**State of Louisiana**

**Coastal Protection and Restoration Authority of Louisiana (CPRA)**

# 2015/2016 Annual Inspection Report

for

# COTE BLANCHE HYDROLOGIC RESTORATION PROJECT (TV-04)

State Project Number TV-04
Priority Project List 3

October 19, 2015
St. Mary Parish

Prepared by:

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# I. Introduction

The Cote Blanche Hydrologic Restoration Project is a 30,910 ac (12,518 ha) freshwater marsh located in St. Mary Parish. The project boundaries include the Gulf Intracoastal Waterway to the north, Highway 317 to the east, East Cote Blanche Bay to the south and West Cote Blanche Bay to the west. (See Appendix A).

The Cote Blanche 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 third Priority Project List. The Cote Blanche Hydrologic Restoration Project has a twenty year (20 year) economic life, which began in December 1998.

# II. Inspection Purpose and Procedures

The purpose of the annual inspection of the Cote Blanche Hydrologic Restoration Project (TV-04) 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, CPRA shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan, 2003). The annual inspection report also contains a summary of maintenance projects, if any, 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.

An inspection of the Cote Blanche Hydrologic Restoration Project (TV-04) was held on October 19, 2015 under partly clear skies and cool temperatures. In attendance were Stan Aucoin of CPRA and Cindy Steyer, Dale Garber, and Loland Broussard of NRCS.

The field inspection included a complete visual inspection of all features. Staff gauge readings, when available, were used to determine approximate elevations of water, rock weirs, earthen embankments, steel bulkhead structures and other project 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 Cote Blanche marsh has experienced increased freshwater introduction from the GIWW and westward currents from the Atchafalaya delta (DeLaune et al. 1987). Historical information documents the alterations in marsh types resulting from these hydrologic changes. Marsh type changes have been documented by 1982 USFWS Ecological Atlas Maps and Vegetative Type Maps of the Louisiana Coastal Marshes (Chabreck et al. 1968; Chabreck and Linscombe 1978, 1988). Using aerial photography, planimeter data show the percentages of each marsh type (USDA 1993). In 1949, the area was almost entirely brackish (93%) with a narrow band of saline (7%) associations along the southwestern shoreline. By 1968, the area was divided into intermediate (39%), fresh (13%), and brackish (48%) associations. In 1978, the area was predominantly fresh (63%) and intermediate (37%) associations, where as by 1988 the entire area was identified as fresh marsh.

Construction of the GIWW and numerous oilfield canals have been the predominant causes of hydrologic change for the project area. Major canals such as the Humble and Humble-F canals were dredged between 1937 and 1958 and the British-American Canal and extensions from the Humble Canal were dredged between 1958 and 1974. Major impacts on the area have resulted from increased tidal action and rapid water exchange between the interior marsh and East and West Cote Blanche bays through these oilfield canals and the GIWW. Rapid water exchange and tidal fluctuations have caused breaches in spoil banks of interior canals that have lead to erosion and conversion of broken marsh to open water. Broken marsh began to be detected in the 1952 aerial photography. An area west of the British-American Canal showed some marsh deterioration prior to the dredging of the canal, however, the dredging created more marsh loss in the area. Utilizing historical aerial photography, from 1957 to 1990, the land loss rate for the area has been estimated to average 73 ac/year (29 ha/yr) (Britsch and Kemp 1990).

Shoreline erosion on the southern project boundary resulting from wave energy and breaches in adjacent canals was evident from aerial photography as early as 1952. Shoreline erosion rates averaged 10–15 ft/yr (3.0-4.6 m/yr) according to 1952, 1957, 1971, 1979, 1983, and 1990 aerial photography and surveys completed in 1975 by Miller Engineers & Associates. These measurements show an increase in shoreline erosion after 1978 for the Teche/Vermilion basin. Erosion rates averaged 10–12 ft/yr (3.0-3.7 m/yr) from 1941 to 1978 and increased to an average of 20–25 ft/yr (6.1-7.6 m/yr) from 1978 to 1983.

