CELMN-CD-LA

13 Feb 96

MEMORANDUM THRU CELMN-CD-LA (Juneau)
~~CELMN-CD-LA~~ (Resweber)
CELMN-CD (Hill)

FOR CELMN-ED

SUBJECT: Narrative Completion Report, Contract DACW29-96-C-0003, Coastal Wetlands Planning, Protection and Restoration Act, Vermilion River Cutoff, Bank Erosion Protection, Vermilion Parish, LA.

1. SIGNIFICANT DATES/NUMBERS

Contract Award: 19 Oct 95
Preconstruction Conference: 15 Nov 95
Acknowledge NTP: 20 Nov 95
Original Completion Date: 19 March 96
Revised Completion Date: 19 March 96
Commencement Date: 10 Jan 96
Actual Completion Date: 11 Feb 96
Original Contract Amount: $ 934,500.00
Modified Contract Amount: $ 1,102,956

2. PRIME CONTRACTOR: Luhr Bros. Inc.
P.O. Box 50
Columbia, IL 62236

SUBCONTRACTORS: None

3. ITEMS OF WORK

	EST FINAL QTY	UNIT PRICE	EST FINAL AMOUNT	% OVER or UNDER
0001. Mob & Demob	Lump Sum	L.S.	$5,000.00	-0-
0002. Armor Stone	43,392 Tons (Original Quantity was 34,900 Tons)	23.00 P/Ton	$975,016.00 **	21.5% OVER
0003. Geotextile	28,735 Sq. Yds (Original Quantity 29,700 Sq Yds)	4.00 P/Sq Yd	$114,940.00	3.2% UNDER
0004. Settlement Plates	Lump Sum	L.S.	$3,000.00	-0-
0005. Floatation Channel	Lump Sum	L.S.	$5,000.00	-0-
Totals..... Original Contract- $ 934,500.00			$ 1,102,956.00	18% OVER

**Subject to Adjustment of Approx. 40 Tons for Salinity Factor.

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4. EQUIPMENT USED ON THE PROJECT

2 -Switch Boats used for handling barges - M/V AL BOB M/V CHARLIE M
Barge L-701 used as an Office Barge
Pontoon Barge L-406 used for laying geotextile fabric
Spud Barge L-980 with a 71-B Bucyrus Erie Dragline used for mooring
Spud Barge L-1100 with 4600 Manitowac used for stone placement
Spud Barge L-982 with 4600 Manitowac used for stone placement
Cat 973 -Track Front End Loader was Idle could be used to cut loads
Cat 330 Track Excavator used to partial-load barges
1-Work Skiff for transporting crew (20' with 2-90 HP Outboards)
3-Survey Skiffs (16'with 25 HP) (18' with 2-40 HP Outboards)
(18' with 2-50 Outboards)

5. ITEMS OF WORK-START/FINISH/PROGRESS ETC.

Contractor was given the notice to proceed on 20 Nov 95. Prior to mobilizing equipment on the site; contractor's survey party, with USCE project inspector, located baseline reference point, V-1. Preliminary surveys were taken prior to building the stone dike. Survey monunments, V-2, V-3, and V-4 were located by a USCE hired survey party on 10 Jan 96.

On 10 Jan 96, Contractor, Luhr Bros. Inc., started mobilizing on jobsite. The L-406 Pontoon Barge was placed in position to start laying geotextile fabric. Also two spud Barges referred to as Barge 982 and Spud Barge 1100, both equiped with a 4600 Manitowac dragline which was used to handle the stone.

On 11 Jan 96, Spud Barge 982 assisted the 406 Pontoon Barge with the geotextile fabric laying operations.Work began at COE B/L Station 0+30 to Station 7+04. Geotextile fabric was layed along the grass line; where erosion met existing shorelin, protected with vegetation. The fabric was layed 40 feet wide, with seams overlapping by 3 feet. Upon completion of the reach, the Pontoon Barge moved to Station 21+05 and layed fabric up to Station 25+44. The Spud Barge 982 assisted the fabric placement, placing stone to keep the fabric in place once it was stretched. The Spud Barge 1100 started placing stone to grade of +4.0'NGVD(MSL) with a berm of of 10 feet with a 1/2 Slope on the Land Side and a 1/3 Slope on the berm on the Flood Side or Channel Side.

During the first five days of placing stone from 11 Jan thru 15 Jan 96, the dike was built to grade of +4.0' NGVD as shown on the drawings. Due to the excessive amount of stone being used, (Averaging about 7.3 tons per foot) the design was changed starting on 16 Jan 96, (See Mods) to an elevation of +3.5' NGVD and reducing the berm to 7 feet.

