CELMN-CD-LA

MEMORANDUM THRU CELMN-CD-LA (Area Engr, Eluezabal)
CELMN-CD-LA (Proj Engr, Siffert)

FOR CELMN-CD-C

SUBJECT: Narrative Completion Report, Contract DACW29-96-C-0065
Coastal Wetlands Planning, Protection and Restoration
Act, Clear Marais Shore Protection, Calcasieu Parish
Louisiana

A. SIGNIFICANT DATES/NUMBERS

Contract Award: 01 August 1996
Preconstruction Conference: 27 August 1996
Acknowledge NTP: 29 August 1996
Original Completion Date: 25 February 1997 (180 Days)
Revised Completion Date: 08 March 1997
Commencement Date: 13 December 1996
Actual Completion Date: 04 March 1997
Original Contract Amount: 2,694,000.00
Revised Contract Amount: 2,112,231.00

B. Prime Contractor: Luhr Bros.Inc. - Est % of Work - 100%
Subcontractor: None

C. ITEMS OF WORK

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>EST. QUANT/UNIT</th>
<th>UNIT PRICE</th>
<th>FINAL QUANTITY</th>
<th>% OVER/UNDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) 0001-MOB &amp; DEMOB</td>
<td>Lump Sum</td>
<td>35,000.00</td>
<td>35,000.00</td>
<td>0</td>
</tr>
<tr>
<td>(2) 0002-Armor Stone</td>
<td>156,000 Tons</td>
<td>14.00</td>
<td>118,326 Tons</td>
<td>-25.1</td>
</tr>
<tr>
<td>(3) 0003-Separator</td>
<td>138,000 SY</td>
<td>1.50</td>
<td>120,444 SY</td>
<td>-12.1</td>
</tr>
<tr>
<td>(4) 0004-Flotation</td>
<td>Lump Sum</td>
<td>50,000.00</td>
<td>50,000.00</td>
<td>0</td>
</tr>
<tr>
<td>Channel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) 0005-Marker Plates</td>
<td>Lump Sum</td>
<td>190,000.00</td>
<td>190,000.00</td>
<td>0</td>
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</tbody>
</table>

D. EQUIPMENT

Spud Barge L-1100
1) 2 Drum Winch
2) 4600 Manitowoc Dragline (L-12255)
1) Miller Welding Machine (L-1175W)
1) Generator (1286G)
1) 14' Alumaweld Skiff
1) Rock Bucket (#32)

Spud Barge L-982
1) 4600 Manitowoc Dragline (L-12265)
1) 2 Drum Winch (L-1218M)
1) Generator (L-1094G)
1) Miller Welding Machine (L-1107W)
1) Rock Bucket (#29)
1) Clam Bucket (L-1147)
1) 14' Skiff (LMH52463D989)
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Spud Barge L-980
1) 71-B Bucyrus Erie Dragline
2) Single Winches
1) Lester Lite Plant
1) Miller Welding Machine
1) 12' Aluminum Skiff
1) Rock Bucket (#20)

Spud Barge L-700 (Office Barge)
1) Office Trailer (L-44)
1) Generator (L-1349G)
2) Dirt Buckets (L-1191M & #52415)
1) Clam Bucket (L-827)
1) Single Drum Winch

Spud barge L-406 (Fabric Barge)
4) 8500lb. Capacity Winches

Outboard Motor Boats
LB-23 Survey Skiff W/2 50 HP Mariner Outboards
LB-39 Survey Skiff W/2 90 HP Yamaha Outboards
LB-55 Survey Skiff W/1 75 HP Mercury Outboard

TENDER BOATS
M/V Volunteer 850 HP
M/V George B 460 HP

E. ITEMS OF WORK, START/FINISH/PROGRESS/ETC.

<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>STARTED</th>
<th>FINISHED</th>
<th>PROGRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Armor Stone</td>
<td>18 Dec 96</td>
<td>04 Mar 97</td>
<td>Good</td>
</tr>
</tbody>
</table>

Placed stone on dike using 2-4600 Manitowoc draglines and 1 71-B Bucyrus Erie dragline. The contractor had a man on C/L of the dike directing the placement of stone and constantly checking grade and alignment. Final quantity of stone placed in dike was 116,326 tons.

3) Separator Geotextile 18 Dec 96 28 Feb 97 Good

Geotextile was placed using a 4600 Manitowoc dragline. An iron pipe was slid through the center of the roll of fabric and raised by the dragline and placed over centerline, which had been marked by engineers. The end of the roll was then pinned and held into place. Once the end was secure the operator walked the dragline to the opposite end of the barge, which would completely unroll fabric. The fabric was then pulled into position by laborers and the same dragline would secure the fabric in place by placing armor stone where needed.

On 07 Jan 97 the spud barge L-406 was mobilized to place Separator Geotextile. This barge was designed to lay filter cloth using anchors connected to special winches which allowed the barge to pull itself a distance of approximately 200 ft, laying fabric as it moved. The contractor had laborers tie sand bags filled with stone
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along the cloth's edges which would act as anchors as the cloth was
placed into position. The Geotextile was held with little tension,
using the winches to pull. The spud barge L-980 with the tender boat,
MV George B, were slightly behind the fabric barge placing a layer of
armor stone holding the Separator Geotextile in place. The final
quantity of fabric placed was 120,444 square yards.

4) Flotation Channel 17 Dec 96 11 Jan 97 Good

Flotation was needed at Sta. 0+00 to Sta. 3+00 which was excavated
19 Dec 96. Material at this area could not be placed behind the dike
due to the large amount of spoil material and specification in the
contract that allowed for material to be piled only as high as the
adjacent bank. This was changed to allow contractor to stockpile spoil
material higher than the adjacent bank, but all other spoil material
was placed behind the dike on the landward side.

5) Marker Plates 18 Dec 96 28 Feb 97 Good

Marker plates were placed every 1000 feet and at places directed by
the plans and specifications. There were 38 marker plates set
throughout the construction of the dike.

F. MODIFICATIONS

A no cost modification was written to leave an access gap in the
dike at the land owner's request.

G. CLAIMS

None

H. ACCIDENTS/SAFETY

The contractor's overall Accident Prevention Plan was satisfactory.
There were no lost time accidents on this contract. The contractor
held weekly safety meetings and monthly fire drills. A total of 5,603
manhours were worked on this contract.

I. MATERIAL SUPPLIERS

Tower Rock Stone Company, St. Genevieve, Missouri
Tower Rock Stone Company, Grays Point Quarry
Nicolon Mirafi, Norcross, Georgia

J. SUGGESTIONS FOR IMPROVEMENTS TO FUTURE PLANS/SPEC'S/D'GS

In my opinion this dike could have been built using "C" stone which
would have been more cost efficient and would have served the intended
purpose. The dike should have been constructed with a minimum 3 ft
crown with the side slopes at the natural angle of repose of the stone.

K. EEO GOALS/MINORITY SUBCONTRACTS/LOCAL HIRE CONTRACTS
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The contractor met ERO goals as required. The contractor hired personnel from the Lake Charles Employment Office.

Joseph A. Cormier
JOSEPH A. CORMIER
Construction Representative

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MARCH 31, 1997