



**Coastal Protection and Restoration
Authority of Louisiana**

**Office of Coastal Protection and
Restoration**

**2007/2008 Annual Inspection
Report**

for

**MARSH ISLAND HYDROLOGIC
RESTORATION PROJECT
(TV-14)**

State Project Number TV-14
Priority Project List 6

February 28, 2008
Iberia Parish

Prepared by:

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I. Introduction

The Marsh Island Hydrologic Restoration Project is located in Iberia Parish approximately six miles south of Cypremort Point. The project area encompasses approximately 6,697 acres (2,710 ha) of wetlands in the vicinity of the northwest area of Marsh Island east of Bayou Blanc.

The Marsh Island Hydrologic Restoration 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 sixth Priority Project List. The Marsh Island Hydrologic Restoration Project has a twenty year (20 year) economic life, which began in December 2001.

II. Inspection Purpose and Procedures

The purpose of the annual inspection of the Marsh Island Hydrologic Restoration Project (TV-14) 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. 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 Marsh Island Hydrologic Restoration Project are outlined in Section IV.

An inspection of the Marsh Island Hydrologic Restoration Project (TV-14) was held on February 28, 2008 under clear skies and cool temperatures. In attendance were Darrell Pontiff and Stan Aucoin from LDNR, David Hidalgo representing Aucoin and Associates, Inc., Bill Hicks representing COE, and Cassidy LeJeune and Paul Provence representing LDWF. The annual inspection began at approximately 11:00 a.m. at Structure No. 9 and ended at Closure No. 1 at approximately 12:20 p.m.

The field inspection included a complete visual inspection of most of the project features. Staff gage readings and existing temporary benchmarks where available were used to determine approximate elevations of water, embankments and weir features. Photographs were taken at each project feature (see Appendix B) and Field Inspection notes were completed in the field to record measurements and deficiencies (see Appendix D).

III. Project Description and History

The Marsh Island Hydrologic Restoration Project is located in Iberia Parish approximately six miles south of Cypremort Point. The project area encompasses approximately 6,697 acres (2,710 ha) of wetlands on the northeast tip of Marsh Island east of Bayou Blanc. It comprises 5,034 acres (2,037 ha) of brackish marsh and 1,663 (673 ha) acres of open water, based on the Louisiana Department of Natural Resource's GIS data for 1984. Common plant species found in the project area include *Juncus roemerianus* (needlegrass rush), *Spartina patens* (saltmeadow cordgrass), *Schoenoplectus maritimus* (cosmopolitan bulrush), *Schoenoplectus americanus* (chairmaker's bulrush), *Spartina alterniflora* (saltmarsh cordgrass), and *Vigna luteola* (hairypod cowpea) (United States Department of Agriculture, Natural Resources Conservation Service. 2002, Chabreck and Linscombe 1988).

Between 1930 and the present, the hydrology of Marsh Island has changed due to tidal influenced erosion, subsidence, and oil and gas exploration (Orton 1959, SCS 1978). Several oil field canals were constructed to facilitate oil and gas exploration in the project area during the 1950's. Recent deterioration and subsidence of the spoil banks deposited in the 1950's have resulted in cuts in the spoil banks that have become conduits for rapid tidal exchanges between the surrounding bays and the interior marshes. These rapid exchanges have resulted in tidal scouring and the loss of marsh vegetation through erosion and subsidence. Lake Sand and a number of interior lakes also supported a significant amount of submerged aquatic vegetation (SAV). Today these lakes are almost devoid of SAV, presumably due to the effects of increased tidal exchange and increased turbidity. Erosion has also lead to the deterioration of the northeast end of Marsh Island and the north rim of Lake Sand, leaving exposed a highly organic brackish marsh.

During the life of the 20 year project, 408 acres (168 ha) of wetlands will be protected (USACE 1994). The project consists of the construction of 9 plugs in oil and gas canals at the northeast end of Marsh Island, the protection of the northeast shoreline of Marsh Island, and isolating Lake Sand from Vermilion Bay with a free-standing rock breakwater (figure 1). Project construction began on July 25, 2001 with the construction of approximately 4,000 linear feet (1291 m) of rock breakwater to protect the north shoreline on Lake Sand by contractor Tacon Company, Inc. of Bartlett, Tennessee and subcontractor Luhr Brothers, Inc. of Columbia, Illinois. A total of seven canals were plugged with rock armor. An additional closure, constructed of painted steel sheetpile and rock armor, was constructed at the mouth of an oil exploration canal on the eastern end of the project area. Construction of the \$2.9 million project was completed on December 12, 2001.

