



Coastal Protection and Restoration Authority of Louisiana

Office of Coastal Protection and Restoration

2010 Annual Inspection Report

NAOMI OUTFALL MANAGEMENT

State Project Number BA-03c
Priority Project List 5

December 13, 2010
Jefferson Parish

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I. Introduction

The Naomi Outfall Management Project (State Project No. BA-03c) is located south of Lafitte, Louisiana. Although the project features are located entirely in Jefferson Parish, the project outfall area encompasses 27,135 acres in Jefferson and Plaquemines Parishes. More specifically, project features are located on two streams – Goose Bayou Canal and Bayou Dupont – which connect the Barataria Bay Waterway to the Pen (Appendix A).

II. Project Description and History

In February, 1993, the Naomi Siphon, located on the west bank of the Mississippi River, went into operation and has delivered an average of 997 cfs of fresh river water (when operating) into the marshes and streams east of the Pen. Much of this fresh water eventually exits the project area via Goose Bayou Canal and Bayou Dupont Canal which connect the Pen with the Barataria Waterway. During periods of high tide, reverse flow occurs and high-salinity water from the Barataria Waterway enters the Pen via the two subject canals. So, the two canals provide a natural avenue for loss of fresh river water from the project area and intrusion of high-salinity water into the project area.

The present project, which consists of fixed crest weirs with boat bays, restricts the hydrologic connections between the Pen and the Barataria Waterway. This restriction holds diverted water and nutrients in the project area, while restricting the high salinity waters from the Barataria Waterway. The weirs moderate or dampen the interchange of water into and out of the Pen through Goose Bayou Canal and Bayou Dupont Canal. Thus, retention of sediment-rich fresh siphon water in the outfall area is maximized, and intrusion of high-salinity water is minimized.

Project construction began on June 1, 2002, and was completed on July 15, 2002. Project life is estimated to be 20 years. Annual project inspections are planned.

On June 20, 2006, a contract was awarded to place two warning buoys in places where warning signs were damaged and to replace 5 navigation lights. This project was completed on October 4, 2006.

The principal project features include:

1. One stone weir at **Goose Bayou Canal**
 - a. Total length of weir = 458 ft.
 - b. Bottom width of boat bay = 30 ft.
 - c. Boat bay bottom elevation= -5 ft. (NAVD 88)
 - d. Weir crest = +1 ft. (NAVD 88)
 - e. Rock placed directly on geotextile
 - f. Rock rip rap = 3,967 tons
 - g. Geotextile = 2,851 yards

- h. Rock conforms to Rock Type 1 of Material Specification 523 with a gradation of:

Percent Lighter Than	Rock Unit Weight
100	700 lbs
50-100	300 lbs
15-50	150 lbs
0-15	45 lbs

- i. Four (4) - 4-piling clusters with navigation aid lights and warning signs
- j. Six (6) single pilings with warning signs
- k. Thirty-two buoys and associated stainless steel cable
2. One stone weir at **Bayou Dupont Canal**
- a. Total length of weir = 302 ft.
- b. Bottom width of boat bay = 30 ft.
- c. Boat bay bottom elevation = -5 ft. (NAVD 88)
- d. Weir crest +1 ft. (NAVD 88)
- e. Rock placed directly on geotextile
- f. Rock rip rap = 8,505 tons
- g. Geotextile = 3,374 yards
- h. Rock conforms to Rock Type 1 of Material Specification 523 with a gradation of:

Percent Lighter Than	Rock Unit Weight
100	700 lbs
50 -100	300 lbs
15-50	150 lbs
0-15	45 lbs

- i. Four (4) 4-pile clusters with day mark navigation signs and three (3) of the piling clusters have navigation aid lights.
- j. Three (3) single pilings with warning signs (reduced from five (5) in 2006 repair project)
- k. Twenty-two warning buoys with stainless steel cable
- l. Two (2) marker buoys with warning markings and internal radar reflectors (added during 2006 repair project in place of two (2) single pilings with warning signs).

III. Inspection Purpose and Procedures

The purpose of the annual inspection of the Naomi Outfall Management Project (BA-03c) 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, 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 December 24, 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 Naomi Outfall Management Project are outlined in Section II.

