

**OPERATION, MAINTENANCE, REPAIR, AND
REHABILITATION PLAN**

**LOST LAKE MARSH CREATION AND HYDROLOGIC
RESTORATION PROJECT
TE-0072**



March 15, 2023

Prepared by:
Coastal Protection and Restoration Authority of Louisiana

Table of Contents

History of Revisions	iii
Section 1. Project Description, Purpose, and Location	1
Section 2. Construction Completion	3
Section 3. Project Permits	3
Section 4. Items Requiring Operation, Maintenance, and Rehabilitation	3
Section 5. Operation and Maintenance Budget	5
Section 6. Operation of Structures	5
Section 7. Responsibilities – Maintenance and Rehabilitation	5
Signature Sheet	8

Attachment I.	Cost Share Agreement
Attachment II.	Project Features
Attachment III.	Project Completion Report
Attachment IV.	As-built Drawings
Attachment V.	Project Permits & Permit Amendments
Attachment VI.	Operation, Maintenance, and Rehabilitation Budget
Attachment VII.	Operation of Structures

History of Revisions

OPERATION, MAINTENANCE, REPAIR, AND REHABILITATION PLAN

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT (TE-0072)

The Coastal Protection and Restoration Authority (CPRA) of Louisiana and the United States Department of the Interior / Fish and Wildlife Service (USFWS) agree to carry out the terms of this Operation, Maintenance, Repair, and Rehabilitation Plan (hereinafter referred to as the “Plan”) of the accepted, completed project features in accordance with the Cost Share, DNR Agreement No. 2511-10-06 dated May 21, 2009, as amended, (Attachment I).

The project features covered by this plan are inclusive of and are identified as the Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-0072). The intention of the provisions of this Plan is to maintain this project in a condition that will generally provide the anticipated benefits that the project was based on. There are no requirements that this project function to any standard beyond the project life, except that it is not left as a hazard to navigation or a detriment to the environment.

Construction of the Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-0072) is 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 Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-0072) was approved on the 19th Priority Project List.

1. PROJECT DESCRIPTION, PURPOSE, AND LOCATION

The Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-0072) is located in Terrebonne Parish, Louisiana near the vicinity of Lost Lake and encompasses approximately 7,312 acres including 3,646 acres of intermediate marsh and 3,666 acres of open water. (USFWS, 2014) (Attachment II)

Significant marsh loss has occurred between Lake Pagie and Bayou DeCade to the point that little structural framework remains separating those two water bodies. (USFWS, 2009 Fact Sheet) Northeast of Lost Lake, interior marsh breakup has resulted in large, interior ponds where wind/wave energy continues to result in marsh loss. (USFWS, 2009 Fact Sheet) West of Lost Lake, interior breakup has occurred as a result of ponding and the periodic entrapment of higher salinity waters during storm events. The TE-0072 project will restore an important feature of structural framework between Lake Pagie and Bayou Decade to prevent the coalescence of those two water bodies. (USFWS, 2009 Fact Sheet) It will increase the delivery of fresh water, sediments, and nutrients into marshes north and west of Lost Lake, and reduce fetch in open water areas via construction of a terrace field. Marshes north, east, and west of Lost Lake serve an important function as an intermediate zone buffering fresh marshes to the north from the higher salinities to the south. (Hubbell, 2016)

The Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-0072) involves creation and nourishment of marsh between Lake Pagie and Bayou DeCade, marsh north of Bayou DeCade in three marsh creation cells, and marsh along the northwest Lost Lake shoreline near the mouth of Crochet Canal. Also included is approximately 30,000 linear feet of terracing north of the three marsh creation cells and the construction of 5 water control structures.

The project has a twenty (20) year economic life, which began in November 2018. The principal project features include:

Fill Area 1/1A (marsh between Lake Pagie and Bayou DeCade)

- Marsh Creation (346.9 acres)
- Earthen Containment Dike (23,174 Linear Feet)

Fill Area 1B (marsh on west side of Lake Pagie)

- Marsh Creation (112.9 acres)
- Earthen Containment Dike (5,521 Linear Feet)

Fill Area 1C (marsh on west side of Lake Pagie)

- Marsh Creation (30.6 acres)
- Earthen Containment Dike (3,576 Linear Feet)

Fill Area 2A/D (marsh North of Bayou DeCade near Voss Canal)

- Marsh Creation (78.4 acres)
- Earthen Containment Dike (8,406 Linear Feet)

Fill Area 2B East (marsh south of Shell Pipeline)

- Marsh Creation (4.0 acres)
- Earthen Containment Dike (2,515 Linear Feet)

Fill Area 2B West (marsh north of Shell Pipeline)

- Marsh Creation (54.4 acres)
- Earthen Containment Dike (8,325 Linear Feet)

Fill Area 2C (marsh North of Bayou DeCade)

- Marsh Creation (39.5 acres)
- Earthen Containment Dike (5,940 Linear Feet)

Fill Area 3 (marsh between Lost Lake and Carencro Lake)

- Marsh Creation (51.5 acres)
- Earthen Containment Dike (5,350 Linear Feet)

Earthen Terraces (North of fill areas 2A, 2B, 2C)

- Earthen Terraces (30,000 Linear Feet)

Hydrologic Restoration

- WC-1 – Variable Crest Weir (126 Linear Feet w/10 bays) located in Bayou Carencro
- WC-4 – Variable Crest Weir (77 Linear Feet w/4 bays) located in Bayou Carencro
- WC-5 – Variable Crest Weir (112 Linear Feet w/10 bays) located in a small bayou on the west bank of Lost Lake
- WC-6 – Variable Crest Weir (147 Linear Feet w/14 bays) located in Rice Bayou
- Site 1 – Variable Crest Weir (91 Linear Feet w/7 bays) located in Little Bayou Carencro

2. **CONSTRUCTION COMPLETION**

The Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-0072) completion report is included in Attachment III of this Plan. Within this completion report is a summary of information and significant events including: project personnel, final as-built project features and benefitted acres, construction cost and CWPPRA project estimates, construction oversight cost, construction activities and change orders, pipeline and utility crossing owner information, and other significant milestone dates and comments.

The project “As-Built” construction drawings updated with all field changes and modifications that occurred during construction are included in Attachment IV.

3. **PROJECT PERMITS**

Project permit applications were completed and submitted to appropriate agencies, and permits were received prior to construction. These permits and permit amendments are included in Attachment V. Provisions for the renewal of Federal and State permits may be required.

4. **ITEMS REQUIRING OPERATION, MAINTENANCE, AND REHABILITATION**

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

Structure WC-1: 126 linear ft. steel pile variable crest weir. This structure replaced a fixed crest weir located on the south bank of Carencro Bayou east of Crochet Canal. The structure consists of 10, 5ft. wide variable crest sections each containing a stop log bay with 6 each, 3" x 6" stop logs mounted in a steel structured stop log guide, locking channel secured by locks, which can be adjusted from +0.5 ft. NAVD88 to -2.5 ft. NAVD88. To access, install, and remove stop logs is a 6" x 8" timber hoist support including galvanized walkways, grating, handrails, pile caps, pull-up bars, and miscellaneous channels, and angle bracings, nuts and bolts which are galvanized or have painted surfaces.

Aluminum warning signs are attached to round timber piles with galvanized pile caps, set at the variable crest section, stop log bay.

Structure WC-4: 77 linear ft. steel pile variable crest weir. This structure replaced a fixed crest weir located on the south bank of Carencro Bayou east of Crochet Canal. The structure consists of 4, 5ft. wide variable crest sections each containing a stop log bay with 6 each, 3" x 6" stop logs mounted in a steel structured stop log guide, locking channel secured by locks, which can be adjusted from +0.5 ft. NAVD88 to -2.5 ft. NAVD88. To access, install, and remove stop logs is a 6" x 8" timber hoist support including galvanized walkways, grating, handrails, pile caps, pull-up bars, and miscellaneous channels, and angle bracings, nuts and bolts which are galvanized or have painted surfaces. Aluminum warning signs are attached to round timber piles with galvanized pile caps, set at the variable crest section, stop log bay.

Structure WC-5: 112 linear ft. steel pile variable crest weir. This structure replaced a fixed crest weir located in a small channel on the west bank of Lost Lake. The structure consists of 10, 5ft. wide variable crest sections each containing a stop log bay with 6 each, 3" x 6" stop logs mounted in a steel structured stop log guide, locking channel secured by locks, which can be adjusted from +0.5 ft. NAVD88 to -2.5 ft. NAVD88. To access, install, and remove stop logs is a 6" x 8" timber hoist support including galvanized walkways, grating, handrails, pile caps, pull-up bars, and miscellaneous channels, and angle bracings, nuts and bolts which are galvanized or have painted surfaces. Aluminum warning signs are attached to round timber piles with galvanized pile caps, set at the variable crest section, stop log bay.

Structure WC-6: 147 linear ft. steel pile variable crest weir. This structure replaced a fixed crest weir located on the west bank of Rice Bayou south of Lost Lake. The structure consists of 14, 5ft. wide variable crest sections each containing a stop log bay with 6 each, 3" x 6" stop logs mounted in a steel structured stop log guide, locking channel secured by locks, which can be adjusted from +0.5 ft. NAVD88 to -2.5 ft. NAVD88. To access, install, and remove stop logs is a 6" x 8" timber hoist support including galvanized walkways, grating, handrails, pile caps, pull-up bars, and miscellaneous channels, and angle bracings, nuts and bolts which are galvanized or have painted surfaces. Aluminum warning signs are attached to round timber piles with galvanized pile caps, set at the variable crest section, stop log bay.

Site 1: 91 linear ft. steel pile variable crest weir. This structure replaced an earthen plug on the south bank of Little Bayou Carencro east of Carencro Lake. The structure consists of 7, 5ft. wide variable crest sections each containing a stop log bay with 6 each, 3" x 6" stop logs mounted in a steel structured stop log guide, locking channel secured by locks, which can be adjusted from +0.5 ft. NAVD88 to -2.5 ft. NAVD88. To access, install, and remove stop logs is a 6" x 8" timber hoist support including galvanized walkways, grating, handrails, pile caps, pull-up

bars, and miscellaneous channels, and angle bracings, nuts and bolts which are galvanized or have painted surfaces. Aluminum warning signs are attached to round timber piles with galvanized pile caps, set at the variable crest section, stop log bay.

5. OPERATION AND MAINTENANCE BUDGET

The cost associated with the Operations, Maintenance, and Rehabilitation of the features outlined in Section 4 of this plan for the twenty (20) year project life is included and summarized in Attachment VI.

6. OPERATION OF STRUCTURES

The schedule for operations of structures WC-1, WC-4, WC-5, WC-6 and Site 1 has been jointly determined by USFWS, CPRA, and Conoco Phillips (formerly Burlington Resources) and based on analysis of monitoring data provided by CPRA. Operation schedules may require modification in the future should hydrologic conditions within the project area change. In accordance with the Cost Share Agreement, CPRA shall assume responsibility for operation of these structures. Based on present data, the operation schedule for the project shall be as described in Attachment VII - Structure Operation Schedule.

7. RESPONSIBILITIES – MAINTENANCE AND REHABILITATION

A. CPRA will:

1. In accordance with the Cost Share DNR Agreement No. 2511-10-06 outlined in Attachment I, assume all responsibilities for maintenance and rehabilitation of the accepted, completed project features identified in Section 4.
2. Conduct joint site inspections with USFWS of the project site at least annually and after major storm events if determined to be necessary by CPRA and USFWS. CPRA will submit to USFWS, a report detailing the condition of the project features and recommendations for any corrective action. If CPRA recommends that corrective actions are needed, the report will include the entire estimated cost for engineering and design, supervision and inspection, construction, contingencies, and the urgency of such action. Annual inspection reports may be compiled under attachment VIII - Annual Inspections.
3. Perform or have performed any corrective actions needed, if such corrective actions have been approved by CPRA, USFWS, and the CWPPRA Task Force. USFWS will participate with CPRA, or its appointed representative, in the engineering and design phases of the

corrective actions for the project. Oversight of engineering and construction of the corrective actions for the project will be the responsibility of CPRA or its appointed representative. At least thirty (30) calendar days prior to the date of formal request for construction bids, CPRA or its appointed representative shall provide USFWS with final copies of all project corrective action designs and specifications for review and concurrence by USFWS. CPRA or its appointed representative shall approve the final designs and specifications prior to proceeding with bid solicitations on all project corrective action construction contracts in coordination with USFWS. Any plan and/or specification changes both before and after award of construction contracts shall be approved by CPRA in coordination with USFWS.

4. USFWS and CPRA representatives shall meet as necessary during the period of construction for corrective actions and shall make such recommendations as they deem necessary.
5. Provide the non-Federal contribution towards operation and maintenance activities as specified in the Cost Sharing Agreement between CPRA and USFWS.

B. USFWS will:

1. Conduct joint site inspections with CPRA of the project site at least annually and after major storm events if determined to be necessary by CPRA and USFWS.
2. Request funding and authorization from the CWPPRA Task Force for any corrective actions that are deemed necessary by CPRA and USFWS.
3. Provide guidance for the development of plans and implementation of the project, review final copies of any maintenance and rehabilitation project designs and specifications, and provide review and approval of all planning and construction details prior to formal request for construction bids or any corrective actions for the project.
4. Provide the Federal contribution towards operations and maintenance activities as specified in the Cost Sharing Agreement between CPRA and USFWS.

References

USFWS, 2014. Final Environmental Assessment Lost Lake Marsh Creation and Hydrologic Restoration (TE-72). U.S. Fish and Wildlife Service Ecological Services. Lafayette Louisiana. 31pp.

Hubbell, T., CPRA, 2016. Monitoring Plan – Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72). Coastal Protection and Restoration Authority of Louisiana, Operations Division, Thibodaux Regional Office. 10 pp.

USFWS, 2009. PPL19 Project Nominee Fact Sheet. Lost Lake Marsh Creation and Hydrologic Restoration. United States Fish and Wildlife Service.

The undersigned parties, acting on behalf of their respective agencies, agree to operate, maintain, and rehabilitate the Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-0072) according to this document, referenced Cost Share Agreement, plans, and all applicable permits and laws.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

KEVIN
ROY

Digitally signed by
KEVIN ROY

Date: 2023.03.21
10:11:42 -05'00'

By: _____

Date: _____

Title: CWPPRA Program Coordinator

COASTAL PROTECTION AND RESTORATION AUTHORITY OF LOUISIANA

By: 

Date: 3/22/2023

Title: REGIONAL OPERATIONS MANAGER

TE-0072 Lost Lake Marsh Creation and Hydrologic Restoration

Attachment I Cost Share Agreement

BOBBY JINDAL
GOVERNOR



SCOTT A. ANGELLE
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF MANAGEMENT AND FINANCE



May 21, 2009

Jim Boggs, Field Supervisor
US Dept of Interior
Fish & Wildlife Service
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

RE: Lost Lake Marsh Creation & Hydrologic Restoration Project (TE-72)"
DNR Cost Share Agreement No. 2511-10-06

Dear Mr. Boggs:

Enclosed are (4) signed originals of the above referenced Cost Share Agreement reflecting approval from the Coastal Protection and Restoration Authority (CPRA) under Special Delegation of Authority by Louisiana Division of Administration. After execution by the Acting Supervisor, U.S. Fish & Wildlife Service, please return two (2) original signed agreements for our files.

If you have any questions, please call Julia Raiford, of my staff, at (225) 342-4566.

Sincerely,

A handwritten signature in cursive script that reads "Julia Raiford for -".

Karen Y. Lewis
Contracts & Grants Administrator

Enclosures
KYL/jr

CFMS # 690958
APPROVED UNDER OCPR/CPRA
SPECIAL DELEGATION PER OCR

FWS Agreement No.
CPRA Agreement No.

LETTER DATED: 5/3/2002

Julia Rayford 5/7/10
for KYR

COST SHARE AGREEMENT

BETWEEN

U.S. DEPARTMENT OF THE INTERIOR-FISH AND WILDLIFE SERVICE

AND

THE STATE OF LOUISIANA

FOR PLANNING, ENGINEERING AND DESIGN, CONSTRUCTION, OPERATION,

MAINTENANCE, AND REHABILITATION OF THE

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION

PROJECT (TE-72)

THIS AGREEMENT, entered into this 22 day of April, 2010 by and between the U.S. Department of the Interior, represented by the Fish and Wildlife Service (hereinafter referred to as "FWS"), acting by and through the Supervisor, Louisiana Field Office, and the State of Louisiana, acting by and through the Chairman, Coastal Protection and Restoration Authority of Louisiana, (hereinafter referred to as "CPRA").

WITNESSETH, THAT:

WHEREAS, expenditure of Phase I funding for the Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72) was authorized by the Coastal Wetlands Planning, Protection, and Restoration Act (hereinafter referred to as "CWPPRA") of 1990, 16 U.S.C. Section 3951 *et seq.*, (Public Law 101-646, Title III), and for local sponsorship by the Louisiana Coastal Wetlands Conservation and Restoration Plan, by the State of Louisiana in January 2010; and,

WHEREAS, upon successful completion of Phase I, expenditure of Phase II funding for the the Lost Lake Marsh Creation and Hydrologic Restoration Project may be authorized by the Louisiana Coastal Wetlands Conservation and Restoration Task Force (hereafter referred to as the "Task Force");

WHEREAS, the State's Coastal Wetlands Conservation Plan was approved on November 30, 1997; all costs incurred on or after December 1, 1997 are shared at eighty-five percent (85%) Federal and fifteen percent (15%) non-Federal;

WHEREAS, Section 303(e) of CWPPRA states that the Secretary of the Army shall not fund the identified project unless said project is subject to such terms and conditions necessary to ensure that

wetlands restored, enhanced, or managed through the project will be administered for the long-term conservation of such lands and waters and dependent fish and wildlife populations; and,

WHEREAS, FWS is authorized by federal law to enter a cost-sharing agreement with CPRA to provide financial cost-share assistance for the planning, engineering and design, construction, operation, maintenance, and rehabilitation, of the project; and,

WHEREAS, La. R.S. 49:213 and La. R.S. 49:214 state that the Chairman of CPRA may enter into cost-sharing agreements with the federal government in order to conserve, restore, create, and enhance vegetated wetlands in coastal Louisiana in accordance with prescribed legislative oversight; and,

WHEREAS, CPRA has agreed to pay 5% of the total Project(s) cost in actual cash and the remaining balance of its share in the form of in-kind contributions; and,

WHEREAS, CPRA is willing to participate in cost-sharing and financing in accordance with the terms of this Agreement;

NOW, THEREFORE, the parties agree as follows:

ARTICLE I - DEFINITIONS AND GENERAL PROVISIONS

For the purposes of this Agreement:

a. The term **"Project"** shall mean the work authorized by Congress as specified above for the construction of the TE-72 Lost Lake Marsh Creation and Hydrologic Restoration Project. The TE-72 Project is located in Terrebonne Parish. The Projects objectives are to: 1) restore an important feature of structural framework between Lake Pagie and Bayou Decade to prevent the coalescence of those two water bodies, 2) increase the delivery of fresh water, sediments, and nutrients into marshes north and west of Lost Lake, 3) reduce fetch in open water areas via construction of a terrace field. Specific Phase 0 goals include creating approximately 465 acres of marsh, increasing the delivery of fresh water into project area marshes by replacing 6 fixed-crest weirs and two plugs with variable-crest structures, and creating approximately 26 acres of marsh via the construction of 30,000 feet of terraces.

b. The term **"total Project costs"** shall mean all costs incurred by CPRA and FWS directly related to implementation of the Project. Such costs shall be those costs incurred after January 20, 2010; and which shall include, but not necessarily be limited to, the following: engineering and design costs; lands, easements, servitudes, and rights-of-way costs; project construction costs; construction management costs; relocation costs; pre-construction, construction, and operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) costs; supervision and administration costs; hazardous and toxic waste investigation costs; cultural resources investigation costs; and NEPA documentation studies cost.

c. The term **"total first costs"** shall mean all costs incurred by CPRA and FWS directly related to completion of the construction phase of the project as identified in the official CWPPRA

authorization document prepared by the CWPPRA Task Force January 20, 2010 and submitted to Congress.

d. The term **"period of construction"** shall mean the time from the advertisement of the first construction contract to the time that the Contracting Officer certifies to FWS that construction of the entire project is complete. The Contracting Officer shall furnish to FWS copies of the written Notice of Acceptance of Complete Work furnished to contractor(s) for all contracts for the Project.

e. The term **"Contracting Officer"** shall mean CPRA.

f. The term **"relocations"** shall mean the preparation of plans and specifications for, and the accomplishment of any alteration, modification, lowering or raising in place, and/or a new construction related to, but not limited to, existing: buildings, pipelines, public utilities (such as municipal water and sewer lines, telephone lines, and storm drains), aerial utilities, cemeteries, and other facilities, structures, and improvements determined by FWS and CPRA to be necessary for the construction, operation, maintenance, and rehabilitation of the Project.

g. The term **"utility"** shall mean pipelines, cables, and similar facilities.

h. The term **"fiscal year"** shall mean one fiscal year of the United States Government, unless otherwise specifically indicated. The Government fiscal year begins on October 1 and ends on September 30.

i. The term **"construction management costs"** shall mean costs incurred by CPRA directly supervising and administering construction contracts, to include related overhead costs, as specified in applicable contracting regulations.

j. The term **"maintenance"** shall mean any action completed after the construction period that is required to maintain the Project at "as built" standards, and costing less than twenty percent (20%) of the original construction cost.

k. The term **"rehabilitation"** shall mean any action completed after the construction period that is required to maintain the Project at "as built" standards, and costing twenty percent (20%) or more of the original construction cost.

l. The term **"Operation, Maintenance Repair, Replacement, and Rehabilitation (OMRR&R) Plan"** shall be a plan jointly developed and approved by FWS and CPRA upon completion of the Project and prior to acceptance by CPRA of the completed Project or functional portion of the Project, a final Plan shall be prepared. The OMRR&R Plan will address specific items, including any related landrights issues, with estimated costs, to be performed throughout the expected life-span of the Project and will be revised periodically to reflect actual needs.

m. The term **"operation, maintenance, repair, replacement, and rehabilitation costs"** shall mean all costs incurred by CPRA and FWS related to operating, maintaining, and rehabilitating the

final accepted Project. Specific requirements and responsibilities shall be identified and mutually accepted by both parties in an "Operations, Maintenance, Repair, Replacement and Rehabilitation Plan".

n. The term "**obligation**" refers to amount of orders placed, contracts awarded, services rendered, or other commitments made during a given period which will require outlay during the same or some future period.

o. The term "**engineering and design costs**" shall mean all costs incurred by CPRA and FWS related to the development, approval, and acceptance of detailed engineering and design plans, specifications, and Project bid documents. This will also include all supervision and administrative costs associated with the engineering and design phase of the Project and will terminate with the award of a Project construction contract.

p. The term "**functional portion of the Project**" shall mean a completed portion of the Project as determined by the Contracting Officer and FWS in writing to be suitable for tender to CPRA for operation and maintenance in advance of completion of the entire Project. To be suitable for tender, the Contracting Officer must determine that the completed portion of the Project can function independently and for a useful purpose, although the balance of the Project is not complete.

r. The term "**life of the Project**" shall mean the next twenty (20) years starting at the date of acceptance of the final Project, or functional portion of the Project, as provided in Article V.e. of this Agreement.

s. The term "**Phase I**" shall include, but not be limited to, a determination of environmental benefits, any necessary hydrologic data collection and analysis, and Engineering and Design. Engineering and Design includes Engineering, Design, Environmental Clearances, Permitting, Project Management and Real Estate requirements up to, but not including, the purchase of real estate.

t. The term "**Phase II**" shall mean Construction, OMRR&R and the Purchase of Real Estate. Construction includes Project Management, Contract Management, Construction Supervision, and Inspection.

u. The term "**CWPPRA Project Standard Operating Procedures Manual**" shall mean the standard procedures to be used by FWS and CPRA in the management of the Project. These standard procedures shall not supersede nor invalidate any rules or regulations internal to FWS or CPRA.

ARTICLE II – OBLIGATIONS OF THE PARTIES

a. No federal funds may be used to meet the CPRA share of Project costs under this Agreement unless the expenditure of such funds is expressly authorized by statute as verified in writing by the granting agency.

b. CPRA shall:

1. Over the life of the Project, fund a total contribution equal to the non-federal share of the total Project costs, including a minimum cash contribution of five percent (5%) of the total Project costs. Said contribution will include cash and/or credit granted from land rights, easements, servitudes, and rights-of way obtained through or owned by CPRA, or relocations credit granted for Project features furnished by CPRA, and all administrative and management costs required by CPRA to fulfill the obligations specified in this Agreement including permitting coordination, geotechnical investigation, engineering services, landrights amendment processing and or acquisition, maintenance, operation, and/or rehabilitation responsibilities accepted by CPRA.

2. Prior to advertisement of each construction contract, and as further specified in Article VI.b.2. hereof, provide a minimum cash contribution of five percent (5%) of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract.

3. Prior to the advertisement of each construction contract, and as further specified in Article VI.b.2. hereof, provide a contribution equal to the non-federal share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract. Said contribution will include cash and/or credit granted from land rights, easements, servitudes, and rights-of-way obtained through or owned by CPRA, or relocations credit granted for Project features furnished by CPRA, administrative and management costs, and any engineering and/or ecological, biological, or hydrological review evaluations required by CPRA to fulfill the obligations specified in this Agreement.

4. Provide specific engineering services associated with the Project, subject to the cost-sharing provisions, and as mutually agreeable to both CPRA and FWS, or its engineering representative. Specific engineering services to be provided by CPRA may include design surveys, plan preparation, post-construction surveys, etc. All such services will be approved by and subject to the supervision and guidance of FWS engineering representatives.

5. Acquire all land rights, servitudes, rights-of-way, easements, and material borrow and dredged material disposal areas associated with the Project which are determined to be on lands or waters that are not federally owned or federally controlled, subject to cost-sharing terms previously identified above.

6. Jointly develop an OMRR&R Plan with FWS which will identify specific long-term maintenance, operation, repair, replacement and rehabilitation requirements. Said plan will be developed upon completion of the Project features in accordance with Article I.m., and will be reviewed and modified as necessary after an evaluation conducted by CPRA, with FWS participation, within 12-18 months following completion of construction.

7. Provide for non-federal share of costs identified in the OMRR&R Plan, according to Articles VI and VIII.a.

8. Submit to FWS the completed As-built Surveys/Construction drawings and Construction Completion Report.

c. FWS shall:

1. Over the life of the Project, fund a total contribution equal to the federal share (CWPPRA – allocated funds) of the total Project costs, including any relocation costs associated with the Project.