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On 19 Jan 96, low tides hindered operations to some extent. The tide that day was a -2.0' NGVD. The contractor was unable to work in some areas due to low tides. All barges were partially loaded using a Cat 330 backhoe excavator. This enabled the contractor to float partially loaded barges (Draft of about 3.5 to 4 feet) in areas where it was shallow. Some floatation was dug in the coves and on the the lower limits around Station 42+00, Lower Limits of Work.

On 22 Jan 96, contractor ran out of stone and had to shut down until 26 Jan 96. Up to this date; Stone was placed from Station 0+30 to B/L Station 42+65 totaling to 15,921 Tons of Stone and approximately 18,308 Sq. Yards of Geotextile used. However, the area was not completed.

On 8 Feb 96, the contractor completed placement of geotextile fabric from Station -20+04 to Station 42+65. A total of 28,735 Sq. Yards of geotextile fabric was used.

On 10 Feb 96, contractor completed stone placement totaling to 42,392 Tons of Stone. However due to a Salinity Factor, still pending, an additional 40 more tons of stone may be owed to contractor. Water samples were taken and verified prior to and at the end of the work.

On 11 Feb 96, contractor demobilized all equipment and all work on the project was completed. All final x-sections and profiles were taken. The total length of the dike constructed was 6,520 feet, from COE Baseline Station -20+04 to Station 42+65. (Dike is longer in distance than Station perpendicular to Baseline) The total days on the contract time was 120 days; contractor completed work in 84 days; which was 70% of the time. Actual Work only took about 33 days.

6. MODIFICATIONS & CHANGES:

There were 2 modifications on the project. They were as follows:

CIN-01 A00002. This change was for the modification of the contract design. The crown was reduced from 5 to 4 feet, the berm on the channel side was reduced from 10 feet to 7 feet, with a 3 feet layer of stone on the berm. And also for the realignment of the stone dike in the coves from B/L Stations -19+25 to Station -15+78; Station -13+60 to -2+56, and from Station 8+48 to Station 19+52.

CIN-02 A00001. This modication was for the deletion of the stone dike on the east side of the channel from Baseline Station 55+30 to Station 61+70; from Station 63+75 to Station 66+50 Also the deletion of all dike sections on the west side of the channel which was corner erosion protection.

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7. UTILITY CROSSINGS:

Utility or Structure	Owner	Approx. Location from COE B/L	Representative to Contact
12" Pipeline	ANR Pipeline Co.		Mr. Nickie Smith
4" Pipeline	Transcontinental Gas Pipeline Co.		Mr. Richard Martel (713) 580-9173
Gauging Platform	Williams Field Svcs		Mr. Ken Trahan (318) 643-8200

8. BARGE TONNAGE RECEIVED ON THE WORKSITE:

BARGE REF. NO.	BARGE NUMBER	BARGE TONNAGE OF STONE
#1	L-1026	1,647
#2	L-1013	1,605
#3	L-1016	1,712
#4	L-991	1,463
#5	L-1008	1,569
#6	L-1021	1,599
#7	L-997	1,618
#8	L-1041	1,574
#9	L-1051	1,562
#10	GD-209	1,572
#11	L-989	1,656
#12	L-1002	1,556
#13	L-995	1,638
#14	L-990	1,504
#15	L-1036	1,591
#16	L-1010	1,617
#17	L-1009	1,592
#18	L-999	1,595
#19	L-1011	1,577
#20	L-1004	1,501
#21	L-1045	1,573
#22	L-1047	1,569
#23	GD-214	1,560
#24	GD-206	1,492
#25	GD-213	1,514
#26	L-996	1,533
#27	GD-205	1,403
	**Total Tonnage of Stone	**42,392 Tons****

**Due to Salinity Factor; Tonnage may change to approx. 40 Tons more)

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9. STONE GRADATION USED ON THE PROJECT:

ARMOR STONE was used to build the dike.

STONE SIZE	PERCENTAGE
900 to 2200 Lbs Stone	12%
930 to 440 Lbs Stone	43%
460 to 130 Lbs Stone	34%
130 to 75 Lbs Stone	9%
Less than 75 Lbs Stone	2%

10. QUALITY CONTROL:
Quality Control was administered by the contractor and considered very Satisfactory. Contractor submitted on a daily basis the Construction Quality Control Report with limited information. The Contractor's Quality Control Representatives were Mr. Jerry Pearson, Project Supt.; Mr Rickey Powell, Asst. Supt., and Mr. Steve Meador, Project Field Engineer, and Mr. Robert Levine, Asst. Field Engineer.

The Three-phase Inspection System was stressed and followed throughout the contract period. The inspection phases were documented with Preparatory and Initial Inspections prior and starting work on each definible feature of work; followed by Follow-up inspections during the time the work was being done.