The Cote Blanche Hydrologic Restoration Project contains measures to improve hydrologic conditions in 30,910 ac (12,518 ha) of fresh marsh through low-level weirs placed at major water exchange avenues and through shoreline protection on the southern boundary of the project area. Construction of the eight original project features, weirs and PVC wall, were completed in January 1999. The addition of the School Bus Bayou feature was made in 2007. The extension of the PVC wall occurred in 2015. Various maintenance events were completed during the project life which are outlined in the following section.

Description of the principal project features as follows:

1) **Mud Bayou (1999)** - a fixed-crested weir with boat bay that spans the 165-foot-width of Mud Bayou and is composed of steel sheet piling with rock armored wing walls. This structure has 81ft of total weir length with 66 feet set at a crest elevation of -1.5ft(NAVD), and 15 feet as a boat bay at an elevation of -5.5ft NAVD.

2) **Humble-F Canal (1999)** - a fixed-crested weir with boat bay that spans the 200-foot-width of Humble-F Canal and is composed of a combination of rock riprap center section and steel sheet piling wing walls with rock-armored ends. This structure has an 80ft total weir length with 65 feet set at a crest elevation of -0.5ft NAVD, and 15 feet as a boat bay at an elevation of -2.5ft NAVD.

3) **Bayou Long (1999) -** a fixed-crested weir with boat bay that spans the 300-foot-width of Bayou Long and is composed of steel sheet piling with rock armored wing walls. This structure has 79ft of total weir length with 64 feet set at a crest elevation of -1.5ft NAVD, and 15 feet as a boat bay at an elevation of -3.5ft NAVD.

4) **Bayou Carlin (1999)** - a fixed-crested weir with a boat bay that spans the 225-foot-width of Bayou Carlin and is composed of steel sheet piling with rock armored wing walls. This structure has 79ft of total weir length with 64 feet set at a crest elevation of -1.5ft NAVD, and 15 feet as a boat bay at an elevation of -3.5ft NAVD.

5) **Humble Canal (1999)** - a fixed-crested weir with a barge bay that spans the 400-foot-width of Humble Canal and is composed of a combination of rock riprap center section and steel sheet piling wing walls with rock-armored ends. This structure has 260ft of total weir length with 190 feet set at a crest elevation of -1.5ft NAVD, and 70 feet as a barge bay with an elevation of approximately -8.5ft NAVD.

6) **Jackson Bayou (1999)** - a fixed-crested weir that spans the 100-foot-width of Jackson Bayou and is composed of steel sheet piling with rock armored wing walls. This structure has a 16-foot-wide weir length set at a crest elevation of -3.5ft NAVD.

7) **British-American Canal (1999)** - a fixed-crested weir with a boat bay that spans the 160-foot-width of the British-American Canal and is composed of a combination of rock riprap center section and steel sheet piling wing walls with rock-armored ends. This structure has an 80ft total weir length with 65 feet set at a crest elevation of -0.5ft NAVD, and 15 feet as a boat bay at an elevation of -2.5ft NAVD.

8) **PVC Sheet Pile Wall & Extension (1999 & 2015)** – Two original sections of PVC sheet pile wall totaling 4,140ft were constructed on each side of an existing wooden bulkhead. The wall consisted of PVC sheet piling with timber piling and whalers. Approximately 2cyds/lnft of limestone was placed at the base of the sheet piling along its length. An additional extension of this shoreline protection feature was added in 2015 which consisted of a PVC sheet pile wall on the west and east side of Jackson Bayou, 1,370ft and 400ft respectively. This wall consisted of PVC sheet piling with timber pilings and whalers. It tied into the east end of the rock dike at Humble Canal.

9) **School Bus Bayou (2007)** – Approximately 3,500 lnft of foreshore rock dike paralleling school bus bayou was constructed west of Humble Canal. In addition, two low-level rock weirs were constructed on the east and west side of Humble Canal at School Bus Bayou. The east weir has a bottom sill of 10ft wide at -2.0ft NAVD and the west weir has a bottom sill of 15ft wide at -6.0ft NAVD.

## IV. Summary of Past Operation and Maintenance Projects

**General Maintenance:** Below is a summary of completed maintenance projects and operation tasks performed since January 1999, the construction completion date of the Cote Blanche Hydrologic Restoration Project.