2. Prior to the advertisement of each construction contract, FWS shall provide a contribution equal to the federal share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract, including any relocation costs associated with the Project.

3. Reimburse CPRA using electronic funds transfer (EFT) procedures in accordance with 31 CFR 208 for the federal share of the actual costs incurred by CPRA for project management, geotechnical and engineering services provided for the Project, permitting coordination, and acquiring all land rights (easements, servitudes, and rights-of-way, including suitable borrow material and disposal areas) as determined by FWS to be necessary for Project construction, operation, maintenance, and rehabilitation.

4. Acquire all landrights, easements, servitudes and rights-of-way, including suitable borrow and dredged material disposal areas, and fulfill all applicable Federal and state regulatory requirements on federally owned or controlled lands or waters.

5. Participate with CPRA on the level of design effort needed to determine the effectiveness of a project in achieving intended environmental benefits.

6. Participate in a preliminary design review with CPRA at thirty percent (30%) completion of Phase I project evaluation in accordance with Section 6.e., CWPPRA Standard Operating Procedures Manual (Revision 16 dated June 3, 2009).

7. Provide the federal share of costs identified in the OMRR&R Plan and actually incurred by CPRA, subject to the limitations on expenditures set forth in Article XIX.

8. Conduct final inspection of the completed works of improvement with CPRA to determine whether all work has been performed in accordance with the contractual requirements. Based on this determination, accept work from the contractor and notify CPRA of acceptance.

9. Participate, with CPRA, in an evaluation within 12 - 18 months following the completion of construction to assess OMRR&R needs. FWS will also participate with CPRA in any subsequent evaluations as the parties deem necessary to address long-term maintenance, operation, and rehabilitation of the Project.

10. Ensure that all National Environmental Policy Act (NEPA) and regulatory requirements, including permits, for the Project are met.

ARTICLE III – LAND RIGHTS, FACILITIES, AND PUBLIC LAW 91-646 RELOCATION ASSISTANCE

a. On non-Federal lands, CPRA shall acquire all land rights, easements, servitudes, rights-of-way, and material borrow and disposal areas determined to be necessary for construction of the Project and as mutually agreed-to by CPRA and FWS. Prior to the advertisement of any construction contract, CPRA shall provide certification to FWS that all land rights, easements, servitudes, rights-of-way and material borrow and disposal areas required, have been acquired as part of this Agreement and shall furnish to FWS evidence supporting actual rights-of-way acquired by CPRA for Project construction, operation, and maintenance.

b. The State shall comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR part 24, in acquiring lands, easements, and rights-of-way for construction and subsequent operation, maintenance, and rehabilitation of the project.

c. No title to the property or minerals affected herein are transferred with any easements, servitudes, rights-of-way, and material borrow and disposal areas provided by CPRA pursuant to this Agreement. No public rights of ownership shall be transferred and vested in private parties as a result of the Project. Further, any easements, servitudes, rights-of-way, and material borrow and disposal areas shall provide for reasonable access for mineral exploration and development.

ARTICLE IV – VALUE OF LAND RIGHTS AND FACILITIES

a. The value of the land rights, easements, servitudes, and rights-of-way to be included in total Project costs and credited towards CPRA's share of total Project costs will be determined in accordance with the following procedures:

1. The costs associated with securing all land rights, easements, servitudes, and rights-of-way to be acquired by CPRA (Article III.a.) shall be the actual costs including, but not limited to, expenses associated with securing legal land rights instruments from all sources (legal reviews, recording fees, etc.) associated with Project activities. An estimate of such costs will be prepared by CPRA and approved by FWS for credit allowance as part of the CPRA cost-share. Credit allowance for any costs above this estimate must be approved by FWS.

2. Any costs incurred for relocations will be included in total Project costs and will be accomplished as part of Project construction through the agreed cost-share arrangement.

ARTICLE V – CONSTRUCTION PHASING AND MANAGEMENT

- a. To provide for consistent and effective communication between CPRA and FWS during the period of construction, CPRA and FWS shall appoint representatives to coordinate scheduling, plans, specifications, modifications, contract costs, and other matters relating to construction of the Project.
- b. FWS will participate with CPRA, or its appointed representative, in the engineering and design phases of the Project. Oversight of engineering and construction of the Project will be the responsibility of CPRA or its appointed representative. At least thirty (30) calendar days prior to the date of formal request for construction bids, CPRA, or its appointed representative, shall provide FWS with final copies of all Project designs and specifications for review and concurrence by FWS. FWS, or its appointed representative, and CPRA shall concur in the final designs and specifications prior to proceeding with bid solicitations on all project construction contracts. Any plan and/or specification(s) changes, both before and after award of construction contracts, shall be jointly approved by FWS and CPRA.
- c. The representatives appointed above shall meet as necessary during the period of construction and shall make such recommendations as they deem warranted to the Contracting Officer.
- d. The Contracting Officer shall consider the recommendations of the representatives in all matters relating to construction of the Project; but the Contracting Officer, having ultimate responsibility for construction of the Project, has complete discretion to accept, reject, or modify the recommendations.
- e. Following completion of the Project, or functional portion of the Project, final acceptance of the Project, or functional portion of the Project, will be jointly made by FWS and CPRA. Should the Project, or functional portion of the Project, not meet plan specification objectives, then CPRA will have the option to approve modification of the Operation, Maintenance, and Rehabilitation Plan, or to terminate this Agreement. However, both CPRA and FWS shall endeavor to modify the Project and/or its Operation, Maintenance, and Rehabilitation Plan to ensure that the original plan specification objectives are achieved.

ARTICLE VI – METHOD OF PAYMENT

- a. CPRA shall provide the contributions required under Article II of this Agreement. The Task Force has estimated a Phase I cost of \$2,320,214 for this particular Project. To meet its share, CPRA will contribute, through in-kind services or in cash, the non-federal share of the maximum Phase I costs. The maximum amount of CPRA's contribution is \$348,032. This figure is subject to modification as provided for in Section 303(f) of CWPPRA. Any costs in excess of the Phase I cost of \$2,320,214 are subject to amendment of this Agreement and Task Force approval, as provided in Article XIX. The maximum amount of CPRA's required minimum five percent (5%) cash contribution for Phase I is \$116,010. Funding methods and limits of obligations are specified in Article XIX – Project Cost Limits. Should the Task Force authorize expenditure of Phase II funding, this Agreement shall be amended in accordance with Article XX.
- b. CPRA shall provide its required cash contribution in proportion to the rate of federal expenditures in accordance with the following provisions:

1. For purposes of budget planning, FWS shall notify CPRA by October 1 of each year of the estimated funds that will be required from CPRA to meet its share of total Project costs for the subsequent fiscal year.

2. No later than sixty (60) calendar days prior to the advertisement of each construction contract, FWS shall notify CPRA of CPRA's share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract. This amount will include the non-federal share of total first costs in cash and/or credit as described in Article II.b.3., and the minimum cash contribution of five percent (5%) of total first costs as described in Article II.b.2. No later than thirty (30) calendar days thereafter, CPRA shall verify to the satisfaction of FWS or its representatives, that it has deposited the requisite amount in an escrow account with interest accruing to CPRA.

3. For the second and subsequent fiscal years of Project implementation, no later than sixty (60) calendar days prior to the beginning of the fiscal year, CPRA shall make the necessary funds available to FWS through the funding mechanism specified in Article VI.b.2. of this Agreement. As construction of the Project proceeds, FWS shall adjust the amount required to be provided under this paragraph to reflect actual costs.

4. If, at any time during the period of construction, FWS determines that additional funds will be needed from CPRA to meet CPRA's required share, FWS shall so notify CPRA, and CPRA, no later than forty-five (45) calendar days from receipt of such notice, shall make the necessary funds available through the funding mechanism specified in Article VI.b.2. of this Agreement.

c. FWS will draw on the escrow account such sums as FWS deems necessary to cover contractual and in-house fiscal obligations attributable to the Project on an annual basis, as well as costs incurred by FWS prior to the initiation of construction but after January 20, 2010, according to Article I.b.

d. The escrow account will be managed for FWS by the New Orleans District, U.S. Army Corps of Engineers. Funds will be withdrawn from the account and disbursed to FWS as requested.

e. Upon completion of the Project, or termination of this Agreement in accordance with Article XV of this Agreement, and resolution of all relevant contract claims and appeals, FWS shall compute the total Project costs and tender to CPRA a final accounting of CPRA's share of total Project costs. In the event that the total contribution by CPRA is less than its minimum required share of total Project costs, CPRA shall, no later than ninety (90) calendar days after receipt of written notice, make a cash payment to FWS of whatever sum is required to meet its minimum required non-federal share of total Project costs, subject to the availability of appropriations.

f. In the event CPRA has made cash contributions in excess of five percent (5%) of total Project costs which result in CPRA having provided more than its required share of total Project costs, FWS shall, no later than ninety (90) calendar days after the final accounting is complete, subject to the

availability of appropriations, return said excess to CPRA; however, CPRA shall not be entitled to any refund of the five percent (5%) cash contribution required pursuant to Article II.b.2. of this Agreement.

g. If CPRA's total contribution under this Agreement (including land rights, easements, rights-of-way, relocations, material borrow and disposal areas, and work-in-kind provided by CPRA and approved by FWS) exceeds CPRA's required non-federal share of total Project costs, FWS shall verify the actual exceeded costs and direct the U.S. Army Corps of Engineers, subject to the availability of appropriations for that purpose, and the minimum five percent (5%) cash requirement, refund the excess to CPRA no later than ninety (90) calendar days after the final accounting is complete.

ARTICLE VII – DISPUTES

Before any party to this Agreement may bring suit in any court concerning an issue relating to this Agreement, such party must first seek in good faith to resolve the issue through negotiations or other forms of non-binding alternative dispute resolution mutually acceptable to the parties.

ARTICLE VIII – OPERATING, MAINTENANCE, REPAIR, REPLACEMENT AND REHABILITATION

a. After CPRA has accepted, with the concurrence of FWS, the completed Project, or the functional portion of the Project, CPRA shall assume responsibilities for operation, maintenance repair, replacement, and rehabilitation (OMRR&R) of the completed Project, or functional portion of the Project, following the recommendations jointly developed and approved by CPRA and FWS in the OMRR&R Plan defined in Article I.I. of this Agreement. These responsibilities will remain in effect for the expected life of the Project which is twenty (20) years from the date of acceptance of the completed Project unless otherwise agreed to by FWS and CPRA.

b. CPRA grants FWS the right to enter, at reasonable times and in a reasonable manner, upon land which it owns or maintains access easements to the Project, for the purpose of inspection related to OMRR&R of the Project. If an inspection shows that CPRA, for any reason, is failing to fulfill its obligations under this Agreement, FWS will send a written notice to CPRA concerning a need for compliance. If CPRA persists in such failure for ninety (90) calendar days after receipt of this notice, then FWS shall have a right to cancel the federal assistance portion of this Agreement for any additional expenses related to OMRR&R costs of the Project.

ARTICLE IX – MAINTENANCE OF RECORDS

FWS and CPRA shall keep books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect total Project costs. FWS and CPRA shall maintain such books, records, documents and other evidence for a minimum of three (3) years after completion of construction, operation, maintenance, repair, replacement, rehabilitation, of the Project and resolution of all relevant claims arising therefrom, and shall make available at their offices at reasonable times, such books, records, documents, and other evidence for inspection and audit by authorized representatives of the parties to this Agreement.

ARTICLE X – GOVERNMENT REVIEW OF RECORDS

FWS shall have the right to conduct an audit, when appropriate, of CPRA's records for the Project to ascertain the reasonableness and allowability of its costs for inclusion as credit against the non-federal share of Project costs.

ARTICLE XI – STATE REVIEW OF RECORDS

CPRA shall have the right to conduct an audit, when appropriate, of FWS' records for the Project to ascertain the reasonableness and allowability of its costs for inclusion as credit against the federal share of Project costs.

ARTICLE XII – RELATIONSHIP OF PARTIES

The parties to this Agreement act in an independent capacity in the performance of their respective functions under this Agreement, and neither party is to be considered the officer, agent, or employee of the other.

ARTICLE XIII – OFFICIALS NOT TO BENEFIT

No member of, or delegate to, the Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XIV – COVENANT AGAINST CONTINGENT FEES

CPRA warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by CPRA for the purpose of securing business. For breach or violation of this warranty, FWS shall have the right to annul this Agreement without liability, or, in its discretion, to add to the Agreement or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE XV – TERMINATION OR SUSPENSION

a. If FWS or CPRA fail to receive annual appropriations for the Project in amount sufficient to meet Project expenditure for the then-current or upcoming fiscal year, FWS or CPRA shall so notify the other Party. After sixty (60) calendar days from such notification either party may elect, without penalty, to terminate this Agreement pursuant to this Article or to defer future performance hereunder; however, deferral of future performance under this Agreement shall not affect existing obligations or relieve the parties of liability for any obligation previously incurred. In the event that either party elects to terminate this Agreement pursuant to this Article, both parties shall conclude their activities relating to the Project and proceed to final accounting in accordance with Article VI of this Agreement. In the event that either party elects to defer future performance under this Agreement pursuant to this Article,

such deferral shall remain in effect until such time as FWS or CPRA receives sufficient appropriations or until either party elects to terminate this Agreement.

b. Except as provided in paragraph (a) above, if at any time CPRA fails to make the payments required under this Agreement, FWS shall terminate or suspend work on the Project until CPRA is no longer in arrears, unless FWS determine that continuation of work on the Project is in the best interest of the United States or is necessary in order to satisfy agreements with any other non-federal interests in connection with the Project. CPRA shall not be liable for any future payments should FWS continue work on the Project, but shall remain liable for obligations previously incurred.

ARTICLE XVI - OBLIGATIONS OF FUTURE APPROPRIATIONS

Nothing herein shall constitute, or be deemed to constitute, an obligation of future appropriations by the legislature of the State of Louisiana when obligating future appropriations would be inconsistent with the State's constitutional or statutory limitations.

ARTICLE XVII - NOTICES

a. All notices, requests, demands, and other communications required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and delivered personally, given by prepaid telegram, or mailed by first-class (postage pre-paid), registered, or certified mail, as follows:

If to CPRA:
Chairman, Coastal Protection and Restoration Authority
900 N. 3rd Street
State Capitol Building, 4th floor
Baton Rouge, LA 70802

If to FWS:
Supervisor, Louisiana Field Office
U.S. Fish and Wildlife Service
646 Cajundome Boulevard, Suite 400
Lafayette, LA 70506

b. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

c. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at such time as it is personally delivered or seven (7) calendar days after it is mailed, as the case may be.

ARTICLE XVIII - CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XIX - PROJECT COST LIMITS

a. The Task Force will finance the Project in two phases. Phase I funding is comprised of those funds needed for any necessary analysis of environmental benefits, any necessary hydrologic data

collection and analysis, draft OMRR&R Plan and Engineering and Design. Engineering and Design includes Engineering, Design, Environmental Clearances, Permitting, Project Management and Real Estate requirements up to, but not including, the purchase of real estate. The Task Force estimated Phase I cost for this Project at \$2,320,214. This is the total funding and obligation for FWS and the State until Phase II funding is approved. Any cost in excess of this maximum total Phase I cost is subject to Task Force approval and amendment of this Agreement, as provided in Article XX. The budget for Phase I by funding category includes the following:

1.	E & D	\$ 1,787,941
2.	Easements and Landrights	\$ 76,278
3.	Federal S&A	\$ 152,556
4.	CPRA S&A	\$ 300,082
5.	U.S. Army Corps of Engineers Project Mgmt.	\$ 3,356
Total		<u>\$ 2,320,214</u>

b. If, at any time during the performance of work for a particular funding category, the actual or anticipated cost of that category exceeds the 100% cost of that particular funding category as set forth in Article XIX.a. of this Agreement, all work in that particular category shall cease. FWS and CPRA may agree to increase the cost of completing that particular category by transferring funds from one category to the other, but only if such increase would not result in the total Phase costs exceeding the maximum total cost defined in Article XIX.a. of this Agreement. Such agreement regarding transferring funds from one category to the other shall be made by letter agreement confirmed by the mutual written approval of both the FWS and the CPRA. Work on that particular funding category shall thereafter resume.

c. After Phase I has been substantially completed, the Task Force may authorize expenditure of Phase II funding. This process will be accomplished as specified in the CWPPRA Project Standard Operating Procedures Manual. This Agreement shall then be amended in accordance with the provisions of Article XX to include the total Phase II costs and the initial fund obligation of Phase II which consists of Construction, the purchase of real estate, and the first three (3) years of OMRR&R. Construction includes Project Management, Contract Management, Construction Supervision, and Inspection.

d. OMRR&R costs and fund obligations beyond the initial first three (3) year funding obligation will be in accordance with Section 6.j. of the CWPPRA Project Standard Operating Procedures Manual (Revision 16 dated June 3, 2009).

ARTICLE XX - AMENDMENTS TO BE IN WRITING

This Agreement may be modified by agreement of the parties, in accordance with the provisions of CWPPRA and applicable federal and state regulations. All such amendments, modifications,

revisions, and/or changes to this Agreement must be made in writing and acknowledged by signature of the authorized representatives of all parties of this Agreement. All such amendments, modifications, revisions, and/or changes to this Agreement shall be subject to review and approval by the Division of Administration, State of Louisiana.

ARTICLE XXI – EQUAL OPPORTUNITY AND CIVIL RIGHTS

The program or activities conducted under this Agreement will be in compliance with the nondiscrimination provisions contained in the following Federal anti-discrimination laws: (1) Titles VI and VII of the Civil Rights Act of 1964 (Public Law 88-352), as amended; (2) the Civil Rights Restoration Act of 1987 (Public Law 100-259); (3) the Civil Rights Act of 1991 (Public Law 102-166), as amended; (4) Executive Order 11478, as amended; (5) Section 504 of the Rehabilitation Act of 1973 (PL 93-112), as amended; (6) Title II of the Americans with Disabilities Act of 1990 (PL 101-336); (7) the Age Discrimination in Employment Act (PL 93-259), as amended; (8) Age Discrimination Act of 1975 (PL 94-135); (9) Equal Pay Act; (10) Title IX of the Education Amendments of 1972, as amended; and (11) other Federal statutes that prohibit discrimination. They will also be in accordance with nondiscrimination regulations of the Secretary of Interior (43 CFR 17). The program or activities conducted under this Agreement will provide that no person in the United States shall on the grounds of race, color, national origin, age, sex, religion, marital status, handicap or sexual orientation be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal financial assistance from the Departments of Interior or any agency thereof.

ARTICLE XXII – SURVEY

Prior to commencement of any construction activities, FWS or the CPRA, at the option of CPRA, shall (1) cause to be conducted, a survey to determine the highest tide during winter season or such other time which will indicate the extent of State ownership existing prior to commencement of any restoration activities, or (2) obtain aerial photographs or satellite images of the project area taken within one (1) year prior to commencement of the restoration activity, or (3) acquire such other information as is acceptable to CPRA to indicate the extent of State ownership. Any costs associated with this Article are considered a part of total Project costs and shall be cost-shared according to the terms previously identified.

ARTICLE XXIII – FEDERAL AND STATE LAWS

- a. In exercise of CPRA's rights and obligations hereunder, CPRA agrees to comply with all applicable Federal and State laws and regulations.
- b. FWS agrees to comply with all applicable Federal and State of Louisiana laws and/or regulations, unless state law and regulations are preempted by federal law.

ARTICLE XXIV – FISCAL FUNDING

FWS Agreement No.
CPRA Agreement No.

The continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the Louisiana legislature. If the Louisiana legislature fails to appropriate sufficient monies to provide for the continuation of the contract, or if such appropriation is reduced by the veto of the governor or by any means provided in the appropriations act to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

**LOST LAKE MARSH CREATION AND HYDORLOGIC RESTORATION
PROJECT TE-72**

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on this 22nd day of April, 2010, before the undersigned witnesses.

**U.S. DEPT. OF INTERIOR
FISH AND WILDLIFE SERVICE
SERVICE**

BY: _____

James F. Boggs
Supervisor, Louisiana Field Office

**STATE OF LOUISIANA
COASTAL PROTECTION AND
RESTORATION AUTHORITY**

BY: _____

Garret Graves, Chairman
Coastal Protection and
Restoration Authority

WITNESSES:

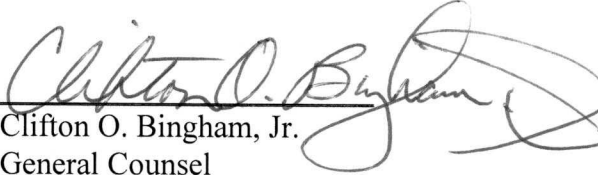
Kevin J. Ray
Neil J. [unclear]
Donald Hall

WITNESSES:

Enger Kinchen
Enger Kinchen
GRUPE/Brusi

CERTIFICATE OF AUTHORITY

I, Clifton O. Bingham, Jr., do hereby certify that I am the principal legal officer of the Coastal Protection Restoration Authority for the State of Louisiana, that the Coastal Protection Restoration Authority for the State of Louisiana is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the U.S. Department of Interior-Fish and Wildlife Service and the State of Louisiana in connection with the **LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT (TE-72)**, Terrebonne, Parish, LA, and that the persons who have executed this Agreement on behalf of the State have acted within their statutory authority. IN WITNESS WHEREOF, I have made and executed this certification this 22nd day of April, 2010.


Clifton O. Bingham, Jr.
General Counsel

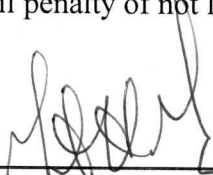
CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

DATE: 4/22/2010




Garret Graves, Chair
Coastal Protection and Restoration Authority

STATE OF LOUISIANA

PARISH OF LAFAYETTE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 26th day of May, 2010, personally came and appeared James F. Boggs who declared that he is the Supervisor Louisiana Field Office of the U.S. Department of the Interior, Fish and Wildlife Service, that he executed the foregoing instrument on behalf of said Federal Agency and that the instrument was signed pursuant to the authority granted to him by said Federal Agency and that he acknowledged the instrument to be the free act and deed of said Federal Agency.

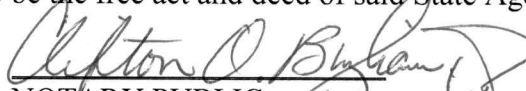

NOTARY PUBLIC
LA Notary ID 9237

My commission expires: With Life
(SEAL)

STATE OF LOUISIANA

PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 22nd day of April, 2010, personally came and appeared Garret Graves, to me known, who declared that he is the Chairman of the Coastal Protection and Restoration Authority, State of Louisiana, that he executed the foregoing instrument on behalf of said State Agency and that the instrument was signed pursuant to the authority granted to him by said State Agency and that he acknowledged the instrument to be the free act and deed of said State Agency.


NOTARY PUBLIC LABOR No. 03052
Clifton O. Bingham, Jr.
General Counsel

My commission expires: with life
(SEAL)

BOBBY JINDAL
GOVERNOR



JEROME ZERINGUE
EXECUTIVE DIRECTOR

State of Louisiana
COASTAL PROTECTION & RESTORATION AUTHORITY
THROUGH THE DEPARTMENT OF NATURAL RESOURCES
OFFICE OF MANAGEMENT & FINANCE
(IN ACCORDANCE WITH R.S. 49:214.6.2C(4))

September 27, 2013

Jim Boggs, Field Supervisor
U.S. Fish & Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, Louisiana 70506

RE: CPRA Agreement No. 2511-10-06
Amendment No. 1
"Lost Lake Marsh Creation & Hydrologic Restoration (TE-72)"

Dear Mr. Boggs:

Enclosed for your records is a fully executed copy of the Amendment for the above referenced contract approved under CPRA Special Delegation.

Should you have any questions, please contact your Project Manager Amanda Bordelon at Amanda.bordelon@la.gov.

Sincerely,

A handwritten signature in black ink that reads "Renita Hoskins".

Renita Hoskins
Contracts and Grants Administrator

RH/slh
Enclosure

c: Amanda Bordelon, CPRA
Michelle Klecker, CPRA
Gwen Thomas, Fiscal

CFMS# 690958
APPROVED UNDER OCPR
SPECIAL DELEGATION

FWS AGREEMENT NO.
CPRA AGREEMENT NO. 2511-10-06
AMENDMENT NO. 1

AMENDMENT NO. 1

TO

COST SHARING AGREEMENT

BETWEEN

U.S. DEPARTMENT OF INTERIOR - FISH AND WILDLIFE SERVICE

AND

STATE OF LOUISIANA

FOR CONSTRUCTION, OPERATION, MAINTENANCE, REHABILITATION AND

MONITORING OF THE

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION

PROJECT (TE-72)

Reference is made to **ARTICLE XX-AMENDMENTS TO BE IN WRITING**, of the Cost Sharing Agreement for the captioned Project entered into the 22nd day of April, 2010, by and between the U.S. Department of Interior, represented by the Fish and Wildlife Service (hereinafter referred to as "FWS"), acting by and through the Supervisor, Louisiana Field Office, and the State of Louisiana, represented by the Coastal Protection and Restoration Authority Board (hereinafter referred to as the "CPRA Board"), acting by and through the Chairman of the CPRA Board, as authorized by CPRA Board Resolution on the 18th day of February, 2009 and the provisions of La R.S. 49:214.1 and La. R.S. 214.5.2; which allow for the Cost Sharing Agreement to be amended in writing.

Therefore,

WITNESSETH THAT:

WHEREAS, expenditure of Phase I funding for the Lost Lake Marsh Creation and Hydrologic Restoration (TE-72) project was authorized by the Coastal Wetlands Planning, Protection, and Restoration Act Task Force (hereinafter referred to as "Task Force") in January 2010 as part of Priority Project List 19 (PPL 19); and,

WHEREAS, the agreement between FWS and CPRA entered into on the 22nd of April, 2010 allowed for the authorization of Phase II funding by the CWPPRA Task Force upon successful completion of Phase I of the Project; and,

WHEREAS, the categories of E&D (including supervision & administration), Easements and Landrights, and, Pre-Construction Monitoring are substantially completed; and,

WHEREAS, expenditure of Phase II for the Lost Lake Marsh Creation and Hydrologic Restoration (TE-72) project was authorized by the Task Force on January 24, 2013.