IV. Summary of Past Operation and Maintenance Projects

General Maintenance: Below is a summary of completed maintenance projects and operation tasks performed since December 2001, the construction completion date of the Marsh Island Hydrologic Restoration Project (TV-14).

2005 Maintenance Project–Grillot, Inc. (Through lease agreement with Bertucci Contracting Corp.) This maintenance project included the placement of paving stone (18” thick) spread out around the wingwalls of the plug at Lake Sand Canal No. 5 Closure to “harden” the area while still allowing flow in extreme tidal events to pass around the structure without washing away the existing bank. Also included was the extension of the rock dike on the southern end of Canal No. 5. Approximately 4,000 tons of 1000# stone was placed on Lake Sand Closure No. 4 to reconstruct the rock dike where stone was displaced. This maintenance project was a result of damages that occurred during Hurricane LILI in 2002. The costs associated with the engineering, design and construction of the Marsh Island Maintenance Project are as follows:

Construction (FEMA)	\$267,059.11*
Construction (CWPPRA)	\$ 64,092.00
E & D, construction oversight, as-builts	\$ 30,262.00
Project Total	\$361,413.11

* This cost was reimbursed by FEMA

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

V. Inspection Results

Closure No. 1

As per the results of the 2006 inspection there is some erosion on each end where the rock plug ties back into the adjacent marsh. Damages were determined to be related to Hurricane RITA. This condition will allow for additional erosion and eventual “flanking” of the canal closure. As a result of the inspection of Closure No. 1, LDNR and COE agree that corrective actions will be required this year. The marsh on each end of the closure should be paved with 12” of 30# stone to make this area “hard” and less subject to erosion and thereby prevent eventual flanking of the structure. This proposed work is currently included in our maintenance project for repair of Hurricane RITA damages. (Photos: Appendix B, Photo 1).

Closure No. 2

It was observed that extensive erosive damage by Hurricane RITA's surge to each end of the closure had occurred, especially on the east end, where there is now a major "flanking" cut that allows a water connection to the bay. The original rock structure that was constructed is still in good condition. LDNR and COE agree that maintenance will be required at this time. The closure dike needs to be extended on the east end to cut off and fill the flanking channel that was caused by Hurricane RITA. On the west end, the area that suffered erosion needs to be adjusted with some new stone paving. As a preemptive effort, the "new" ends of the closure dike should be paved and made "hard" as described for Closure No. 1. (Photos: Appendix B, Photo 2).

Closure No. 3

The rock closure dike appears in good condition and the stone appears to not have suffered major displacement. Also, it was observed (and confirmed with aerial photography post Hurricane RITA) that a large open water area has developed within the marsh near the western terminus of Closure No. 3 and that the bankline between that point and the eastern end of Closure No. 2 has eroded very severely and such that the "landbridge" between Vermilion Bay on the north of Marsh Island and the northwestern portion of Lake Sand proper is now narrow and may become subject to breaching thus allowing an undesirable water connection between the two bodies of water. LDNR and COE agree that this area is in poor condition and should be considered for maintenance at some point in time. It is recommended that an additional reach of shoreline protection dike be constructed, an estimated 1,500 to 1,800 linear feet, to connect the western end of Closure No. 3 to the eastern end of Closure No. 2. This reach of bank has been recently surveyed and the estimated cost for rock dike and flotation is approximately \$800,000. LDNR and COE agreed that due to this area being of concern but not yet critical status; and budget constraints, this maintenance work would be undertaken at a later time. (Photos: Appendix B, Photos 3 & 4).

Closure No. 4

The Lake Sand Dike closure as originally constructed and recently repaired for Hurricane LILI damages, appears in good condition and the stone appears to have not suffered major displacement except for some of the eastern reach where some of the stone, which had existed to +4.0 NAVD88, appears to be a bit low in elevation. This latter reach is several hundred feet in length and the most easterly tie-in bank has been reduced in cross-section for 80 to 100 feet. LDNR and COE agree that this area is deficient and maintenance will be required sometime. The low areas described above in the reach within the old dike that was to +4.0 elevation will need to be restored with rock riprap, though bank protection is still being afforded by the existing stone shoreline protection. (Photos: Appendix B, Photo 5).