An inspection of the Naomi Outfall Management Project (BA-03c) was held on May 18, 2010, by Barry Richard of OCPR and Quin Kinler of NRCS. There was a light wind and the skies were clear. Photographs of that inspection are included in Appendix B of this report.

IV. Inspection Results

BAYOU DUPONT CANAL WEIR

Rock Riprap

There were no notable changes in the rock rip rap during this inspection.

Pilings

The two pilings on either side of the boat bay which were damaged have been replaced with regulatory marker buoys. Both of these buoys are now missing. The damaged piling clusters supporting the navigation lights have been repaired and another cluster is now damaged.

Warning Signs and Day Board Navigation Signs

All signs are in good condition.

Navigation Aid Lights

There was no damage to any navigation lights. There is a contract in place to handle the maintenance and repair of all navigation lights.

Regulatory Marker Buoys

Both buoys are missing.

GOOSE BAYOU CANAL WEIR

Rock Riprap

The rock appears to be settling as it is rarely visible above the water line. A survey is warranted to determine if maintenance is needed.

Pilings

All pilings visually appeared to be damage-free and in good condition.

Warning Signs and Day Board Navigation Signs

Some of the signs are losing their lettering due to weathering. The orange warning buoys on the north side came loose from the anchors in 2009. They were temporarily repaired and one string had come loose again for the inspection. This string was tied to a piling so it doesn't drift. Further repair is warranted.

Navigation Aid Lights

There was no damage to any navigation lights. There is a contract in place to handle the maintenance and repair of all navigation lights.

V. Conclusions

Overall, the Naomi Outfall Management project is functioning properly and is in fair condition. Vandalism to the navigational aids continues to be a concern. The BA-41 South Shore of the Pen Shoreline Protection Project is anticipated to go into the construction phase this year; access to BA-41 requires removal of the Bayou Dupont Canal weir; upon completion of BA-41, the Bayou Dupont Canal weir will be re-constructed and any other repairs needed for the Bayou Dupont Canal pilings, warning signs, buoys, etc. will be made at this time.

