



**State of Louisiana**

**Coastal Protection and Restoration  
Authority of Louisiana (CPRA)**

**2015/2016 Annual Inspection  
Report**

for

**FRESHWATER BAYOU CANAL  
BANK STABILIZATION  
PROJECT (ME-13)**

State Project Number ME-13  
Priority Project List 5

March 4, 2016  
Vermilion Parish



Prepared by:

Mel Guidry, Engineering Tech.  
CPRA  
Lafayette Field Office  
635 Cajundome Blvd.  
Lafayette, LA 70596

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## **I. Introduction**

The Freshwater Bayou Canal Bank Stabilization Project (ME-13) is located in the Mermentau Basin on the western bank of the Freshwater Bayou Canal (FBC) in Vermilion Parish just south of the town of Intracoastal City. Structural components of the project extend from the North Prong/Belle Isle Canal north to the Sixmile Canal. (See Appendix A).

The Freshwater Bayou Canal Bank Stabilization Project was authorized by Section 303(a) of Title III Public Law 101-646, the Coastal Wetlands Planning Protection and Restoration Act (CWPPRA) enacted on November 29, 1990 as amended and approved on the fifth Priority Project List. The Freshwater Bayou Canal Bank Stabilization Project was approved with an original twenty-year (20 year) project life, which began in June 1998. In 2016, the CWPPRA Task Force approved a project extension for an additional 20 years.

## **II. Inspection Purpose and Procedures**

The purpose of the annual inspection of the Freshwater Bayou Canal Bank Stabilization Project (ME-13) is to evaluate the constructed project features to identify any deficiencies and prepare a report detailing the condition of project features and recommended corrective actions needed. 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, 2003). The annual inspection report also contains a summary of maintenance projects which were completed since completion of constructed project features 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 completed since completion of the Freshwater Bayou Canal Bank Stabilization Project are outlined in Section IV.

An inspection of the Freshwater Bayou Canal Bank Stabilization Project (ME-13) was held on March 4, 2016, under sunny skies and mild temperatures. In attendance were Mel Guidry and Stan Aucoin from CPRA, Lonnie Dunn with Luhr Bros., and Andre Aucoin with Acadian Engineers. The federal sponsor, NRCS, was not able to attend. The inspection began at the northern end of the rock dike alignment at 9:30 am.

The field inspection included a complete visual inspection of the entire project site. Staff gauge readings when available and existing temporary benchmarks were used to determine approximate water level and foreshore rock dike elevation. Field Inspection notes were completed in the field to verify areas requiring repairs. (see Appendix D).

### III. Project Description and History

Constructed between 1965 and 1967, the FBC channel extends from the Gulf Intracoastal Waterway (GIWW) at Intracoastal City to the Gulf of Mexico (GOM), providing safe passage for deep-draft vessels of commercial interests from the GOM to the GIWW. The canal includes a lock near the GOM to reduce saltwater intrusion into the fresh water and low salinity interior wetlands along the canal. Between 1979 and 1986, approximately 300,000 tons of cargo was transported along FBC, mostly in oil and gas service and supply vessels and commercial fishing boats (U. S. Army Corps of Engineers [USACE] 1989).

The main cause of wetland loss in the ME-13 project area is boat wake-induced erosion of the canal spoil banks and the fragile organic soils of the adjacent marsh along the west bank of the canal (USACE and Louisiana Department of Natural Resources [LDNR] 1994). The subsequent impact of tidal scour and seasonal salinity spikes entering FBC, mainly from Little Vermilion Bay, exacerbates the loss of shoreline marsh in the project area. When completed in 1967, the average bank width of the original FBC channel was 173 ft. By 1990, the average bank width of the channel had more than tripled to 583 ft (Good et al. 1995). Brown and Root (1992) estimated that between 1968 and 1992, shoreline erosion along FBC averaged 12.5 ft/yr on each bank.

The principal project features include:

- Site 1 - Foreshore Rock Dike (approximately 23,193 linear feet)

The original dike was constructed in 1998. The dike was built to elevation +4.0 (NAVD 88) with a four foot crown width and a 1 on 2 side slopes, using 1,100 lb (max-size) stone.