**2001 Maintenance Project – LDNR:** This maintenance project included the placement of 12”-14” of paving stone spread out around the wingwalls of the weirs at Mud Bayou, Humble F Canal, Bayou Long, Humble Canal, Jackson Bayou and British American Canal 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 replacement of approximately 100 pile caps along the PVC wall, the replacement of day markers at Humble F Canal with signs mounted to the weir instead of on driven pylons, and the construction of revetment/foreshore dike along the west bank of the British American Canal from the weir to the canals convergence with Cote Blanche Bay. The costs associated with the engineering, design and construction of the Cote Blanche Maintenance Project are as follows:

| | |
|---|---|
| Construction------ | $287,919.80 |
| E & D, construction oversight, as-builts------ | $ 31,690.79 |
| Project Total------ | $319,610.59 |

**2005 Maintenance Project – LDNR:** This maintenance project included rock repair at six of the structures, replacement of warning signs and channel markers. This project was a result of damages that occurred during Hurricane LILI in 2002.

| | |
|---|---|
| Project Cost | $84,500.00* |

*This cost was reimbursed by FEMA

**2007 School Bus Bayou Maintenance – LDNR:** This maintenance event consisted of the installation of approximately 3,500 linear feet of foreshore rock dike along the northern shoreline of Cote Blanche Bay just west of the Humble Canal and in the vicinity of School Bus Bayou. Also, two low level rock weirs were installed on the eastern and western side of Humble Canal where School Bus Bayou crosses. Associated costs are as follows:

| | |
|---|---|
| Construction | $1,500,000.00 |
| E&D/Const. oversight | $63,328.45 |
| **Total** | **$1,563,328.45** |

**2011/2012 School Bus Dike Maintenance – CPRA:** This event consisted of raising the School Bus Bayou dike back to grade, replacing various signs on structures, replacing the weir on the western intersection of School Bus Bayou and Humble Canal, and extending the rock revetment on the eastern bank of Humble Canal to the south. Construction was accepted as complete on January 13, 2012 and costs were as follows:

| | |
|---|---|
| Construction | $730,888.40 |
| E&D/Const. oversight | $96,663.13 |
| **Total** | **$827,551.53** |

**2015 PVC Wall Extension—CPRA:** This event consisted of installing 1,770 LF of new PVC wall, 1,370 LF on the west side of Jackson Bayou and 400 LF on the east side. Also, various signs and rails on structures were replaced or repaired.

| | |
|---|---|
| Construction | $1,116,450.00 |
| E&D/Const. oversight | $195,552.20 |
| **Total** | **$1,312,002.20** |

**Navigational Light Maintenance – LDNR:** Approximate totals for work performed for navigational light maintenance:

**2007 Thru 2016 $22,682**

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

## V. Inspection Results

**Site 1—Mud Bayou**

The Mud Bayou structure remains in fair shape. Rust on the sheet piles and the pile cap continues. The railings have been replaced with stainless steel cable and are holding up well. The north danger sign is missing and will not be replaced. Staff gauges are no longer functional. (Photos: Appendix B, Photo 1, 18)

**Site 2—Humble F Canal**

The piling and arrow sign replaced during the last maintenance event (north side) is missing, again. The piling and sign were still attached to the cable and floating on the interior side of the structure. Sheet piles and rocks on the end of the structure are stable and functioning as intended. Rust on the sheet piles will be monitored. The entire railing on this structure has been replaced with stainless steel cable and with the exception of the north piling mentioned above, is functioning as intended. The bayshore in front of this structure has eroded considerably over the years. (Photos: Appendix B, Photo 2, 18)

**Site 3—Bayou Long**

The structure is in very good shape after the recent maintenance. Rusting on the sheet piles will be monitored. (Photos: Appendix B, Photo 3, 18)

**Site 4—Bayou Carlin**

The structure is in very good post-maintenance condition. Rusting on the sheet piles will be monitored as the others. (Photos: Appendix B, Photo 4, 18)

**Site 5—Humble Canal**

The cables installed to replace the rails continue to function as intended. Rock that was placed to extend the keyway closure has settled but is in otherwise good shape. Signage is all stable. Rust continues to worsen. (Photos: Appendix B, Photos 5-7, 18)

**School Bus Bayou**

The settling of the dike has stabilized and is functioning as designed. Signage along the bay shore is intact. Rock at the intersections of School Bus Bayou and Humble Canal is in place and stable. Signage for the two weirs at the crossings is ok. (Photos: Appendix B, Photos 8-10)