Closure No. 5

The inspection at Closure No. 5 revealed there had been some degradation of the earthen/marsh areas in the adjacent marsh. The steel sheet pile, rock riprap wingwalls, and stone bank/marsh paving placed as part of the Hurricane LILI repair project is in good condition and were apparently very effective in preventing additional damage by the erosive action of Hurricane RITA. The staff gage needs to be re-set and made plumb to provide accurate readings. This work will be a part of a survey effort to be performed within the next year. The overbank marsh areas paved to make same “hard” and paid for with O & M funding needs to be continually evaluated for its effectiveness. Marsh overbank areas, especially on the

north end of the structure sustained much erosion in areas not protected by the “hard” paving, such that it is possible that the unpaved area to the north end of the closure may not be wide enough to withstand many more years without experiencing storm induced breaching. (Photos: Appendix B, Photo 6).

Closure No. 6

The initially constructed closure at this site still has an excellent cross-section, but the breach on the south end of the closure has been enlarged by Hurricane RITA. The repair of same is included in an upcoming maintenance contract currently being developed. (Note: the breach was discovered approximately one month prior to RITA and was narrow and about two feet in depth). The breach is now larger, post RITA, and approximately one foot deeper in depth. On the north end of the closure, the erosion of the marsh area was sustained at the dike tie-in location, to an extent that it is predicted that “flanking” of the closure has occurred. LDNR and COE agree that this area is deficient and maintenance will be required at this time. The existing flanking channel cut needs to be plugged off by extending the rock riprap closure to the south with stone. Cost will be shared with FEMA such that a channel breach existed pre-RITA. It is the opinion of this office that the cost sharing proportions would be equitable if shared at 1/3 State and 2/3 FEMA as the storm event made the pre-existing flanking breach wider and deeper in about those proportions. Also, as a recommended additional preemptive work, each resulting end of the closure dike will be paved and made “hard” per discussion for Closure No. 1. Again this work is currently being designed for a maintenance contract to be performed this year. (Photos: Appendix B, Photo 7).

Closure No. 7

This closure site is in good condition except that the bank areas at both ends of the rock riprap have experienced some minor erosion. The closure tie-ins to the bank, however, appear still adequate at this time. LDNR and COE agree that this area is in good condition and no maintenance will be required at this time. (Photos: Appendix B, Photo 8).

Closure No. 8

This closure site is in good condition however a very small breach was discovered on the southern end of the rock closure that will need to be addressed. LDWF indicated that Renaissance Petroleum Co., LLC has requested a “Letter of Clearance” to dredge the oilfield canal adjacent to Closure No. 8 and place the spoil material on the eastern shore of the canal up to the southern end of this closure. LDWF will inquire about the possibility of spoil from this dredging project could be used to plug the small breach and also to verify the expected timeline as to when this work will be performed. Should this option not be available, then we will include this work as part of the current proposed O&M maintenance project; however it will entail additional survey, design and permitting efforts. LDNR and COE agree that this project feature requires maintenance at this time. (Photos: Appendix B, Photo 9).

Closure No. 9

The rock riprap shoreline protection dike constructed on the south shoreline of Marsh Island was noted to now sit out further into the waters of the Gulf as discussed in the last inspection. Conditions that existed pre-RITA were such that the feature was functioning well and that sediment had accreted and a growth of marsh vegetation had extended over the new fill. This rock shoreline feature will still function as a breakwater and extend the life of the earthen pipeline closure to the north. It was discussed that perhaps each end of the current rock riprap dike be extended to the east and to the west, or perhaps construct extensions on each end of the existing stone to the northwest and northeast alignment directions to the shoreline from erosion of the earthen pipeline closure. Conditions at this location need to be evaluated and a design for some east and west extensions of the current dike concluded after some study. (Photos: Appendix B, Photo 10).

VI. Conclusions and Recommendations

Overall, the Marsh Island Hydrologic Restoration Project is in fair condition with most features still functioning as designed after repair. However, corrective work as listed below needs to be accomplished as soon as possible as the “flanking” channel cuts will only enlarge with time, thus making the corrective construction effort more costly. Surveys of the features with damages have recently been performed and reduced. Designs for a maintenance contract are currently being performed and drawings for the project are being developed. It is expected that the proposed work will be accomplished with approximately \$115,000 of FEMA RITA Funding and the balance of the contract cost covered by O & M Funding for the project. Estimated cost of the maintenance work is \$505,500.

