



**State of Louisiana
Department of Natural Resources
Coastal Engineering Division**

**2006/2007 Annual Inspection
Report**

for

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

State Project Number ME-13
Priority Project List 5

May 01, 2007
Vermilion Parish

Prepared by:

Mel Guidry, Engineering Tech.
LDNR/Coastal Engineering Division
Lafayette Field Office
635 Cajundome Blvd.

Table Of Contents

I. Introduction.....	1
II. Inspection Purpose and Procedures	1
III. Project Description and History.....	1
IV. Summary of Past Operation and Maintenance Projects.....	2
V. Inspection Results	3
VI Conclusions and Recommendations	3

Appendices

Appendix A	Project Features Map
Appendix B	Photographs
Appendix C	Three Year Budget Projections
Appendix D	Field Inspection Notes
Appendix E	Map showing areas to be monitored

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 in Vermilion Parish just south of the town of Intracoastal City. Structural components of the project extend from the North Prong/Belle Isle Canal south to the Humble/Acadiana Marina 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 has a twenty –year (20 year) economic life, which began in June 1998.

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, LDNR 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 May 01, 2007 under sunny skies and mild temperatures. In attendance were Stan Aucoin, Mel Guidry, Herb Juneau and Garrett Broussard of LDNR along with Dale Garber representing NRCS.

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 at 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>
Project Total:	\$487,731.11

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

V. Inspection Results

Site 1—Foreshore rock dike

The inspection revealed the 9,130 linear feet of foreshore rock dike repaired in the 2005 maintenance project is in good condition. The additional 7,000 linear feet of foreshore rock dike identified in the 2003/2004 O&M inspection as being below elevation 4.0' NAVD but above elevation 2.0' NAVD, which was not addressed due to budget limitations has not deteriorated further.(Photos: Appendix B, Photos 1 & 2)

VI. Conclusions and Recommendations

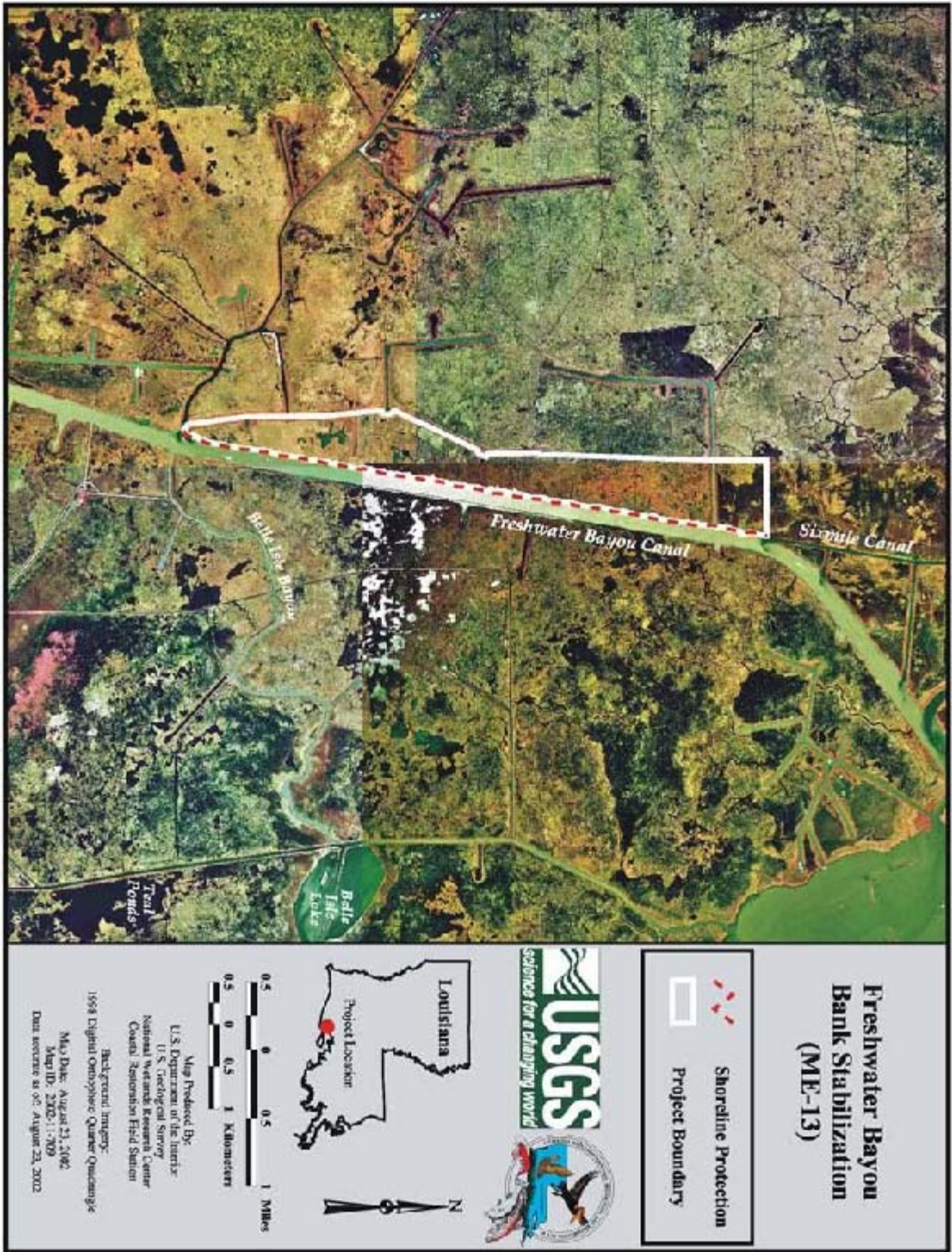
Overall the Freshwater Bayou Canal Bank Stabilization Project is in good condition and appears to have stabilized the erosion of the Freshwater Bayou Canal Bankline. The above mentioned 7,000 linear feet of foreshore rock will continue to be monitored for deterioration in future O & M Inspections.