**Site 6—Jackson Bayou**

The gap between the eastern end of the structure and the shoreline has been somewhat closed with rock that was placed on the end of the PVC wall during original construction and salvaged. The coating on the sheet piles continues to rust as on the other structures and will be monitored. Signage is stable. (Photos: Appendix B, Photos 11-12, 18)

**Site 7—British American Canal**

Rust on the sheet piles continues to worsen and will be monitored as well. Signage is in excellent shape. Rock along the shoreline between the structure and the PVC wall is also in excellent shape. (Photos: Appendix B, Photos 13-14, 18)

**Site 8—PVC Wall**

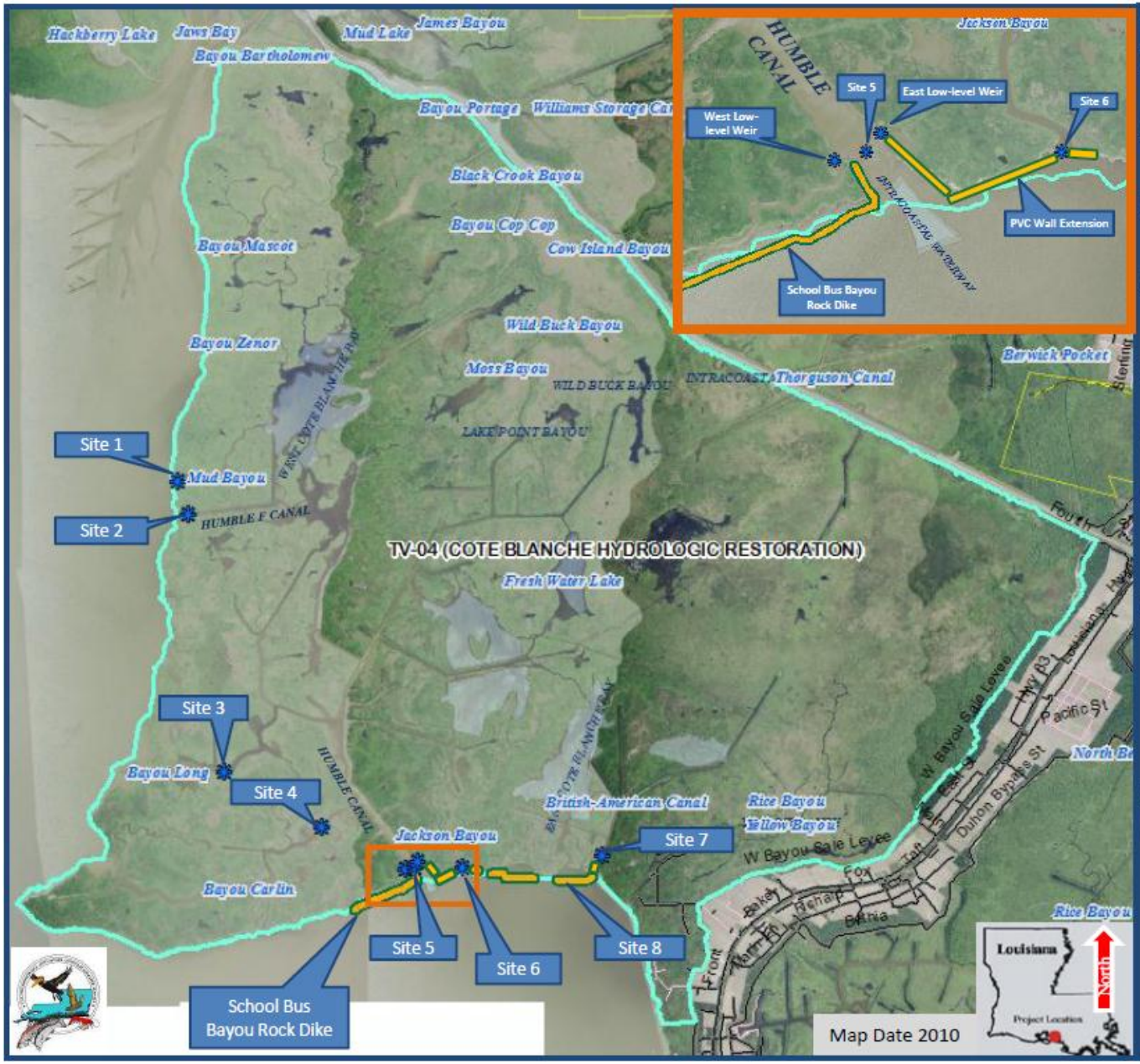
The PVC shoreline protection wall has begun to show signs of age. Several areas have either sheet pile or whalers missing or deteriorated. Hardware is rusting significantly. Some of the timber piles are also showing signs of decay. The wall, for the most part, is still functioning as intended, however repairs will soon become necessary. Signs are all in place and stable. The two new wall sections that were installed during the 2015 maintenance event are in good shape. Scour at the base, that was noticed during the final inspection is still evident but stable. However, rock should be placed at the base of this new wall. (Photos: Appendix B, Photo 15-17)

