



**State of Louisiana  
Office of Coastal Protection and  
Restoration  
Operations Division**

**2010 Annual Inspection Report**

for

**DELTA MANAGEMENT AT  
FORT ST. PHILLIP  
(BS-11)**

State Project Number BS-11  
Priority Project List PPL-10

September 8, 2010  
Plaquemines Parish

Prepared by:

Thomas L. Bernard, P.E.  
OCPD, Operations Division  
New Orleans Regional Office  
CERM, Suite 309  
2045 Lakeshore Dr.  
New Orleans, La 70122

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## **I. Introduction**

Delta Management at Fort St. Phillip (BS-11) 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. The Delta Management at Fort St. Phillip Project was approved on the tenth (10<sup>th</sup>) Priority Project List and the project area is located within two separate areas, both in Plaquemines Parish, La. The western most area (Area 1) is just north of Fort St. Phillip in Bay Dennesse consists of three new crevasses and 19,500 linear feet of terraces. The other area (Area 2), made up of 3 crevasses, is approximately 4.5 mile east of Area 1 in the vicinity of Little Coquille Bay. Both areas are fed by over-bank flow from the Lower Mississippi River just across the river from Fort Jackson at Mile 19.5 AHP.

The necessary agreements to allow project construction and operation to proceed have been executed between OCPR and the U.S. Fish and Wildlife Service (USFWS).

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

The purpose of the annual inspection of the Delta Management at Fort St. Phillip Project (BS-11) is to evaluate the constructed project features to identify any deficiencies and prepare a report detailing the condition of the project features and recommended corrective actions needed. Should it be determined that corrective actions are needed, OCPR 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 May 13, 2007). 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. The summary of any past maintenance projects completed since completion of the initial construction of the Delta Management at Fort St. Phillip Project in 2006 will be outlined in Section IV.

This annual inspection of the Delta Management at Fort St. Phillip Project (BS-11) was held on September 8, 2010 on a clear day, with winds SW at 5 mph. At the time of the inspection, 10:00 AM, the Mississippi River Gage at the Venice, La. station was +3.4 feet NAVD 88. In attendance were Tom Bernard and John Troutman, OCPR. The inspection was made by air-boat. Photographs of the inspection are included in Appendix B of this report.

### III. Project Description and History

This project was constructed in two areas near Fort St. Phillip, on the east side of the Mississippi River across from Fort Jackson in Plaquemines Parish. Area 1 consists of 174 acres of emergent marsh and 678 acres of open water. Area 2 contains three triangular-shaped areas and consists of 126 acres of emergent marsh and 327 acres of open water. This project is intended to enhance marsh growth by diverting fresh water and sediment through constructed crevasses into shallow, open-water receiving areas. Earthen terraces were also constructed in Area 1 to further trap sediments, promote marsh-building processes, and offset land loss.

The project has a twenty-year (20 year) economic life, which began in 2006.

The principal project features include:

- Terraces: 98 terraces, 200 ft. in length, 10 ft. crown width, 52 ft. base width
- Crevasse 1A: 2000 ft. x 75 ft. x -8.0 ft. NAVD 88
- Crevasse 1B: 400 ft. x 75 ft. x -6.0 ft. NAVD 88
- Crevasse 1C: 700 ft. x 75 ft. x -6.0 ft. NAVD 88
- Crevasse Alt.2A: 732 ft. x 75 ft. x -8.0 ft. NAVD 88
- Crevasse 2B: 500 ft. x 75 ft. x -6.0 ft. NAVD 88
- Crevasse 2C: 2000 ft. x 75 ft. x -6.0 ft. NAVD 88

- A. **Terraces** – Project Area 1. 98 terraces, each 200 ft. in length, with a crown width of 10 ft., tapering at a slope of 1 vertical to 6 horizontal to a base width of 52 ft., with 50 ft. separation between ends of terraces. Aggregate length of terraces is 19,500 linear ft. Terraces were built to an initial elevation of +3.5 ft. NAVD 88, with a target settled elevation of +3.0 ft. NAVD 88. Minimum distance to shoreline was 50 ft. and minimum pipeline clearance was 50 ft. Within these constraints, the locations of individual terraces were left to the discretion of the construction manager. In order to maintain a minimum clearance of 50 ft. from the existing pipelines, three of the terraces were each reduced slightly for a total of 100 ft. which made a total of 19,500 linear ft. constructed.