VI. Recommendations

Immediate Repairs

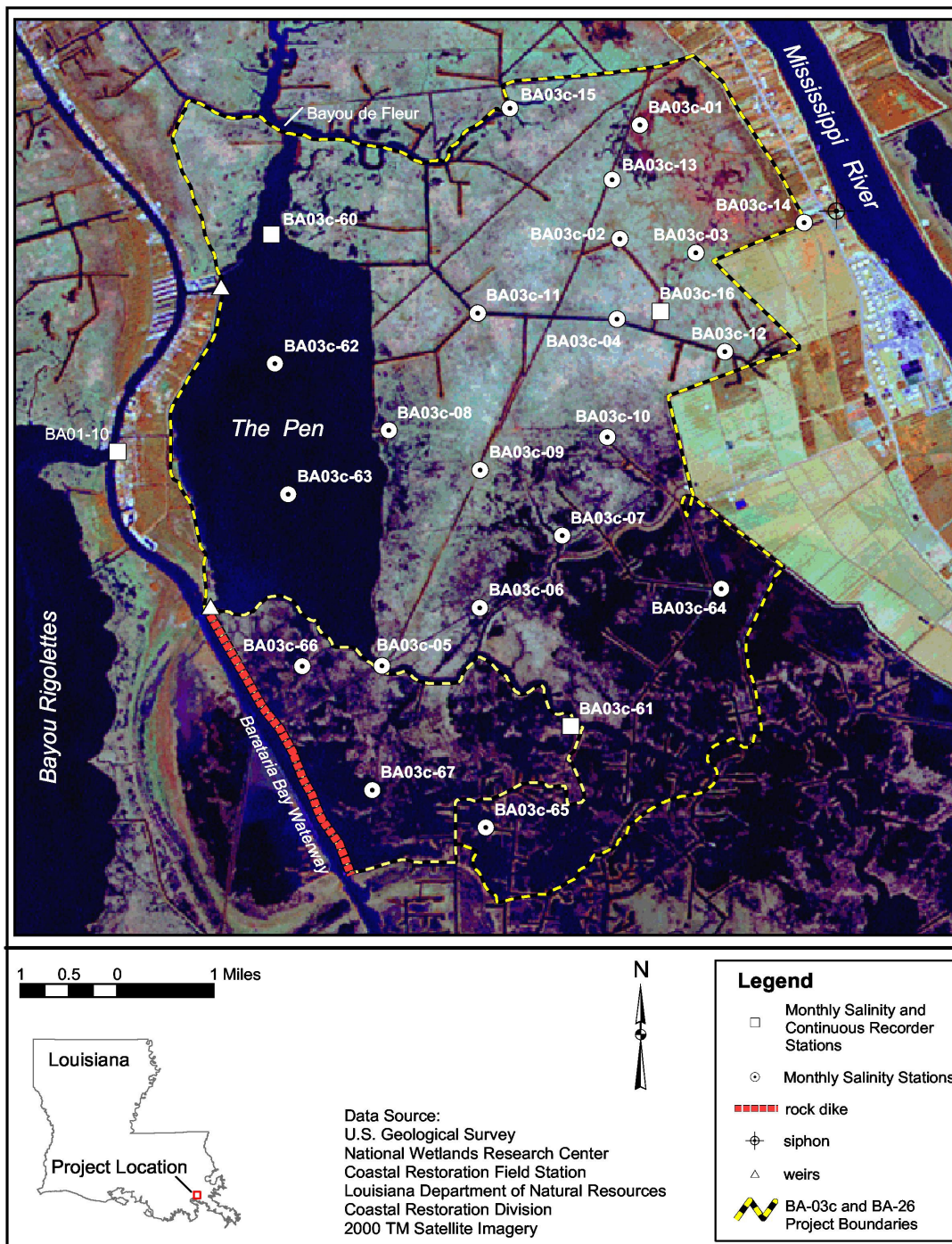
- Bayou Dupont Canal weir repairs will be addressed upon completion of the BA-41 project.
- A survey of the Goose Bayou Canal weir is needed to determine if maintenance is needed.
- At the Goose Bayou Canal, the string of orange warning buoys on the north side need to be securely anchored to keep it in its proper position.

Programmed Maintenance

- A contract has been awarded to Automatic Power for regular maintenance of the lights.

Appendix A

Project Features Map



Appendix B

Photographs



Photo #1 – Bayou Dupont Canal Weir. Approaching the structure from the Barataria Waterway, looking toward the Pen.



Photo #2 – Goose Bayou Canal Weir. Looking West.

Appendix C

Three Year Budget Projection

Naomi Outfall Management / BA-03c / PPL 5				
Three-Year Operations & Maintenance Budgets 07/01/2010 - 06/30/2013				
Project Manager	O & M Manager		Federal Sponsor	Prepared By
Barry Richard	Barry Richard		NRCS	Barry Richard
	2010/2011		2011/2012	2012/2013
Maintenance Inspection	\$3,342.00		\$3,429.00	\$3,518.00
General Maintenance	\$3,000.00		\$3,000.00	\$3,000.00
Structure Operation	\$0.00		\$0.00	\$0.00
Administration	\$0.00		\$0.00	\$0.00
Maintenance/Rehabilitation				
10/11 Description: Survey to determine elevation of Goose Bayou Structure				
E&D	\$30,000.00			
Construction	\$0.00			
Construction Oversight	\$0.00			
Sub Total - Maint. And Rehab.	\$ 30,000.00			
11/12 Description				
E&D			\$0.00	
Construction			\$0.00	
Construction Oversight			\$0.00	
Sub Total - Maint. And Rehab.			\$ -	
12/13 Description:				
E&D				\$0.00
Construction				\$0.00
Construction Oversight				\$0.00
			Sub Total - Maint. And Rehab.	\$ -
	2010/2011		2011/2012	2012/2013
Total O&M Budgets	\$ 36,342.00		\$ 6,429.00	\$ 6,518.00
O & M Budget (3 yr Total)				\$ 49,289.00
Unexpended O & M Budget				\$ 305,677.68
Remaining O & M Budget (Projected)				\$ 256,388.68