11. QUALITY ASSURANCE:
Quality Assurance was administered by Al Mistrot, Construction Rep. on the jobsite. The three phase inspection system was stressed and followed throughout the contract period and documented. Mr. A.F. Resweber was the project engineer from Lafayette Area Office.

12. ENVIRONMENTAL:
The contractor's concern towards Environmental Quality Control was Very Satisfactory. The contractor's authorized representative, Mr. Jerry Pearson, made daily inspections which were submitted on a daily basics with the Contractor's Quality Control Report. On most inspections he was accompanied by project inspector, Al Mistrot.

13. SURVEYS: Contractor's Field Engineer, Mr. Steve Meador, established points on the bank line in reference to the centerline of the dike being constructed. A profile was taken every 10 feet in the areas where the dike was to be constructed. Upon completion of the dike; contractor's field engineer, referenced the centerline of the newly constructed rock dike to the Corps of Engineers Reference Baseline on the west side.

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X-sections were taken at all PI's on the dike; averaging about every 150 feet. A profile on the center of the dike was conducted every 10 feet. All profiles, x-sections, and settlement plates elevations were witnessed by project Inspector, Al Mistrot. Also all gages used on the project were witnessed by project inspector in reference to TBM listed on drawings.

14. DIKE C/L REFERENCE STATION TO COE BASELINE & SETTLEMENT PLATE LOC:

COE B/L REF. STATION	DISTANCE FROM B/L to DIKE C/L	DISTANCE FROM B/L TO EROSION EDGE	SETTLEMENT PLATE ELV.
-19+48	951'	961'	
-18+31	952'	990'	
-16+90	945'	1004'	
-12+76	967'	988'	
-10+00 (Sett. Plate)	967'	1025'	+9.32 NGVD
-9+61	971'	1008'	
-7+55	978'	1122'	
-5+29	958'	1025'	
-2+50 (Sett. Plate)	945'	966'	+7.64 NGVD
+0+30	899'	909'	
2+72	912'	922'	
4+82	883'	894'	
7+04	856'	870'	
10+26 (Sett. Plate)	923'	973'	+8.11 NGVD
11+05	931'	994'	
14+06	993'	1110'	
16+94	1052'	1184'	

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COE B/L REF. STATION	DISTANCE FROM B/L to DIKE C/L	DISTANCE FROM B/L TO EROSION EDGE	SETTLEMENT
18+41	1032'	1216'	
19+58 (Sett. PLate)	984'	1002'	+9.13 NGVD
25+14	885'	898'	
28+87	869'	880'	
30+57	863'	975'	
32+96	850'	861'	
35+16 (Sett. Plate)	850'	862'	+9.10 NGVD
37+78	863'	875'	
40+33	840'	851'	
41+88 (Lower Limits-Downstream End)	927'	940'	

15. PROBLEMS ENCOUNTERED:

When the contractor first began work on the contract; there was a question to what correct gage to use. Contractor was unable to locate the TBM shown on Dwgs. Other TBM's were used; however varied as much as a foot. However, on the first day of work, the TBM shown on the drawings was located. There was about a 1/2 foot difference, so contractor had to adjust previous cross-sections prior to work. This was confirmed by the project inspector.

Also prior to taking surveys, contractor was only able to locate only one monument on the COE Baseline. A USCE hired party was sent on the project to locate the other point (V-4) as shown on the drawings.

At the Preconstruction Conference, Engineering stated that for the design it would take about 4.5 to 5 Tons of Stone per foot. When the project started, it took an average of 7.3 Tons per foot. The design was changed as stated in a modification. The overall average of stone was about 6.5 Tons per foot. No consideration was taken for immediate settlement. In most areas, the ground structure was very weak.

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16. SAFETY/ACCIDENTS:

The Contractor's attitude towards safety was Outstanding. Weekly Safety meetings were held with personnel. Drills were held on a monthly basis. A total of approximately **3,778 Accident Free** Manhours were used to do the work. The project lasted a total of 84 days.

17. FINAL ACCEPTANCE:

After all x-sections and profiles were taken of the newly constructed dike on 11 Feb 96. Final Elevations were taken on the five settlement plates on the project. All equipment was demobilized. No evidence of any debris or trash left behind. Contractor was released of his duties on the project on 11 Feb 96.

AL MISTROT
Project Inspector, COE
Lafayette Area Office

Incl:
(As-built Dwgs)

CF: CELMN-ED-C
CELMN-PA
CELMN-CD-B
CELMN-CT
CELMN-CD-Q
CELMN-CD-LA File
CELMN-CD-LA (Resweber)
La. Dept. of Natural Resources (Broussard)