Terraces are not subject to maintenance or rehabilitation under the Cost Sharing Agreement or permits. The above information is provided as a record of post-construction conditions. OCPR anticipates that the terraces will be observed during annual inspection visits.

Vegetative plantings on the terraces were undertaken through a contract separate from the construction contract and are not subject to maintenance or rehabilitation by OCPR or USFWS.

- B. Crevasse 1A** – Project Area 1. 2000 ft. long x 75 ft. base width x -8.0 ft. NAVD 88. Marsh elevation was assumed to be +1.5 ft. NAVD 88. The crevasse was dredged from the center of the channel, passes through a reference point defined by the pre-construction shoreline (X = 3,875,963.63 ft., Y = 322,516.09 ft. NAD 83), and extends along a bearing of N47°W. Dredge material was placed within 175 ft. no closer than 25 ft. on either side of the crevasse to a maximum elevation of +5.0 ft. NAVD 88.
- C. Crevasse 1B** – Project Area 1. 400 ft. long x 75 ft. base width x -6.0 ft. NAVD 88. Marsh elevation was assumed to be +1.5 ft. NAVD 88. The crevasse was dredged from the center of the channel, passes through a reference point defined by the pre-construction shoreline (X = 3,875,557.544 ft., Y = 320,705.6253 ft. NAD 83), and extends along a bearing of N22°W. Dredge material was placed within 175 ft. no closer than 25 ft. on either side of the crevasse to a maximum elevation of +5.0 ft. NAVD 88.
- D. Crevasse 1C** – Project Area 1. 700 ft. long x 75 ft. base width x -6.0 ft. NAVD 88. Marsh elevation was assumed to be +1.5 ft. NAVD 88. The crevasse was dredged from the center of the channel, passes through a reference point defined by the pre-construction shoreline (X = 3,873,382.42 ft., Y = 320,246.83 ft. NAD 83), and extends along a bearing of S77°W. Dredge material was placed within 175 ft. no closer than 25 ft. on either side of the crevasse to a maximum elevation of +5.0 ft. NAVD 88
- E. Crevasse Alt. 2A** – Project Area 2. 732 ft. long x 75 ft. base width x -8.0 ft. NAVD 88. Marsh elevation was assumed to be +1.5 ft. NAVD 88. The crevasse was dredged from the center of the channel, passes through a reference point defined by the pre-construction shoreline (X = 3,891,269.92 ft., Y = 322,243.99 ft. NAD 83), and extends along a bearing of N50°E. Dredge material was placed within 175 ft. no closer than 25 ft. on either side
- F. Crevasse 2B** – Project Area 2. 500 ft. long x 75 ft. base width x -6.0 ft. NAVD 88. Marsh elevation was assumed to be +1.5 ft. NAVD 88. The crevasse was dredged from the center of the channel, passes through a reference point defined by the pre-construction shoreline (X = 3,888,519.61 ft., Y = 320,569.13 ft. NAD 83), and extends along a bearing of S69°E. Dredge material was placed within 175 ft. no closer than 25 ft. on either side of the crevasse to a maximum elevation of +5.0 ft. NAVD 88.
- G. Crevasse 2C** – Project Area 2. 2000 ft. long x 75 ft. base width x -6.0 ft. NAVD 88. Marsh elevation was assumed to be +1.5 ft. NAVD 88. The crevasse was dredged from the center of the channel, passes through a reference point defined by the pre-construction shoreline (X = 3,891,138.38 ft., Y = 321,807.44 ft. NAD 83), and extends along a bearing of S77°E. Dredge material was placed within 175 ft. no closer than 25 ft. on either side of the crevasse to a maximum elevation of +5.0 ft. NAVD 88.