## VI. Conclusions and Recommendations

After the last maintenance event, the components of the Cote Blanche Hydrologic Restoration Project are in basically fair condition and functioning as intended. However, the original PVC wall has begun to show signs of fairly serious deterioration. The new PVC wall has scour at the base and could potentially become a problem. Rust on several of the structures continues to worsen. Stainless steel cable attached to driven timber piles continue to perform better than the rails that were installed on the original structures. This method should be considered during construction of similar structures in harsh environments such as this in the future.

# Appendix A

# Project Features Map




| Location | Description |
|---|---|
| Site 1 | Mud Bayou Fixed Crested Weir |
| Site 2 | Humble F Canal Fixed Crested Weir |
| Site 3 | Bayou Long Fixed Crested Weir |
| Site 4 | Bayou Carlin Fixed Crested Weir |
| Site 5 | Humble Canal Fixed Crested Weir |
| Site 6 | Jackson Bayou Fixed Crested Weir |
| Site 7 | British-American Canal Fixed Crested Weir |
| Site 8 | PVC Sheet Pile Wall & Extension<br><br>(Existing Wooden wall between original PVC segments) |
| School Bus Bayou Project | Rock Breakwater along bank of Cote Blanche Bay West of Humble Canal, Low-level Weirs at Intersection of School Bus Bayou and Humble Canal (See Call Out) |

# Appendix B

# Photographs

**Photo 1**--Mud Bayou structure


**Photo 2—**Broken pile and sign at Humble F Canal structure

**Photo 3—**Bayou Long structure

**Photo 4--**Bayou Carlin Structure


**Photo 5--**Humble Canal structure; east side


**Photo 6—**Humble Canal structure; west side

**Photo 7**--rock on east side of Humble Canal

**Photo 8—**typical section of School Bus Bayou dike

**Photo 9**—western weir at School Bus Bayou

**Photo 10**—eastern weir at School Bus Bayou

**Photo 11—**Jackson Bayou structure (and new PVC wall)

**Photo 12—**breach as repaired on eastern end of Jackson Bayou Structure

**Photo 13—**British American Canal Structure

**Photo 14—**rock along British American Canal

**Photo 15—**Typical section of PVC wall

**Photo 16—**rising sheet pile on PVC wall

**Photo 17—**rusted/broken hardware on old PVC wall

**Photo 18—**typical rust on Fixed Crested Weir Sheet Pile

# Appendix C

# Three Year Budget Projection

Annual Inspection Report
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
State Project No. TV-04

## COTE BLANCHE/ TV-04 / PPL 3

### Three-Year Operations & Maintenance Budgets 07/01/2016 - 06/30/2019

| Project Manager | O & M Manager | Federal Sponsor | Prepared By |
|---|---|---|---|
| *Pat Landry* | *Stan Aucoin* | *NRCS* | *Stan Aucoin* |

| | 2016/2017 (-17) | 2017/2018 (-18) | 2018/2019 (-19) |
|---|---|---|---|
| ***Maintenance Inspection*** | $ 7,057.00 | $ 7,269.00 | $ 7,487.00 |
| ***Nav. Aid Inspections*** | $ 5,000.00 | $ 5,000.00 | $ 5,000.00 |
| ***State Administration*** | | | |
| ***Federal Administration*** | | | |
| ***Maintenance/Rehabilitation*** | | | |

16/17 Description:

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

17/18 Description:

