Overhead Power Line	Entergy (337)431-6110	Approx. 50' East of Hwy 27	25' Above Ground
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9.QUALITY CONTROL/QUALITY ASSURANCE

Quality Control representatives on the project were Mr. Jim Van Norman, Project Manager, and Mr. Paul Wyble, Project Superintendent for the prime contractor. For the subcontractor, Mike Hooks Inc, was Mr. Carol Kidder, Captain of the Dredge MIKE HOOKS. For Wilco Marsh Buggies, Mr. Gary Camardelle, was superintendent on the project. Also for another subcontractor, Affolter Inc. was Mr. Wayne Affolter. Quality Control Reports with production records were submitted on a daily basis, which the government site inspector used to develop the Daily Log of Construction (Eng 2538). The Eng Form 4267 was also submitted by the contractors during the dredging operations.

The Quality Assurance reports were administered by the project inspectors on the site; mostly Al Mistrot. Also other inspectors, Mr. Johnny Hutto and Mr. Paul Hicks were also on the site in Mr. Mistrot's absence. The project engineer was Mr. Phil Brouillette and the Area Engineer was Mr. Chester Ashley from the Lafayette Area Office.

The Three Phase Inspection was conducted throughout the duration of the project. A Preparatory Inspection was conducted prior to doing each feature of work. Once the work was started; an Initial Inspection was conducted followed by daily Follow-up Inspections.

During the pumping in Sabine National Wildlife Refuge Marsh Creation Site, the disposal site was monitored 24 hrs per day by the project inspectors.

10. MODIFICATIONS/CLAIMS

A Modification, A00001, was issued to allow the prime contractor an alternative routing of the discharge pipeline through privately owned properties rather than constructing a pipeline in the Government provided route.

A list of modifications including administrative mods is attached.

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11. PROBLEMS ENCOUNTERED:

The original pipeline route provided per the contract for pumping of the marsh creation site in Sabine National Refuge would have involved difficult construction conditions including overhead power lines at the location of the designated staging area which was located adjacent to LA Hwy 27, immediately adjacent to an area frequented by the public. The contractor proposed an alternate pipeline route to the Sabine National Wildlife

Refuge disposal site. The proposed pipeline route by-passed SNWR and entry was made from private land on the east side of the northeast Corner of Sabine NWR.

Another problem was the pumping of the marsh creation site in Sabine National Refuge. At no time was the effluent or slurry to be allowed to go above +4.5 MLG. Due to the excessive amounts of water being pumped through long pipeline to move the dredged material, breaches had to be made through the rear containment dikes in order to relieve the excessive amounts of clear water. Also in the marsh creation site, a cross dike oriented north/south was constructed where an over-flow was provided. This also had to be breached in order for the effluent to travel towards the southwestern end of the marsh creation site. Marsh Buggies were constantly tracking in the area; but didn't have much impact on moving the effluent. The borrow material from the trenasse, also acted as a barrier which prevented the effluent from traveling into the intended direction. By breaching the rear containment dikes, it acted as a siphon, making the effluent follow the clear water out towards the rear dikes.

In Disposal Area "M", the subcontractor had to double handle much of the material on the rear dikes. Apparently from previous projects, the berm along the rear dikes was excavated. A 2 ft berm 20 ft wide was constructed along the interior toe of the new dike with material being excavated from the inside of the disposal area and a minimum of 70 ft from the inside toe of the new dike

12. SURVEYS

The MLG Gage used was the Hackberry Gage. Elevations were transferred to the PBM Lost monument in SNWR and at the project landing near Dugas Landing. These gages were set and verified by the prime contractor's hired survey party, Ricky Hayes Surveyors, Sulphur, LA. The project inspector also witnessed verification of these elevations. These elevations were also used in reference to the control elevations in Sabine National Refuge Marsh Creation site.

Dredging Stations were established from Government established co-ordinates. GPS was used on the project. All surveys were taken and witnessed by the project inspectors on the site. Before and After Profiles were taken of the Marsh Creation Site in SNWR.

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13. ENVIRONMENTAL QUALITY CONTROL

The contractor's concern towards Environmental Quality Control was Satisfactory. The site inspectors and the contractors made daily inspections of the project and all dredge attendant plants. The subcontractors were constantly reminded about preservation of vegetation and pollution throughout the project, especially in Sabine National Refuge. This policy was stressed throughout the duration of the project.

14. SAFETY: The contractor's effort towards Safety was Satisfactory. Weekly Safety Meetings were conducted on the project. Fire, Abandon Ship, and Man-Over-Board Drills were held at least once per month on the Dredges on the project. There were no lost time injuries on the project. The contract lasted a total of 257 days. A total of approximately 86,387 accident-free man hours were used to perform the work.

15. FINAL ACCEPTANCE: Once the dredging was completed on 20 January 02, inspections of the worksite were conducted to see that no equipment, debris, or supplies were left behind. All work was completed and a final inspection was conducted in SNWR on 21 Jan 02. The prime contractor still had about a month of work remaining, removing its pipeline off private property. Periodic inspections will be conducted on the progress of the pipeline removal.

AL MISTROT
Project Inspector

CF: CEMVN-CD-C
CEMVN-CD-QM
CEMVN-CT
CEMVN-PA
CEMVN-CD-CV (Scott)
CEMVN-OD-F (Morgan)
CEMVN-CD-LA (Brouillette)
CEMVN-OD-C
CEMVN-ED-LW
CEMVN-OD-T
CEMVN-CD-LA (Mistrot)
CEMVN-CD-LA File
LA DNR (Juneau)
USFWS-SNWR (Pease, C.)
USFWS (Clark, D.)