



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

**2006 Annual Inspection Report**

**Jonathan Davis Wetland Protection**

State Project Number BA-20  
Priority Project List 2

August 15, 2006  
Jefferson Parish

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## **I. Introduction**

The Jonathan Davis Wetland Protection (BA-20) project is located in Jefferson Parish within the Barataria Basin. It encompasses 7,199 acres (2,880 ha) of wetlands, which were classified as intermediate marsh in 1994 (LDNR 1998). The project is bounded on the north by the Paillet Canal, on the east by La. Hwy. 301, on the south by Bayous Perot and Rigolettes, and on the west by the Gulf Intracoastal Waterway (GIWW) (Appendix A).

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

Overall, 1,393 ac (557 ha) of land within the Jonathan Davis Wetland Protection project area have been converted to open water between 1945 and 1989 (Coastal Environments Inc. 1991). The average rate of change of marsh to non-marsh (including loss to both open water and commercial development) has increased since the 1940s. National Biological Survey (NBS) Geographic Information System (GIS) habitat data from 1956 characterized the majority of the area as fresh marsh. However, the 1978 and 1990 data indicate that the area has become more saline. In both 1978 and 1990, the area was classified as primarily intermediate marsh. Chabreck and Linscombe (1988) also characterize the area as intermediate marsh.

Large scale factors influencing degradation in the Barataria basin include subsidence, lack of sedimentation, and reduced freshwater influx due to the levee system on the Mississippi River and its major distributaries. To compound this problem, there are no major external sources of inorganic sediment into the project area although some sediment does enter via the GIWW. Moreover, storm surges moving through numerous oil field canals within the area have facilitated the export of a large portion of the indigenous inorganic and organic sediments.

Other factors influencing wetland loss within the project area are increased water exchange, saltwater intrusion, tidal scour, and shoreline erosion along Bayous Perot and Rigolettes. Shoreline erosion from 1945 to 1989 caused primarily by wave action along Bayou Perot has been measured at 20 ft/yr (6.1 m/yr). Saltwater intrusion and tidal scour are believed to have been enhanced with the construction of various oil field canals that were dredged in the 1940s when oil companies were not responsible for maintaining a continuous spoil bank along the canals. As a result, the breaches that occurred were not repaired and subsequently exposed the interior marsh to increased tidal flows and salinity during storm surges.

Project features consist of shoreline protection, rock armored plugs, rock weirs, and weirs with boat bays. Construction Unit 1, which consists of project features 12, 13, 14, 15, 16, 17, 19, 20, and 21, was completed in September 1998. Construction Unit 2 was completed in May 2001. It encompassed installing a weir at structure 22, and shoreline protection from structures 20 to 22. Construction Unit 3, which consists of shoreline

protection extending from project feature 12, west to the Gulf Intracoastal Waterway, was completed on July 7, 2003. Construction of features 1, 2, 3, 6, 8, 9, 10, and 11 in the northern project area has been deferred due to lack of funding, and land rights issues. (Appendix A)

On January 30, 2002, Stone Energy Corporation was issued a Coastal Use Permit to plug and abandon existing wells within the Jonathan Davis Wetland Protection Project. This work was completed on 7/18/02 and consisted of removing and replacing structures 13 & 19 to plug and abandon several existing wells located behind these structures. The cost associated with removing and replacing these structures was incurred entirely by Stone Energy Corporation. However, at the request of NRCS, LDNR was required to provide inspection services for this project. LDNR obtained the services of GSE Associates, Inc. to inspect construction activities and prepare a project completion report and as-built drawings. These services were performed for a total cost of \$9,394.13.

As part of the construction documents prepared by NRCS for this project, Stone Energy Corporation was required to reconstruct structure 13, increasing the boat bay crest from 50' to 100' in width and raising the crest elevation from -5.0' NGVD to -2.5' NGVD.

No other maintenance work has been performed on this project since the completion of Construction Unit 1.

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

The purpose of the annual inspection of the Jonathan Davis Wetland Protection (BA-20) project 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 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 completed since completion of the project are outlined in Section II.

An inspection of the Jonathan Davis Wetland Protection (BA-20) project was held on October 4, 2005 by George Boddie, Barry Richard, Tom Bernard, and Melissa Kaintz from LDNR; Quin Kinler of NRCS. There was a southeast wind at approximately 15 mph and the tide gage, which is located approximately 0.8 miles north of C&M Marina on the east bank of the Baratavia Bay Waterway, read +1.9 feet NAVD. Photographs of that inspection are included in Appendix B of this report.

## **IV. Inspection Results**

### **Construction Unit No. 1**

#### **Structure No. 12 – Rock rip-rap armored plug**

The structure is in good condition. There is some slight settling near the edge of the plug adjacent to the two signs. All of the signs and supports were in good condition. At this time there is no need for any maintenance work to be done at this structure.

