State of Louisiana
Coastal Protection and Restoration Authority

2017 Annual Inspection Report

for

South Lake Decade Freshwater Introduction Project (TE-39)

State Project Number TE-39
Priority Project List 9

July 12, 2017
Terrebonne Parish

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# Table of Contents

I. Introduction ............................................................................................................... .....3

II. Inspection Purpose and Procedures ...............................................................................3

III. Project Description and History.....................................................................................4

IV. Summary of Past Operation and Maintenance Projects.................................................4

V. Inspection Results ..........................................................................................................4

VI. Conclusions and Recommendations ..............................................................................5

## Appendices

Appendix A  Project Features Map

Appendix B  Photographs

Appendix C  Three Year Budget Projections
I. Introduction

The South Lake Decade Freshwater Introduction (TE-39) Project is located in Terrebonne Parish, Louisiana, and is bounded to the north by the southern bank of Lake DeCade and the Small Bayou La Pointe Ridge, to the east and southeast by an unnamed oilfield canal, to the southwest by an imaginary line through the marsh, and to the west by an unnamed oilfield canal and Bayou Decade (Balkum, K. F.; M. A. Stead, 2004). The 7,343 acre project is classified predominately as intermediate marsh with fresh marsh fringing the southern rim of Lake Decade and brackish marsh identified along the western and southern edges of the project boundary (Chabreck and Linscombe, 1997).

The proposed hydrologic restoration project, which is intended to enhance, maintain, and protect existing marshes within the project area (USDA-NRCS, 2001), has been separated into two (2) construction units to expedite construction of those features requiring less engineering and design effort. Construction Unit No. 1 (CU#1) included the construction of approximately 8,600 linear feet of rock armor shoreline protection along the southern bank of Lake Decade. The CU#1 was completed in July 2011. Construction Unit No. 2 was to consist of a freshwater introduction component which has not been pursued and there are no plans to proceed with construction of CU#2 at this time.

Construction Unit No. 1 has a twenty-year (20 year) project life, which began in July 2011. The principle project feature included a continuous 8,600 linear foot rock dike revetment constructed along the southern bank of Lake Decade east of Bayou Decade.

II. Inspection Purpose and Procedures

The purpose of the annual inspection of the South Lake Decade Freshwater Introduction (TE-39) Project is to evaluate the constructed project features in order to identify any deficiencies. The inspection results are used to prepare a report detailing the condition of the project features and recommending any corrective actions considered necessary. Should it be determined that corrective actions are needed, the CPRA shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, construction, and contingencies, as well as an assessment of the urgency, of such repairs. The annual inspection report also contains a summary of maintenance projects which were completed since the completion of constructed project features and an estimated projected budget for the upcoming three (3) years for operation, maintenance, and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C. A summary of past operation and maintenance projects completed since construction of the South Lake Decade Freshwater Introduction – Construction Unit No.1 project is outlined in Section IV.

The annual inspection of South Lake Decade – Construction Unit No. 1 project took place April 11, 2017. In attendance were Brian Babin, Adam Ledet and Josh Sylvest with CPRA, Quin Kinler with NRCS, Josh Soileau with ConocoPhillips and Francis
Fields with Apache Louisiana Minerals, Inc. The inspection began around 9:00 am, proceeding the Brady Canal Hydrologic Restoration (TE-28) project, at the east end of the rock revetment structure near the Williams pipeline and proceeded to the west end of the structure near Bayou Decade. The trip included a visual inspection of the rock revetment, earthen embankment and settlement plates. Photographs of the inspection are located in Appendix B.

III. Project Description

The following completed, structural components jointly accepted by CPRA and NRCS will require operation, maintenance, repair, and/or rehabilitation throughout the twenty (20) year life of the project.

The principle project features include a continuous 8,600 linear foot rock dike revetment constructed along the southern bank of Lake Decade east of Bayou Decade. The spoil material resulting from access dredging was placed along the existing earthen embankment to an elevation between +5.0 to +10.0’ NAVD. The lake rim rock dike revetment was constructed to an elevation of +5.0’ NAVD with a planned finished elevation of +4.5’ NAVD. The revetment included a 4’ wide top width, 2:1 side slopes constructed above a geotextile fabric material. A total of eight (8) settlement plates were installed at locations along the rock dike revetment to monitor soil consolidation.

IV. Summary of Past Operation and Maintenance Projects

To date, there have been no maintenance events or project features that require routine operation. This section will be used to reference all maintenance activities on future inspection reports.