Those project features were covered by this inspection are inclusive of and are identified as the Delta Management at Fort St. Phillip Project (BS-11). The intention of the annual inspection is to maintain

the project in a condition that will generally provide the anticipated benefits that the project was based on. There is no requirement that this project function to any standard beyond the 20-year economic life; except that it is not left as a hazard to navigation or a detriment to the environment. A site map showing the project boundary within the Delta Management at Fort St. Phillip project benefit area is shown in Attachment II along with a map identifying all of the project features within the project area.

#### **IV. Summary of Past Maintenance Projects**

There has been no past maintenance on this project (BS-11)

#### **V. Inspection Results for Crevasses Dredged in 2006 (See Appendix B for Project Photos)**

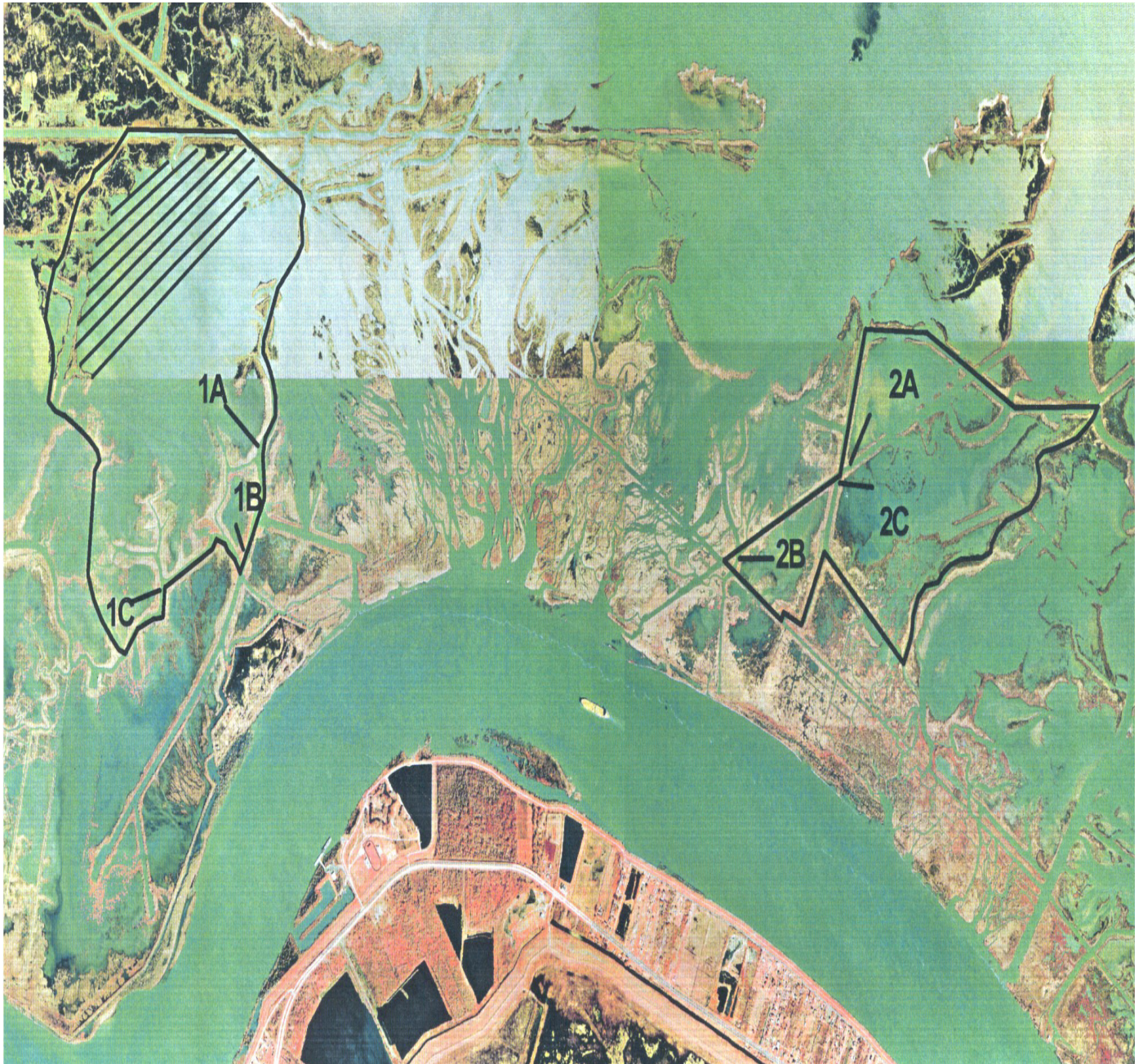
- A. Terraces: The terraces have held up very well since they were constructed in the fall of 2006. There are a few that were built on the north side with soft / unsuitable material that have developed some washout areas in their perimeter; however, most of the terraces are in excellent condition and have vegetated heavily since the time that they were planted. Tides were relatively high at the time of the inspection, but the terrace heights above the water showed that they had maintained mostly all of their original elevations. Moderate current containing river sediments are obvious throughout the terrace field.
- B. Crevasse No. 1A: This crevasse is the longest of all, and funnels river water directly into Bay Dennesse, where the terraces were constructed. Currents through this crevasse were swift and appeared to be carrying plenty of river sediment into the terrace area. Soundings showed that there is good depth throughout the length of the crevasse, and the crevasse spoil was well vegetated.
