ATTACHMENT III

BARATARIA BAY SHORELINE (WEST) SHORELINE PROTECTION PROJECT

# PROJECT COMPLETION REPORT

# PROJECT COMPLETION REPORT[1]

**PROJECT NAME** Barataria Bay Waterway West Side Shoreline Protection

**CWPPRA/STATE PROJECT NO.** BA-23

**Report Date:** November 26, 2001 **BY:** USDA - NRCS

**1. Project Managers/Contracting Officer:**

| | | | |
|---|---|---|---|
| DNR Project Manager | John Hodnet | Telephone | (225) 342-7305 |
| DNR Construction Project Manager | John Hodnet | Telephone | (225) 342-7305 |
| DNR Monitoring Manager | Brady Carter | Telephone | (504)283-1771 |
| Federal Agency Project Manager | Richard Abshire | Telephone | (337) 291-3060 |
| Federal Agency Contracting Officer | Charles Phillips | Telephone | (318) 473-7796 |

**2. Location and description of projects as approved for construction by Task Force.**

The Barataria Bay Waterway West project is located in Jefferson Parish, approximately 4.5 miles south of Lafitte on the west bank of the Dupre Cut portion of the Barataria Bay Waterway. The approximate center of the project is located at latitude 29°37'54"N, longitude 90°05'42"W. The project consisted of a rock riprap foreshore dike approximately 9,900 feet in length with the top of the dike at elevation +4.0. The rock riprap dike tied into the north and south ends of an existing COE rock riprap dike which was used as containment for beneficial dredging. The rock riprap used in the dike construction was a COE R650 gradation and was placed with 3 horizontal to 1 vertical side slopes with a peaked top. The project also consisted of the installation of a water control structure located in the oil field access canal at the southern end of the project area. The water control structure consisted of two 10' diameter corrugated aluminum stop log risers with 48" diameter corrugated aluminum pipe attached to each riser.

**3. Final, as-built features, boundaries and resulting acreage (use attachments if necessary).**

The project was constructed as described above. The alignment on the north end of the dike was changed in order to work around a riser of the Grand Isle waterline. Also an area immediately north of the COE dike experienced excessive settlement during the initial construction. This area was later re-capped and brought to grade by the contractor that constructed the Barataria Bay Waterway East project approximately 5 months after the initial construction. The funds used for re-capping the dike were from the Barataria Bay Waterway West funds. For additional information see attached "AS BUILT" plans.

**Actual Benefited Acres** 232

**4. Key project cost elements**

| | CWPPRA Project Cost Estimates** | Cost Incurred as of Construction Completion |
|---|---|---|
| Construction | $2,091,981.86 | *$1,764,703.41 |
| E & D | $299,296.69 | $299,296.69 |
| Landrights | $80,224.14 | $80,225.14 |
| Monitoring | $131,332.00 | $55,608.15 |
| O & M | $746,260.00 | $ |
| Total | $3,349,094.69 | $2,199,833.39 |

*** Includes $7,854.25 paid to contractor of BBW East (5097217-1-3) to recap a section of dike (see section 12 for further details)**