NOW THEREFORE, the following Articles and Paragraphs are amended as follows:

1. ARTICLE VI – METHOD OF PAYMENT

Paragraph “a.” contained in the April 22, 2010 Agreement is deleted in its entirety and the following is substituted therefore:

“a. CPRA shall provide the contributions required under Article II of this Agreement. The Task Force has estimated a Phase I cost of \$2,320,214 and a Phase II cost of \$32,306,514 for a total amount of \$34,626,728 for this Project. To meet its share, CPRA will contribute, through in-kind services or in cash, the non-Federal share of the Phase I and Phase II costs. Hence, the maximum amount of the CPRA contribution for Phase I is \$348,032 and for Phase II is \$4,845,977 the total of which is \$5,194,009. This figure is subject to modification as provided for in Section 303(f) of CWPPRA. Any costs in excess of the Phase I cost of \$2,320,214 or the Phase II cost of \$32,306,514 are subject to amendment of this Agreement and Task Force approval, as provided in Article XIX of this Agreement. The maximum amount of the CPRA required minimum five percent (5%) cash contribution for Phase I is \$116,011 and Phase II is \$1,615,326. Funding methods and limits of obligations are specified in ARTICLE XIX-PROJECT COST LIMITS.”

2. ARTICLE XIX – PROJECT COST LIMITS

Paragraph “a.” contained in the April 22, 2010 Agreement is deleted in its entirety and the following is substituted therefore:

“a. The Task Force has financed Phase I at an estimated cost of \$2,320,214 and the Phase II at an estimated cost of \$32,306,514 for a total Project cost of \$34,626,728. Phase I funding is comprised of those funds needed for any necessary analysis of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, Monitoring Plan Development, Engineering and Design, and draft OMRR&R Plan Development. Engineering and Design includes Engineering, Design, environmental compliance (cultural resources, NEPA, HTRW) and permitting, Project Management and Real Estate requirements up to, but not including, the purchase of real estate. Phase II funding is comprised of those funds needed for Construction (including Project Management, Contract Management,

Construction Supervision and Inspection), Post-construction Biological Monitoring (to include construction phase biological monitoring), OMRR&R, and the Purchase of Real Estate. Any cost in excess of these total Phase I and Phase II costs is subject to Task Force approval and amendment of this Agreement as provided in Article XX of this Agreement. The budget for each Phase by funding category includes the following (rounded to the nearest whole number):

PHASE I

1.	E&D	\$ 1,787,941
2.	Easements and Landrights	\$ 76,278
3.	CPRA Administration	\$ 300,082
4.	FWS Administration	\$ 152,556
5.	Corps Project Management	\$ <u>3,356</u>
Total Phase I		\$ 2,320,214

PHASE II

1.	Construction	\$ 22,273,576
2.	Construction supervision & inspection	\$ 572,411
3.	Contingency	\$ 5,568,394
4.	Landrights	\$ 0
5.	FWS Administration	\$ 101,185
6.	CPRA Administration	\$ 298,550
7.	COE Project Management (Phase II Construction)	\$ 2,170
8.	COE Project Management (Phase II Long Term)	\$ 31,535
9.	Monitoring	\$ 284,348
10.	Operation, Maintenance and Rehabilitation (State)	\$ 2,992,203
11.	Operation, Maintenance and Rehabilitation (Federal)	\$ <u>182,142</u>
Total Phase II		\$ 32,306,514"

**LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION
PROJECT (TE-72)**

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed on the dates indicated and before the undersigned witnesses.

**U.S. DEPT. OF INTERIOR
FISH AND WILDLIFE SERVICE**

BY: 

DATE: 9/19/13

Jeffrey D. Weller,
Supervisor
Louisiana Ecological Services Office

**STATE OF LOUISIANA
COASTAL PROTECTION AND
RESTORATION AUTHORITY BOARD**

BY: 

DATE: August 9, 2013

Garret Graves, Chairman
Coastal Protection and
Restoration Authority Board

WITNESSES:

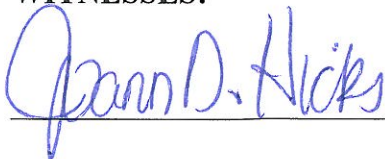


Brigitte D. Firmin (Print)



Kevin J. Roy (Print)

WITNESSES:



Joann D. Hicks (Print)

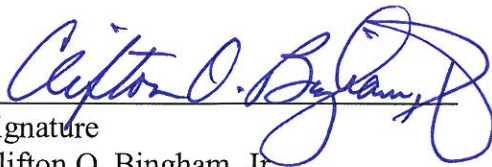


SHIRLEY LONG (Print)

CERTIFICATE OF AUTHORITY

I, Clifton O. Bingham, Jr., do hereby certify that I am legal counsel of the Coastal Protection Restoration Authority ("CPRA") and the Coastal Protection and Restoration Authority Board ("CPRA Board"); that the CPRA Board is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement and subsequent amendments thereto, between the U.S. Department of Interior-Fish and Wildlife Service and the State of Louisiana and subsequent amendments thereto, in connection with the **LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT (TE-72)**, Terrebonne Parish, Louisiana, and that the persons who have executed this Agreement on behalf of the State have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 9th day of August, 2013.


Signature
Clifton O. Bingham, Jr.
General Counsel
Louisiana Bar Number 03052

CERTIFICATION REGARDING LOBBYING


The undersigned certifies, to the best of his or her knowledge and belief that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

DATE:

August 9, 2013

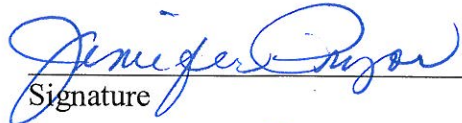


Garret Graves, Chairman
Coastal Protection and Restoration
Authority Board

STATE OF LOUISIANA

PARISH OF LAFAYETTE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 19th day of September 2013, personally came and appeared Jeffrey D. Weller who declared that he is the Supervisor of the Louisiana Ecological Services Office of the U.S. Department of the Interior, Fish and Wildlife Service, that he executed the foregoing instrument on behalf of said Federal Agency and that the instrument was signed pursuant to the authority granted to him by said Federal Agency and that he acknowledged the instrument to be the free act and deed of said Federal Agency.


Signature

Jennifer Pryor
Print Name

9237
Louisiana Notary Public / Bar Number

My commission expires: With Life
(SEAL)

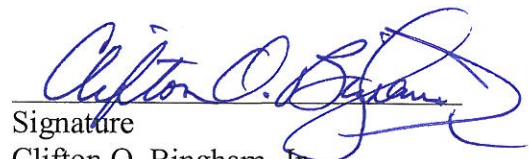
STATE OF LOUISIANA

PARISH OF EAST BATON ROUGE

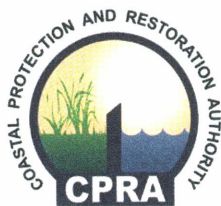
BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 9th day of August, 2013, personally came and appeared Garret Graves, to me known, who declared that he is the Chairman of the Coastal Protection and Restoration Authority Board, that he executed the foregoing instrument on behalf of said State Agency and that the instrument was signed pursuant to the authority granted to him by said State Agency and that he acknowledged the instrument to be the free act and deed of said State Agency.



OFFICIAL SEAL
Clifton O. Bingham, Jr.
BAR ROLL # 03052
STATE OF LOUISIANA
My Commission is for Life


Signature
Clifton O. Bingham, Jr.
General Counsel
Louisiana Bar Number 03052

My commission expires: with life
(SEAL)



State of Louisiana

JOHN BEL EDWARDS
GOVERNOR

January 5, 2018

Darryl Clark
U.S. Department of Interior
Fish and Wildlife Services
646 Cajundome Blvd.
Suite 400
Lafayette, LA 70506

RE: LaGov No. C109020148.10
CPRA Contract No. 2511-10-06
Amendment No. 2
“Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-0072)”

Dear Mr. Clark:

Enclosed for your records please find an executed copy of the above-mentioned amendment approved under CPRA Special Delegation.

Should you have any questions, please call Kenneth Bahlinger at (225) 342-7362.


Sincerely,

Allison Richard
Coastal Resources Program Specialist

Enclosure

cc: Kenneth Bahlinger, CPRA PM

Executive Division

LaGov# C109020148.10
APPROVED UNDER CPRA
SPECIAL DELEGATION


FWS Agreement No. _____
CPRA Agreement No. 2511-10-06
Amendment No. 2

AMENDMENT NO. 2

TO

COST SHARING AGREEMENT

BETWEEN

U.S. DEPARTMENT OF INTERIOR - FISH AND WILDLIFE SERVICE

AND

STATE OF LOUISIANA

**FOR CONSTRUCTION, OPERATION, MAINTENANCE, REHABILITATION AND
MONITORING OF THE**

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT (TE-72)

Reference is made to **ARTICLE XX-AMENDMENTS TO BE IN WRITING**, of the Cost Sharing Agreement for the captioned Project entered into the 22nd day of April, 2010, by and between the U.S. Department of Interior, represented by the Fish and Wildlife Service (hereinafter referred to as "FWS"), acting by and through the Program Supervisor, Arkansas-Louisiana-Mississippi-Alabama Field Offices, and the State of Louisiana, represented by the Coastal Protection and Restoration Authority Board (hereinafter referred to as the "CPRA Board"), acting by and through the Chairman of the CPRA Board, as authorized by CPRA Resolution on the 18th day of February, 2009 and the provisions of La R.S. 49:214.1 and La. R.S. 214.5.2; which allow for the Cost Sharing Agreement to be amended in writing.

Therefore,

WITNESSETH THAT:

WHEREAS, pursuant to La. R.S. 49:214.5.2(A)(1), CPRA Board represents the State of Louisiana's position in policy relative to the protection, conservation, enhancement, and restoration of the coastal area of the state through oversight of integrated coastal protection projects and programs and has the power and authority under La. R.S. 49:214.5.2(A)(7) to enter into any contract or agreement on behalf of the State of Louisiana with the federal government or any federal agency or any political subdivision of the state or private individual for the study, planning, engineering, design, construction, operation, maintenance, repair, rehabilitation, or replacement of any integrated coastal protection project and to this end, may contract for the acceptance of any grant money upon the terms and conditions, including any requirement of matching grants in whole or part, which may be necessary; and,

WHEREAS, La. R.S. 49:214.6.1 provides that the Coastal Protection and Restoration Authority (hereinafter the "CPRA") is the implementation and enforcement arm of the CPRA Board and is

directed by the policy set by CPRA Board; and La. R.S. 49:214.6.2 provides that the CPRA shall administer the programs of the CPRA Board, shall implement projects relative to the protection, conservation, enhancement, and restoration of the coastal area of the State of Louisiana through oversight of integrated coastal projects and programs consistent with the legislative intent as expressed in La. R.S. 49:214.1, and may acquire by purchase, donation, or otherwise any lands needed for integrated coastal protection projects; and accordingly, CPRA shall administer and implement the obligations undertaken by the State of Louisiana through the CPRA Board pursuant to this Agreement; and,

WHEREAS, expenditure of Phase I funding for the Lost Lake Marsh Creation and Hydrologic Restoration (TE-72) project was authorized by the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) Task Force (hereinafter referred to as "Task Force") in January 2010 as part of the Priority Project List 19 (PPL 1995); and,

WHEREAS, the agreement between FWS and CPRA entered into on the 22nd day of April, 2010 allowed for the authorization of Phase II funding by the CWPPRA Task Force upon successful completion of Phase I of the Project; and,

WHEREAS, the categories of Engineering and Design (E&D) (including supervision & administration), Easements and Landrights, and, Pre-Construction Monitoring are substantially completed; and,

WHEREAS, expenditure of Phase II for the Lost Lake Marsh Creation and Hydrologic Restoration (TE-72) project was authorized by the Task Force on January 24, 2013; and,

WHEREAS, the CWPPRA Task Force approved on October 18, 2016, a monitoring cost increase of \$499,130 for Phase II of the Lost Lake Marsh Creation and Hydrologic Restoration (TE-72) project;

NOW THEREFORE, the following Articles and Paragraphs are amended as follows:

1. ARTICLE VI – METHOD OF PAYMENT

Paragraph "a." contained in the August 9, 2013, Amendment No. 1 is deleted in its entirety and the following is substituted therefore:

"a. CPRA shall provide the contributions required under Article II of this Agreement. The Task Force has estimated a Phase I cost of \$2,320,214 and a revised Phase II cost of \$32,805,644 for a total amount of \$35,125,858. To meet its share, CPRA will contribute, through in-kind services or in cash, the non-Federal share (15%) of the Phase I and Phase II costs. Hence, the maximum amount of the CPRA contribution for Phase I is \$348,032 and for Phase II is \$4,920,847 the total of which is \$5,268,879. This figure is subject to modification as provided for in Section 303(f) of CWPPRA. Any costs in excess of the Phase I cost of \$2,320,214 or the Phase II cost of \$32,805,644 are subject to amendment of this Agreement and Task Force approval, as provided in Article XIX of this Agreement. The maximum amount of the CPRA required minimum five percent (5%) cash contribution for Phase I

is \$116,011 and Phase II is \$1,640,282. Funding methods and limits of obligations are specified in ARTICLE XIX-PROJECT COST LIMITS.”

2. ARTICLE XIX – PROJECT COST LIMITS

Paragraph “a.” contained in the March 29, 2009 Agreement is deleted in its entirety and the following is substituted therefore:

“a. The Task Force has financed Phase I at an estimated cost of \$2,320,214 and the Phase II at an estimated cost of \$32,805,644 for a total cost of \$35,125,858. Phase I funding is comprised of those funds needed for any necessary analysis of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, Monitoring Plan Development, Engineering and Design, and draft Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) Plan Development. Engineering and Design includes engineering, design, environmental compliance [cultural resources, National Environmental Policy Act (NEPA), Hazardous, Toxic and Radioactive Waste (HTRW)] and permitting, Project Management and Real Estate requirements up to, but not including, the purchase of real estate. Phase II funding is comprised of those funds needed for Construction (including Project Management, Contract Management, Construction Supervision and Inspection), Post-construction Biological Monitoring (to include construction phase biological monitoring), OMRR&R, and the purchase of real estate. Any cost in excess of these total Phase I and Phase II costs is subject to Task Force approval and amendment of this Agreement as provided in Article XX of this Agreement. The budget for each Phase by funding category includes the following (rounded to the nearest dollar):

PHASE I

1.	E&D	\$ 1,644,941
2.	Easements and Landrights	\$ 219,278
3.	CPRA Supervision & Administration	\$ 300,082
4.	Federal Supervision & Administration	\$ 152,556
5.	Corps Project Management	\$ <u>3,356</u>
Total Phase I		\$ 2,320,214

PHASE II

1.	Construction	\$ 22,273,576
2.	Construction Supervision & Inspection	\$ 572,411
3.	Contingency	\$ 5,568,394

4.	Federal Supervision & Administration	\$	101,185
5.	CPRA Supervision & Administration	\$	298,550
6.	COE Project Mngt (Construction)	\$	2,170
7.	COE Project Mngt (Phase 2 Long Term)	\$	31,535
7.	Monitoring	\$	783,478
8.	Operation, Maintenance and Rehabilitation (State)	\$	2,992,203
9.	Operation, Maintenance and Rehabilitation (Federal)	\$	<u>182,142</u>
Total Phase II		\$	32,805,644
Total Project		\$	35,125,858

Paragraph "b." contained in the April 22, 2010, Agreement is deleted in its entirety and the following is substituted therefor:

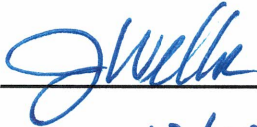
"b. If, at any time during the performance of work for a particular funding category, the actual or anticipated cost of that category exceeds the 100% cost of that particular funding category as set forth in Article XIX.a. of this Agreement, all work in that particular category shall cease. FWS and CPRA may agree to increase the cost of completing that particular category by transferring funds from one category to the other, but only if such increase would not result in the total Phase I and Phase II costs exceeding the maximum total cost defined in Article XIX.a. of this Agreement. Such agreement regarding transferring funds from one category to the other shall be made by letter agreement confirmed by the mutual written approval of the FWS Program Supervisor, Arkansas-Louisiana-Mississippi-Alabama Field Offices and the Chairman, CPRA Board. Work on that particular funding category shall thereafter resume."

THIS SPACE IS INTENTIONALLY LEFT BLANK.

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT (TE-72)

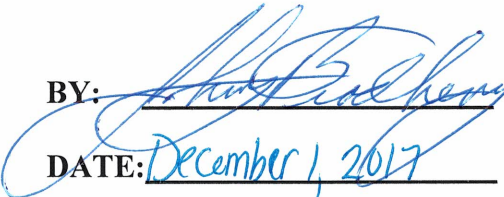
IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed on the dates indicated and before the undersigned witnesses.

**U.S. DEPT. OF INTERIOR
FISH AND WILDLIFE SERVICE**

BY: 
DATE: 12/12/17

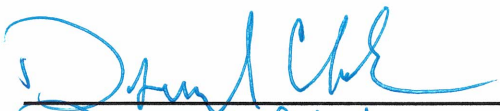
Jeffrey D. Weller, Program Supervisor
Arkansas, Louisiana, Mississippi, and
Alabama Field Offices

**STATE OF LOUISIANA
COASTAL PROTECTION AND
RESTORATION AUTHORITY**

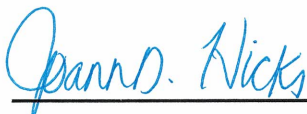
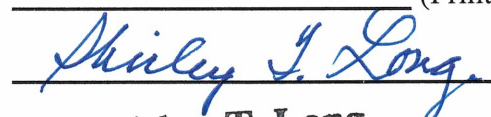
BY: 
DATE: December 1, 2017

Johnny Bradberry, Chair
Coastal Protection and
Restoration Authority

WITNESSES:


Danny L. Clark (Print)
Ronald Paille
Ronald Paille (Print)

WITNESSES:


Joann D. Hicks (Print)

Shirley T. Long (Print)

CERTIFICATE OF AUTHORITY

I, Duncan S. Kemp, IV, do hereby certify that I am legal counsel of the Coastal Protection and Restoration Authority ("CPRA") and the Coastal Protection and Restoration Authority Board ("CPRA Board"); that the CPRA Board is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement and subsequent amendments thereto, between the U.S. Department of Interior-Fish and Wildlife Service and the State of Louisiana, in connection with the **LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT (TE-72)**, Terrebonne, Parish, Louisiana, and that the persons who have executed this Agreement on behalf of the State have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 15th day of December, 2017.



Signature
Duncan S. Kemp, IV
Counsel
Louisiana Bar Number 34172

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

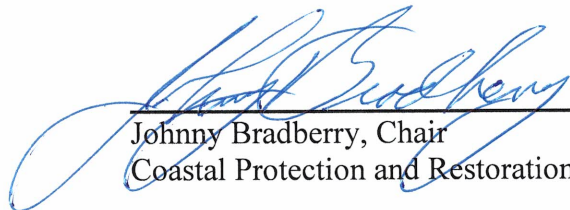
(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

DATE:

December 1, 2017



Johnny Bradberry, Chair
Coastal Protection and Restoration Authority

STATE OF LOUISIANA

PARISH OF LAFAYETTE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 12 day of DECEMBER 2017, personally came and appeared Jeffrey D. Weller who declared that he is the Program Supervisor of the Arkansas, Louisiana, Mississippi, and Alabama Ecological Services Field Offices of the U.S. Department of the Interior, Fish and Wildlife Service, that he executed the foregoing instrument on behalf of said Federal Agency and that the instrument was signed pursuant to the authority granted to him by said Federal Agency and that he acknowledged the instrument to be the free act and deed of said Federal Agency.


Signature

WHITNEY S. ROMERO
Notary Public ID 60495

Print Name State of Louisiana
My Commission is For Life

60495
Louisiana Notary Public/Bar Number

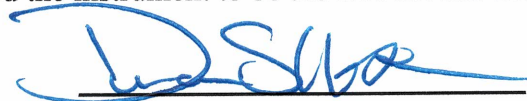
My commission expires: FOR LIFE
(SEAL)

STATE OF LOUISIANA

PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 1st day of December, 2017, personally came and appeared Johnny Bradberry to me known, who declared that he is the Chair of the Coastal Protection and Restoration Authority Board, that he executed the foregoing instrument on behalf of said State Agency and that the instrument was signed pursuant to the authority granted to him by said State Agency and that he acknowledged the instrument to be the free act and deed of said State Agency.





Signature
Duncan S. Kemp, IV
Counsel
Louisiana Bar Number 34172

My commission expires: with life
(SEAL)

TE-0072 Lost Lake Marsh Creation and Hydrologic Restoration

Attachment II Project Features

MARSH CREATION AREA 1 EARTHEN CONTAINMENT DIKE COORDINATES

POINT	NORTHING	EASTING
1	309,166.79	3,386,344.21
2	309,830.67	3,385,575.15
3	310,434.00	3,385,729.26
4	311,340.01	3,386,633.06
5	311,463.12	3,387,012.93
6	311,805.71	3,387,598.86
7	312,613.81	3,388,282.84
8	313,253.09	3,388,342.53
9	313,693.88	3,390,171.21
10	314,151.47	3,390,969.61
11	314,377.68	3,391,879.67
12	314,437.42	3,392,177.71
13	314,490.19	3,392,714.47
14	314,616.92	3,393,085.88
15	314,704.77	3,393,615.74
16	314,758.14	3,393,818.80
17	314,755.28	3,394,377.40
18	314,053.14	3,393,235.65
19	313,773.77	3,392,063.59
20	313,314.17	3,391,062.01
21	312,908.31	3,390,724.56

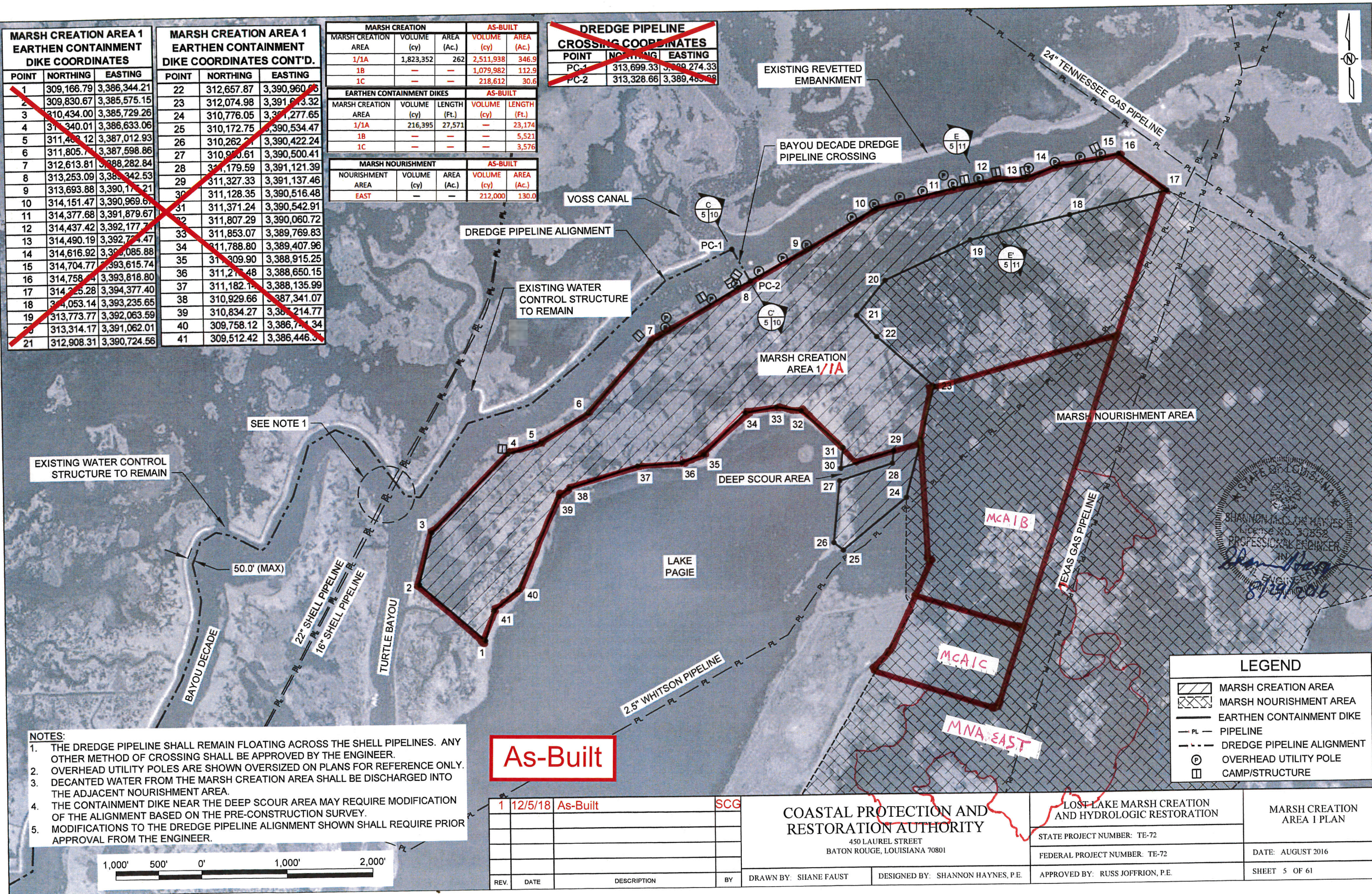
MARSH CREATION AREA 1 EARTHEN CONTAINMENT DIKE COORDINATES CONT'D.

POINT	NORTHING	EASTING
22	312,657.87	3,390,960.66
23	312,074.98	3,391,613.32
24	310,776.05	3,391,277.65
25	310,172.75	3,390,534.47
26	310,262.21	3,390,422.24
27	310,900.61	3,390,500.41
28	311,179.59	3,391,121.39
29	311,327.33	3,391,137.46
30	311,128.35	3,390,516.48
31	311,371.24	3,390,542.91
32	311,807.29	3,390,060.72
33	311,853.07	3,389,769.83
34	311,788.80	3,389,407.96
35	311,309.90	3,388,915.25
36	311,217.48	3,388,650.15
37	311,182.14	3,388,135.99
38	310,929.66	3,387,341.07
39	310,834.27	3,387,214.77
40	309,758.12	3,386,714.34
41	309,512.42	3,386,446.31

MARSH CREATION			AS-BUILT	
MARSH CREATION AREA	VOLUME (cy)	AREA (Ac.)	VOLUME (cy)	AREA (Ac.)
1/1A	1,823,352	262	2,511,938	346.9
1B	—	—	1,079,982	112.9
1C	—	—	218,612	30.6

MARSH NOURISHMENT			AS-BUILT	
NOURISHMENT AREA	VOLUME (cy)	AREA (Ac.)	VOLUME (cy)	AREA (Ac.)
EAST	—	—	212,000	130.0

DREDGE PIPELINE CROSSING COORDINATES		
POINT	NORTHING	EASTING
PC-1	313,699.33	3,389,274.33
PC-2	313,328.66	3,389,465.98



- NOTES:
1. THE DREDGE PIPELINE SHALL REMAIN FLOATING ACROSS THE SHELL PIPELINES. ANY OTHER METHOD OF CROSSING SHALL BE APPROVED BY THE ENGINEER.
 2. OVERHEAD UTILITY POLES ARE SHOWN OVERSIZED ON PLANS FOR REFERENCE ONLY.
 3. DECANTED WATER FROM THE MARSH CREATION AREA SHALL BE DISCHARGED INTO THE ADJACENT NOURISHMENT AREA.
 4. THE CONTAINMENT DIKE NEAR THE DEEP SCOUR AREA MAY REQUIRE MODIFICATION OF THE ALIGNMENT BASED ON THE PRE-CONSTRUCTION SURVEY.
 5. MODIFICATIONS TO THE DREDGE PIPELINE ALIGNMENT SHOWN SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER.