OPERATION AND MAINTENANCE BUDGET WORKSHEET 2010/2011

Naomi Outfall Management / BA-03c / PPL 5

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,342.00	\$3,342.00
General Structure Maintenance	LUMP	1	\$3,000.00	\$3,000.00
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	\$2,000.00	\$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	1	\$30,000.00	\$30,000.00
TBM Installation	EACH	0	\$0.00	\$0.00
	LUMP	0	\$0.00	\$0.00
TOTAL SURVEY COSTS:				\$30,000.00

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
		0	\$0.00	\$0.00	\$0.00
OTHER		0	\$0.00	\$0.00	\$0.00
OTHER		0	\$0.00	\$0.00	\$0.00
OTHER		0	\$0.00	\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:					\$0.00

TOTAL OPERATIONS AND MAINTENANCE BUDGET:

\$36,342.00

OPERATION AND MAINTENANCE BUDGET WORKSHEET 2011/2012

Naomi Outfall Management / BA-03c / PPL 5

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,429.00	\$3,429.00
General Structure Maintenance	LUMP	1	\$3,000.00	\$3,000.00
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
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
		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
	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
				0	\$0.00	\$0.00
	OTHER			0	\$0.00	\$0.00
	OTHER			0	\$0.00	\$0.00
	OTHER			0	\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:						\$0.00

TOTAL OPERATIONS AND MAINTENANCE BUDGET:

\$6,429.00

OPERATION AND MAINTENANCE BUDGET WORKSHEET 2012/2013

Naomi Outfall Management / BA-03c / PPL 5

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,518.00	\$3,518.00
General Structure Maintenance	LUMP	1	\$3,000.00	\$3,000.00
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
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
		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
	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
				0	\$0.00	\$0.00
	OTHER			0	\$0.00	\$0.00
	OTHER			0	\$0.00	\$0.00
	OTHER			0	\$0.00	\$0.00
	TOTAL CONSTRUCTION COSTS:					\$0.00

TOTAL OPERATIONS AND MAINTENANCE BUDGET:

\$6,518.00

Appendix D

Field Inspection Form

Annual Inspection Report
 NAOMI OUTFALL MANAGEMENT
 State Project No. BA-03c

FIELD INSPECTION CHECK SHEET

Project No. / Name:	Naomi Outfall Management		Date of Inspection:	5/18/2010	Time:	9:30	
Structure No.	Bayou Dupont Canal		Inspector(s):	Richard, Kinler			
Structure Description:	Stone Weir		Water Level:	Inside:	N/A	Outside:	1.36'
Type of Inspection:	Annual		Weather Conditions:	Clear skies, Light Wind			
Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks		
Rock Riprap	Good	None	N/A	#1			
Creosote Piling	Fair	None	None	#1	Some damage to pile clusters		
Warning Signs and Day Board	Fair	None	None	#1			
Navigation Signs							
Navigation Aid Lights	Fair	None	None	#1			
Warning Buoys	Poor	See observations	None	#1	Both Missing		
Vandalism	N/A	N/A	N/A		Pile clusters still in the same condition as last inspection. No new vandalism.		

Annual Inspection Report
 NAOMI OUTFALL MANAGEMENT
 State Project No. BA-03c

FIELD INSPECTION CHECK SHEET

Project No. / Name:	Naomi Outfall Management		Date of Inspection:	5/18/2010	Time:	9:30	
Structure No.	Goose Bayou Canal		Inspector(s):	Richard, Kinler			
Structure Description:	Stone Weir		Water Level:	Inside:	N/A	Outside:	1.36'
Type of Inspection:	Annual		Weather Conditions:	Clear skies, Light Wind			

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Rock Riprap	Good	None	N/A		Possible settlement, survey needed.
Creosote Piling	Good	None	None	#2	
Warning Signs and Day Board	Good	None	None	#2	Weathering of lettering, possible replacement needed. Continue to observe.
Navigation Signs					
Navigation Aid					
Lights	Good	None	None	#2	
Warning Buoys	Good	None	None	#2	Temporary repair after strings broke loose in 2009. One string loose again, tied to warning sign. Permanent repair needed.
Vandalism	N/A	N/A	N/A		