



**State of Louisiana  
Coastal Protection and Restoration Authority**

**2015 Annual Inspection Report**

for

**Barataria Bay Waterway West  
Shoreline Protection**

State Project Number BA-23  
Priority Project List 4

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Jefferson Parish

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## Table of Contents

I. Introduction.....	1
II. Project Description and History.....	1
III. Inspection Purpose and Procedures.....	2
IV. Inspection Results.....	3
V. Conclusions.....	3
VI. Recommendations.....	3
Immediate Repairs.....	3
Programmed Maintenance.....	3

## Appendices

Appendix A	Project Features Map
Appendix B	Photographs
Appendix C	Three Year Budget Projections
Appendix D	Field Inspection Form

## **I. Introduction**

The Barataria Bay Waterway West Bank Protection Project (BA-23) is located in Jefferson Parish, Louisiana approximately 4.5 mi (7.2 km) south of Lafitte on the west side of the Dupre Cut portion of the Barataria Bay Waterway (BBW). The project area is east of Bayou Rigolettes, north of the Lafitte Oil and Gas Field, and southwest of The Pen (Appendix A).

## **II. Project Description and History**

Project area wetlands were formed in a protective curve of the natural ridge of Bayou Barataria. The east-west orientation of the ridge, which serves as the southern boundary of the project area, protected the wetlands from the direct influence of salinities and tidal action of the Gulf of Mexico through Barataria Bay. Construction of the Dupre Cut portion of BBW established a direct conduit linking project wetlands with Barataria Bay. Initially, Dupre Cut spoil banks protected the project area from salinity and tidal fluctuations in the waterway. The combination of subsidence and wave erosion from marine traffic, however, has caused a breaching of the spoil banks which has resulted in increased water exchange and salinity fluctuations.

Principal project components include:

1. Foreshore Rock Dike
  - 9,900 linear feet (2,865 m) of rock shoreline protection along the west bank of the BBW.
2. Water Control Structure
  - Two (2) 48-inch diameter Corrugated Metal Pipe (CMP) culverts.
  - Four (4) 5-ft-long stop log bays capable of holding 10 stop logs each.

The purpose of the foreshore rock dike is to protect the existing adjacent marsh from excessive water exchange, wave action, and subsequent erosion. The structure also protects newly created marsh which was constructed as a beneficial use project during the U.S. Army Corps of Engineers' (USACE) maintenance dredging of the BBW. This marsh was created by beneficially placing approximately 750,000 cubic yards of dredge material from the Waterway in shallow open water areas adjacent to the BBW. Gaps in the spoil bank excluded from the USACE dredging operation were filled in, thereupon reinforcing and forming a continuous structure.

The purpose of the water control structure, which is located at the end of an abandoned oil well access canal, is to allow the water levels in the new and existing marsh to be managed. The structure remains open most of the year, allowing unimpeded ingress and egress of marine organisms. During waterfowl hunting season, which is also low water season, (November through January) the structure is closed to retain water within the

southern project area. Water levels are managed to a height not to exceed 6 inches (15 cm) below marsh elevation in the southern project area.

Project construction began on June 9, 2000, and was completed on November 7, 2000. Project life is estimated to be 20 years. Annual project inspections are planned.

### Past Maintenance Events

In December, 2005, a contract to cap the rock shoreline protection structure was awarded and resulted in the placement of 5,143 tons of rock riprap on the settled sections of the structure. The work was completed on January 24, 2006.

In May, 2007, a contract for dredging the access channel which leads to the water control structure was awarded. Approximately 4,400 cubic yards of material was dredged and placed within the channel to be used beneficially. This work was completed on June 19, 2007.

### **III. Inspection Purpose and Procedures**

The purpose of the BA-23 annual inspection is to evaluate the constructed project features, to identify any deficiencies, and to prepare a report detailing the condition of project features and recommended corrective actions. Should it be determined that corrective actions are needed, CPRA shall provide in the report a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan; March 18, 2002). The annual inspection report also contains a summary of maintenance projects and an estimated projected budget for the upcoming three (3) years for operation, maintenance and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C. A summary of past operation and maintenance projects performed since completion of the project are outlined in Section II.

An inspection of the Barataria Bay Waterway West Shoreline Protection Project (BA-23) was held on June 17, 2015, by Luke Prendergast and Melissa Hymel of CPRA, along with Quin Kinler of NRCS. Photographs of that inspection are included in Appendix B of this report.

## **IV. Inspection Results**

### Rock Riprap

The rock structure appeared to be in good condition at the time of the inspection (Photo #1). There are some sections which have experienced settlement, but the structure is still functioning as designed. These sections will continue to be monitored for maintenance needs.

### Water Control Structure

The weir box and supporting timber elements of the WCS appeared to be in good condition (Photo #2); however, significant erosion has occurred in the earthen berm due to perforations in the CMP culverts below the berm (Photos #3 and #4). Stop logs remain in-place to slow the pace of erosion until a permanent repair can be implemented. CPRA has hired a consultant to develop plans and specifications for the repair, and has applied for a permit.

## **V. Conclusions**

The shoreline protection component of the Barataria Bay Waterway West Bank Protection Project (BA-23) is performing as intended. The rock dike is protecting the existing marsh as designed. A liner repair is needed at the water control structure (WCS) to address perforations in the culverts, with earthen fill and riprap placement to combat erosion and to restore the water retention dike. Plans and specifications are being developed by a consultant engineering firm for CPRA. Site work is expected to occur during late summer through autumn of 2015. Estimated costs are shown in Appendix C.