- Closure No. 1 – bank paving on each end of closure.
- Closure No. 2 – extend rock dike east end, bank paving each end of closure.
- Closure No. 5 – replace staff gage.
- Closure No. 6 – extend rock dike to close breach, bank paving each end of closure.

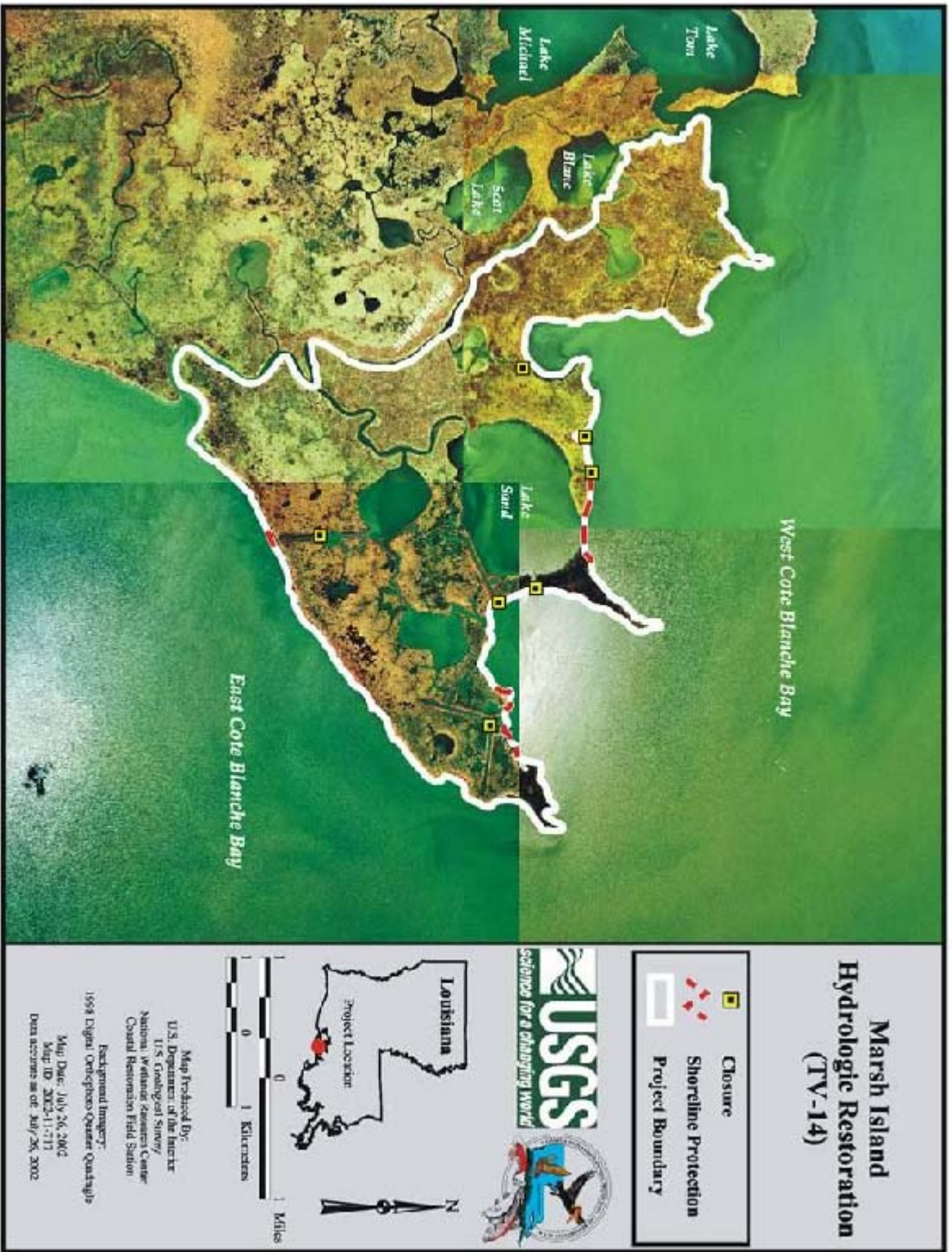
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- Closure No. 8 – fill in the small breach on the southern end of the rock plug.

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Appendix A

Project Features Map



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Appendix B

Photographs

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Photo 1, Closure No.1, Note low areas of stone in center of structure.