#### **Structure No. 13 – Rock rip-rap armored weir w/ boat bay**

We observed slight settlement on the west side of the structure 13. All signs and supports were also in good condition. No maintenance will be required at this time.

#### **Structure No. 14 – Rock rip-rap armored plug**

Upon a visual inspection, we noticed a large breach on the west side of the structure (Photo #1). Due to poor soil conditions, this structure has experienced significant settlement problems since the time it was constructed. Several attempts were made during construction to stabilize the structure by placing several lifts of rock, but the structure continued to settle. The maintenance work for this structure will be performed during the construction of Construction Unit 4 (CU 4).

#### **Structure No. 15 – Rock rip-rap weir w/ boat bay**

Structure 15 appeared to be in good condition at the time of the inspection with little or no noticeable settlement of the rock weir (Photo #2). Signs and supports were also in good condition. The original design of this structure was modified to include a boat bay to accommodate oilfield activities and navigation on the interior marsh of the structure. During the construction of CU 4, this structure will be modified so that it represents the original design more accurately.

#### **Structure No. 16 – Rock rip-rap channel plug**

Structure 16 appeared to be in good condition with exception of a low area on the south side of the channel plug (Photo #3). The maintenance work for this structure will be performed during the construction of CU4.

#### **Structure No. 17 – Rock rip-rap channel plug**

During the inspection, we observed significant settlement near the warning sign on the south side of the structure and just east of the warning sign on the north side of the structure (Photo #4). The maintenance work for this structure will be performed during the construction of CU 4.

Structure No. 19 – Rock rip-rap weir w/ boat bay

Structure 19 appeared to be in good condition with little signs of settlement of the rock weir. The warning signs and supports were also in good condition. NRCS and DNR agree that this structure will not require maintenance.

Structure No. 20 – Rock rip-rap armored plug

The structure appeared to be in good condition with no signs of settlement of the rock weir. The warning signs and supports were also in good condition. NRCS and DNR agree that this structure will not require maintenance.

Structure No. 21 – Rock rip-rap armored plug

The rock armored plug appeared to be in good condition with slight settlement on the east side of the structure. This was hard to fully assess due to the amount of growth on the structure. LDNR and NRCS agree that the structure will not require maintenance at this time.

**Construction Unit No.2**

Structure No. 22 A – Canal bank stabilization

The structure looked to be in good condition. There were very few signs of settlement along the bank stabilization. LDNR and NRCS agree that maintenance of this structure is not needed at this time.

Structure No.22 – Steel sheet pile weir w/ boat bay

The structure itself appears to be in good condition along with the signs, supports, and sheet pile caps (Photo #5). There is however a safety concern. NRCS was contacted by two of the adjacent landowners about people going over the structure in boats even though there are signs warning of a shallow obstruction. LDNR and NRCS agree that there will be no action taken on this because there is adequate warning signage and little that could be done to remedy the problem without permitting/land rights issues.

Bayou Rigolettes Bank Stabilization

The rock dike along the northern shore of Bayou Rigolettes appeared to be in good condition with a few signs of settlement. Maintenance work will not be needed at this time.

### **Construction Unit No.3**

#### **Bayou Perot Bank Stabilization**

The Bayou Perot Bank Stabilization looks good. There was some slight erosion noticed at the western most portion of the West Reach of the structure (Photo #6). There was also some settlement noticed between Sta. 90+00 and 92+00. The maintenance work for this structure will be performed during the construction of CU4. The erosion problem will be discussed further with NRCS.

## **V. Conclusions**

Overall this project has proven very effective in reducing shoreline erosion. With the exception of the few soft spots where the dike is experiencing more rapid settlement, the structure has proven very stable. The erosion at the end of Construction Unit 3 will continue to be monitored. The project features mentioned above will all be tied together with the construction of Construction Unit 4 which will provide a stronger, more stable shoreline protection system.

## **VI. Recommendations**

There is no need for any maintenance activity at this time.

### **Immediate Repairs**

- None at this time.