As-Built

1	12/5/18	As-Built	SCG
REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION		MARSH CREATION AREA 1 PLAN
		STATE PROJECT NUMBER: TE-72	FEDERAL PROJECT NUMBER: TE-72	
DRAWN BY: SHANE FAUST		DESIGNED BY: SHANNON HAYNES, P.E.		DATE: AUGUST 2016
APPROVED BY: RUSS JOFFRION, P.E.				SHEET 5 OF 61



LEGEND	
	MARSH CREATION AREA
	MARSH NOURISHMENT AREA
	EARTHEN CONTAINMENT DIKE
	PIPELINE
	DREDGE PIPELINE ALIGNMENT
	OVERHEAD UTILITY POLE
	CAMP/STRUCTURE

EARTHEN CONTAINMENT DIKE COORDINATES

MARSH CREATION AREA	POINT	NORTHING	EASTING
2A	1	313,190.66	3,386,553.3
2A	2	313,561.00	3,386,624.5
2A	3	314,209.00	3,386,734.0
2A	4	315,431.36	3,387,088.8
2A	5	315,349.80	3,388,394.7
2A	6	315,157.14	3,388,442.6
2A	7	315,023.00	3,388,362.2
2A	8	314,930.47	3,388,231.8
2A	9	314,756.39	3,388,304.8
2A	10 ^d	314,317.98	3,388,323.4
2A	11 ^d	314,319.9	3,388,221.8
2A	12 ^d	314,238.44	3,388,030.0
2A	13 ^d	313,876.70	3,387,664.4
2A	14 ^d	313,654.13	3,387,347.1
2A	15 ^d	313,502.04	3,387,146.0
2A	16 ^d	313,083.90	3,386,638.0
2B-WEST	1	310,570.18	3,383,355.0
2B-WEST	2	311,917.05	3,383,205.0
2B-WEST	3	312,335.05	3,384,122.0
2B-WEST	4	312,473.35	3,384,789.0
2B-WEST	5	312,534.86	3,385,227.0
2B-WEST	6	312,603.42	3,385,906.0
2B-WEST	7	312,423.88	3,385,962.0
2B-WEST	8	311,236.63	3,385,273.0
2B-WEST	9	311,552.33	3,385,108.0
2B-WEST	10	311,736.8	3,384,948.0
2B-WEST	11	311,789.67	3,384,592.0
2B-WEST	12	311,677.95	3,384,307.0
2B-WEST	13	311,372.24	3,384,097.0
2B-WEST	14	310,824.37	3,383,915.0
2B-WEST	15	310,572.86	3,383,655.0
2B-EAST	1	311,030.53	3,385,442.2
2B-EAST	2	312,123.42	3,386,044.0
2B-EAST	3	312,094.06	3,386,066.0
2B-EAST	4	311,854.86	3,386,065.0
2B-EAST	5	311,719.64	3,386,011.0
2B-EAST	6	311,595.91	3,385,921.0
2B-EAST	7	311,190.22	3,385,667.0
2B-EAST	8	311,054.65	3,385,570.0
2B-EAST	9	310,976.52	3,385,490.0

EARTHEN CONTAINMENT DIKE COORDINATES

MARSH CREATION AREA	POINT	NORTHING	EASTING
2C	1	309,310.73	3,381,817.9
2C	2	309,913.98	3,381,909.5
2C	3	310,819.39	3,382,135.1
2C	4	311,179.55	3,382,422.7
2C	5	311,173.03	3,382,795.2
2C	6	311,540.10	3,382,972.7
2C	7	310,623.98	3,383,187.4
2C	8	310,542.75	3,382,964.0
2C	9	310,247.83	3,382,826.7
2C	10	309,588.25	3,382,811.4
2C	11	309,302.64	3,382,632.2
2D	1	312,552.30	3,386,356.5
2D	2	312,183.51	3,386,893.3
2D	3	313,420.40	3,388,051.1
2D	4	313,762.90	3,388,346.7

MARSH NOURISHMENT			AS-BUILT	
NOURISHMENT AREA	VOLUME (cy)	AREA (Ac.)	VOLUME (cy)	AREA (Ac.)
WEST	—	—	613,932	310

MARSH N
ARE

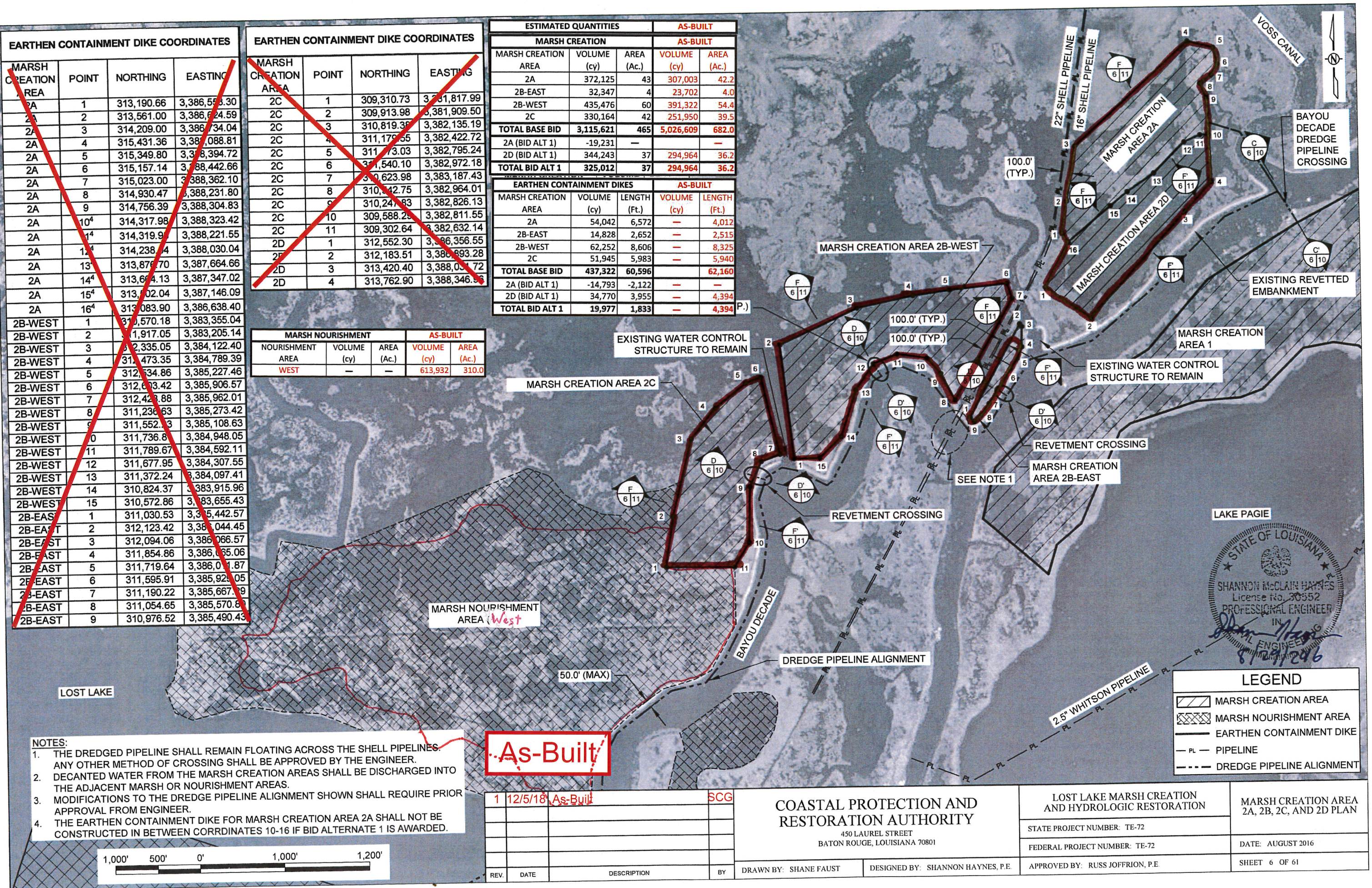
ESTIMATED QUANTITIES	AS-BUILT
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MARSH CREATION			AS-BUILT	
MARSH CREATION AREA	VOLUME (cy)	AREA (Ac.)	VOLUME (cy)	AREA (Ac.)
2A	372,125	43	307,003	42
2B-EAST	32,347	4	23,702	4
2B-WEST	435,476	60	391,322	54
2C	330,164	42	251,950	39
TOTAL BASE BID	3,115,621	465	5,026,609	682

2A (BID ALT 1)	-19,231	—		—
2D (BID ALT 1)	344,243	37	294,964	36
TOTAL BID ALT 1	325,012	37	294,964	36

EARTHEN CONTAINMENT DIKES **AS-BUILT**

MARSH CREATION AREA	VOLUME (cy)	LENGTH (Ft.)	VOLUME (cy)	LENGTH (Ft.)
2A	54,042	6,572	—	4,01
2B-EAST	14,828	2,652	—	2,51
2B-WEST	62,252	8,606	—	8,32
2C	51,945	5,983	—	5,94
TOTAL BASE BID	437,322	60,596		62,16
2A (BID ALT 1)	-14,793	-2,122	—	—
2D (BID ALT 1)	34,770	3,955	—	4,39
TOTAL BID ALT 1	19,977	1,833	—	4,39



1	12/5/18	As-Built	SCG
REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND
RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: SHANE FAUST	DESIGNED BY: SHANNON HAYNES, P.E.
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LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION

STATE PROJECT NUMBER: TE-72

FEDERAL PROJECT NUMBER: TE-72

APPROVED BY: RUSS JOFFRION, P.E.

MARSH CREATION AREA
2A, 2B, 2C, AND 2D PLAN

DATE: AUGUST 2016

SHEET 6 OF 61

MARSH CREATION AREA 3
AND EARTHEN CONTAINMENT
DIKE COORDINATES

POINT	NORTHING	EASTING
1	312,996.01	3,361,750.07
2	312,663.13	3,361,817.62
3	312,467.82	3,362,043.94
4	312,330.16	3,362,157.70
5	312,266.83	3,362,275.70
6	312,242.15	3,362,309.74
7	312,050.18	3,363,067.45
8	312,095.32	3,361,180.25
9	312,082.95	3,363,259.62
10	311,995.86	3,363,350.64
11	312,009.92	3,363,396.34
12	312,004.88	3,363,596.52
13	311,987.15	3,364,080.50
14	312,23.42	3,364,216.44
15	312,044.74	3,364,328.58
16	312,101.14	3,364,366.86
17	312,066.86	3,364,439.33
18	312,070.70	3,364,555.89
19	312,174.93	3,365,298.30
20	312,177.70	3,365,412.18
21	312,172.29	3,365,464.93
22	312,236.43	3,365,468.87
23	312,256.13	3,365,474.36
24	312,272.65	3,365,490.62
25	312,319.92	3,365,504.68
26	312,513.07	3,365,507.30
27	312,735.65	3,365,726.56
28	312,944.27	3,365,272.27
29	312,846.34	3,364,722.84
30	312,750.56	3,364,457.39
31	312,733.99	3,364,411.85
32	312,697.25	3,364,399.00
33	312,559.53	3,363,899.40
34	312,692.49	3,362,939.14
35	312,674.26	3,362,647.21
36	312,848.03	3,362,475.09
37	312,886.50	3,362,118.18

BORROW AREA 2 BOUNDARY
COORDINATES

POINT	NORTHING	EASTING
B2-1	311,493.16	3,362,886.17
B2-2	311,822.74	3,363,123.93
B2-3	310,864.29	3,364,495.41
B2-4	310,528.25	3,364,244.24

DREDGE PIPELINE
ALIGNMENT COORDINATES

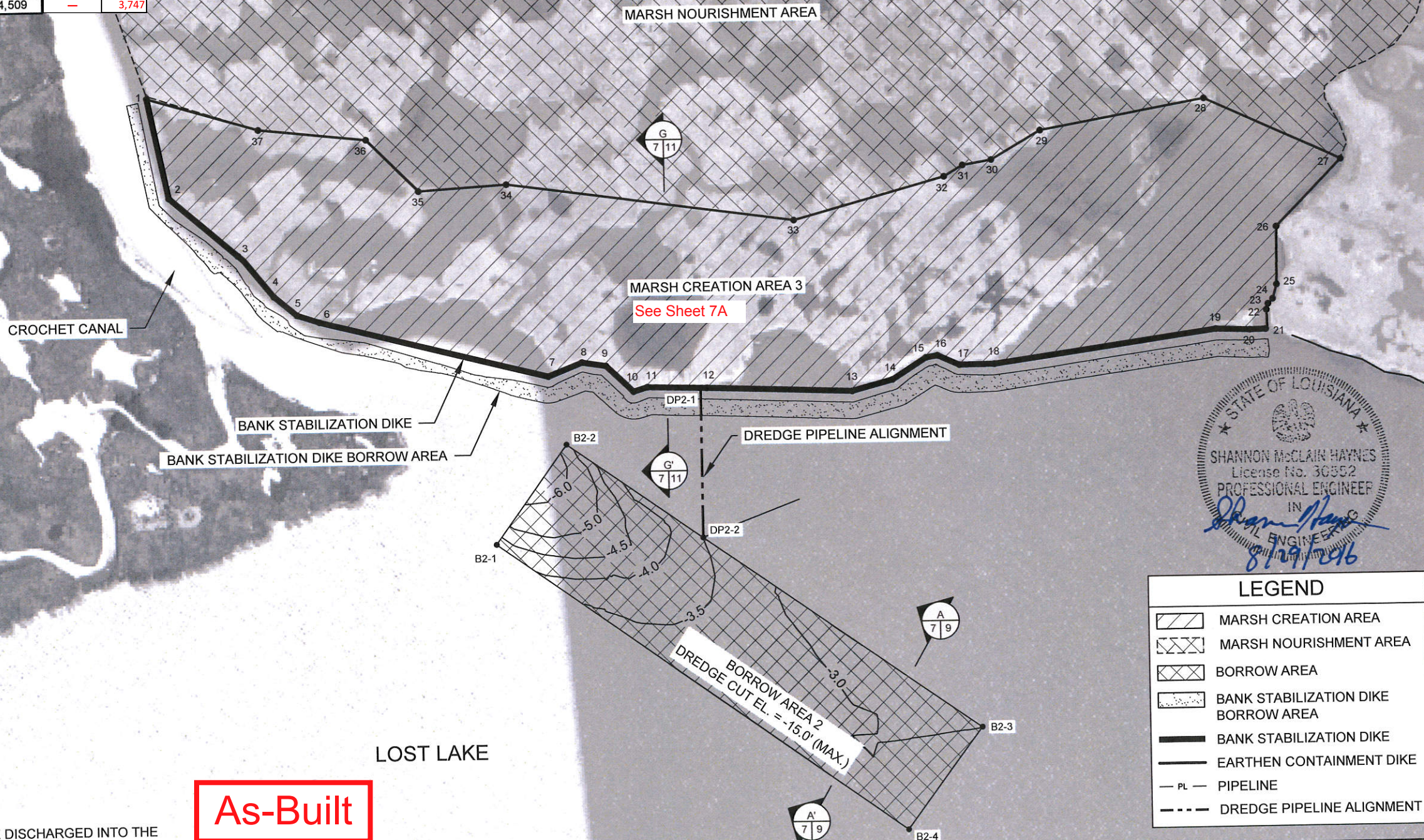
POINT	NORTHING	EASTING
DP2-1	312,003.44	3,363,575.04
DP2-2	311,507.49	3,363,575.04

NOTES:

- DECANTED WATER FROM THE MARSH CREATION AREA SHALL BE DISCHARGED INTO THE ADJACENT NOURISHMENT AREA.
- MODIFICATIONS TO THE DREDGE PIPELINE ALIGNMENT SHOWN SHALL REQUIRE PRIOR APPROVAL FROM ENGINEER.
- BATHYMETRIC AND TOPOGRAPHIC SURVEYS SHALL BE PERFORMED ON THE BORROW AREA ACCORDING TO THE SPECIFICATIONS.



ESTIMATED QUANTITIES			AS-BUILT	
AVAILABLE BORROW				
BORROW AREA	VOLUME (CY)	AREA (ACRES)	VOLUME (cy)	AREA (Ac.)
2	259,690	16	256,135	16.4
MARSH CREATION				
MARSH CREATION AREA	VOLUME (CY)	AREA (ACRES)	VOLUME (cy)	AREA (Ac.)
3	122,157	54	242,100	51.5
EARTHEN CONTAINMENT DIKES				
MARSH CREATION AREA	VOLUME (CY)	LENGTH (FT)	VOLUME (cy)	LENGTH (Ft.)
3 (CONTAINMENT)	13,530	4,703	—	5,350
3 (STABILIZATION)	24,330	4,509	—	3,747



As-Built

1	12/5/18	As-Built	SCG
REV.	DATE	DESCRIPTION	BY

COASTAL PROTECTION AND
RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: SHANE FAUST

DESIGNED BY: SHANNON HAYNES, P.E.

LOST LAKE MARSH CREATION
AND HYDROLOGIC RESTORATION

STATE PROJECT NUMBER: TE-72

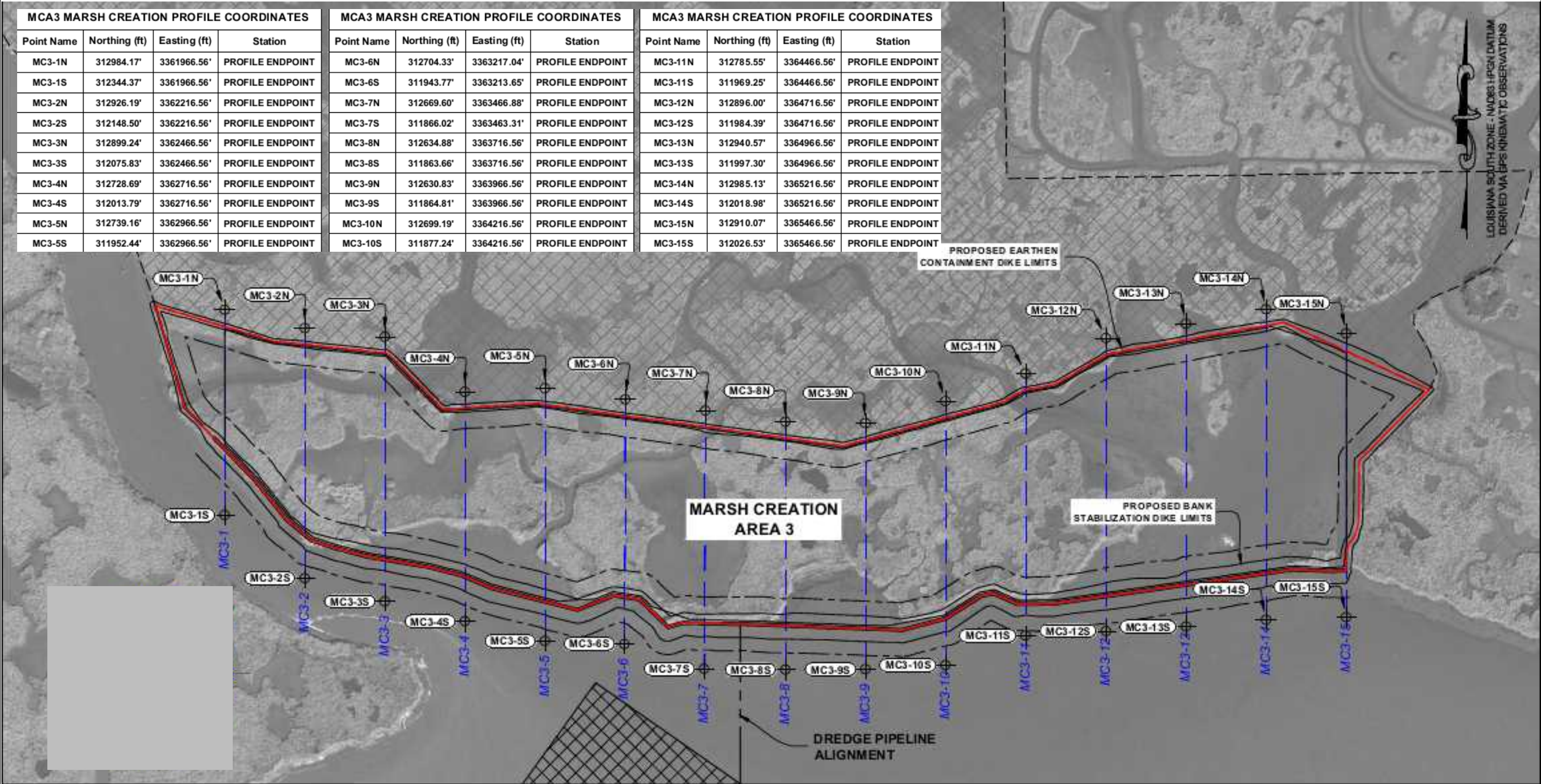
FEDERAL PROJECT NUMBER: TE-72

APPROVED BY: RUSS JOFFRION, P.E.

MARSH CREATION AREA 3/
BORROW AREA 2 PLAN

DATE: AUGUST 2016

SHEET 7 OF 61



- NOTES:
- CPRA TO PROVIDE THE COORDINATES FOR ALL SURVEY TRANSECTS AND ALIGNMENTS TO THE CONTRACTOR.
 - THE DREDGE PIPELINE ALIGNMENT SHALL BE SURVEYED ACCORDING TO THE SPECIFICATIONS.
 - ALL INFRASTRUCTURE (PIPELINES, POWER LINES, ETC.) SHALL BE SURVEYED AND MARKED ACCORDING TO THE SPECIFICATIONS.

As-Built

1	12/5/18	As-Built	SCG	COSTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION	
						STATE PROJECT NUMBER: TE-72	
						FEDERAL PROJECT NUMBER: TE-72	DATE: AUGUST 2016
						APPROVED BY: RUSS JOFFRION, P.E.	SHEET 7A OF
REV.	DATE	DESCRIPTION	BY	DRAWN BY: SHANE FAUST	DESIGNED BY: SHANNON HAYNES, P.E.		