Photo 2, Closure No.2, View showing "flanking" cut on east end.

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Photo 3, Area between West End of Closure No.3 and East End of Closure No.2, showing narrow section of marsh requiring shoreline protection.



Photo 4, Closure No. 3, View looking east, Lake Sand Dike in the background.

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Photo 5, Typical view of Lake Sand Closure No. 4.



Photo 6, Closure No. 5. View of center portion of structure showing sheet pile wall.

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Photo 7, Closure No. 6. Note breach on south end of closure stone fill. Breach had begun prior to Hurricane RITA, but was not as wide.



Photo 8, Shoreline protection at Site No. 7.

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Photo 9, Closure No.8, View looking east showing breach on southern end of rock plug.



Photo 10, Closure No. 9, Along south shore of Marsh Island. Note that shoreline protection dike is now away from the current shoreline post-RITA.

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Appendix C

Three Year Budget Projection

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MARSH ISLAND/ TV-14 / PPL 6
Three-Year Operations & Maintenance Budgets 07/01/2008 - 06/30/2011

<u>Project Manager</u>	<u>O & M Manager</u>	<u>Federal Sponsor</u>	<u>Prepared By</u>
Pat Landry	Darrell Pontiff	COE	Darrell Pontiff
	2008/2009	2009/2010	2010/2011
Maintenance Inspection	\$ 5,570.00	\$ 5,737.00	\$ 5,909.00
Structure Operation			
Administration	\$ 15,000.00		\$ -

Maintenance/Rehabilitation

08/09 Description: Hurricane Rita repairs/bank paving

Note: The E&D, Construction, and Const. Oversight include a 25% contingency factor. Construction excludes \$153,176 of FEMA repairs.

E&D	\$ 10,000.00
Construction	\$ 373,424.00
Construction Oversight	\$ 30,000.00
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ 413,424.00</u>

09/10 Description :

E&D	
Construction	
Construction Oversight	
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ -</u>

10/11 Description:

E&D	\$ -
Construction	\$ -
Construction Oversight	\$ -
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ -</u>

	2008/2009	2009/2010	2010/2011
<u>Total O&M Budgets</u>	\$ 433,994.00	\$ 5,737.00	\$ 5,909.00

<u>O & M Budget (3 yr Total)</u>	\$ 445,640.00
<u>Unexpended O & M Budget</u>	\$ 526,258.54
<u>Remaining O & M Budget (Projected)</u>	\$ 80,618.54

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OPERATION AND MAINTENANCE BUDGET WORKSHEET
 MARSH ISLAND / PROJECT NO. TV-14 / PPL NO. 6

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$5,570.00	\$5,570.00
General Structure Maintenance	LUMP	1	\$0.00	\$0.00
Engineering and Design	LUMP	1	\$9,000.00	\$9,000.00
Operations Contract	LUMP	1	\$0.00	\$0.00
Construction Oversight	LUMP	1	\$30,000.00	\$30,000.00

ADMINISTRATION

LDNR / CRD Admin.	LUMP	1	\$10,000.00	\$10,000.00
FEDERAL SPONSOR Admin.	LUMP	1	\$5,000.00	\$5,000.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL ADMINISTRATION COSTS:				\$15,000.00

MAINTENANCE / CONSTRUCTION

SURVEY

SURVEY DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Secondary Monument	EACH	0	\$0.00	\$0.00
	Staff Gauge / Recorders	EACH	2	\$500.00	\$1,000.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
TOTAL SURVEY COSTS:					\$1,000.00

GEOTECHNICAL

GEOTECH DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Borings	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
TOTAL GEOTECHNICAL COSTS:					\$0.00

CONSTRUCTION

CONSTRUCTION DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Hurricane RITA repairs, bank paving at ends of closures.				
	Rip Rap	LIN FT	TON / FT	TONS	UNIT PRICE
	Rock Dike Class 130#	0	0.0	3,285	\$60.00
	Bank Paving Class 30#	0	0.0	960	\$60.00
		0	0.0	0	\$0.00
	Filter Cloth / Geogrid Fabric	SQ YD	1,110	\$8.00	\$8,880.00
	Navigation Aid	EACH	0	\$0.00	\$0.00
	Signage	EACH	0	\$0.00	\$0.00
	General Excavation / Fill	CU YD	0	\$0.00	\$0.00
	Dredging	CU YD	0	\$0.00	\$0.00
	Sheet Piles (Lin Ft or Sq Yds)		0	\$0.00	\$0.00
	Timber Piles (each or lump sum)		0	\$0.00	\$0.00
	Timber Members (each or lump sum)		0	\$0.00	\$0.00
	Hardware	LUMP	1	\$0.00	\$0.00
	Materials	LUMP	1	\$0.00	\$0.00
	Mob / Demob	LUMP	1	\$100,000.00	\$100,000.00
	Contingency	LUMP	1	\$105,320.00	\$105,320.00
	General Structure Maintenance	LUMP	1	\$0.00	\$0.00
	Flotation Excavation	LUMP	1	\$57,700.00	\$57,700.00
	OTHER			\$0.00	\$0.00
	OTHER			\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:					\$526,600.00