- C. Crevasse No. 1B: This crevasse, which is the shortest of all, feeds a small area of marsh. Currents through this cut were light. The spoil banks appeared to be very heavily vegetated. Soundings show that the original depth is being maintained.
- D. Crevasse No. 1C: Good flow is being maintained by this crevasse. Soundings show that good water depth is being maintained throughout its length carrying much needed river sediments into the bays. Dredge spoil from the crevasse has vegetated nicely.
- E. Crevasse No. Alt.2A: This crevasse maintains a good flow throughout its length and appears to be carrying much needed river sediments into the interior marsh areas. Soundings show that the mouth of the crevasse has shoaled slightly, losing a foot of depth. However the rest of the cut has maintained its original depth.
- F. Crevasse No. 2B: Currents are moderate to high in this crevasse. There is evidence of sediments being carried into the marsh areas, and the spoil from the crevasse excavation has vegetated very heavily. This crevasse also has maintained its original depth throughout.
- G. Crevasse No. 2C: This crevasse is also one of the longest of the project and it is evident, from the amount of flow, and from soundings, that it has maintained its constructed depth throughout its length. The spoil from the crevasse excavation has vegetated very nicely and there is plenty current to carry river sediments into the interior marsh areas.

## **VI. Conclusions and recommendations**

As a result of the inspection, the inspection team concluded that all project features are functioning as designed and should continue to do so without any immediate maintenance. Therefore; it is recommended that no action be taken for maintenance at this time.