**** Most recent estimate from CWPPRA Project estimates Report produced by USACOE.**

**5. Items of Work**

**Schedule of Items**

| Item No. | Work | Est. Quan. | Unit | Estimated Unit Price | Estimated Amount | Final Quan. | Bid Unit Price | Final Amount | % Over or - under |
|---|---|---|---|---|---|---|---|---|---|
| **BASE BID** | | | | | | | | | |
| 1 | Mobilization and Demobilization* | 1 | Job | Lump Sum | $38,000.00 | 1 | $35,000.00 | $26,600.00 | 0% |
| 2 | Pollution Control | 1 | Job | Lump Sum | $6,000.00 | 1 | $2,000.00 | $2,000.00 | 0% |
| 3 | Permanent Vegetation Seeding | 1 | Job | Lump Sum | $1,000.00 | 1 | $8,000.00 | $8,000.00 | 0% |
| 4 | Construction Surveys | 1 | Job | Lump Sum | $8,000.00 | 1 | $20,000.00 | $20,000.00 | 0% |
| 5A | Piling, Round Timber Piles, 40'-Long | 7 | Each | $450.00 | $3,150.00 | 7 | $1,210.00 | $8,470.00 | 0% |
| 5B | Piling, Round Timber Piles, 30'-Long | 12 | Each | $450.00 | $5,400.00 | 12 | $770.00 | $9,240.00 | 0% |
| 6 | Earthfill, Haul | 240 | C.Y. | $10.00 | $2,400.00 | 375 | $11.00 | $4,125.00 | 56% |
| 7 | Corrugated Aluminum Pipe, 48" diameter | 88 | L.F. | $75.00 | $6,600.00 | 88 | $297.00 | $26,136.00 | 0% |
| 8 | Rock Riprap, 90-lb., Structure | 180 | Tons | $34.00 | $6,120.00 | 239 | $50.00 | $11,950.00 | 33% |
| 9 | Rock Riprap, 650-lb., Dike | 44,130 | Tons | $30.00 | $1,323,900.00 | 22191 | $19.25 | $427,176.75 | -50% |
| 9A | Rock Riprap, 650-lb., Dike, Staged Placement Method | 3,960 | Tons | $30.00 | $118,800.00 | 3913 | $21.00 | $82,173.00 | -1% |
| 10 | Metal Fabrication & Installation, Variable Crest Weirs | 1 | Job | Lump Sum | $10,000.00 | 1 | $17,600.00 | $17,600.00 | 0% |
| 11 | Settlement Plates | 5 | Each | $500.00 | $2,500.00 | 5 | $900.00 | $4,500.00 | 0% |
| 12 | Timber Fabrication & Installation, Pipe Saddles & Timber Walkway | 1 | Job | Lump Sum | $1,000.00 | 1 | $6,710.00 | $6,710.00 | 0% |
| 13 | Geotextile | 19,630 | S.Y. | $3.50 | $68,705.00 | 18291 | $3.75 | $68,591.25 | -7% |
| 13A | Channel Excavation | 10,000 | C.Y. | $2.00 | $20,000.00 | 6982 | $1.65 | $11,520.30 | -30% |
| 14 | Rock Riprap, 650-lb., Dike | 20,890 | Tons | $30.00 | $626,700.00 | 16693 | $19.00 | $317,167.00 | -20% |
| 15 | Settlement Plates | 2 | Each | $500.00 | $1,000.00 | 2 | $750.00 | $1,500.00 | 0% |
| 16 | Geotextile | 10,460 | S.Y. | $3.50 | $36,610.00 | 10434 | $3.75 | $39,127.50 | 0% |
| ADDITIVE B | | | | | | | | | 0% |
| 17 | Rock Riprap, 650-lb., Dike | 19,040 | Tons | $30.00 | $571,200.00 | 24540 | $19.00 | $466,260.00 | 29% |
| 18 | Settlement Plates | 4 | Each | $500.00 | $2,000.00 | 4 | $750.00 | $3,000.00 | 0% |
| 19 | Geotextile | 14,310 | S.Y. | $3.50 | $50,085.00 | 15799 | $3.75 | $59,246.25 | 10% |

ORIGINAL ESTIMATED AMOUNT $2,909,170.00

ORIGINAL CONTRACT BID AMOUNT **$2,028,128.50**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MODIFICATIONS** | | | | | | | | | |
| 1A | Mobilization to Accomplish Realignment (Modification #6) | 1 | Job | Lump Sum | $7,726.28 | 1 | $7,726.28 | $7,726.28 | 0% |
| 19A | Metal Fabrication & Installation, Padlocks (Modification #4) | 8 | Each | $27.65 | $221.20 | 8 | $27.65 | $221.20 | 0% |
| 20 | Rock Riprap 650#, Wider Rock Section (Modification #8) | 2,000 | Tons | $19.25 | $38,500.00 | 946 | $19.25 | $18,210.50 | -53% |
| 21 | Settlement for Underrun of Bid Item 9 (Modification #9) | 1 | Job | Lump Sum | -- | -- | Lump Sum | $74,938.00 | |

TOTAL FINAL AMOUNT $1,722,189.03

*Modification #5 reduced mobilization from bid amount of $35,000 to $26,600

6. **Construction and construction oversight**

| | |
|---|---|
| **Prime construction contractor** | **Bertucci** |
| **Subcontractor** | **JAG** |
| | **Weeks Marine** |
| | **$2,028,128.50** |
| | **$92,695.98** |
| **Over/Under runs** | **$-398,635.45** |
| **Final construction contract** | **$1,722,189.03** |

| | | | |
|---|---|---|---|
| **Const. oversight contractor** | **N/A** | **Const. amt.** | **$0.00** |
| **Cons. O.S./Admin. agency** | **NRCS** | **Est. amt.** | **$** |

7. **Major equipment used.**

Vicon 4600 Dragline w/ Spud Barge
Bucyrus Erie 71B Crane with AB-11 Spud Barge
Linkbelt 3400 Excavator with KS-112 Spud Barge
Captain Mack Tug Boat
M/V Miss Bert Tug Boat
M/V Mini Bob Tug Boat
Front End Loader
Caterpillar Marsh Buggy
Linkbelt 98 Crane with Spud Barge
Caterpillar 322 BL Excavator

8. **Discuss construction sequences and activities, problems encountered, solutions to problems, etc.**