### IV. Summary of Past Operation and Maintenance Projects

**General Maintenance:** Below is a summary of completed maintenance projects and operation tasks performed since June 1998, the construction completion date of the Freshwater Bayou Canal Bank Stabilization Project (ME-13).

**2005 - Freshwater Bayou Canal Bank Stabilization Maintenance Project – LDNR (Luhr Bros. Contractor):** This maintenance project included the installation of approximately 20,987 tons of 1,250 lb gradation stone to repair 9,130 linear feet of bank. Quantity limitations prevented the repair of all sections required. Construction was completed on 12/15/2005. The cost associated with

the engineering, design and construction of the Freshwater Bayou Canal Stabilization Maintenance Project is as follows:

Construction:	\$464,368.55
Engineering & Design:	\$ 2,234.46
Construction Administration:	\$ 5,625.00
Construction Oversight/As built:	<u>\$ 15,503.10</u>
<b>Project Total:</b>	<b>\$487,731.11</b>

**2015 - Freshwater Bayou Canal Bank Stabilization Maintenance Project – CPRA (Luh Bros. Contractor):** This maintenance project included the installation of approximately 59,525 tons of 250 Lb Class Rock to repair the entire 23,193 linear feet of bank. Construction was completed on 3/4/2016. The cost associated with the engineering, design and construction of the Freshwater Bayou Canal Bank Stabilization Maintenance Project is as follows:

Construction:	\$2,510,050.00
Engineering & Design:	\$ 75,523.23
Construction Admin., Oversight, As-built:	<u>\$ 46,300.93</u>
<b>Project Total:</b>	<b>\$2,631,874.16</b>

**Structure Operations:** There are no active operations associated with this project.

## V. Inspection Results

### **Site 1—Foreshore rock dike**

The inspection revealed the entire 23,193 linear feet of foreshore rock dike repaired in the recent 2015 maintenance project is in excellent condition. (Appendix B, Photos 1-3) This project is ready to move into the next 20 year life extension as approved by the CWPPRA Task Force.