## Appendix A Project Features Map





## **Appendix B Photographs**



**Terrace Field in Bay Denesse (View 1) Looking South**



**Terrace Field in Bay Denesse (View 2) Looking West**



**Terrace Field in Bay Denesse**



**Terrace Field in Bay Denesse**





**Crevasse A-1, Looking North towards the terrace field.**



**Crevasse 2-C Interior Marsh Build Up**



**Crevasses 1-B Interior Marsh Build Up**



**Vegetated Crevasse Spoil Bank**

## Appendix C Three-Year Operation & Maintenance Budget

Delta Management at Fort St. Phillip / BS-11 / PPL 10  
**Three-Year Operations & Maintenance Budgets 07/01/2010 - 06/30/2013**

<u>Project Manager</u> Thomas Bernard	<u>O &amp; M Manager</u> Thomas Bernard	<u>Federal Sponsor</u> USFWS	<u>Prepared By</u> Thomas Bernard
	<b>2010/2011</b>	<b>2011/2012</b>	<b>2012/2013</b>
<b>Maintenance Inspection</b>	\$4,860.21	\$4,986.58	\$5,116.23
<b>General Maintenance</b>	\$0.00	\$0.00	\$0.00
<b>Structure Operation</b>	\$0.00	\$0.00	\$0.00
<b>Administration</b>	\$0.00	\$0.00	\$0.00
<b>Maintenance/Rehabilitation</b>			

09/10 Description:

E&D	\$0.00
Construction	\$0.00
Construction Oversight	\$0.00
Sub Total - Maint. And Rehab.	\$ -

10/11 Description

E&D	\$0.00
Construction	\$0.00
Construction Oversight	\$0.00
Sub Total - Maint. And Rehab.	\$ -

11/12 Description:

E&D	\$0.00
Construction	\$0.00
Construction Oversight	\$0.00
Sub Total - Maint. And Rehab.	\$ -

	<b>2010/2011</b>	<b>2011/2012</b>	<b>2012/2013</b>
<b>Total O&amp;M Budgets</b>	<b>\$ 4,860.21</b>	<b>\$ 4,986.58</b>	<b>\$ 5,116.23</b>

<b>O &amp; M Budget (3 yr Total)</b>	<b>\$ 14,963.02</b>
<b>Unexpended O &amp; M Budget</b>	<b>\$ 827,491.75</b>
<b>Remaining O &amp; M Budget (Projected)</b>	<b>\$ 812,528.73</b>



## OPERATION AND MAINTENANCE BUDGET WORKSHEET 2010/2011

Delta Management at Fort St. Phillip / BS-11 / PPL 10

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$4,860.21	\$4,860.21
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations	LUMP	0	\$0.00	\$0.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

### ADMINISTRATION

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSER Admin.	LUMP	0	\$0.00	\$0.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL ADMINISTRATION COSTS:				\$0.00

### MAINTENANCE / CONSTRUCTION

#### SURVEY

SURVEY DESCRIPTION:					
	Secondary Monument	EACH	0	\$0.00	\$0.00
	Staff Gauge / Recorders	EACH	0	\$0.00	\$0.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER - Breakwater	LUMP	0	\$0.00	\$0.00
	TOTAL SURVEY COSTS:				\$0.00

#### GEOTECHNICAL

GEOTECH DESCRIPTION:					
	Borings	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
	TOTAL GEOTECHNICAL COSTS:				\$0.00

#### CONSTRUCTION

CONSTRUCTION DESCRIPTION:					
Rip Rap	LIN FT	TON / FT	TONS	UNIT PRICE	
	0	0.0	0	\$0.00	\$0.00
	0	0.0	0	\$0.00	\$0.00
	0	0.0	0	\$0.00	\$0.00
Filter Cloth / Geogrid Fabric		SQ YD	0	\$0.00	\$0.00
Navagation 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	0	\$0.00	\$0.00
Materials		LUMP	0	\$0.00	\$0.00
Mob / Demob		LUMP	0	\$0.00	\$0.00
Contingency		LUMP	0	\$0.00	\$0.00
General Structure Maintenance		LUMP	0	\$0.00	\$0.00
OTHER				\$0.00	\$0.00
OTHER				\$0.00	\$0.00
OTHER				\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:					\$0.00

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** \$4,860.21



## OPERATION AND MAINTENANCE BUDGET WORKSHEET 2011/2012

Delta Management at Fort St. Phillip / BS-11 / PPL 10

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$4,986.58	\$4,986.58
General Structure Maintenance (Radio Equip.)	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations	LUMP	0	\$0.00	\$0.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