### **Programmed Maintenance**

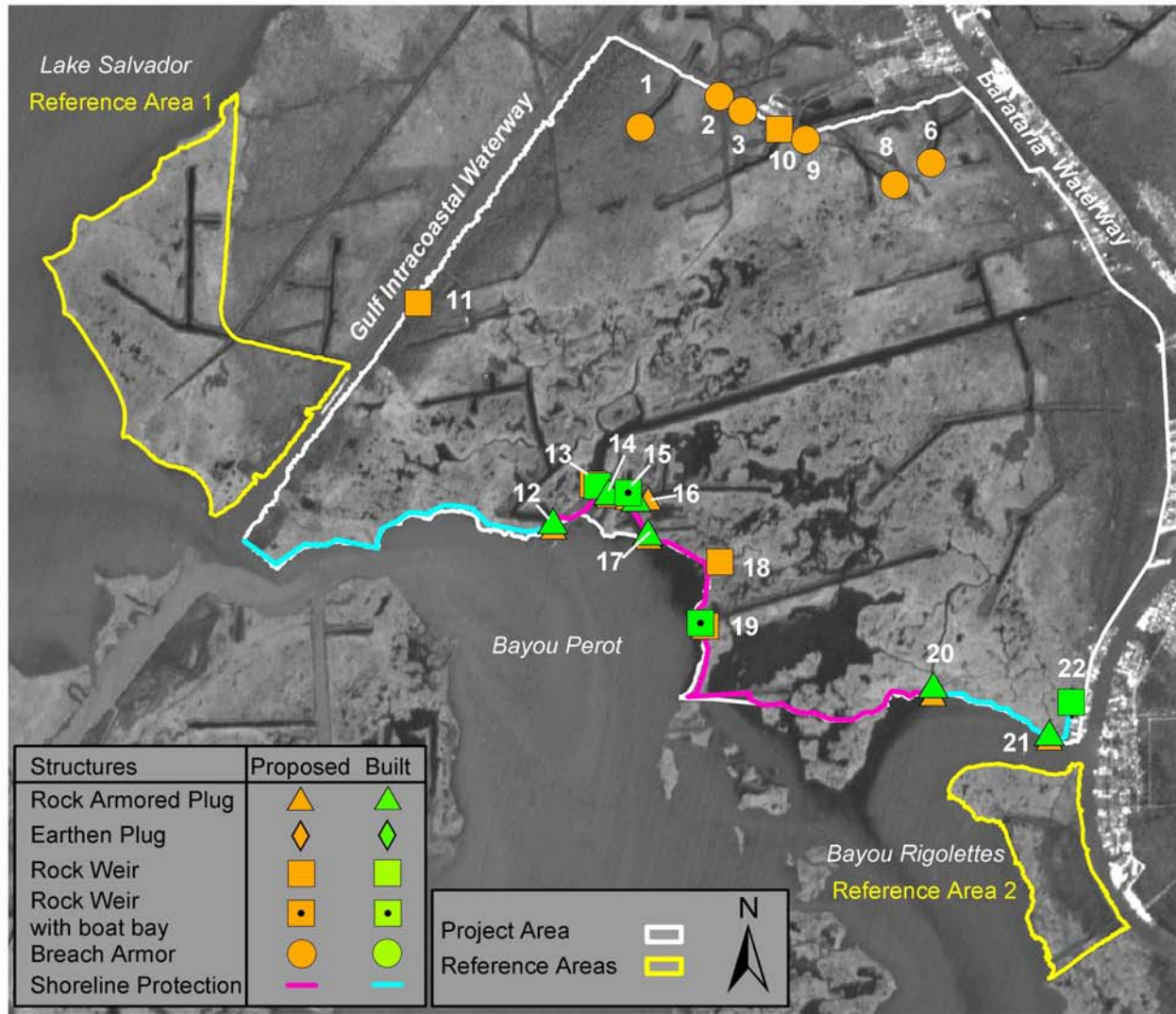
- The repairs noted at each structure will be included in the plans for Construction Unit 4. The repairs mentioned above will be completed during the construction of this rock dike. The work to be done will be paid for using the construction funds for Construction Unit 4.

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

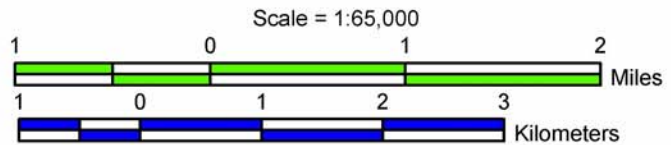




**Jonathan Davis Wetland Protection (BA-20)**  
 Coastal Wetlands Planning, Protection and Restoration Act  
 Proposed Structures



Data Source:  
 Background image is a 1993 SPOT panchromatic satellite image shown at 1:65,000.