EARTHEN TERRACE COORDINATES															
TERRACE	COORDINATE	NORTHING	EASTING	TERRACE	COORDINATE	NORTHING	EASTING	TERRACE	COORDINATE	NORTHING	EASTING	TERRACE	COORDINATE	NORTHING	EASTING
T1	1	312,754.60	3,379,523.82	T27	1	313,529.03	3,383,379.01	T53	1	317,009.30	3,386,351.51	T56	1	315,416.61	3,387,359.49
	2	312,914.30	3,379,716.16		2	313,688.73	3,383,571.35		2	317,169.00	3,386,543.85		2	315,576.31	3,387,551.83
	3	312,827.57	3,379,950.64		3	313,602.01	3,383,805.83		3	317,082.28	3,386,778.33		3	315,489.59	3,387,786.31
T2	1	310,951.29	3,380,381.03	T28	1	313,025.57	3,383,885.79	T54	1	316,468.03	3,386,386.23	T57	1	315,726.40	3,387,830.67
	2	311,110.99	3,380,573.38		2	313,185.27	3,384,078.14		2	316,627.73	3,386,578.57		2	315,886.09	3,388,023.01
	3	311,024.27	3,380,807.85		3	313,098.54	3,384,312.61		3	316,541.00	3,386,813.05		3	315,799.37	3,388,257.49
T3	1	309,814.77	3,381,389.46	T29	1	312,597.62	3,384,374.73	T55	1	315,967.12	3,386,611.86	T58	1	316,091.28	3,387,148.65
	2	309,974.47	3,381,581.80		2	312,757.32	3,384,567.07		2	316,624.32	3,387,436.96		2	316,004.45	3,387,383.12
	3	309,887.75	3,381,816.28		3	312,670.59	3,384,801.55		3	316,537.59	3,387,671.44		3	316,164.15	3,387,575.47
T4	1	310,633.52	3,381,536.25	T30	1	312,775.67	3,385,458.61	T31	1	313,011.03	3,384,882.86	T32	1	313,494.73	3,384,386.46
	2	310,793.22	3,381,728.59		2	312,935.37	3,385,650.95		2	313,170.73	3,385,075.21		2	313,654.43	3,384,578.81
	3	310,706.49	3,381,963.07		3	312,848.64	3,385,885.43		3	313,084.00	3,385,309.68		3	313,567.71	3,384,813.28
T5	1	310,976.42	3,381,036.11	T31	1	313,011.03	3,384,882.86	T32	1	313,494.73	3,384,386.46	T33	1	313,999.31	3,383,889.94
	2	311,136.12	3,381,228.46		2	313,170.73	3,385,075.21		2	313,654.43	3,384,578.81		2	314,159.01	3,384,082.29
	3	311,049.39	3,381,462.93		3	313,084.00	3,385,309.68		3	313,567.71	3,384,813.28		3	314,072.29	3,384,316.76
T6	1	311,566.56	3,381,060.68	T32	1	313,494.73	3,384,386.46	T33	1	313,999.31	3,383,889.94	T34	1	314,501.62	3,383,381.93
	2	311,726.26	3,381,253.02		2	313,654.43	3,384,578.81		2	314,159.01	3,384,082.29		2	314,661.31	3,383,574.28
	3	311,639.54	3,381,487.50		3	313,567.71	3,384,813.28		3	314,072.29	3,384,316.76		3	314,574.59	3,383,808.75
T7	1	312,028.08	3,380,393.60	T33	1	313,999.31	3,383,889.94	T34	1	314,501.62	3,383,381.93	T35	1	314,970.91	3,382,886.25
	2	312,187.78	3,380,585.95		2	314,159.01	3,384,082.29		2	314,661.31	3,383,574.28		2	315,130.61	3,383,078.59
	3	312,101.06	3,380,820.42		3	314,072.29	3,384,316.76		3	314,574.59	3,383,808.75		3	315,043.88	3,383,313.07
T8	1	312,532.85	3,380,388.44	T34	1	314,501.62	3,383,381.93	T35	1	314,970.91	3,382,886.25	T36	1	314,978.74	3,383,880.83
	2	312,692.55	3,380,580.78		2	314,661.31	3,383,574.28		2	315,130.61	3,383,078.59		2	315,138.44	3,384,073.17
	3	312,605.82	3,380,815.26		3	314,574.59	3,383,808.75		3	315,043.88	3,383,313.07		3	315,051.72	3,384,307.65
T9	1	313,121.43	3,379,965.26	T35	1	314,970.91	3,382,886.25	T36	1	314,978.74	3,383,880.83	T37	1	314,606.36	3,384,386.54
	2	313,281.13	3,380,157.60		2	315,130.61	3,383,078.59		2	315,138.44	3,384,073.17		2	314,766.06	3,384,578.89
	3	313,194.40	3,380,392.07		3	315,043.88	3,383,313.07		3	314,679.33	3,384,813.36		3	314,679.33	3,384,813.36
T10	1	312,985.59	3,380,631.23	T36	1	314,978.74	3,383,880.83	T37	1	314,606.36	3,384,386.54	T38	1	314,000.42	3,384,914.14
	2	313,145.28	3,380,823.58		2	315,138.44	3,384,073.17		2	314,766.06	3,384,578.89		2	314,160.12	3,385,106.48
	3	313,058.56	3,381,058.05		3	315,051.72	3,384,307.65		3	314,679.33	3,384,813.36		3	314,073.39	3,385,340.95
T11	1	312,484.78	3,381,114.82	T37	1	314,606.36	3,384,386.54	T38	1	314,000.42	3,384,914.14	T39	1	313,698.34	3,385,583.38
	2	312,644.48	3,381,307.16		2	314,766.06	3,384,578.89		2	314,160.12	3,385,106.48		2	313,858.04	3,385,775.72
	3	312,557.76	3,381,541.64		3	314,679.33	3,384,813.36		3	314,073.39	3,385,340.95		3	313,771.31	3,386,010.19
T12	1	311,365.13	3,382,124.53	T38	1	314,000.42	3,384,914.14	T39	1	313,698.34	3,385,583.38	T40	1	314,032.18	3,386,042.25
	2	311,524.83	3,382,316.87		2	314,160.12	3,385,106.48		2	314,160.12	3,385,106.48		2	314,191.88	3,386,234.59
	3	311,438.11	3,382,551.35		3	314,073.39	3,385,340.95		3	314,105.15	3,386,469.07		3	314,105.15	3,386,469.07
T13	1	312,079.19	3,381,726.95	T39	1	313,698.34	3,385,583.38	T40	1	314,032.18	3,386,042.25	T41	1	314,575.73	3,385,536.51
	2	312,238.89	3,381,919.30		2	313,858.04	3,385,775.72		2	314,191.88	3,386,234.59		2	314,735.43	3,385,728.86
	3	312,152.17	3,382,153.77		3	313,771.31	3,386,010.19		3	314,105.15	3,386,469.07		3	314,648.70	3,385,963.33
T14	1	312,489.05	3,381,873.43	T40	1	314,032.18	3,386,042.25	T41	1	314,575.73	3,385,536.51	T42	1	314,944.94	3,385,058.47
	2	312,648.75	3,382,065.77		2	314,191.88	3,386,234.59		2	315,104.64	3,385,250.81		2	315,054.44	3,386,309.51
	3	312,562.02	3,382,300.25		3	314,105.15	3,386,469.07		3	315,017.91	3,385,485.29		3	315,556.71	3,385,806.83
T15	1	313,089.21	3,381,372.05	T41	1	314,575.73	3,385,536.51	T42	1	314,944.94	3,385,058.47	T43	1	315,367.87	3,384,705.80
	2	313,248.91	3,381,564.40		2	314,735.43	3,385,728.86		2	315,104.64	3,385,250.81		2	315,527.57	3,384,898.15
	3	313,162.18	3,381,798.87		3	314,648.70	3,385,963.33		3	315,017.91	3,385,485.29		3	315,440.84	3,385,132.62
T16	1	313,486.00	3,380,883.05	T42	1	314,944.94	3,385,058.47	T43	1	315,367.87	3,384,705.80	T44	1	315,570.85	3,384,137.16
	2	313,645.70	3,381,075.40		2	315,104.64	3,385,250.81		2	315,527.57	3,384,898.15		2	315,730.55	3,384,329.51
	3	313,558.98	3,381,309.87		3	315,017.91	3,385,485.29		3	315,643.82	3,384,563.98		3	316,061.03	3,384,975.93
T17	1	313,509.67	3,381,652.93	T43	1	315,367.87	3,384,705.80	T44	1	315,570.85	3,384,137.16	T45	1	316,220.72	3,385,168.27
	2	313,669.37	3,381,845.28		2	315,527.57	3,384,898.15		2	316,220.72	3,385,168.27		2	316,134.00	3,385,402.74
	3	313,582.64	3,382,079.75		3	315,440.84	3,385,132.62		3	316,134.00	3,385,402.74		3	316,220.72	3,385,168.27
T18	1	312,991.21	3,382,137.08	T44	1	315,570.85	3,384,137.16	T45	1	316,220.72	3,385,168.27	T46	1	315,483.73	3,385,380.01
	2	313,150.91	3,382,329.43		2	315,730.55	3,384,329.51		2	316,220.72	3,385,168.27		2	315,643.43	3,385,572.36
	3	313,064.18	3,382,563.90		3	315,643.82	3,384,563.98		3	316,134.00	3,385,402.74		3	315,556.71	3,385,806.83
T19	1	312,507.30	3,382,641.91	T45	1	316,061.03	3,384,975.93	T46	1	315,483.73	3,385,380.01	T47	1	314,981.47	3,385,882.69
	2	312,667.00	3,382,834.26		2	316,220.72	3,385,168.27		2	315,141.17	3,386,075.04		2	315,054.44	3,386,309.51
	3	312,580.27	3,383,068.73		3	316,134.00	3,385,402.74		3	314,981.47	3,385,882.69		3	315,556.71	3,385,806.83
T20	1	312,006.92	3,382,624.65	T46	1	315,483.73	3,385,380.01	T47	1	314,981.47	3,385,882.69	T48	1	314,487.80	3,386,366.60
	2	312,166.62	3,382,816.99		2	315,643.43	3,385,572.36		2	315,141.17	3,386,075.04		2	314,649.16	3,386,560.94
	3	312,079.89	3,383,051.47		3	315,556.71	3,385,806.83		3	314,649.16	3,386,560.94		3	314,637.53	3,386,830.90
T21	1	312,468.09	3,383,383.25	T47	1	314,981.47	3,385,882.69	T48	1	314,487.80	3,386,366.60	T49	1	314,921.13	3,387,016.58
	2	312,627.79	3,383,575.59		2	315,141.17	3,386,075.04		2	314,649.16	3,386,560.94		2	315,080.83	3,387,208.92
	3	312,541.07	3,383,810.07		3	315,054.44	3,386,309.51		3	314,637.53	3,386,830.90		3	314,994.10	3,387,443.40
T22	1	312,999.65	3,382,889.18	T48	1	314,487.80	3,386,366.60	T49	1	314,921.13	3,387,016.58	T50	1	315,394.45	3,386,958.04
	2	313,159.35	3,383,081.52		2	314,649.16	3,386,560.94		2	315,080.83	3,387,208.92		2	315,306.90	3,387,192.47
	3	313,072.62	3,383,316.00		3	314,637.53	3,386,830.90		3	314,994.10	3,387,443.40		3	315,637.51	3,386,416.91
T23	1	313,467.12	3,382,386.99	T49	1	314,921.13	3,387,016.58	T50	1	315,394.45	3,386,958.04	T51	1	315,477.81	3,386,224.57
	2	313,626.82	3,382,579.34		2	315,080.83	3,387,208.92		2	315,306.90	3,387,192.47		2	315,637.51	3,386,416.91
	3	313,540.09	3,382,813.81		3	314,994.10	3,387,443.40		3	315,550.78	3,386,651.39		3	316,004.36	3,385,886.82
T24 Revised	1	313,986.42	3,381,134.87	T50	1	315,394.45	3,386,958.04	T51	1	315,477.81	3,386,224.57	T52	1	316,004.36	3,385,886.82
	2	314,146.12	3,381,327.22		2	315,306.90	3,387,192.47		2	316,164.06	3,386,079.17		2	316,077.33	3,386,313.64
	3	314,059.40	3,381,561.69		3	316,164.06	3,386,079.17		3	316,077.33	3,386,313.64				

TE-0072 Lost Lake Marsh Creation and Hydrologic Restoration

Attachment III

Project Completion Report

Project completion for the Lost Lake Marsh Creation and Hydrologic Restoration Project can be found on the CPRA website under the CIMS Document Library Search.

TE-0072 Lost Lake Marsh Creation and Hydrologic Restoration

Attachment IV

As-built Drawings

As-built Drawings for the TE-0072 Lost Lake Marsh Creation and Hydrologic Restoration Project can be found on the CPRA website under the CIMS Document Library Search.

TE-0072 Lost Lake Marsh Creation and Hydrologic Restoration

Attachment V

Permits and Permit Amendments



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF

FEB 24 2014

Operations Division
Western Evaluation Section

SUBJECT: MVN-2011-00954-WPP

United States Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, Louisiana 70506

RECEIVED
2014 FEB 26 P 3:47
CPRA

Dear Gentlemen:

Enclosed is a permit dated this date, subject as above, authorizing work under the Department of the Army permit program.

You are again reminded that any work not in accordance with the approved plans is subject to removal regardless of the expense and the inconvenience that such removal may involve and regardless of the date when the discrepancy is discovered.

Your attention is directed to all the terms and conditions of the approval. In order to have the work approved in accordance with the issued permit, all terms and conditions of the permit and plans shown on the drawings attached thereto must be rigidly adhered to.

It is necessary that you notify the District Engineer, Attention: Western Evaluation Section, in writing, prior to commencement of work and also upon its completion. The notification must include the permittee's name, as shown on the permit, and the permit number. Please note the expiration date on the permit. Should the project not be completed by that date, you may request a permit time extension. Such requests must be received before, but no sooner than six months before, the permit expiration date and must show the work completed and the reason the project was not finished within the time period granted by the permit.

A copy of Page 1 of the permit (ENG Form 1721) must be conspicuously displayed at the project site. Also, you must keep a copy of the signed permit at the project site until the work is completed.

Sincerely,

Darrell S. Barbara

Darrell S. Barbara
Chief Western Evaluation Section

Enclosure
CC: NMFS

DEPARTMENT OF THE ARMY PERMIT

Permittee: United States Fish and Wildlife Service

Permit No. MVN-2011-00954-WPP

Issuing Office: New Orleans District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To create emergent marsh in the Terrebonne Basin, in the vicinity of Lost Lake in marsh creation areas 1, 2A, 2B, 2C, and 3, totaling approximately 442 acres, constructed using dredged sediment pumped from borrow areas in Lost Lake to fill open water and broken marsh areas along Bayou Decade and Lake Pagie, in accordance with attached plans: Sheets 1-5 and sheets 7-25 dated November 1, 2012 and sheet 6 dated July 2012.

Project Location: Latitude 29° 20'27.640", Longitude 91° 1'27.290", Section(s) 1,2,3,4,5,6, T20S, R14E, and Section(s) 20,21,28,29,32,33,34, T19S, R14E, in Lost Lake, in Terrebonne Parish, Louisiana.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **January 31, 2019**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions: See Attached Pg 4.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.


5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

X 
(PERMITTEE)

X 2/20/14
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Darrell S. Barbara

Darrell S. Barbara, Chief Western Evaluation Section

2/24/2014
(DATE)

for Richard L. Hansen, District Commander

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree)

(DATE)

SPECIAL CONDITIONS: MVN-2011-00954-WPP

7. Any alterations or modifications to the permitted plan must be submitted to the Corps for re-evaluation prior to beginning work. If the authorized project requires additional structures or facilities not expressly permitted herein, you must obtain a separate approval for those facilities or structures not shown on the attached drawings.

8. Many local governing bodies have instituted laws and/or ordinances in order to regulate dredge and/or fill activities in floodplains to assure maintenance of floodwater storage capacity and avoid disruption of drainage patterns that may affect surrounding properties. Your project involves dredging and/or placement of fill; therefore, you must contact the local municipal and/or parish governing body regarding potential impacts to floodplains and compliance of your proposed activities with local ordinances, regulations, or permits.

9. Permittee shall install temporary sedimentation and erosion control measures to include sediment filter fence, stabilized construction methods and entrances, hay bales, construction sequencing, etc. Permittee shall insure that the proper installation of all sediment and erosion control measures indicated above are being adequately utilized, including the installation of hay bales adjacent to the silt fence in order to reduce the sedimentation rates into waters of the US.

10. The Chitimacha Tribe of Louisiana has stated that the project area is part of the aboriginal Chitimacha homelands. If during the course of work at the site, prehistoric and/or historic aboriginal cultural materials are discovered, the permittee will contact the Chitimacha Tribe of Louisiana at P.O. Box 661, Charenton, LA 70523, and the Army Corps of Engineers, New Orleans District (CEMVN) Regulatory Branch. CEMVN will initiate the required Federal, State, and Tribal coordination to determine the significance of the cultural materials and the need, if applicable, for additional cultural resource investigations.

11. Containment dikes may be gapped, notched, or degraded prior to construction demobilization at the discretion of the permittee. Additional gapping may be necessary to achieve tidal connection between the created marsh and adjacent waters. A containment dike gapping plan shall be developed in coordination with the NMFS and implemented no later than three years after construction. An interagency, on-site investigation and use of available survey information is encouraged to assess gapping needs and field fit gaps.

12. To allow water levels to be maintained during the waterfowl season, stoplogs may be placed in the water control structure bays from November 1 to January 31. Stoplogs will be placed no higher than elevation 0.0 ft. NAVD88 to maintain interior marsh water levels. At all other times of the year, all stoplogs will be removed.

INDEX TO SHEETS

SHEET NO. DESCRIPTION

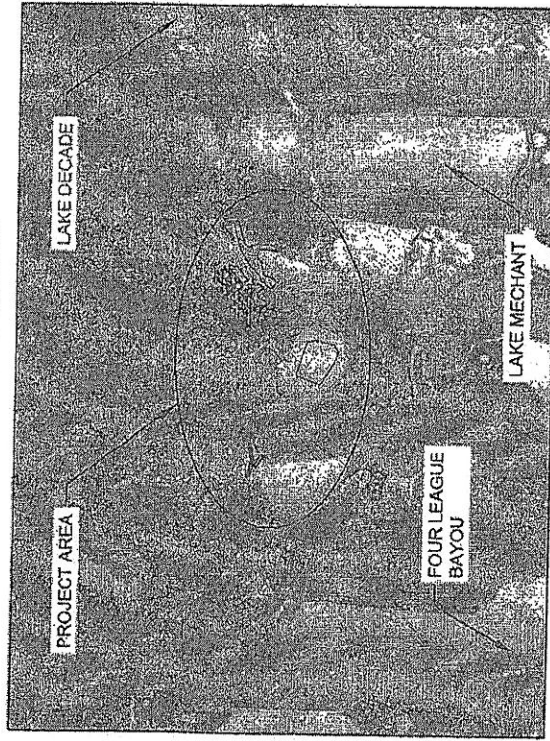
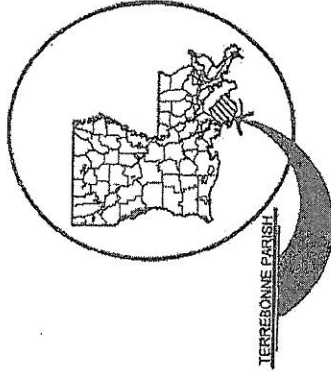
- 1 TITLE SHEET
- 2 PLAN VIEW
- 3 BORROW AREA LAYOUT
- 4 MARSH CREATION AREA 1 LAYOUT
- 5 MARSH CREATION AREA 2A, 2B & 2C LAYOUT
- 6 MARSH CREATION AREA 3 LAYOUT
- 7 EARTHEN TERRACE LAYOUT
- 8 TERRACE COORDINATES
- 9 TYPICAL BORROW SECTIONS
- 10-11 TYPICAL FILL SECTIONS
- 12 TYPICAL PIPELINE CORRIDOR AND FILL SECTION
- 13 TYPICAL EARTHEN TERRACE SECTION
- 14 MARSH CREATION DETAIL
- 15 PLANTING LAYOUT AND DETAIL
- 16-26 WEIR STRUCTURE

STATE OF LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

TE-72

TERREBONNE PARISH

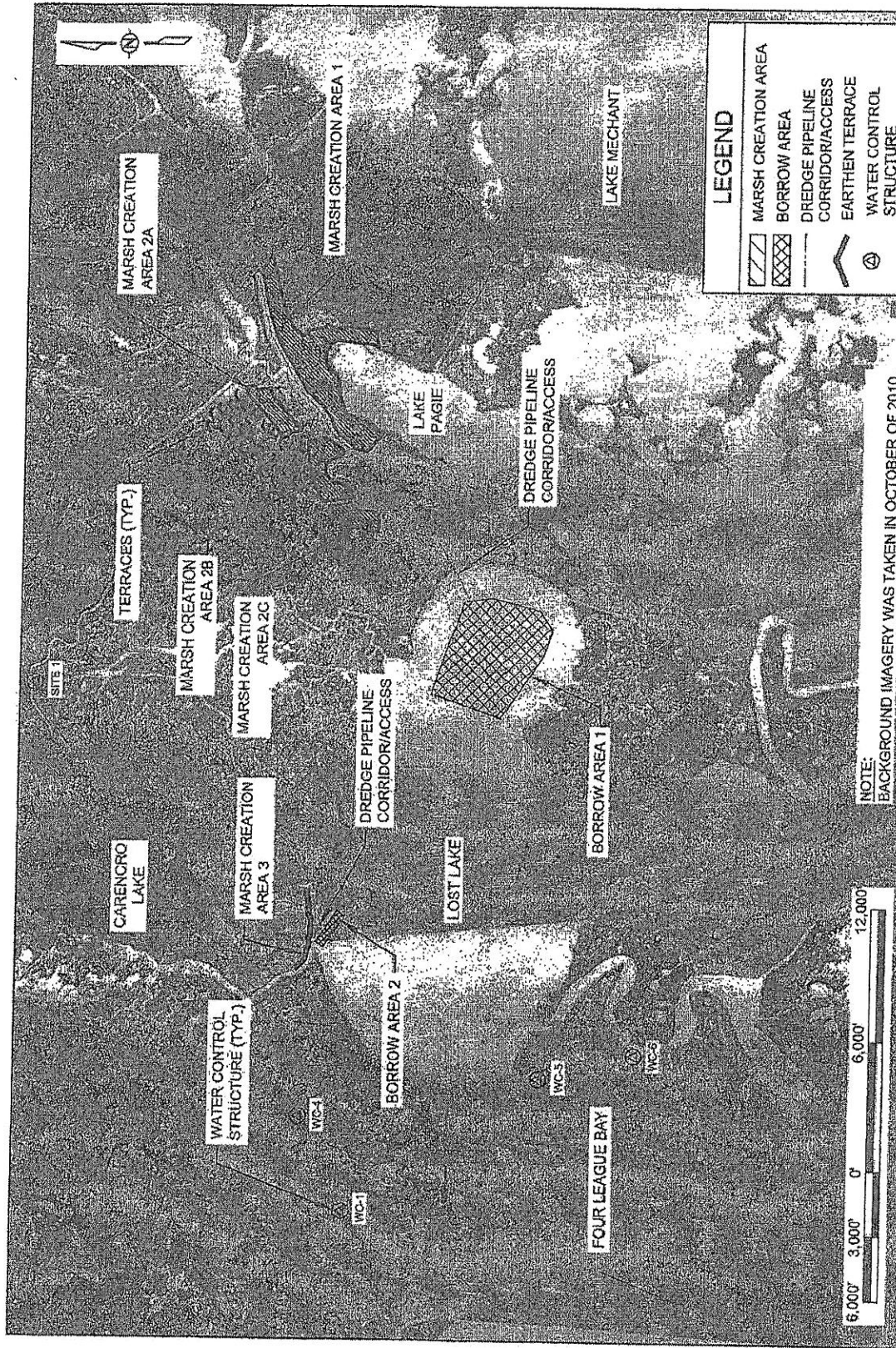


NOT FOR CONSTRUCTION

DOCUMENTS ARE NOT TO BE USED FOR
CONSTRUCTION, BIDDING, RECORDATION,
CONVEYANCE, OR SALES.

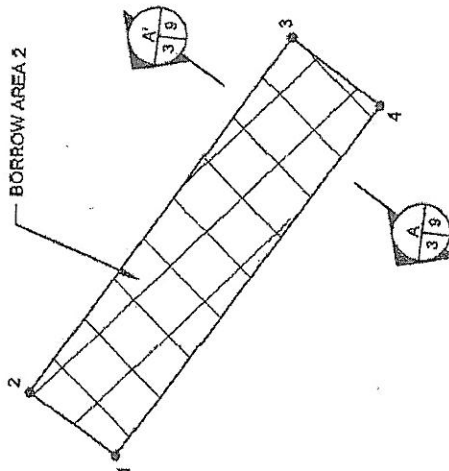
PROFESSIONAL ENGINEER
JASON LANCLOS
LICENSE NO. 77777

<p>APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CALJINDOME BLVD SUITE 400 LAFAYETTE, LA 70506</p>	<p>COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801</p>		<p>LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT</p>	<p>TITLE SHEET</p>
	<p>DESIGNED BY: TRAVIS BYLAND, E.I.</p>	<p>APPROVED BY: JASON LANCLOS, P.E.</p>	<p>STATE PROJECT NUMBER: TE-72</p>	<p>DATE: NOVEMBER 2012</p>
	<p>DRAWN BY: SHANE FAUST</p>		<p>FEDERAL PROJECT NUMBER: TE-72</p>	<p>SHEET 1 OF 28</p>

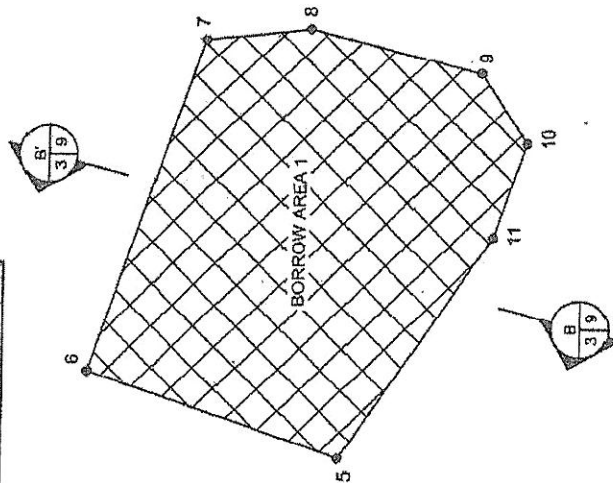


APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 645 CALUMBOANE BLVD., SUITE 400 LAFAYETTE, LA 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT	PLAN VIEW
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I.	APPROVED BY: JASON LANCLOS, P.E.	DATE: NOVEMBER 2012 STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72 SHEET 2 OF 26

BORROW AREA 2 COORDINATES		
POINT	LONGITUDE	LATITUDE
1	91° 04' 32.78"	29° 21' 22.58"
2	91° 04' 30.08"	29° 21' 25.85"
3	91° 04' 14.61"	29° 21' 16.33"
4	91° 04' 17.45"	29° 21' 13.01"



BORROW AREA 1 COORDINATES		
POINT	LONGITUDE	LATITUDE
5	91° 02' 34.57"	29° 20' 04.59"
6	91° 02' 22.29"	29° 20' 35.93"
7	91° 01' 34.65"	29° 20' 21.47"
8	91° 01' 32.94"	29° 20' 08.78"
9	91° 01' 39.14"	29° 19' 47.45"
10	91° 01' 49.24"	29° 19' 41.70"
11	91° 02' 02.72"	29° 19' 45.78"



- NOTES:
1. BORROW AREA 1 CONTAINS APPROXIMATELY 7,460,572.00 CUBIC YARDS OF MATERIAL.
 2. BORROW AREA 2 CONTAINS APPROXIMATELY 259,688.75 CUBIC YARDS OF MATERIAL.

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD, SUITE 400
LAFAYETTE, LA 70506

COASTAL PROTECTION AND
RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: SHANE FAUST

DESIGNED BY: TRAVIS SYLAND, E.I. APPROVED BY: JASON LANCLOS, P.E.

LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT

STATE PROJECT NUMBER: TE-72
FEDERAL PROJECT NUMBER: TE-72

BORROW AREA
LAYOUT

DATE: NOVEMBER 2012
SHEET 3 OF 26

MARSH CREATION AREA 1 COORDINATES

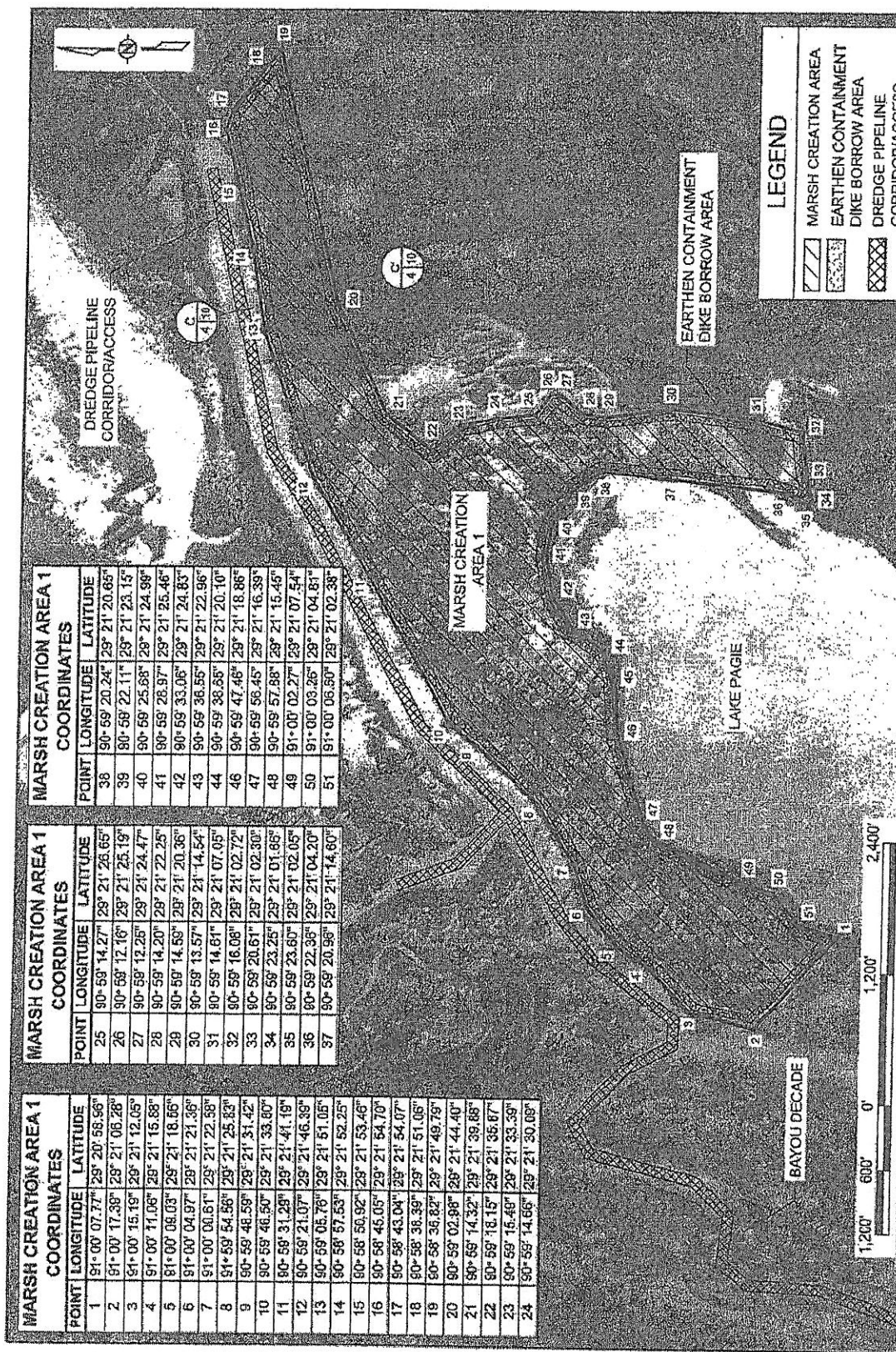
POINT	LONGITUDE	LATITUDE
1	91° 00' 07.77"	29° 20' 58.96"
2	91° 00' 17.38"	29° 21' 05.28"
3	91° 00' 15.19"	29° 21' 12.05"
4	91° 00' 11.06"	29° 21' 15.88"
5	91° 00' 08.03"	29° 21' 18.66"
6	91° 00' 04.97"	29° 21' 21.39"
7	91° 00' 00.61"	29° 21' 22.58"
8	91° 59' 54.56"	29° 21' 25.83"
9	90° 59' 48.50"	29° 21' 31.42"
10	90° 59' 46.50"	29° 21' 33.80"
11	90° 59' 31.29"	29° 21' 41.19"
12	90° 59' 21.07"	29° 21' 46.39"
13	90° 59' 05.76"	29° 21' 51.05"
14	90° 58' 57.53"	29° 21' 52.25"
15	90° 58' 50.92"	29° 21' 53.46"
16	90° 58' 45.05"	29° 21' 54.70"
17	90° 58' 43.04"	29° 21' 54.07"
18	90° 58' 38.39"	29° 21' 51.06"
19	90° 58' 36.82"	29° 21' 49.79"
20	90° 59' 02.98"	29° 21' 44.40"
21	90° 59' 14.32"	29° 21' 39.68"
22	90° 59' 18.15"	29° 21' 36.87"
23	90° 59' 16.49"	29° 21' 33.39"
24	90° 59' 14.66"	29° 21' 30.09"

MARSH CREATION AREA 1 COORDINATES

POINT	LONGITUDE	LATITUDE
25	90° 59' 14.27"	29° 21' 26.65"
26	90° 59' 12.16"	29° 21' 23.19"
27	90° 59' 12.26"	29° 21' 24.47"
28	90° 59' 14.20"	29° 21' 22.25"
29	90° 59' 14.59"	29° 21' 20.36"
30	90° 59' 13.57"	29° 21' 14.54"
31	90° 59' 14.61"	29° 21' 07.05"
32	90° 59' 16.08"	29° 21' 02.72"
33	90° 59' 20.61"	29° 21' 02.30"
34	90° 59' 23.25"	29° 21' 01.66"
35	90° 59' 23.60"	29° 21' 02.05"
36	90° 59' 22.35"	29° 21' 04.20"
37	90° 59' 20.96"	29° 21' 14.60"

MARSH CREATION AREA 1 COORDINATES

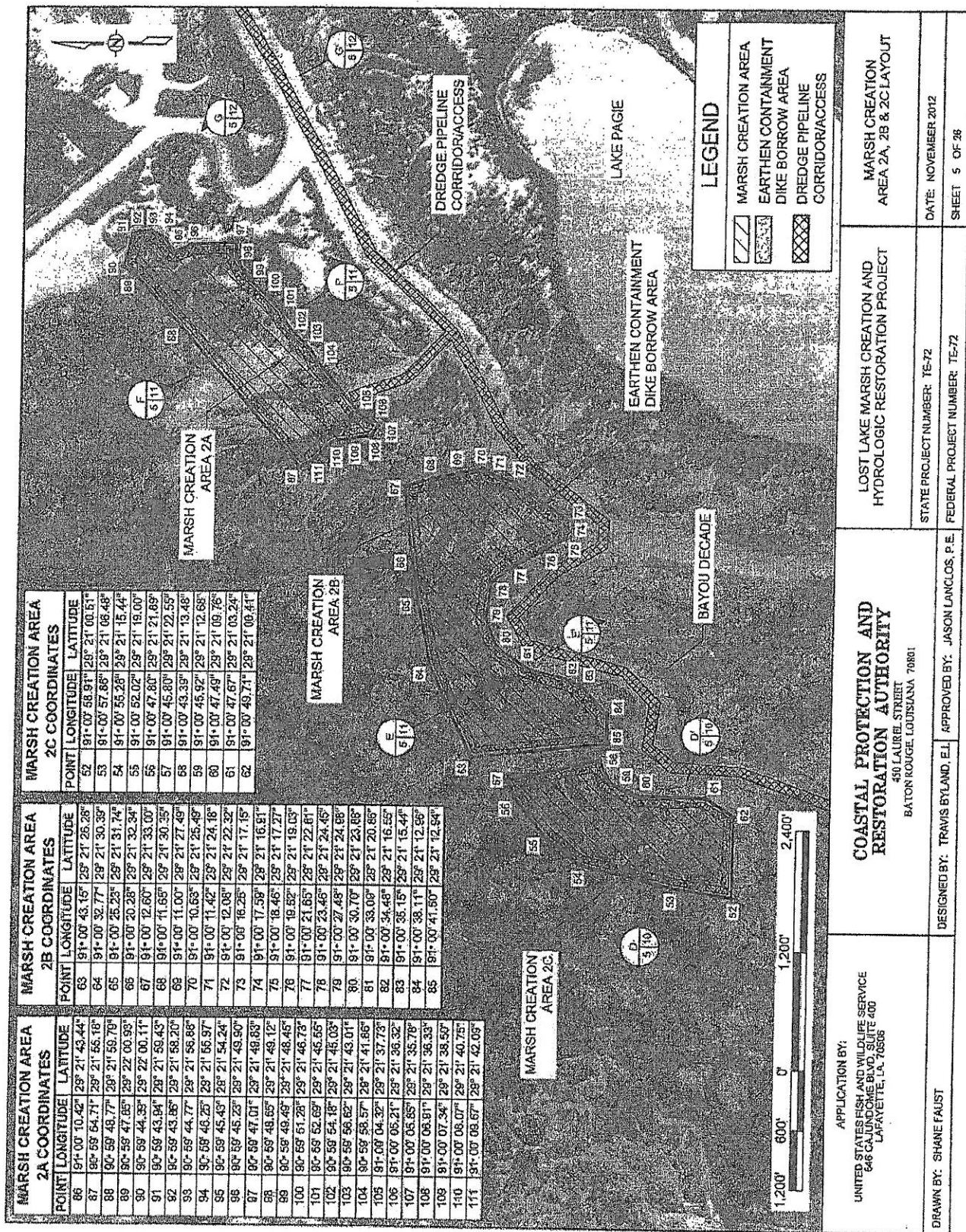
POINT	LONGITUDE	LATITUDE
38	90° 59' 20.24"	29° 21' 20.65"
39	90° 59' 22.11"	29° 21' 23.15"
40	90° 59' 25.88"	29° 21' 24.98"
41	90° 59' 28.97"	29° 21' 25.46"
42	90° 59' 33.06"	29° 21' 24.83"
43	90° 59' 36.55"	29° 21' 22.96"
44	90° 59' 38.36"	29° 21' 20.10"
46	90° 59' 47.46"	29° 21' 18.86"
47	90° 59' 56.45"	29° 21' 16.39"
48	90° 59' 57.88"	29° 21' 15.45"
49	91° 00' 02.27"	29° 21' 07.54"
50	91° 00' 03.26"	29° 21' 04.81"
51	91° 00' 06.80"	29° 21' 02.38"



LEGEND

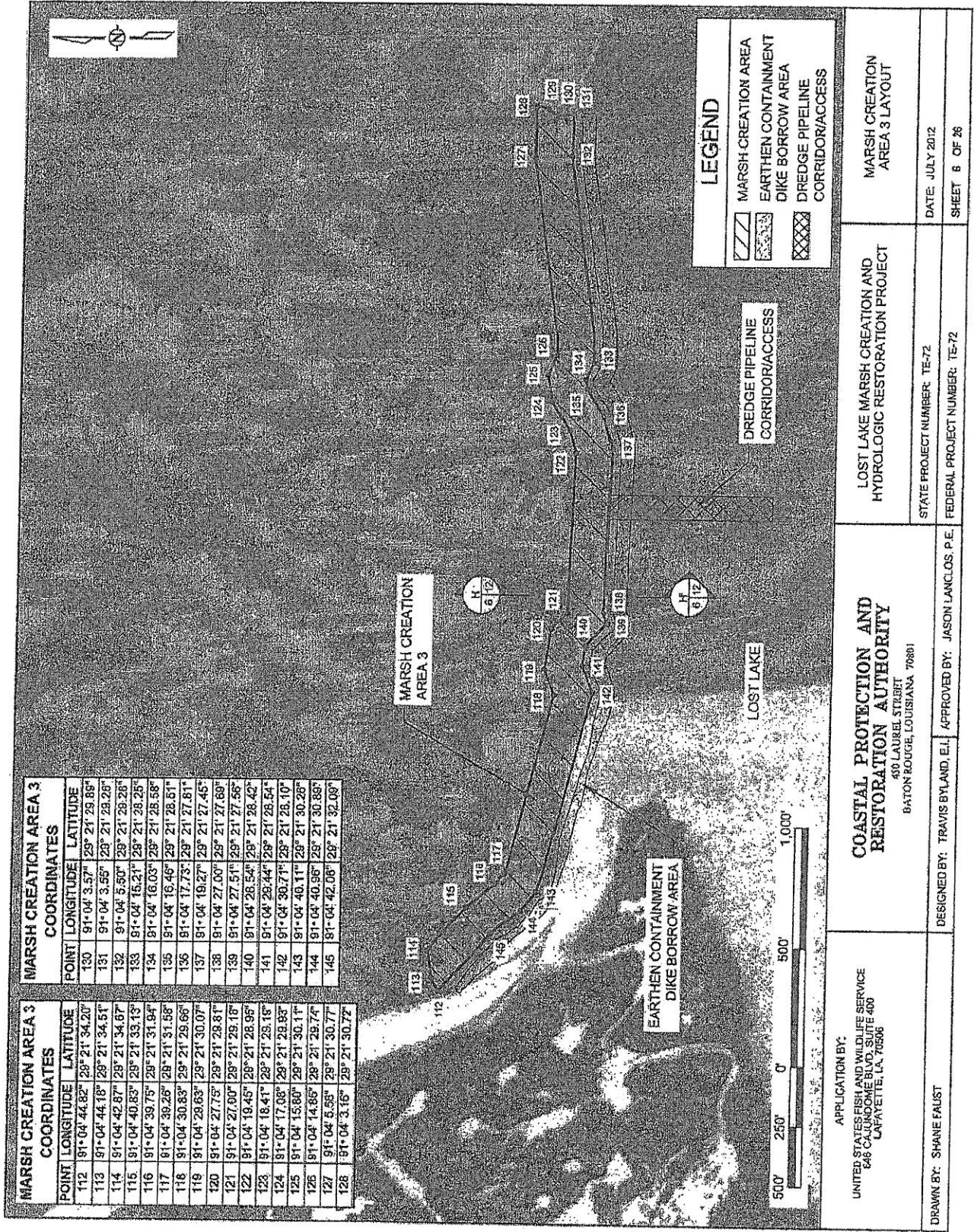
- MARSH CREATION AREA
- EARTHEN CONTAINMENT DIKE BORROW AREA
- DREDGE PIPELINE CORRIDOR/ACCESS

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT MARSH CREATION AREA 1 LAYOUT
	DESIGNED BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCLOS, P.E.	DATE: NOVEMBER 2012 SHEET 4 OF 28



MARSH CREATION AREA 3 COORDINATES		
POINT	LONGITUDE	LATITUDE
112	91° 04' 44.82"	28° 21' 34.20"
113	91° 04' 44.18"	28° 21' 34.51"
114	91° 04' 42.87"	28° 21' 34.67"
115	91° 04' 40.83"	28° 21' 33.13"
116	91° 04' 39.75"	28° 21' 31.94"
117	91° 04' 38.26"	28° 21' 31.58"
118	91° 04' 30.83"	28° 21' 29.66"
119	91° 04' 28.63"	28° 21' 30.07"
120	91° 04' 27.75"	28° 21' 28.81"
121	91° 04' 27.00"	28° 21' 29.18"
122	91° 04' 19.45"	28° 21' 28.95"
123	91° 04' 18.41"	28° 21' 28.18"
124	91° 04' 17.08"	28° 21' 29.93"
125	91° 04' 15.80"	28° 21' 30.11"
126	91° 04' 14.85"	28° 21' 29.74"
127	91° 04' 5.55"	28° 21' 30.77"
128	91° 04' 3.15"	28° 21' 30.72"

MARSH CREATION AREA 3 COORDINATES		
POINT	LONGITUDE	LATITUDE
130	91° 04' 3.57"	28° 21' 29.85"
131	91° 04' 3.55"	28° 21' 29.28"
132	91° 04' 5.90"	28° 21' 28.28"
133	91° 04' 15.21"	28° 21' 28.25"
134	91° 04' 16.03"	28° 21' 28.58"
135	91° 04' 16.46"	28° 21' 28.51"
136	91° 04' 17.73"	28° 21' 27.81"
137	91° 04' 19.27"	28° 21' 27.45"
138	91° 04' 27.00"	28° 21' 27.68"
139	91° 04' 27.51"	28° 21' 27.56"
140	91° 04' 28.54"	28° 21' 28.42"
141	91° 04' 28.44"	28° 21' 28.54"
142	91° 04' 30.71"	28° 21' 28.10"
143	91° 04' 40.11"	28° 21' 30.28"
144	91° 04' 40.96"	28° 21' 30.88"
145	91° 04' 42.06"	28° 21' 32.09"



APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE
648 CALUMBO BLVD, SUITE 400
LAFAYETTE, LA 70506

COASTAL PROTECTION AND
RESTORATION AUTHORITY
430 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT

MARSH CREATION
AREA 3 LAYOUT

DRAWN BY: SHANE FAUST

DESIGNED BY: TRAVIS BYLAND, E.L.

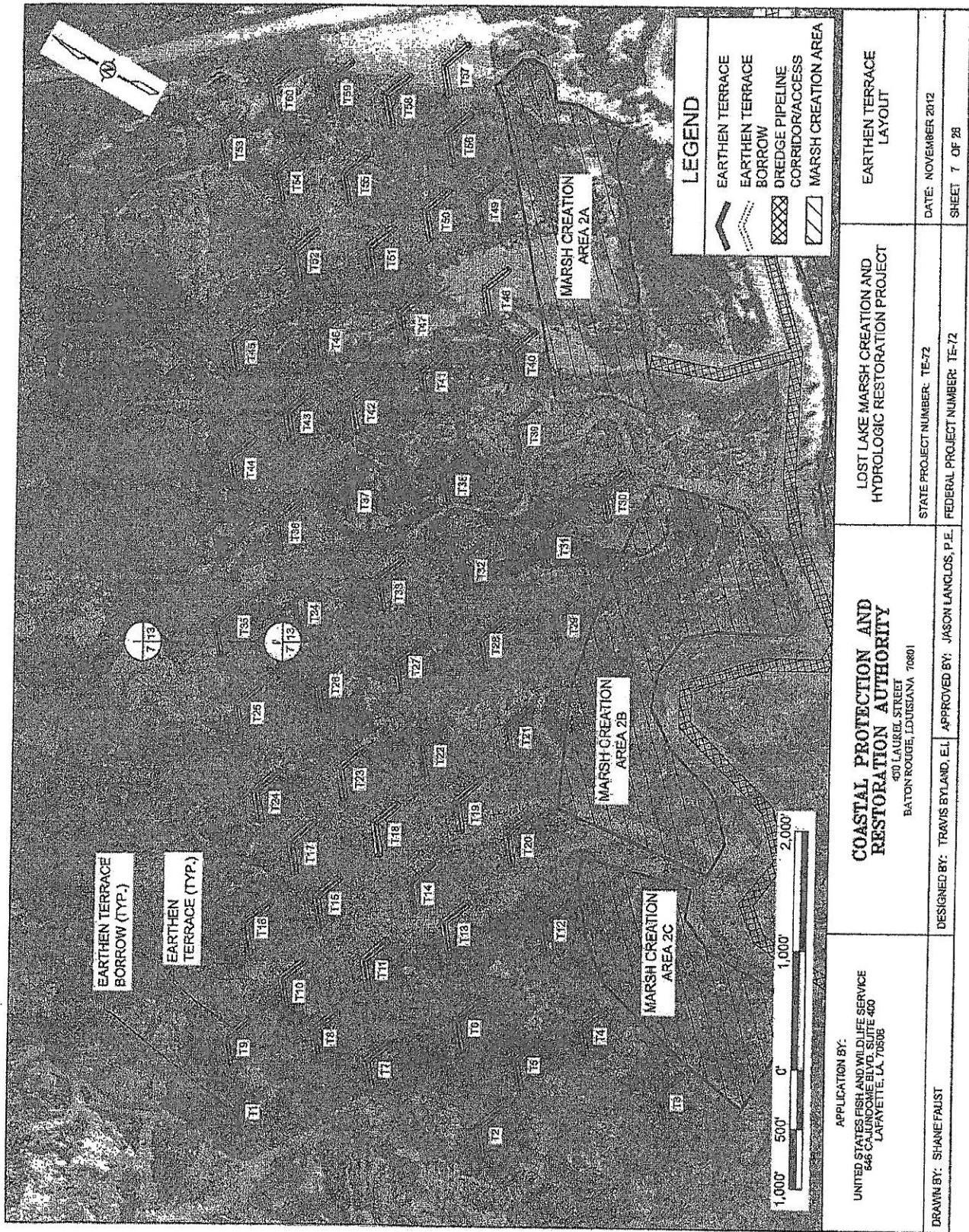
APPROVED BY: JASON LANGLIS, P.E.

STATE PROJECT NUMBER: TE-72

DATE: JULY 2012

SHEET 5 OF 26

FEDERAL PROJECT NUMBER: TE-72



APPLICATION BY:

UNITED STATES FISH AND WILDLIFE SERVICE
646 CALUNDOME BLVD. SUITE 400
LAFAYETTE, LA 70508

DRAWN BY: SHANIE FAUST

COASTAL PROTECTION AND
RESTORATION AUTHORITY
400 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DESIGNED BY: TRAVIS BYLAND, E.I.

APPROVED BY: JASON LANGLOS, P.E.

LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT

STATE PROJECT NUMBER: TE-72

FEDERAL PROJECT NUMBER: TE-72

EARTHEN TERRACE
LAYOUT

DATE: NOVEMBER 2012

SHEET 7 OF 28

LEGEND

- EARTHEN TERRACE
- EARTHEN TERRACE BORROW
- DREDGE PIPELINE CORRIDOR/ACCESS
- MARSH CREATION AREA

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
T1	91° 01' 24.72"	28° 21' 34.65"
	91° 01' 22.54"	28° 21' 38.24"
	91° 01' 18.90"	28° 21' 35.35"
T2	91° 01' 15.08"	28° 21' 18.79"
	91° 01' 12.91"	28° 21' 16.37"
	91° 01' 10.28"	28° 21' 17.50"
T3	91° 01' 03.75"	28° 21' 05.81"
	91° 01' 01.65"	28° 21' 07.09"
	91° 00' 58.90"	28° 21' 06.22"
T4	91° 01' 02.05"	28° 21' 13.61"
	91° 00' 59.87"	28° 21' 15.19"
	91° 00' 57.22"	28° 21' 14.32"
T5	91° 01' 07.89"	28° 21' 17.02"
	91° 01' 05.51"	28° 21' 16.50"
	91° 01' 02.85"	28° 21' 17.73"
T6	91° 01' 07.39"	28° 21' 22.66"
	91° 01' 05.21"	28° 21' 24.44"
	91° 01' 02.57"	28° 21' 23.57"
T7	91° 01' 14.81"	28° 21' 27.45"
	91° 01' 12.74"	28° 21' 28.03"
	91° 01' 10.09"	28° 21' 28.18"
T8	91° 01' 14.85"	28° 21' 32.45"
	91° 01' 12.78"	28° 21' 34.02"
	91° 01' 10.13"	28° 21' 35.18"
T9	91° 01' 19.72"	28° 21' 38.28"
	91° 01' 17.54"	28° 21' 39.85"
	91° 01' 14.90"	28° 21' 38.00"
T10	101° 28' 40.52"	31° 24' 33.60"
	101° 28' 38.77"	31° 24' 35.10"
	101° 28' 40.08"	31° 24' 37.32"
T11	101° 28' 47.47"	31° 24' 37.37"
	101° 28' 45.43"	31° 24' 39.38"
	101° 28' 48.74"	31° 24' 41.60"
T12	101° 28' 01.98"	31° 24' 46.28"
	101° 28' 00.23"	31° 24' 48.28"
	101° 28' 04.55"	31° 24' 50.49"
T13	91° 00' 58.85"	28° 21' 27.92"
	91° 00' 57.87"	28° 21' 29.49"
	91° 00' 55.02"	28° 21' 28.63"
T14	91° 00' 58.18"	28° 21' 31.97"
	91° 00' 56.00"	28° 21' 33.55"
	91° 00' 53.35"	28° 21' 35.68"
T15	91° 01' 03.82"	28° 21' 37.93"
	91° 01' 01.85"	28° 21' 39.59"
	91° 00' 59.00"	28° 21' 38.64"
T16	91° 01' 08.34"	28° 21' 41.87"
	91° 01' 07.16"	28° 21' 43.44"
	91° 01' 04.51"	28° 21' 42.58"

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
T17	91° 01' 00.64"	28° 21' 42.08"
	91° 00' 58.46"	28° 21' 43.66"
	91° 00' 56.16"	28° 21' 42.78"
T18	91° 00' 55.16"	28° 21' 36.54"
	91° 00' 53.00"	28° 21' 38.51"
	91° 00' 50.36"	28° 21' 37.68"
T19	91° 00' 49.48"	28° 21' 32.13"
	91° 00' 47.31"	28° 21' 33.71"
	91° 00' 44.67"	28° 21' 32.84"
T20	91° 00' 49.70"	28° 21' 27.18"
	91° 00' 47.52"	28° 21' 28.75"
	91° 00' 44.88"	28° 21' 27.99"
T21	91° 00' 41.12"	28° 21' 31.72"
	91° 00' 38.94"	28° 21' 33.50"
	91° 00' 36.26"	28° 21' 32.43"
T22	91° 00' 46.66"	28° 21' 37.60"
	91° 00' 44.50"	28° 21' 38.57"
	91° 00' 41.86"	28° 21' 37.71"
T23	91° 00' 52.34"	28° 21' 41.84"
	91° 00' 50.16"	28° 21' 43.22"
	91° 00' 47.52"	28° 21' 42.35"
T24	91° 00' 58.12"	28° 21' 48.73"
	91° 00' 55.94"	28° 21' 48.30"
	91° 00' 53.28"	28° 21' 47.44"
T25	91° 00' 52.13"	28° 21' 51.64"
	91° 00' 49.85"	28° 21' 53.22"
	91° 00' 47.30"	28° 21' 52.35"
T26	91° 00' 46.68"	28° 21' 46.78"
	91° 00' 44.50"	28° 21' 48.36"
	91° 00' 41.86"	28° 21' 47.49"
T27	91° 00' 41.15"	28° 21' 42.23"
	91° 00' 38.98"	28° 21' 43.80"
	91° 00' 36.30"	28° 21' 42.94"
T28	91° 00' 35.42"	28° 21' 37.23"
	91° 00' 33.24"	28° 21' 38.80"
	91° 00' 30.59"	28° 21' 37.94"
T29	91° 00' 29.81"	28° 21' 32.98"
	91° 00' 27.73"	28° 21' 34.55"
	91° 00' 25.06"	28° 21' 33.69"
T30	91° 00' 17.65"	28° 21' 34.71"
	91° 00' 15.47"	28° 21' 36.29"
	91° 00' 12.85"	28° 21' 35.42"
T31	91° 00' 24.15"	28° 21' 37.05"
	91° 00' 21.97"	28° 21' 38.63"
	91° 00' 19.33"	28° 21' 37.77"
T32	91° 00' 29.75"	28° 21' 41.86"
	91° 00' 27.57"	28° 21' 43.43"
	91° 00' 24.92"	28° 21' 42.57"