## **VI. Recommendations**

The project team recommends proceeding with the WCS culvert repair as soon as possible. Upon completion of repairs, structure operations should return to the normal scheduled intervals. Inspection of project features should continue on an annual basis.

### Immediate Repairs

- Install culvert liners and repair erosion of earthen berm at WCS.

### Programmed Maintenance

- Continue to check the WCS during operational procedures.
- Continue to observe rock structure for settlement.

Annual Inspection Report  
Barataria Bay Waterway West Bank Protection  
State Project No. BA-23

**Appendix A**  
**Project Features Map**



Annual Inspection Report  
Barataria Bay Waterway West Bank Protection  
State Project No. BA-23



## **Appendix B**

### **Photographs**





**Photo #1 – Shoreline Protection**



**Photo #2 – Water Control Structure**



**Photo #3 – WCS Berm Erosion Above Culverts**



**Photo #4 – Erosion on Marsh Side of WCS Berm**

## **Appendix C**

### **Three Year Budget Projection**

Annual Inspection Report  
 Barataria Bay Waterway West Bank Protection  
 State Project No. BA-23

**Barataria Bay Waterway West Bank Protection (BA-23)**

Federal Sponsor: NRCS  
 Construction Completed : 11/7/2000  
 PPL 4

<b>Current Approved O&amp;M Budget</b> <b>June 2009</b>	Year 0 FY01	Year - 1 FY02	Year -2 FY03	Year -3 FY04	Year -4 FY05	Year -5 FY06	Year -6 FY07	Year -7 FY08	Year -8 FY09	Year -9 FY10	Year -10 FY11	Year -11 FY12	Year -12 FY13	Year -13 FY14	Year -14 FY15	Year -15 FY16	Year -16 FY17	Year - 17 FY18	Year -18 FY19	Year -19 FY20	Project Life Budget	
State O&M																					\$1,037,682	
Corps Admin																						\$0
Federal S&A																						\$0
<b>Total</b>																						<b>\$1,037,682</b>
<b>Projected O&amp;M Expenditures</b>																						Remaining Project Life
Maintenance Inspection																\$4,005	\$4,109	\$4,216	\$4,325	\$4,438		\$21,093
General Maintenance																						\$0
Operations																\$2,000	\$2,000	\$2,000	\$2,000	\$2,000		\$10,000
Surveys																						\$0
Sign Replacement																						\$0
Fed/State S&A																\$15,000						\$15,000
Maintenance/Rehabilitation																						\$0
E&D																\$41,245						\$41,245
Construction																\$305,634						\$305,634
Construction Oversight																\$65,142						\$65,142
<b>Total</b>																<b>\$433,026</b>	<b>\$6,109</b>	<b>\$6,216</b>	<b>\$6,325</b>	<b>\$6,438</b>		<b>\$458,114</b>

O&M Expenditures from COE Report	\$534,825
State O&M Expenditures not submitted for in-kind credit	\$0
Federal Sponsor MIPRs (if applicable)	\$9,869
<b>Total Estimated O&amp;M Expenditures (as of May 2015)</b>	<b>\$544,694</b>

Current Funded O&M Budget less COE Admin	\$1,037,682
<b>Est. O&amp;M Expenditures</b>	<b>\$544,694</b>
<b>Remaining Available O&amp;M Budget</b>	<b>\$492,987</b>

Current Project Life Budget less COE Admin	\$1,037,682
<b>Total Projected Project Life Budget</b>	<b>\$1,002,808</b>
<b>Project Life Budget Request Amount</b>	<b>(\$34,874)</b>

## **Appendix D**

### **Field Inspection Form**

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: **BA-23 Barataria Waterway (West) Shoreline Protection**

Date of Inspection: 6/17/2015

Time: 11:30 am

Structure No. **n/a**

Inspector(s): Prendergast, Kinler, Hymel

Structure Description: Rock dike and water control weir structure

Water Level

Inside: N/A

Outside: 1.30'

Type of Inspection: Annual

Weather Conditions: Mostly sunny, light wind

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
CMP culverts	Poor	See Remarks	See Remarks		Multiple perforations were detected at the end of last year while probing the structure. Slip-lining repair is planned for summer-fall 2015 timeframe.
Weir Bays - logs locks, hoist, supports	Good	None	Minor	#2	No significant defects noted; stop logs remain in place to reduce flow rate and slow erosion until permanent culvert repair is implemented.
Handrails Grating Hardware etc.	Good	None	Minor	#2	No significant defects noted.
Timber Piles	Good	None	N/A		Piles are in good condition, some loss of earth cover has occurred due to erosion.
Timber Wales	Good	None	N/A		No significant defects noted.
Galv. Pile Caps	Fair	None	Moderate		Galvanized caps exhibited signs of weathering.
Signage /Supports	Good	None	None		No significant defects noted.
Riprap	Good	None	N/A		Riprap pad on waterway side of WCS berm is generally in good condition; minor repairs will be included in 2015 maintenance event.
Earthen Berm	Poor	See Remarks	N/A	#3, 4	Significant erosion noted in berm covering CMP culverts. Earth fill will be placed following slip-liner installation.
Foreshore Rock Dike	Good	None	N/A	#1	Good condition overall, minor settlement observed.