## VI. Conclusions and Recommendations

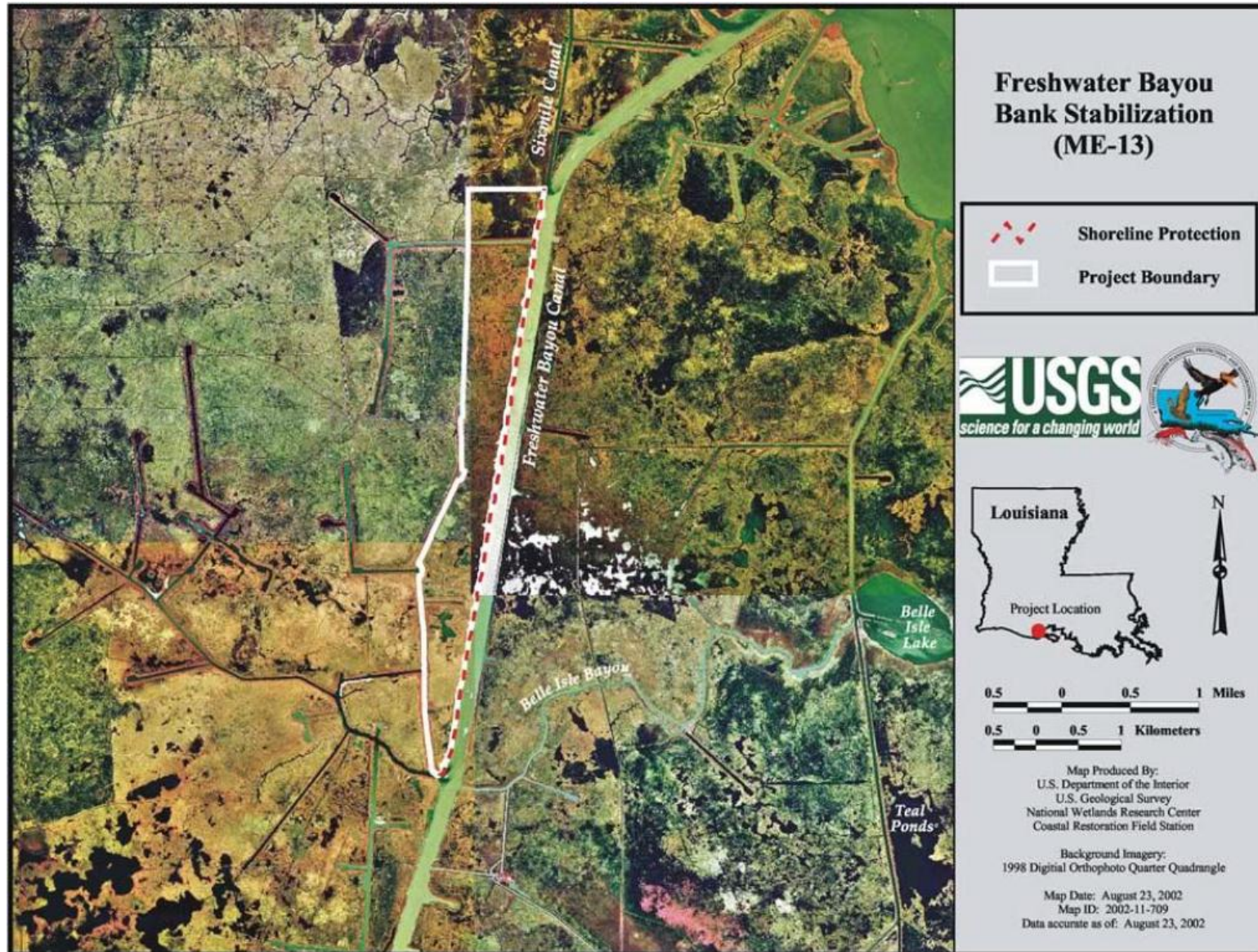
Overall the Freshwater Bayou Canal Bank Stabilization Project is in excellent condition and appears to have stabilized the erosion of the Freshwater Bayou Canal Bank line. Minimal maintenance should be required during the next 20 years of life extension.