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

18/19 Description:

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

| | 2016/2017 (-17) | 2017/2018 (-18) | 2018/2019 (-19) |
|---|---|---|---|
| ***Total O&M Budgets*** | **$ 12,057.00** | **$ 12,269.00** | **$ 12,487.00** |

| | |
|---|---|
| **O &M Budget (3 yr Total)** | **$ 36,813.00** |
| **Unexpended O & M Budget** | **$ 1,391,392.00** |
| **Remaining O & M Budget (Projected)** | **$ 1,354,579.00** |

# Appendix D

# Field Inspection Form

Annual Inspection Report
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
State Project No. TV-04

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. 7 British American Canal

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: Fixed crest weir, rock on banks and canal

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|---|---|---|---|---|---|
| Steel Bulkhead / Caps | good | | | 13, 14, 18 | Rust on Sheet piles continues to worsen. No action needed. Continue to monitor |
| Steel Grating | N/A | | | | |
| Stop Logs | N/A | | | | |
| Hardware | good | | | | |
| Timber Piles | see signage | | | | |
| Timber Wales | N/A | | | | |
| Galv. Pile Caps | N/A | | | | |
| Cables | N/A | | | | |
| Signage /Supports | Good | | | | |
| Rip Rap (fill) | good | | | | |
| 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
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
State Project No. TV-04

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. 2 Humble F Canal

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: Fixed crest weir, rock paving on bank

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|---|---|---|---|---|---|
| Steel Bulkhead / Caps | good | | | 2 | Structure in good condition. Some slight rusting of pile caps. |
| Steel Grating | N/A | | | | |
| Stop Logs | N/A | | | | |
| Hardware | good | | | | |
| Timber Piles | good | | | | |
| Timber Wales | N/A | | | | |
| Galv. Pile Caps | N/A | | | | |
| Cables | Good | | | 2 | The railing has been replaced with stainless steel cable. |
| Signage /Supports | good | | | 2 | The piling and arrow sign replaced during last maintenance on north side is down a down and floating on the interior of the structure. |
| Rip Rap (fill) | good | | | | |
| Earthen Embankment | N/A | | | | The bay shore in front of the structure has eroded considerably since original construction. |

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
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
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**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. 5 Humble Canal

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: Fixed crest weir, rock on banks and canal

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|---|---|---|---|---|---|
| Steel Bulkhead / Caps | good | | | 18-Jan | Rusting on sheet pile will continue to be monitored. No immediate action needed. |
| Cables | Good | | | 7-May | Railings have been replaced with stainless steel cables. |
| Stop Logs | N/A | | | | |
| Hardware | fair | | | | |
| Timber Piles | N/A | | | | |
| Timber Wales | N/A | | | | |
| Galv. Pile Caps | good | | | | |
| USCG Lights | good | | | 5 | |
| Signage /Supports | good | | | 6-May | |
| Rip Rap (fill) | good | | | 7 | Some settlement but still in good condition |
| Earthen Embankment | N/A | | | | |

What are the conditions of the existing levees?
Are there any noticeable breaches?
Settlement of rock plugs and rock weirs?
Position of stoplogs at the time of the inspection?
Are there any signs of vandalism?

Annual Inspection Report
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
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**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. 8 PVC wall

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: approximately 3800 linear feet of PVC wall

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|---|---|---|---|---|---|
| PVC Sheet Pile | | | | 15,16, 17 | The old PVC wall is deteriorating, missing sheet pile or whalers |
| Old Wall | Fair | | | | No gaps are wider than 3-4 feet however and the wall is still functioning |
| New Wall | Good | | | 11 | New PVC Wall - good condition, scour at base remains stable. Recommend rock at base in future. |
| Steel Grating | | | | | |
| Stop Logs | | | | | |
| Hardware | Fair | | | 16-17 | Old PVC wall - rusting hardware, missing whalers |
| Timber Piles | good | | | | Nearly all pile caps missing. Attempts to replace these have been unsuccessful. Condition of the piles will be monitored. |
| Timber Wales | Fair | | | | Old PVC wall - some missing |
| Galv. Pile Caps | | | | | Pile caps are missing. Past attempts to replace them haven't been effective. |
| Cables | | | | | |
| Signage /Supports | good | | | | All signs are in place. Some retaping with reflective tape is required. |
| Rip Rap (fill) | good | | | | Old PVC Wall - Rock placed along the inside and outside of the PVC wall is still in place and functional.<br>No action necessary.<br>New PVC Wall - recommend adding rock to base to protect from additional scour. |
| Earthen Embankment | | | | | |