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
T33	91° 00' 35.34"	28° 21' 46.87"
	91° 00' 33.16"	28° 21' 48.44"
	91° 00' 30.52"	28° 21' 47.58"
T34	91° 00' 41.07"	28° 21' 51.85"
	91° 00' 38.89"	28° 21' 53.43"
	91° 00' 36.24"	28° 21' 52.56"
T35	91° 00' 46.65"	28° 21' 56.51"
	91° 00' 44.47"	28° 21' 58.09"
	91° 00' 41.83"	28° 21' 57.22"
T36	91° 00' 35.41"	28° 21' 56.56"
	91° 00' 33.23"	28° 21' 58.14"
	91° 00' 30.58"	28° 21' 57.27"
T37	91° 00' 27.53"	28° 21' 52.88"
	91° 00' 24.88"	28° 21' 53.57"
	91° 00' 22.77"	28° 21' 54.83"
T38	91° 00' 21.59"	28° 21' 48.43"
	91° 00' 19.94"	28° 21' 47.66"
	91° 00' 18.21"	28° 21' 45.84"
T39	91° 00' 14.03"	28° 21' 45.42"
	91° 00' 11.39"	28° 21' 44.59"
	91° 00' 08.47"	28° 21' 47.09"
T40	91° 00' 10.65"	28° 21' 46.66"
	91° 00' 08.82"	28° 21' 47.80"
	91° 00' 06.71"	28° 21' 52.59"
T41	91° 00' 14.54"	28° 21' 54.10"
	91° 00' 11.89"	28° 21' 53.24"
	91° 00' 09.22"	28° 21' 56.20"
T42	91° 00' 18.68"	28° 21' 57.77"
	91° 00' 16.28"	28° 21' 56.91"
	91° 00' 14.08"	28° 22' 00.39"
T43	91° 00' 23.80"	28° 22' 01.97"
	91° 00' 21.25"	28° 22' 01.10"
	91° 00' 18.50"	28° 22' 02.42"
T44	91° 00' 27.67"	28° 22' 03.13"
	91° 00' 25.00"	28° 22' 07.29"
	91° 00' 22.82"	28° 22' 08.82"
T45	91° 00' 16.38"	28° 22' 03.10"
	91° 00' 14.45"	28° 22' 01.52"
	91° 00' 12.79"	28° 22' 02.23"
T46	91° 00' 10.61"	28° 21' 58.11"
	91° 00' 08.56"	28° 21' 57.24"
	91° 00' 06.88"	28° 21' 51.58"
T47	91° 00' 04.70"	28° 21' 53.15"
	91° 00' 02.08"	28° 21' 52.29"

TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE
T48	90° 59' 59.96"	28° 21' 55.80"
	90° 59' 57.80"	28° 21' 57.48"
	90° 59' 55.15"	28° 21' 56.61"
T49	91° 00' 01.10"	28° 22' 00.74"
	90° 59' 58.45"	28° 21' 59.87"
	91° 00' 08.91"	28° 22' 01.44"
T50	91° 00' 08.73"	28° 22' 03.01"
	91° 00' 04.08"	28° 22' 02.15"
	91° 00' 12.71"	28° 22' 06.66"
T51	91° 00' 10.53"	28° 22' 08.34"
	91° 00' 07.89"	28° 22' 07.37"
	91° 00' 07.02"	28° 22' 16.59"
T52	91° 00' 04.85"	28° 22' 18.17"
	91° 00' 02.20"	28° 22' 17.30"
	91° 00' 07.05"	28° 22' 11.24"
T53	91° 00' 04.87"	28° 22' 12.81"
	91° 00' 02.22"	28° 22' 11.95"
	91° 00' 04.14"	28° 22' 08.27"
T54	91° 00' 01.86"	28° 22' 07.89"
	90° 59' 59.31"	28° 22' 06.98"
	90° 59' 56.09"	28° 22' 00.35"
T55	90° 59' 53.91"	28° 22' 01.51"
	90° 59' 51.28"	28° 22' 01.51"
	90° 59' 58.75"	28° 22' 03.85"
T56	90° 59' 48.57"	28° 22' 03.43"
	90° 59' 45.82"	28° 22' 04.56"
	90° 59' 55.30"	28° 22' 06.62"
T57	90° 59' 53.62"	28° 22' 06.18"
	90° 59' 50.97"	28° 22' 07.33"
	90° 59' 57.35"	28° 22' 11.15"
T58	90° 59' 55.17"	28° 22' 12.75"
	90° 59' 52.52"	28° 22' 11.89"
	91° 00' 00.50"	28° 22' 15.23"
T59	90° 59' 58.33"	28° 22' 16.80"
	90° 59' 55.68"	28° 22' 15.94"

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE
648 CAJUNDOME BLVD., SUITE 400
LAFAYETTE, LA 70506

DRAWN BY: SHANE FAUST

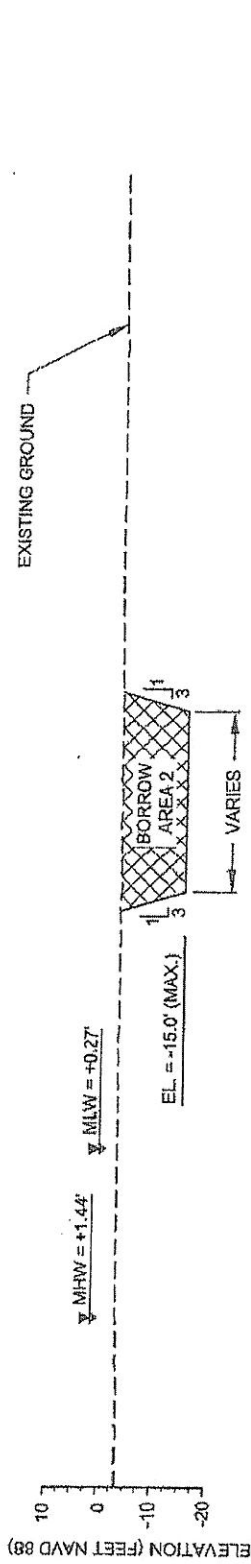
COASTAL PROTECTION AND RESTORATION AUTHORITY
410 LAUREL STREET
BATON ROUGE, LOUISIANA 70801
DESIGNED BY: TRAVIS BYLAND, E.I.
APPROVED BY: JASON LANGLOS, P.E.

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

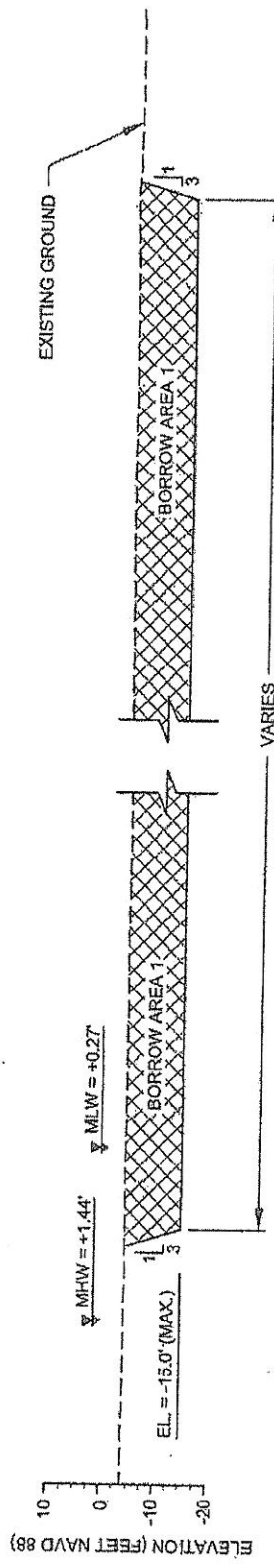
STATE PROJECT NUMBER: TE-72
FEDERAL PROJECT NUMBER: TE-72

TERRACE COORDINATES

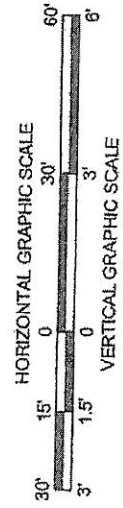
DATE: NOVEMBER 2012
SHEET 8 OF 26



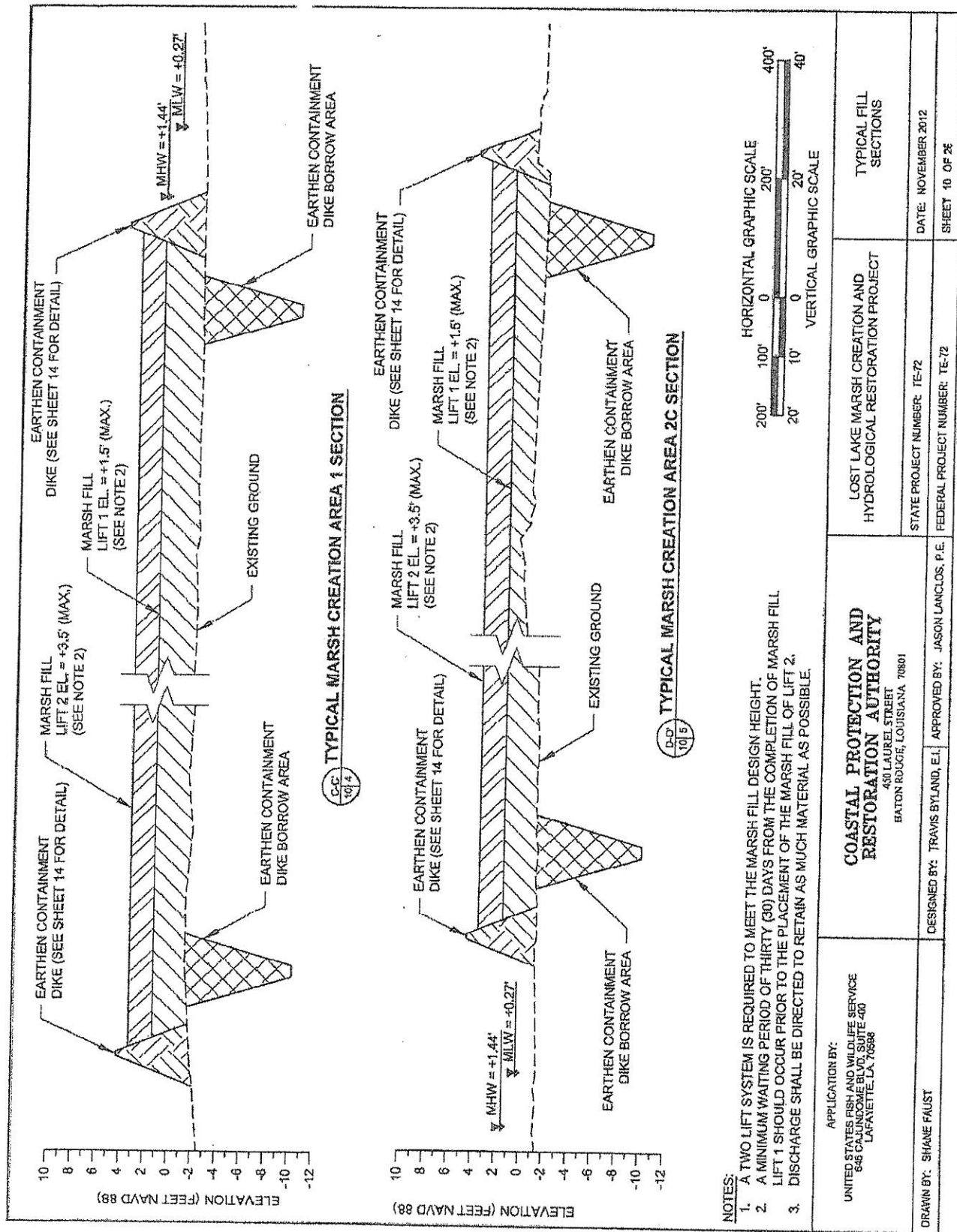
AA' 9/3
TYPICAL BORROW AREA 2 SECTION



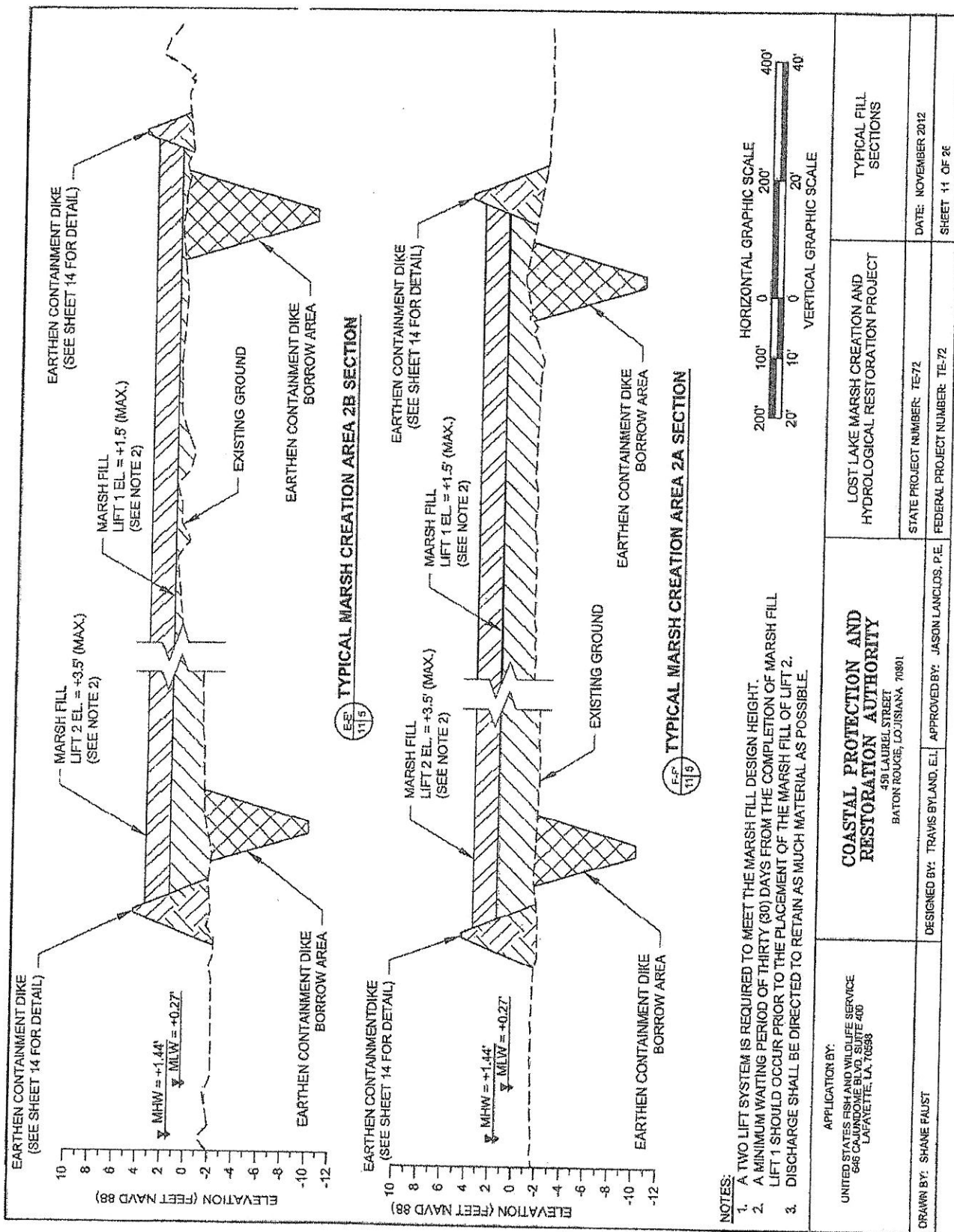
BB' 9/3
TYPICAL BORROW AREA 1 SECTION



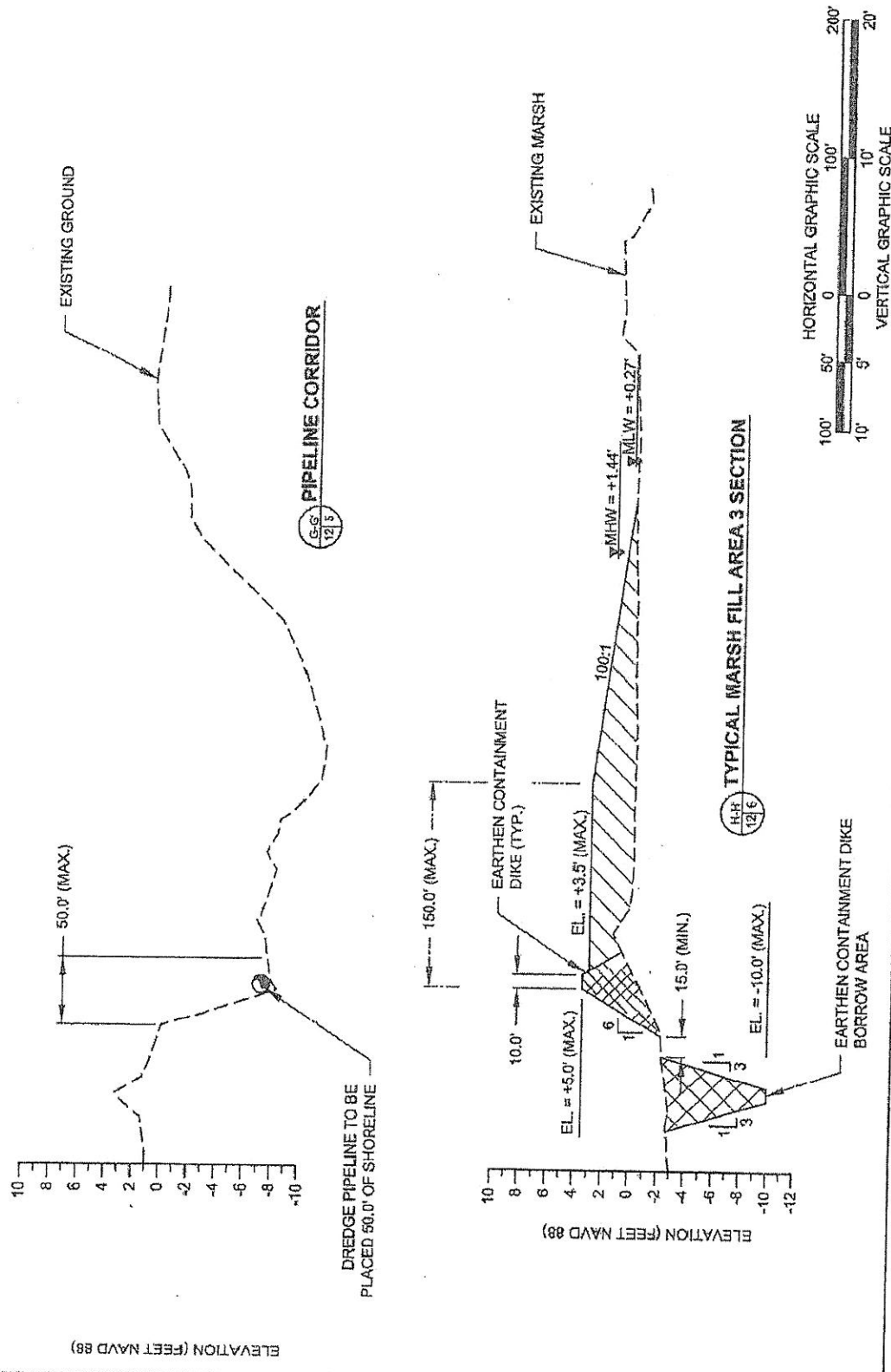
APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 846 CAJUNDOME BLVD SUITE 400 LAFAYETTE, LA 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	TYPICAL BORROW SECTIONS DATE: NOVEMBER 2012 SHEET 9 OF 25
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I.	APPROVED BY: JASON LANGLOS, P.E.	



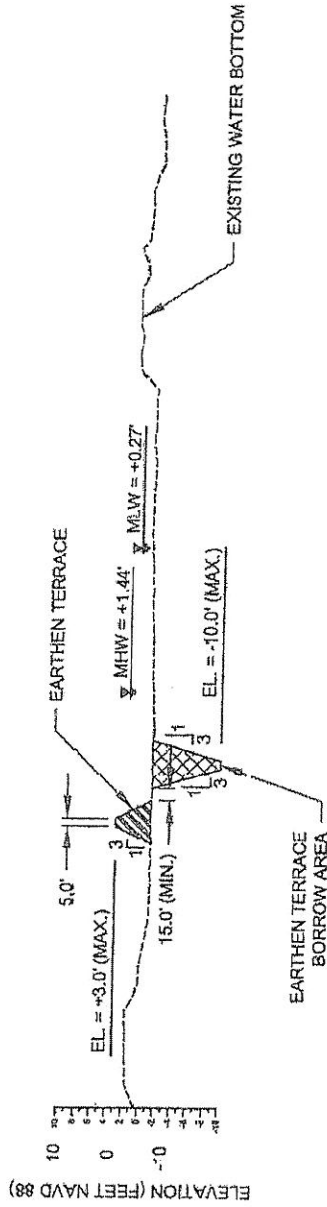
APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CALUMNOME BLVD, SUITE 400 LAFAYETTE, LA 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	TYPICAL FILL SECTIONS
	DESIGNED BY: TRAVIS SYLAND, E.I. APPROVED BY: JASON LANCIOS, P.E.	DATE: NOVEMBER 2012 SHEET 10 OF 26		



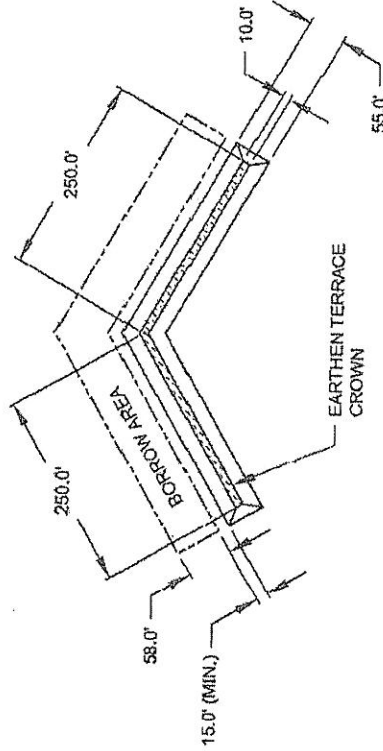
APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70503	COASTAL PROTECTION AND RESTORATION AUTHORITY 438 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT	TYPICAL FILL SECTIONS
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.L.	STATE PROJECT NUMBER: TE-72	DATE: NOVEMBER 2012
	APPROVED BY: JASON LANCLOS, P.E.	FEDERAL PROJECT NUMBER: TE-72	SHEET 11 OF 26



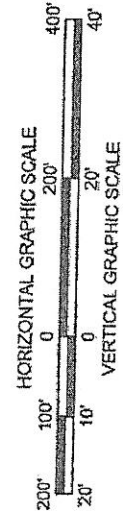
APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD, SUITE 400 LAFAYETTE, LA 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 430 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT	TYPICAL PIPELINE CORRIDOR AND FILL SECTION
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANGLOS, P.E.	STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	DATE: NOVEMBER 2012 SHEET 12 OF 26



TYPICAL EARTHEN TERRACE SECTION

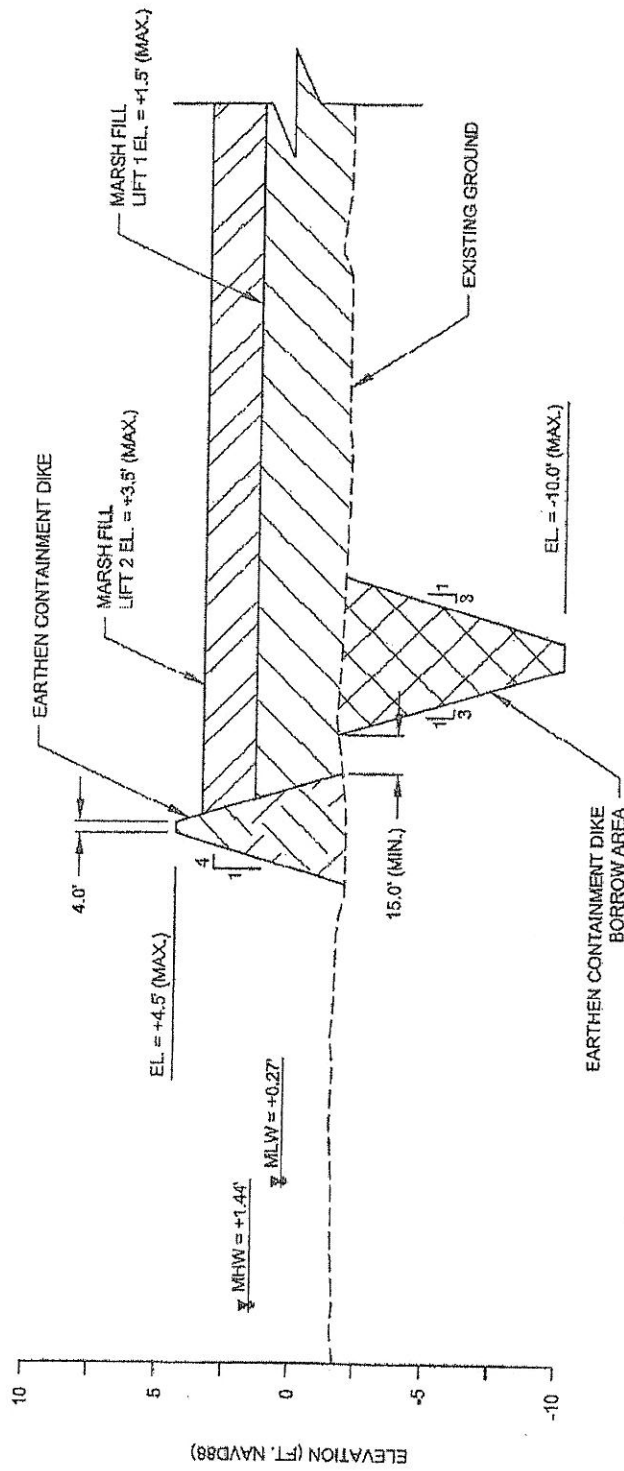


NOTE:
EXACT LOCATION OF THE EARTHEN TERRACES SHALL
BE DETERMINED ON SITE AND WILL NOT DISTURB ANY
EXISTING MARSH.