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## **Appendix A**

### **Project Features Map**

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## **Appendix B**

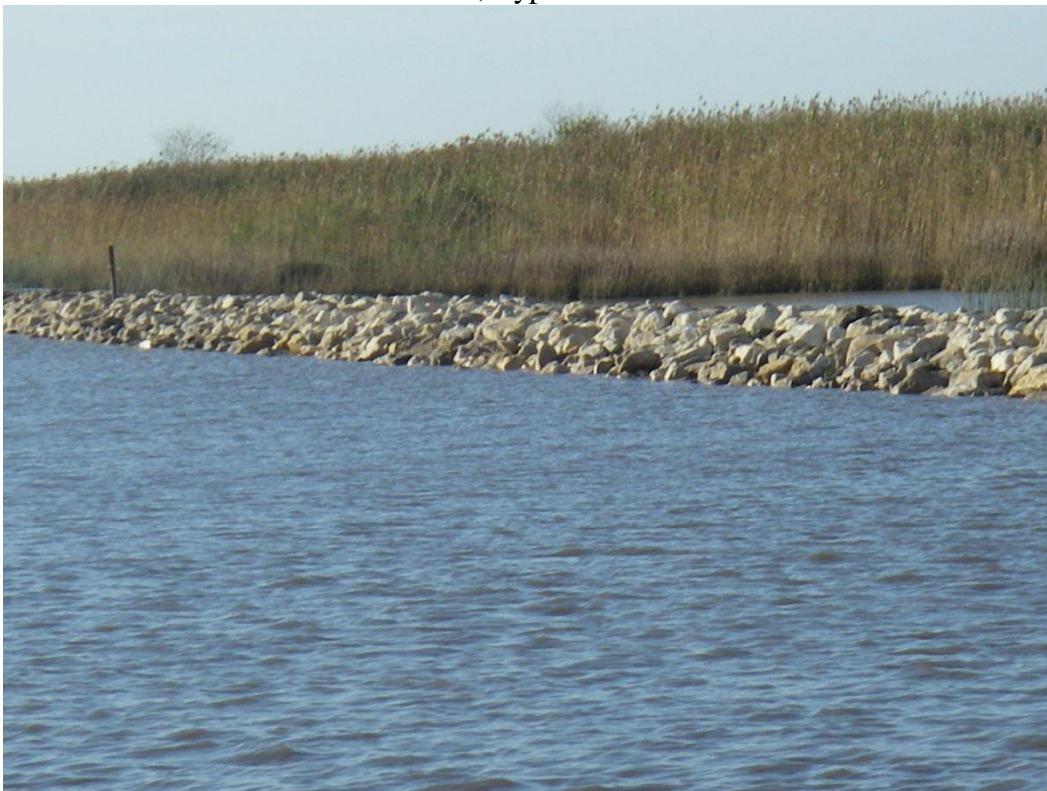
### **Photographs**



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**Photo No. 1, Typical Rock Dike**



**Photo No. 2, Vegetation Behind Rock Dike**

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**Photo No. 3, Typical Rock Dike**

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## **Appendix C**

### **Three Year Budget Projection**

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**FRESHWATER BAYOU CANAL BANK STABILIZATION / ME-13 / PPL5**  
**Three-Year Operations & Maintenance Budgets 07/01/2016 - 06/30/2019**

<u>Project Manager</u> Pat Landry	<u>O &amp; M Manager</u> Mel Guidry	<u>Federal Sponsor</u> NRCS	<u>Prepared By</u> Mel Guidry
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	2016/2017 (-19)	2017/2018 (-20)	2018/2019 (-21)
<b>Maintenance Inspection</b>	\$ 7,057.00	\$ 7,269.00	\$ 8,130.00
<b>Structure Operation</b>	\$ -	\$ -	\$ -
<b>State Administration</b>			\$ -
<b>Federal Administration</b>			\$ 3,735.00

**Maintenance/Rehabilitation**

16/17 Description:

E&D		
Construction		Incl. 25% Contingency
Construction Oversight		
Sub Total - Maint. And Rehab.	\$ -	

17/18 Description:

E&D	\$ -
Construction	
Construction Oversight	
Sub Total - Maint. And Rehab.	\$ -

18/19 Description:

E&D	\$ -
Construction	\$ -
Construction Oversight	\$ -
Sub Total - Maint. And Rehab.	\$ -

	2016/2017 (-19)	2017/2018 (-20)	2018/2019 (-21)
<b>Total O&amp;M Budgets</b>	\$ 7,057.00	\$ 7,269.00	\$ 11,865.00

<b>O &amp; M Budget (3 yr Total)</b>	<b>\$ 26,191.00</b>
<b>Unexpended O &amp; M Budget</b>	<b>\$ 2,898,959.00</b>
<b>Remaining O &amp; M Budget (Projected)</b>	<b>\$ 2,872,768.00</b>

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## **Appendix D**

### **Field Inspection Form**

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**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: ME-13 Freshwater Bayou Canal Bank Stabilization Project  
 Structure No. N/A  
 Structure Description: Foreshore Rock Dike  
 Type of Inspection: Annual

Date of Inspection: March 4, 2016 Time: 9:30 am  
 Inspector(s): Mel Guidry, Stan Aucoin, (CPRA)  
 Lonnie Dunn (Luhr Bros.) , Andre Aucoin (Acadian Engineers)  
 Water Level :  
 Weather Conditions: sunny skies and mild temperatures

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Steel Bulkhead / Caps	N/A				
Steel Grating	N/A				
Stop Logs	N/A				
Hardware	N/A				
Timber Piles	N/A				
Timber Wales	N/A				
Galv. Pile Caps	N/A				
Cables	N/A				
Signage /Supports	N/A				
Rip Rap (fill) (foreshore dike)	Excellent			1,2,3	Maintenance work to restore dike to constructed elevation in excellent condition. Vegetation growth was noted.
Earthen Embankment	N/A				

What are the conditions of the existing levees?  
 Are there any noticeable breaches?  
 Settlement of rock plugs and rock weirs?  
 Position of stoplogs at the time of the inspection?  
 Are there any signs of vandalism?