V. Inspection Results

Rock Riprap Revetment/ Earthen Embankment
The rock revetment and earthen embankment appeared to be in very good condition with no obvious settlement or displacement of the rock riprap. The earthen embankment behind the rock revetment was in good shape and well vegetated. We did observe large cut banks in the embankment on both ends of the rock revetment; however, this is expected considering the wave action along the south bank of Lake Decade. Apache Minerals routinely refurbishes the earthen bankline along the lake on the east and west sides of the rock revetment to maintain the lake rim.
VI. Conclusions and Recommendations

The rock revetment structure of the South Lake Decade Freshwater Introduction (TE-39) project is in very good condition. The rock revetment remains at a consistent elevation with no evidence of settlement or displacement of the rock riprap. The vegetation on the earthen embankment behind the rock structure has flourished and the bank line appears to be stable. Since the structure is in great shape, we are not recommending any maintenance or corrective actions.

References:


Appendix A

Project Features Map
Appendix B

Photographs
Photo 1 – view of the east end of the rock revetment along the south bank of Lake Decade near the Williams Pipeline at Sta. 86+00.

Photo 2 – view of the rock revetment along the south bank of Lake Decade from Sta. 86+00 looking in southwesterly direction.
Photo 3 – view of the rock revetment along the south bank of Lake Decade.

Photo 4 - view of the rock revetment along the south bank of Lake Decade.
Photo 5 – view of rock revetment along south bank of Lake Decade near Sta. 0+18, beginning of project.

Photo 6 – view of cut banks between Sta. 0+18 of the rock revetment and the mouth of Bayou Decade.
Appendix C

Three Year Budget Projection
South Lake Decade/ TE-39 / PPL 9 (2017-2020)
Three-Year Operations & Maintenance Budgets

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<tr>
<td>Maintenance/Rehabilitation</td>
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</tbody>
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2017/2018 Description:

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

18/19 Description:

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

19/20 Description:

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

Annual O&M Budgets

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<tbody>
<tr>
<td></td>
<td>$9,002.00</td>
<td>$9,271.00</td>
<td>$9,549.00</td>
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</table>

2017 - 2020 O & M Budget (3 yr Total) $27,822
Unexpended O & M Funds $47,672
Remaining O & M Budget (Projected) $19,850
OPERATIONS & MAINTENANCE BUDGET WORKSHEET

Project: TE-39 South Lake Decade Freshwater Introduction

FY 17/18 –

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<tr>
<td>Construction:</td>
<td>0</td>
</tr>
<tr>
<td>Construction Oversight:</td>
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</tbody>
</table>

Operation and Maintenance Assumptions: Since this project is inspected on the same day as Brady Canal, we have reduced the hours necessary to complete the inspection.

**CPRA Direct Costs**

**Inspection:**
- CPRA Engineer 3 – 4 hrs @ $68/hr.: $272
- CPRA Engineer 6 – 4 hrs @ $78/hr.: $312
- CPRA Scientist 4 – 4 hrs @ $56/hr.: $224

**Report:**
- CPRA Engineer 6 – 30 hrs. @ $78/hr. $2,340

Total Direct CPRA Costs: $3,148

**CPRA Indirect Costs**

**Inspection:**
- CPRA Engineer 3 – 4 hrs @ $127/hr.: $508
- CPRA Engineer 6 – 4 hrs @ $145/hr.: $580
- CPRA Scientist 4 – 4 hrs @ $104/hr.: $416

**Report:**
- CPRA Engineer 6 – 30 hrs. @ $145/hr. $4,350

Total Indirect CPRA Costs: $5,854
FY 18/19 –

Administration $ 0
O&M Inspection & Report $ 9,271
Operation/Navigational Aid: $ 0
Maintenance: $ 0

E&D: $ 0
Construction: $ 0
Construction Oversight: $ 0

Operation and Maintenance Assumptions:
O&M Inspection and Report – 3% inflation

CPRA Direct Costs

Total Direct CPRA Costs: $ 3,148 x 3% Inflation = $ 3,242

CPRA Indirect Costs

Total Indirect CPRA Costs: $ 5,854 x 3% Inflation = $ 6,029

FY 19/20 –

Administration $ 0
O&M Inspection & Report $ 9,549
Operation/Navigational Aid: $ 0
Maintenance: $ 0

E&D: $ 0
Construction: $ 0
Construction Oversight: $ 0

Operation and Maintenance Assumptions:
O&M Inspection and Report – 3% inflation

CPRA Direct Costs

Total Direct CPRA Costs: $ 3,242 x 3% Inflation = $ 3,339

CPRA Indirect Costs

Total Indirect CPRA Costs: $ 6,029 x 3% Inflation = $ 6,210
2017-2020 Accounting

Expenditures from LaGov: $ 6,593
NRCS MIPR (20 Year): $ 9,304
Total Expenditures: $ 15,897

Current O&M Funding (LANA Report): $ 63,569
Current Unexpended O&M Funds: $ 47,672

Note: NRCS’s MIPR for 20 Years is $9,304.