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
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
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**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. 3 Bayou Long

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: Fixed crest weir

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|---|---|---|---|---|---|
| Steel Bulkhead / Caps | good | | | 18 | Rusting on steel sheet piles will continue to be monitored. |
| Steel Grating | N/A | | | | |
| Stop Logs | N/A | | | | |
| Hardware | good | | | | |
| Timber Piles | good | | | | |
| Timber Wales | N/A | | | | |
| Galv. Pile Caps | N/A | | | | |
| Cables | Good | | | 3 | The railings on the structure have been replaced with stainless steel cables. |
| Signage /Supports | good | | | 3 | Signage is in place |
| Rip Rap (fill) | good | | | | |
| 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
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
State Project No. TV-04

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. 1 Mud Bayou

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: Fixed crest weir, rock paving on bank

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|---|---|---|---|---|---|
| Steel Bulkhead / Caps | good | | | 1 | Structure in good condition and functioning as intended. Rust continues to be monitored. Staff gauges need to be replaced. |
| Steel Grating | N/A | | | | |
| Stop Logs | N/A | | | | |
| Hardware | good | | | | |
| Timber Piles | good | | | | |
| Timber Wales | N/A | | | | |
| Galv. Pile Caps | N/A | | | | |
| Cables | Good | | | 1 | Railings have been replaced with stainless steel cables |
| Signage /Supports | good | | | | The north danger sign is missing and will not be replaced. |
| Rip Rap (fill) | good | | | | |
| 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
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
State Project No. TV-04

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. 6 Jackson Bayou

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: Fixed crest weir

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|---|---|---|---|---|---|
| Steel Bulkhead / Caps | good | | | 11, 18 | Some slight rusting of pile caps. |
| Steel Grating | N/A | | | | |
| Stop Logs | N/A | | | | |
| Hardware | good | | | | |
| Timber Piles | poor | | | | |
| Timber Wales | N/A | | | | |
| Galv. Pile Caps | N/A | | | | |
| Cables | N/A | | | | |
| Signage /Supports | good | | | | |
| Rip Rap (fill) | good | | | 12 | The rock from original construction at the end of the PVC wall was salvaged and moved to the eastern end of the Jackson Bayou structure to fill a gap forming around the structure. The stone hasn't fully closed the gap but improved the situation slightly. Additional stone would be needed to completely shore up this gap. |
| 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
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
State Project No. TV-04

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. 4 Bayou Carlin

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: Fixed crest weir

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|---|---|---|---|---|---|
| Steel Bulkhead / Caps | good | | | 4 | Structure in pristine post-construction condition. Some slight rusting of pile caps. No immediate action necessary. |
| Steel Grating | N/A | | | | |
| Stop Logs | N/A | | | | |
| Hardware | good | | | | |
| Timber Piles | good | | | | |
| Timber Wales | N/A | | | | |
| Galv. Pile Caps | N/A | | | | |
| Cables | N/A | | | | |
| Signage /Supports | good | | | | |
| Rip Rap (fill) | N/A | | | | |
| 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
COTE BLANCHE HYDROLOGIC RESTORATION PROJECT
State Project No. TV-04

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-04 Cote Blanche

Date of Inspection: October 19, 2015 Time:

Structure No. School Bus Bayou SP

Inspector(s):Stan Aucoin(CPRA)
Cindy Steyer, Dale Garber, and Loland Broussard (NRCS)

Structure Description: Foreshore Rock Dike & Weirs

Water Level Inside: Outside:

Type of Inspection: Annual

Weather Conditions: Partly Cloudy and cool

| 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 | Good | | | 8, 9, 10 | Signage is intact |
| Rip Rap (fill) | | | | | Settlement of rock dike has stabilized and is functioning as designed. Rip Rap at intersection of humble canal |
| School Bus Bayou | Good | | | 8 | and school bus bayou is in place and stable. |
| Low Level Weirs | Good | | | 9,10 | |
| 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?