Contractor mobilized their sub-contractor Weeks Marine on site and began digging flotation with a Vicon 4600 Dragline and placed the spoil behind the alignment of the rock dike. The contractor then mobilized the Linkbelt excavator and the Bucyrus Erie Crane and began placing geotextile fabric and riprap on the Southern end of the project area. The contractor used the spud barge with the excavator to place the geotextile and hold it in place until the riprap for the dike was placed. This sequence of work continued until they reached the North End of the project area. A modification was issued to change the alignment of the dike to cross over the Grand Isle Water line since the water line was not located as their as-built surveys showed. The contractor made the tie-in to the existing bank at the North end and South end of the project area. JAG Construction mobilized and excavated the flotation channel to the water control structure and the intake channel in the marsh. A marsh buggy excavator was used to excavate in the marsh and also to dress some of the spoil on the South end that was exceeding the elevation on the plans. Jag constructed a cofferdam at the structure site and drove the pole piles and placed the pipes. The water control structure was placed and the site was backfilled. The walkway was installed and all of the stoplogs placed. The site was dressed and seeded and the contractor removed his equipment. The stoplogs were locked in place and the hoist and lifting rods were furnished to the Government.

A 400-foot special placement section was constructed by placing a 2-foot layer across the entire footprint of the dike and allowed to settle for 30 days. The contractor then came back and finished building the section to grade. There was approximately a 100-foot section in this area that settled about 2.5 feet. The contractor added more rock to bring it to grade but continued to settle. The settled area was left at about 2.5 feet below grade at completion of the work. It was determined that the area was excavated by the Corp of Engineers for access to dispose of dredge spoil.

There were underruns on the riprap quantities due to less settlement than anticipated over the vast majority of the work. The completed work looked very good. The landowner placed a gate on the canal leading to the water control structure and constructed a new boat shed adjacent to the rock dike at the North end of the project area.

**9. Construction change orders and field changes.**

1. Modification #1 – Increased performance time from 116 calendar days to 173 calendar days to include work for Additives A & B. Also changed specification 61 Rock Riprap to require partial barge measures in the event rock from the same barge was to be used in multiple bid items. This was a no cost change.
2. Modification #2 – Included weather days in the contract for the months for which the performance time was extended in modification #1.
3. Modification #3 – Changed the contact person for Creole Pipeline and added the City of Grand Isle as a contact. This was a no time or cost change modification.
4. Modification #4 – Added Bid Item 19 to include the addition of pad locks at the structure site to secure the stop logs. The cost of the modification was $221.20 with no change in performance time.
5. Modification #5 – Adjusted the value of the contract as compensation for allowing flotation dredging operations to be performed on a 24-hour basis. The contract value was decreased by $8,400.00 with no change in performance time.
6. Modification #6 – Added Bid Item 1A for remobilization to accomplish realignment of dike on north end around Grand Isle water pipeline riser station. The cost of the modification was $7,726.28 and the performance time was increased by 1 day.
7. Modification #7 – Changed the length of dike shown on sheet 13 of 16 of the drawings from the incorrect 3130 linear feet to the correct 1115 linear feet by pen and ink. The Contractor never signed this modification. It was to be a no cost or time change modification.
8. Modification #8 – Added Bid Item 20 to widen and place more riprap in a section of dike from station 1414+33 to 1422+25. The section was changed to a three-foot top width because of the settlement of the slope that occurred in this reach. The cost of the modification was $38,500 and the performance time was increased by 3 calendar days.
9. Modification #9 – Added Bid Item 21 which was a result of a negotiated settlement due to the under run of quantities as a result of differing site conditions. The cost of the modification was $74,938.00 with no time change.

**10. Pipeline and other utility crossings.**

| Structure | Owner | Rep. To Contact |
|---|---|---|
| 1. Oil Pipeline | BP Oil Pipeline Company | Kenneth Smithpeters<br>(504) 393-6285 |
| 2. Gas Pipeline | Creole Gas Pipeline Company | Gary Gilbert<br>(318) 665-8761 |
| 3. Water Supply Pipeline | City of Grand Isle | Mayor's Office<br>City of Grand Isle |

10. **Safety and Accidents.**

The contractor reported no accidents. The contractor's employees had to be reminded continuously to wear their hardhats and life jackets. The AB-11 Spud Barge had numerous safety violations when it arrived on site, but all violations were corrected.

**12. Additional comments pertaining to construction, completed project, etc.**

Modification #6 required the contractor to re-mobilize to complete the rock dike in a new alignment. This new dike alignment was caused by the placement of the Grand Isle Waterline valve station in a location other than the original planned location. Since the actions of others caused the cost of the project to be increased, the City of Grand Isle reimbursed NRCS $7,726.28 for the cost of the modification. The additional cost of the work was not charged against the MIPR. Therefore the total expenditures for the contract are $7,726.28 greater than the total dollars charged against the MIPR for the construction contract.