### ADMINISTRATION

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSER Admin.	LUMP	0	\$0.00	\$0.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL ADMINISTRATION COSTS:				\$0.00

### MAINTENANCE / CONSTRUCTION

#### SURVEY

SURVEY DESCRIPTION:				
Secondary Monument	EACH	0	\$0.00	\$0.00
Staff Gauge / Recorders	EACH	0	\$0.00	\$0.00
Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
TBM Installation	EACH	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL SURVEY COSTS:				\$0.00

#### GEOTECHNICAL

GEOTECH DESCRIPTION:				
Borings	EACH	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL GEOTECHNICAL COSTS:				\$0.00

#### CONSTRUCTION

CONSTRUCTION DESCRIPTION:					
Rip Rap	LIN FT	TON / FT	TONS	UNIT PRICE	
	0	0.0	0	\$0.00	\$0.00
	0	0.0	0	\$0.00	\$0.00
	0	0.0	0	\$0.00	\$0.00
Filter Cloth / Geogrid Fabric	SQ YD	0	\$0.00	\$0.00	\$0.00
Navigation Aid	EACH	0	\$0.00	\$0.00	\$0.00
Signage	EACH	0	\$0.00	\$0.00	\$0.00
General Excavation / Fill	CU YD	0	\$0.00	\$0.00	\$0.00
Dredging	CU YD	0	\$0.00	\$0.00	\$0.00
Sheet Piles (Lin Ft or Sq Yds)		0	\$0.00	\$0.00	\$0.00
Timber Piles (each or lump sum)		0	\$0.00	\$0.00	\$0.00
Timber Members (each or lump sum)		0	\$0.00	\$0.00	\$0.00
Hardware	LUMP	0	\$0.00	\$0.00	\$0.00
Materials	LUMP	0	\$0.00	\$0.00	\$0.00
Mob / Demob	LUMP	0	\$0.00	\$0.00	\$0.00
Contingency	LUMP	0	\$0.00	\$0.00	\$0.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00	\$0.00
Survey	LUMP	0	\$0.00	\$0.00	\$0.00
OTHER			\$0.00	\$0.00	\$0.00
OTHER			\$0.00	\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:					\$0.00

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** \$4,986.58

## OPERATION AND MAINTENANCE BUDGET WORKSHEET 2012/2013

Delta Management at Fort St. Phillip / BS-11 / PPL 10

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$5,116.23	\$5,116.23
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations	LUMP	0	\$0.00	\$0.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

### ADMINISTRATION

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSER Admin.	LUMP	0	\$0.00	\$0.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL ADMINISTRATION COSTS:				\$0.00

### MAINTENANCE / CONSTRUCTION

#### SURVEY

SURVEY DESCRIPTION:				
Secondary Monument	EACH	0	\$0.00	\$0.00
Staff Gauge / Recorders	EACH	0	\$0.00	\$0.00
Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
TBM Installation	EACH	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL SURVEY COSTS:				\$0.00

#### GEOTECHNICAL

GEOTECH DESCRIPTION:				
Borings	EACH	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL GEOTECHNICAL COSTS:				\$0.00

#### CONSTRUCTION

CONSTRUCTION DESCRIPTION:	Repair of storm damage to valves, fencing, and embankment. Replacement of storm damaged gate actuator.				
Rip Rap	LIN FT	TON / FT	TONS	UNIT PRICE	
	0	0.0	0	\$0.00	\$0.00
	0	0.0	0	\$0.00	\$0.00
	0	0.0	0	\$0.00	\$0.00
Filter Cloth / Geogrid Fabric	SQ YD	0		\$0.00	\$0.00
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- Gate Actuator, gate sleeves	LUMP	0		\$0.00	\$0.00
Materials	LUMP	0		\$0.00	\$0.00
Mob / Demob	LUMP	0		\$0.00	\$0.00
Contingency	LUMP	0		\$0.00	\$0.00
General Structure Maintenance	LUMP	0		\$0.00	\$0.00
OTHER				\$0.00	\$0.00
OTHER				\$0.00	\$0.00
OTHER				\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:					\$0.00