Annual Inspection Report
FRESHWATER BAYOU CANAL
BANK STABILIZATION PROJECT
State Project No. ME-13

Appendix A

Project Features Map

Annual Inspection Report
FRESHWATER BAYOU CANAL
BANK STABILIZATION PROJECT
State Project No. ME-13



Annual Inspection Report
FRESHWATER BAYOU CANAL
BANK STABILIZATION PROJECT
State Project No. ME-13

Appendix B

Photographs

Annual Inspection Report
FRESHWATER BAYOU CANAL
BANK STABILIZATION PROJECT
State Project No. ME-13



Photo 1, Typical rock dike



Photo 2, Typical rock dike.

Annual Inspection Report
FRESHWATER BAYOU CANAL
BANK STABILIZATION PROJECT
State Project No. ME-13

Appendix C

Three Year Budget Projection

Annual Inspection Report
 FRESHWATER BAYOU CANAL
 BANK STABILIZATION PROJECT
 State Project No. ME-13

FRESHWATER BAYOU CANAL BANK STABILIZATION / ME-13 / PPL5
Three-Year Operations & Maintenance Budgets 07/01/2007 - 06/30/10

<u>Project Manager</u> Mel Guidry	<u>O & M Manager</u> Mel Guidry	<u>Federal Sponsor</u> NRCS	<u>Prepared By</u> Mel Guidry
--------------------------------------	--	--------------------------------	----------------------------------

	2007/2008	2008/2009	2009/2010
Maintenance Inspection	\$ 5,407.00	\$ 5,570.00	\$ 5,737.00
Structure Operation	\$ -	\$ -	\$ -
Administration		\$ -	\$ -

Maintenance/Rehabilitation

07/08 Description:

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

08/09 Description:

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

09/10 Description:

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

	2007/2008	2008/2009	2009/2010
Total O&M Budgets	\$ 5,407.00	\$ 5,570.00	\$ 5,737.00

O &M Budget (3 yr Total)	\$ 16,714.00
Unexpended O & M Budget	\$ 8,534.41
Remaining O & M Budget (Projected)	\$ (8,179.59)

Annual Inspection Report
FRESHWATER BAYOU CANAL
BANK STABILIZATION PROJECT
State Project No. ME-13

Appendix D

Field Inspection Form

Annual Inspection Report
FRESHWATER BAYOU CANAL
BANK STABILIZATION PROJECT
 State Project No. ME-13

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: ME-13 Freshwater Bayou

Date of Inspection: May 1, 2007 Time:

Structure No. N/A

Inspector(s): Stan Aucoin, Mel Guidry, Herb Juneau & Garrett Broussard (LDNR)
 Dale Garber (NRCS)

Structure Description: Foreshore Rock Dike

Water Level
 Weather Conditions: Sunny and mild

Type of Inspection: Annual

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)	Good			1 & 2	Recent maintenance work to restore dike to constructed elevation is still in good condition.
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?

Annual Inspection Report
FRESHWATER BAYOU CANAL
BANK STABILIZATION PROJECT
State Project No. ME-13

Appendix E

Locations to be Monitored