TOTAL OPERATIONS AND MAINTENANCE BUDGET: \$587,170.00

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Appendix D

Field Inspection Form

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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 12:20

Structure No. 1

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Plug

Water Level Inside: _____ Outside: _____

Type of Inspection: Annual

Weather Conditions: Clear skies and cool 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)	Good	Minor		1	Some erosion on each end of rock plug, marsh paving will be required to prevent further erosion.
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?

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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 12:10

Structure No. 2

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Plug

Water Level Inside: _____ Outside: _____
 Weather Conditions: Clear skies and cool temperatures

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)	Fair	Moderate		2	Some erosion on east end of rock plug, marsh paving will be required to prevent further erosion. A flanking cut has occurred on the west end of the plug and will need to be extended.
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?

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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 12:05

Structure No. 3

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Plug

Water Level Inside: _____ Outside: _____
 Weather Conditions: Clear skies and cool temperatures

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)	Good			3 & 4	Hurricane RITA eroded the marsh between Str. No. 2 & 3, leaving a narrow piece of marsh, and it is recommended that the shoreline between Str. 3 & 4 (+/- 1,500 to 1,800 L.F.) be armored with a rock dike.
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?

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Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 12:05

Structure No. 4

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Plug

Water Level Inside: _____ Outside: _____

Type of Inspection: Annual

Weather Conditions: Clear skies and cool 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)	Good	Minor		5	Several hundred feet of the rock dike on the eastern end has been displaced and will need to be restored to constructed height of +4.0.
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?

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Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 11:50

Structure No. 5

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Plug

Water Level Inside: _____ Outside: _____
 Weather Conditions: Clear skies and cool temperatures

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)	Good			6	Staff gage leaning, needs to be re-set. Marsh overbank area on the north needs to be evaluated for possible extended marsh paving.
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
**MARSH ISLAND HYDROLOGIC
 RESTORATION PROJECT**
 State Project No. TV-14

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 11:40

Structure No. 6

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Plug

Water Level Inside: _____ Outside: _____

Type of Inspection: Annual

Weather Conditions: Clear skies and cool 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)	Poor	Major		7	The existing breach on the southern end has increased in size and depth and needs to be plugged. Some erosion on northern end of rock plug which will need marsh paving to harden this area.
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?

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 MARSH ISLAND HYDROLOGIC
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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 11:35

Structure No. 7

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Dike

Water Level Inside: _____ Outside: _____
 Weather Conditions: Clear skies and cool temperatures

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)	Good			8	
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?

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 RESTORATION PROJECT**
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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 11:20

Structure No. 8

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Plug

Water Level Inside: _____ Outside: _____

Type of Inspection: Annual

Weather Conditions: Clear skies and cool 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)	Moderate			9	A breach has occurred on the southern end of the rock plug. A proposed oilfield dredging project may provide a means to closing this breach. If, not then additional surveying, design, & permitting required.
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?

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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: TV-14 Marsh Island Hydrologic Restoration

Date of Inspection: February 28, 2008 Time: 11:00

Structure No. 9

Inspector(s): Darrell Pontiff, Stan Aucoin (DNR), David Hidalgo,
 (Aucoin Assoc.), Bill Hicks (COE),
 Cassidy LeJeune, Paul Provence (LDWF)

Structure Description: Rock Plug

Water Level Inside: _____ Outside: _____

Type of Inspection: Annual

Weather Conditions: Clear skies and cool 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)	Poor	Moderate		10	Hurricane RITA has eroded the marsh/sediment behind the rock plug and has exposed the earthen keyway to further erosion. The rock dike needs to be extended on each end and tie back into existing shoreline.
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?

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Appendix E

Locations to be Monitored