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** \$5,116.23

## Appendix D

### Field Inspection Form

FIELD INSPECTION CHECK SHEET					
Project No. / Name: <u>Delta Mgt. at Ft. St. Phillip, BS-11</u>		Date of Inspection: <u>September 8, 2010</u> Time: <u>10:00 AM</u>			
Crevasse No. <u>See Report Section III</u>		Inspector(s): <u>OCPR: Tom Bernard &amp; John Troutman</u>			
Crev. / Terr. Specs. <u>See Report Section III</u>		Water Level: <u>3.4' NAVD 88 at Venice, La.</u> Time: <u>7:00 AM</u>			
Type of Inspection: <u>2010 Annual Inspection</u>		Weather Conditions: <u>Mostly Clear, Wind SW @ 5 mph</u>			
Item	Condition	Physical Damage	Dimensions	Photo	Observations and Remarks
Crevasse # 1A	Excellent	None	2,000 ft X 75 ft by 8.0' NAVD 88	Appendix B	This crevasse is the longest of all, and funnels river water directly into Bay Denesse where the terraces were constructed. Currents through this crevasse remain swift and appeared to be carrying plenty river sediments into the terrace area. Soundings show that there is good depth throughout the length of the crevasse, and the crevasse spoil is well vegetated.
Crevasse # 1B	Very Good	None	400 ft X 75 ft by 6.0' NAVD 88	Appendix B	This crevasse, which is the shortest of all, feeds a small area of marsh. Currents through this cut were light. The spoil banks appeared to be very heavily vegetated. Soundings indicate that the original depth has mostly been maintained.
Crevasse # 1C	Very Good	None	700 ft X 75 ft by 6.0' NAVD 88		Good flow is being maintained by this crevasse. Soundings indicate that good water depth is being maintained throughout its length carrying much needed river sediments into the bays. Dredge spoil from the crevasse has vegetated nicely.
Crevasse # Alt. 2A	Very Good	None	732 ft X 75 ft by 8.0' NAVD 88		This crevasse maintains a good flow throughout its length and appears to be carrying much needed river sediments into the interior marsh areas. Soundings show that the mouth of the crevasse has shoaled slightly, losing approximately one foot of depth; however, the rest of the cut has maintained its original depth.
Crevasse # 2B	Very Good	None	500 ft X 75 ft by 6.0' NAVD 88		Currents are moderate through this crevasse. There is evidence of sediments being carried into the marsh areas, and the spoil from the crevasse excavation has vegetated very heavily. Soundings also show that this crevasse has maintained its original depth throughout.
Crevasse # 2C	Very Good	None	2,000 ft X 75 ft by 6.0' NAVD 88	Appendix B	This crevasse is also one of the longest of the project and it is evident from the amount of flow, and from soundings, that it has maintained its constructed depth throughout its length. The spoil from the crevasse excavation has vegetated very nicely and there is plenty current to carry river sediments into the interior marsh areas.
Terraces	Excellent	Very Little	<u>98 Terraces</u> Length 200 ft. Width 52 ft. Height 3.5 ft. Total Length= 19,500 Lin. Ft.	Appendix B	The terraces have held up very well since they were constructed in the fall of 2006. There are a few that were built on the north side with soft / unsuitable material that have developed some washout areas in their perimeter; however, most of the terraces are in excellent condition and have vegetated heavily since the time they were planted. tides were relatively high at the time of the inspection, but the terrace heights above the bay indicated that they had maintained most of their original elevations. Moderate current containing river sediments are obvious throughout the terrace field.