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 and  
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Federal Sponsor:  
 U.S. Department of Agriculture  
 Natural Resources Conservation Service



Map ID: USGS-NWRC 2004-02-XXXX

**Appendix B**  
**Photographs**



**Photo #1**  
**Structure #14, Notice low spot on left of picture.**



**Photo #2**  
**Structure #15**



**Photo #3**  
**Structure #16**



**Photo #4**  
**Low spot on Structure #17**



**Photo #5**  
**Structure #22**



**Photo #6**  
**Erosion at west end on CU3.**

## **Appendix C**

### **Three Year Budget Projection**

Annual Inspection Report  
Jonathan Davis Wetland Protection  
State Project No. BA-20

Three-Year Operations & Maintenance Budgets 07/01/2006 - 06/30/2009				
<u>Project Manager</u>	<u>O &amp; M Manager</u>		<u>Federal Sponsor</u>	<u>Prepared By</u>
<i>Ismail Merhi</i>	<i>Barry Richard</i>		NRCS	<i>Barry Richard</i>
	<b>2006/2007</b>		<b>2007/2008</b>	<b>2008/2009</b>
<b>Maintenance Inspection</b>	\$3,257.00		\$3,341.00	\$3,428.00
<b>Structure Operation</b>	\$-		\$-	\$-
<b>Administration</b>	\$-		\$-	\$-
<b>Maintenance/Rehabilitation</b>				
06/07 Description:				
<i>E&amp;D</i>	\$-			
<i>Construction</i>	\$-			
<i>Construction Oversight</i>	\$-			
<i>Sub Total - Maint. And Rehab.</i>	\$-			
07/08 Description:				
<i>E&amp;D</i>			\$-	
<i>Construction</i>			\$-	
<i>Construction Oversight</i>			\$-	
	<i>Sub Total - Maint. And Rehab.</i>		\$-	
08/09 Description:				
<i>E&amp;D</i>				\$-
<i>Construction</i>				\$-
<i>Construction Oversight</i>				\$-
			<i>Sub Total - Maint. And Rehab.</i>	\$-
	<b>2006/2007</b>		<b>2007/2008</b>	<b>2008/2009</b>
<b><u>Annual O&amp;M Budgets</u></b>	<b>\$3,257.00</b>		<b>\$3,341.00</b>	<b>\$3,428.00</b>
<b><u>O &amp; M Budget (3 yr Total)</u></b>				<b>\$10,026.00</b>
<b><u>Existing O &amp; M Budget</u></b>				<b>\$7,234,894.19</b>
<b><u>Remaining O &amp; M Budget (Projected)</u></b>				<b>\$7,224,868.19</b>

**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2006/2007**

Jonathan Davis Wetland Restoration / BA-20 / PPL 2

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,257.00	\$3,257.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations Contract	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
<b>TOTAL ADMINISTRATION COSTS:</b>				<b>\$0.00</b>

**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	0	\$0.00	\$0.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER	EACH	0	\$0.00	\$0.00
<b>TOTAL SURVEY COSTS:</b>					<b>\$0.00</b>

**GEOTECHNICAL**

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

**CONSTRUCTION**

CONSTRUCTION DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Rip Rap	LIN FT	0	\$0.00	\$0.00
		TON / FT	0.0	\$0.00	\$0.00
		TONS	0	\$0.00	\$0.00
			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	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
<b>TOTAL CONSTRUCTION COSTS:</b>					<b>\$0.00</b>

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** \$3,257.00



**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2007/2008**

Jonathan Davis Wetland Restoration / BA-20 / PPL 2

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,341.00	\$3,341.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations Contract	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
<b>TOTAL ADMINISTRATION COSTS:</b>				<b>\$0.00</b>

**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	0	\$0.00	\$0.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER	EACH	0	\$0.00	\$0.00
<b>TOTAL SURVEY COSTS:</b>					<b>\$0.00</b>

**GEOTECHNICAL**

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

**CONSTRUCTION**

CONSTRUCTION DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Rip Rap	LIN FT	0	\$0.00	\$0.00
		TON / FT	0	\$0.00	\$0.00
		TONS	0	\$0.00	\$0.00
			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	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
<b>TOTAL CONSTRUCTION COSTS:</b>					<b>\$0.00</b>

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** \$3,341.00

Annual Inspection Report  
Jonathan Davis Wetland Protection  
State Project No. BA-20

**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2008/2009**

Jonathan Davis Wetland Restoration / BA-20 / PPL 2

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,428.00	\$3,428.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations Contract	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
<b>TOTAL ADMINISTRATION COSTS:</b>				<b>\$0.00</b>

**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	0	\$0.00	\$0.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER	EACH	0	\$0.00	\$0.00
<b>TOTAL SURVEY COSTS:</b>					<b>\$0.00</b>

**GEOTECHNICAL**

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

**CONSTRUCTION**

CONSTRUCTION DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Rip Rap	LIN FT	0	\$0.00	\$0.00
		TON / FT	0.0	\$0.00	\$0.00
		TONS	0	\$0.00	\$0.00
			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
<b>TOTAL CONSTRUCTION COSTS:</b>					<b>\$0.00</b>

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** \$3,428.00

## **Appendix D**

### **Field Inspection Form**



