The value for construction shown in Section 4. of this document includes $7,854.25 which was paid to the contractor that completed the work on Barataria Bay Waterway East project (Contract No. 50-7217-1-3) to recap a settled section of the dike north of the COE dike. These funds were paid from MIPR W4HEM93490, but were not included as a portion of the "Final construction contract" cost of $1,722,189.03 in Section 6. of this document.

**13. Significant Construction Dates: To be filled out by DNR Construction Project Manager or Contracting Officer for construction for Agency responsible for construction.**

| **Bid I.D. (Construction, 50-7217-0-5)** | **Date** |
|---|---|
| Bid Opening | 3/16/2000 |
| Construction Contract Award | 4/4/2000 |
| Preconstruction Conference | 5/16/2000 |
| Notice to Proceed | 5/29/200 |
| Mobilization | 6/9/2000 |
| Construction Start | 6/9/200 |
| Construction Completion | 11/2/2000 |
| Final Acceptance | 11/7/2000 |

If different bids are taken, repeat this table to individually reflect each bid and attach tables.

**Other significant Project Dates**

| | **Date** |
|---|---|
| **Project Implementation closeout**** | |
| **Start of Preconstruction Monitoring***** | |
| **Preconstruction Aerial Photography Acquisition***** | |
| **Monitoring Plan Completion***** | |

**** Final implementation closeout is made by either the DNR Project Manager or the Federal Agency Contracting Officer depending on which organization had lead role for construction of project.**

***** To be completed by DNR Project Manager.**

## NRCS SUPPLEMENT TO COMPLETION REPORT

### CONTRACT ADMINISTRATION

List any items pertinent to the plans which caused problems, need clarification or changes for future contracts of this nature.

| DESCRIPTION OF ITEM IN PLANS | RECOMMENDATIONS FOR FUTURE CONTRACTS |
|---|---|
| 1. There were significant quantity variations encountered on this contract. The concern is that the CO must be informed in order that the Government does not allow work to be performed in access of available funds. | The COTR will monitor closely the quantities during construction and report weekly to the CO. Any potential over/under runs will be noted in the weekly reports.<br><br>Also the Design Section will provide to the COTR in the design folder the estimated quantities of rock, geotextile, etc. by like reach or structure. This will provide the COTR a better basis to determine if quantities are running under or over the estimates early on in the construction process. |

### CONSTRUCTION PLANS

List any items pertinent to the plans which caused problems, need clarification or changes for future contracts of this nature.

| DESCRIPTION OF ITEM IN PLANS | RECOMMENDATIONS FOR FUTURE CONTRACTS |
|---|---|
| 1. 6"X8" Cross Member for lifting Stop logs | The notch for installing the 6"X8" Cross Member that is used to attach the chain hoist to lift out the stop logs shall be shown on either the front half or back half of the pile top and not the center. It is impractical to field cut the notch in the center of the pile. |
| 2. Aluminum Grating Attachment | The "Typical Fastening Method" shown on the plans to attach the grating shall be noted as follows: "stainless steel saddle clips and stainless steel self tapping screws, spaced per manufacturer's recommendations". |

## CONSTRUCTION SPECIFICATIONS

List any significant items in the construction specifications which caused problems, need clarification or changes for future contracts of this nature.

| DESCRIPTION OF ITEM IN SPECIFICATIONS | RECOMMENDATIONS FOR FUTURE CONTRACTS |
|---|---|
| 1. Geotextile | Recommend adding the following wording to the specification: Geotextile shall be stretched taut and secured in place prior to riprap placement. Method of securing the geotextile shall be submitted with placement plan. |
| 2.Pad locks for Stoplogs | Padlocks shall be required to be furnished by the contractor, Specify that the Padlocks shall be a solid brass body and stainless steel shackle. All locks shall be keyed alike. |
| 3. Settlement Pipes | In the specifications require that the exposed threads on the settlement pipes shall be cold galvanized after installation in the field. |
| 4. Final grade of any type dike at final inspection. | The specification needs to explicitly state the following:<br>The allowable vertical tolerance of the placed (rock riprap, earth dike, etc.) shall be to the grade as shown in the plans plus 0.5 feet at the time of final inspection and acceptance. |

## GENERAL COMMENTS

List any significant items which worked well and should be repeated or which caused problems, need clarification or changes for future contracts of this nature.

| DESCRIPTION OF ITEM | RECOMMENDATIONS FOR FUTURE CONTRACTS |
|---|---|
| 1.Settlement plate data | The design engineer needs to make a comparative analysis of the predicted settlements with the actual settlements using the data obtained from the settlement plates during construction. This information needs to be shared with other design engineers. |