TYPICAL EARTHEN TERRACE
PLAN VIEW

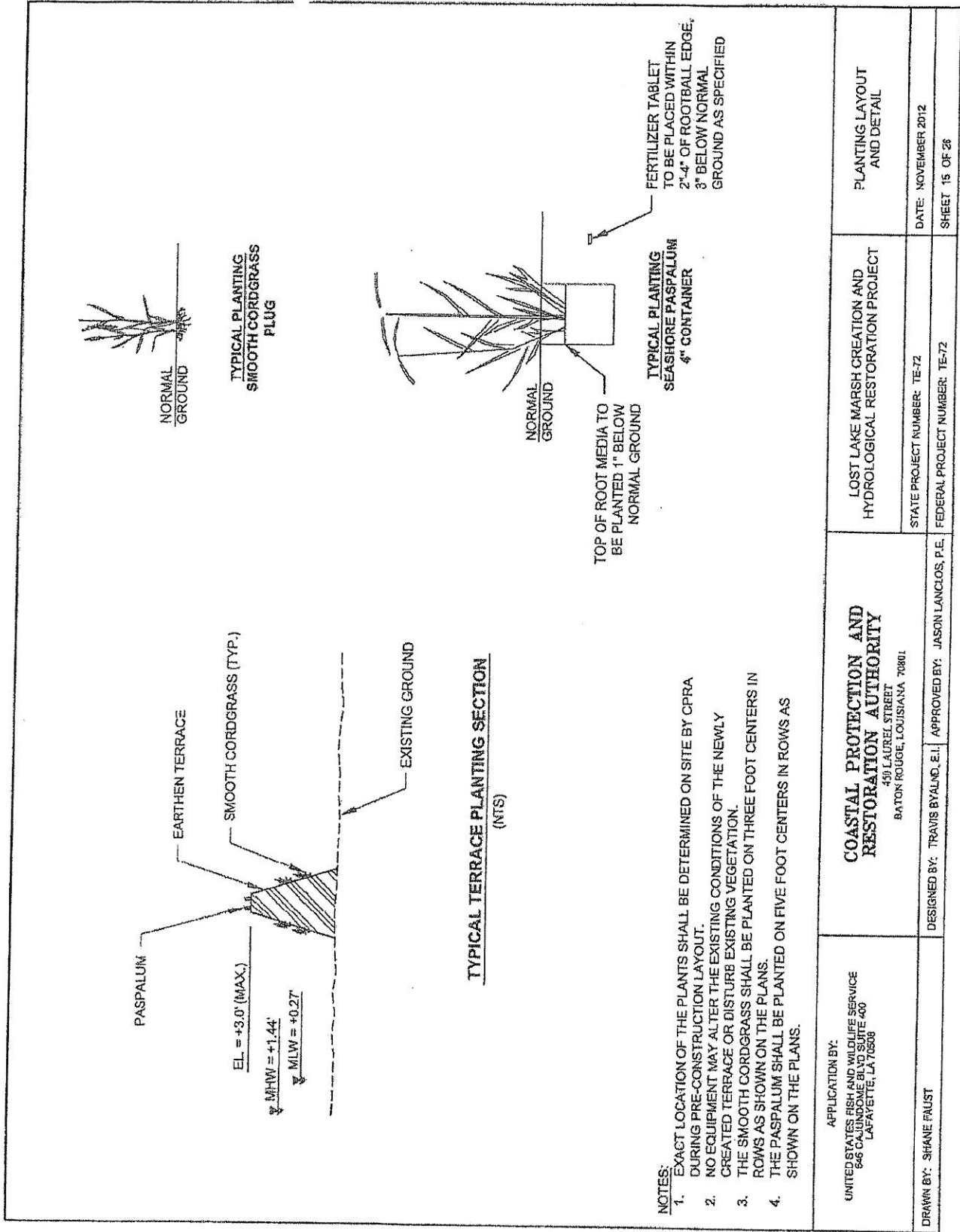
APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 645 CAJUNDOME BLVD, SUITE 400 LAFAYETTE, LA 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 430 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT	TYPICAL EARTHEN TERRACE SECTION
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I.	STATE PROJECT NUMBER: TE-72	DATE: NOVEMBER 2012
	APPROVED BY: JASON LANCLOS, P.E.	FEDERAL PROJECT NUMBER: TE-72	SHEET 13 OF 28



MARSH CREATION AREAS 1, 2A, 2B, 2C & 3
EARTHEN CONTAINMENT DIKE
 DETAIL

- NOTES:
1. CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL.
 2. NO DREDGING WILL BE ALLOWED WITHIN 15.0' OF THE CONTAINMENT DIKE TO EARTHEN CONTAINMENT DIKE BORROW AREAS.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 646 CALUMBOE BLVD, SUITE 400 LAFAYETTE, LA 70503	COASTAL PROTECTION AND RESTORATION AUTHORITY 430 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	MARSH CREATION DETAIL DATE: NOVEMBER 2012 SHEET 14 OF 28
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS SYLAND, E.I. APPROVED BY: JASON LANCLOS, P.E.		



NOTES:

1. EXACT LOCATION OF THE PLANTS SHALL BE DETERMINED ON SITE BY CPRA DURING PRE-CONSTRUCTION LAYOUT.
2. NO EQUIPMENT MAY ALTER THE EXISTING CONDITIONS OF THE NEWLY CREATED TERRACE OR DISTURB EXISTING VEGETATION.
3. THE SMOOTH CORDGRASS SHALL BE PLANTED ON THREE FOOT CENTERS IN ROWS AS SHOWN ON THE PLANS.
4. THE PASPALUM SHALL BE PLANTED ON FIVE FOOT CENTERS IN ROWS AS SHOWN ON THE PLANS.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 846 CAJUNDOME BLVD SUITE 400 LAFAYETTE, LA 70508	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72	PLANTING LAYOUT AND DETAIL DATE: NOVEMBER 2012 SHEET 15 OF 28
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYALIND, E.I.	APPROVED BY: JASON LANCLOS, P.E.	

[illegible]



THIS DOCUMENT IS NOT TO BE USED FOR
CONSTRUCTION, BUILDING, RECONSTRUCTION,
CONVEYANCE, RULKS OR AS THE BASIS
FOR THE ISSUANCE OF A PERMIT

				COASTAL PROTECTION AND RESTORATION AUTHORITY 800 N. LAKE CHARLES SUITE 100 LAFAYETTE, LOUISIANA 70501		PORT LAKE MARCH CREATION AND ENVIRONMENTAL RESTORATION STATE PROJECT NUMBER: 1-2-2 FEDERAL PROJECT C/A NUMBER: R-27 DATE: NOVEMBER 2012 SHEET: 19 OF 30		SITE WC-1 STRUCTURE DETAIL
DATE	11/15/12	DRAWN BY	AM/EL	CHECKED BY	AM/EL			
NO.	47							

NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE, ACTUAL LEGAL OWNERSHIPS, SERVITUDES, EASEMENTS, RIGHTS-OF-WAY OR OTHER BURDENS ON THE PROPERTY.

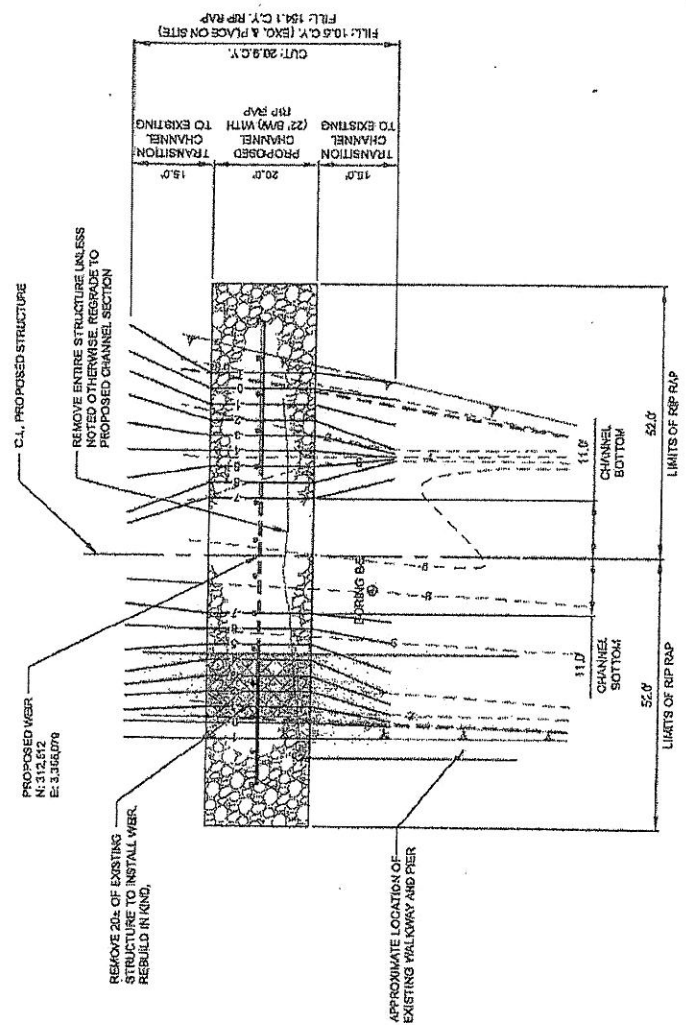
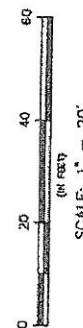
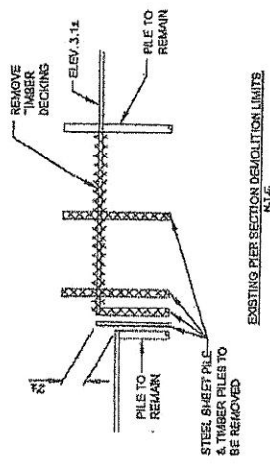
EXISTING TOPOGRAPHIC SURVEY PERFORMED BY PETERSON & COOMBS INC. DATED MAY 2011

DATA NOTE: ALL ELEVATIONS ARE IN NAVD 83 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE IN REFER TO THE ELEVATION VIEW ON SHEET 10 FOR ADDITIONAL INFORMATION.

NON-REGISTERED WATER BOTTOM			
0.08 AC.	20.5 C.Y.	EXCAVATION	
0.08 AC.	10.5 C.Y.	IN-SET FILL	
0.08 AC.	104.1 C.Y.	ROCK/RIP RAP	

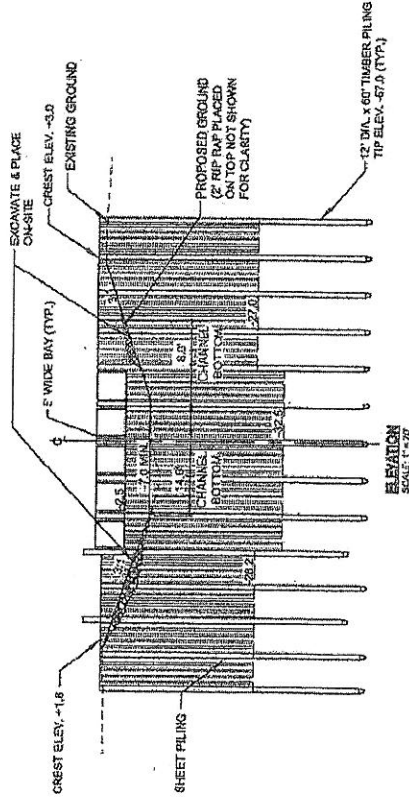
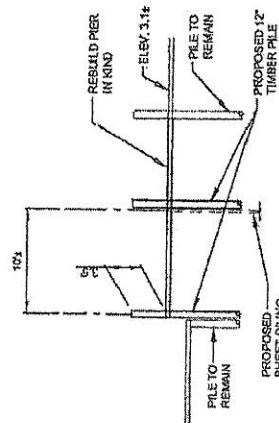
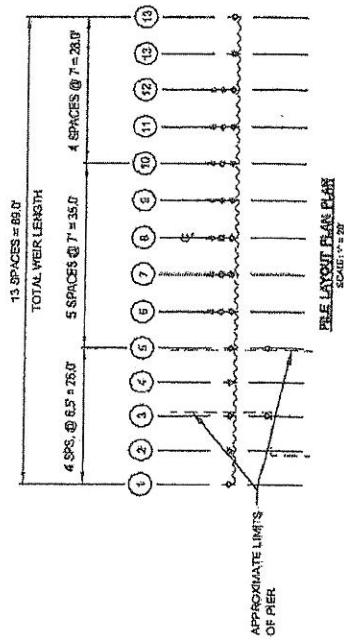
- LEGEND:
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - EXISTING TOP OF BANK
 - PROPOSED WEIR
 - PROPOSED RIP RAP 2' THICK (MIN.)
 - EXISTING WEIR TO BE REMOVED




THE ENGINEER IS NOT TO BE USED FOR ANY OTHER PROJECTS WITHOUT THE WRITTEN CONSENT OF THE ENGINEER. ANY SUCH USE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER IS A VIOLATION OF THE PROFESSIONAL ETHICS OF THE ENGINEER.

		COASTAL PROTECTION AND RESTORATION AUTHORITY 405 LAKE ELLIOTT 40700 ELLIOTT, LA 70006		LOST LAKE MARSH CREATION AND HYDRAULIC RESTORATION STATE PROJECT NUMBER: 12-2 FEDERAL PROJECT NUMBER: 10-2		SITE WCA PLAN VIEW	
DATE	05/20/2011	DESIGNED BY	AMER	APPROVED BY	AMER	DATE	05/20/2011
BY	AMER	DATE	05/20/2011	BY	AMER	DATE	05/20/2011

NOTE: ALL ELEVATIONS ARE NAVD 83 IN US FEET
 MAX = 1.44 FT.
 MIN = 0.27 FT.



THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, DESIGN, OR INSTALLATION OF ANY STRUCTURE OR EQUIPMENT WITHOUT THE SIGNATURE OF THE DESIGNER FOR THE PURPOSE OF A PERMIT.

 SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 18400 Lakeside Highway Baton Rouge, Louisiana 70804		COASTAL PROTECTION AND RESTORATION AUTHORITY BUREAU OF COASTAL PROTECTION 1000 Poydras Street, Suite 2000 New Orleans, Louisiana 70112		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT NUMBER: 10-22 FEDERAL PROJECT NUMBER: 10-22 APPROVED BY: [Signature]	SITE WC-4 STRUCTURE DETAIL DATE: 10/11/2020 SHEET 1 OF 2
DATE: 10/11/2020	SCALE: 1" = 20'	0	20	40	60

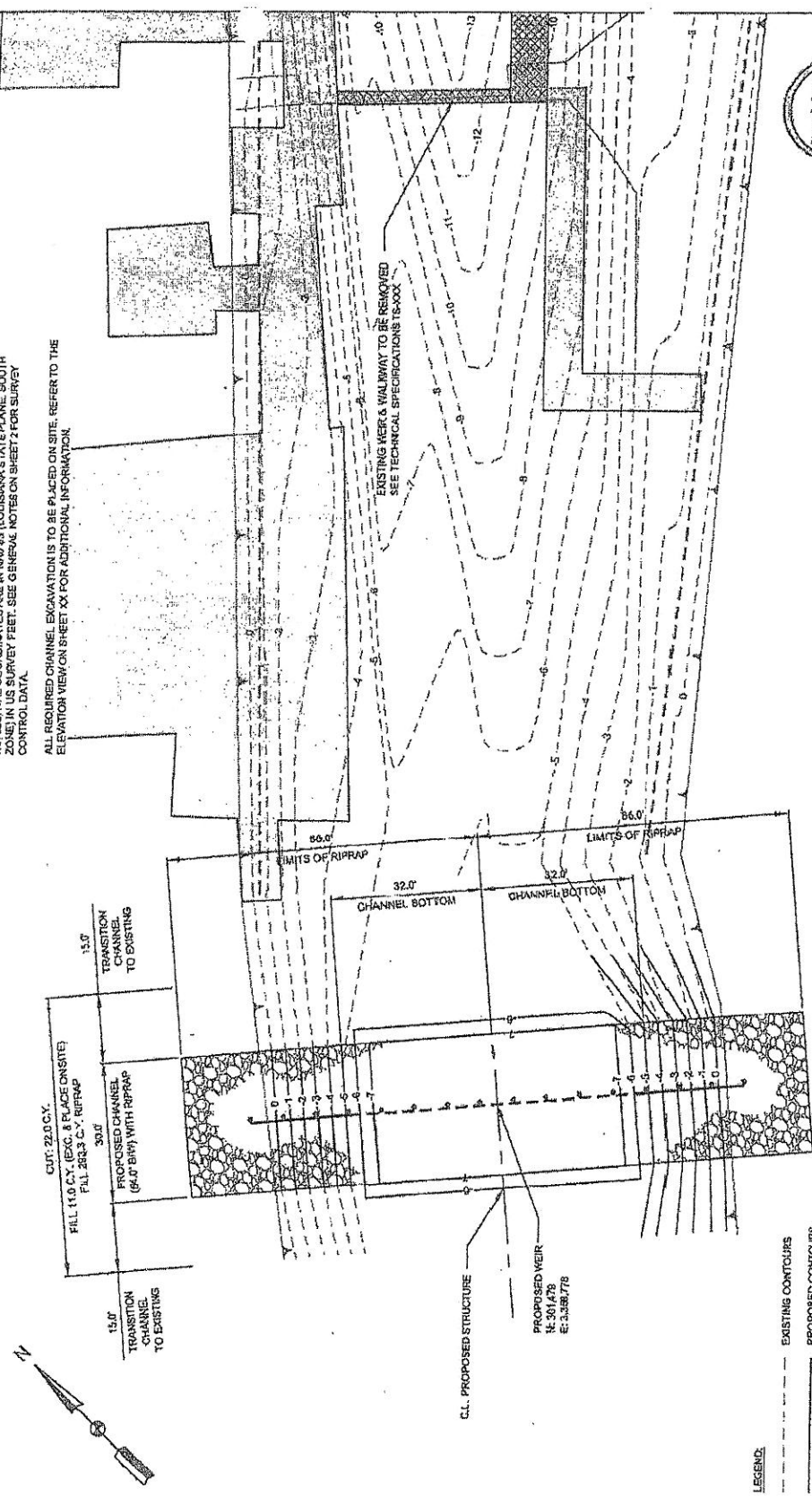
NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE, LEGAL OWNERSHIP, EASEMENTS, RIGHTS-OF-WAY, OR OTHER BUNDLES ON THE PROPERTY.

EXISTING TOPOGRAPHIC SURVEY PERFORMED BY PVLBEN & JOHNSON MAY 2011

DATUM NOTE: ALL ELEVATIONS ARE IN NAVD 83 IN 'S SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE) IN 'S SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE. REFER TO THE ELEVATION VIEW ON SHEET XX FOR ADDITIONAL INFORMATION.

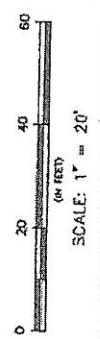
NON-VEGETATED WATER BOTTOM	
0.8 AC	22.0 C.Y.
EXCAVATION	
0.8 AC	11.0 C.Y.
INST. FILL	
0.8 AC	22.0 C.Y.
ROCK RIPRAP	



THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION, EROSION, OR ANY OTHER PURPOSE WITHOUT THE SIGNATURE OF A PROFESSIONAL ENGINEER.

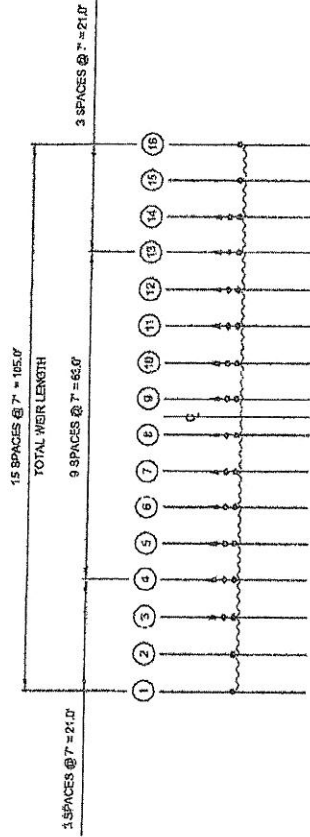
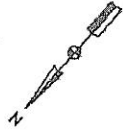
SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 1000 Lakeshore Boulevard Baton Rouge, Louisiana 70801		COASTAL PROTECTION AND RESTORATION AUTHORITY 401 LAUREL STREET BATON ROUGE, LOUISIANA 70801		PROJECT NO.: 10000 SHEET NO.: 10000-1	
PROJECT NAME: LOST LAKE MARSH RESTORATION AND HYDROLOGIC RESTORATION SITE NO.: 10000-1		PROJECT NO.: 10000 SHEET NO.: 10000-1		DATE: 10/10/2011	
PROJECT NO.: 10000 SHEET NO.: 10000-1		PROJECT NO.: 10000 SHEET NO.: 10000-1		DATE: 10/10/2011	

- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - EXISTING TOP OF BANK
 - PROPOSED WEIR
 - PROPOSED RIPRAP 2' THICK (MIN.)
 - EXISTING WEIR TO BE REMOVED

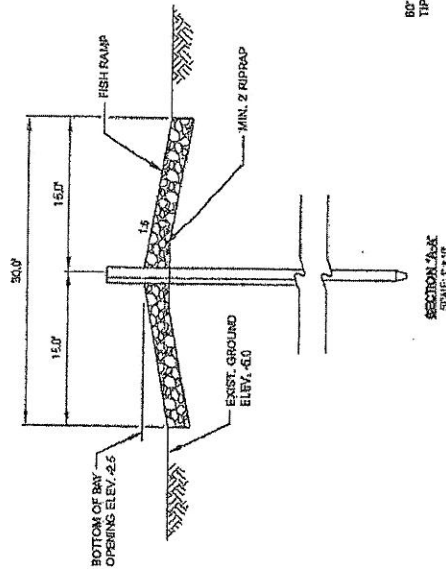


SITE NOTES

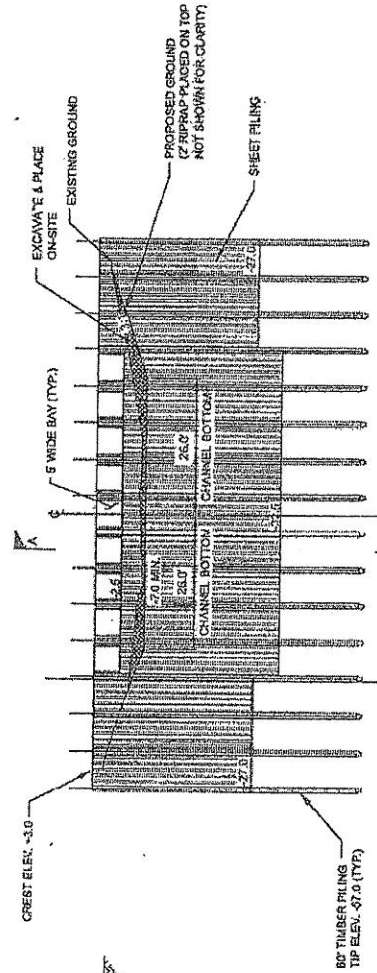
1. DATUM NOTE: ALL ELEVATIONS ARE NAVD 83 IN US FEET
MHW = 1.44 FT.
MLW = 0.27 FT.
2. FOR STRUCTURAL DETAILS AND NOTES OF TIEB PILING, SEE SHEET 14.
3. CHANNEL EXCAVATION SHALL CONFORM TO TECHNICAL SPECIFICATION TS-XXX.
4. RIPRAP SHALL BE 50 LB. CLASS AND CONFORM TO SECTION 711 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES AS PUBLISHED BY THE STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, 2005 EDITION.
5. ONE (1) PERMANENT WARNING SIGN SHALL BE INSTALLED ON EACH SIDE OF THE STRUCTURE. FOR WARNING SIGN DETAILS AND NOTES, SEE SHEET 14.



PILE LAYOUT PLAN
SCALE: 1" = 20'



SECTION A-A
SCALE: 1" = 10'

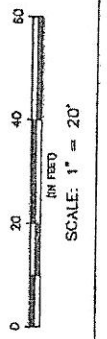


ELEVATION
SCALE: 1" = 20'



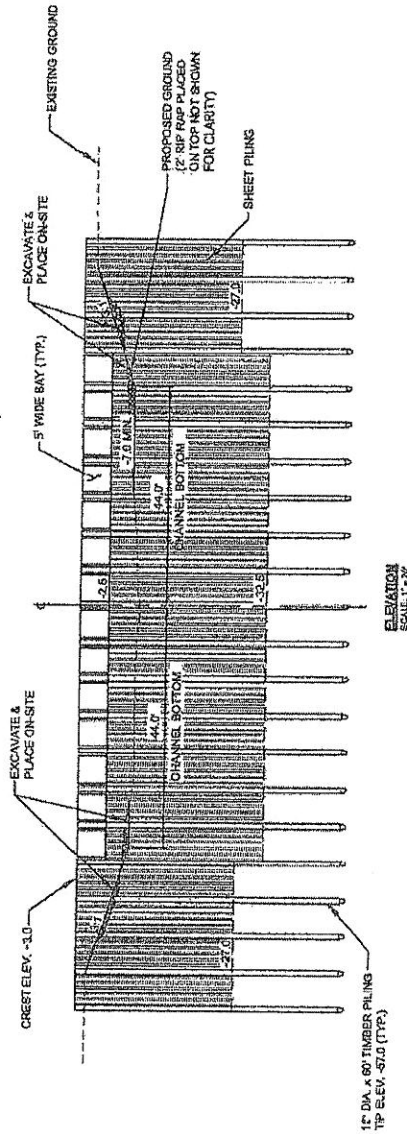
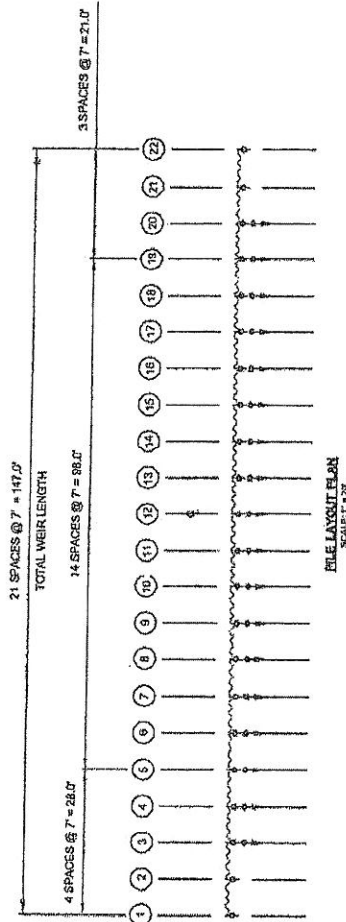
THIS DOCUMENT IS NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THE ENGINEER. THE ENGINEER ASSUMES NO LIABILITY FOR THE RESULTS OF A PROJECT.

0		20		40		60	
IN FEET							
SCALE: 1" = 20'							
REV		AND		DISCREPANCY		DATE	



SCALE: 1" = 20'

NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET
 MHHW = 1.48 FT.
 MLLW = 0.27 FT.



THIS DOCUMENT IS NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THE ENGINEER. BASED ON THE BASIS OF THE INFORMATION PROVIDED.

<div><div><div>0</div><div>20</div><div>40</div><div>EQ</div></div><div><div></div><div>(IN FEET)</div><div></div></div></div> <div>SCALE: 1" = 20'</div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE, ACTUAL LEGAL OWNERSHIP, EASEMENTS, EASEMENTS, RIGHTS-OF-WAY, OR OTHER BURDENS ON THE PROPERTY.

EXISTING TOPOGRAPHIC SURVEY PERFORMED BY SIGMA CONSULTING GROUP, INC. ON AUGUST 21, 2012

DATUM NOTE: ALL ELEVATIONS ARE IN NAVD 83 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

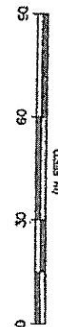
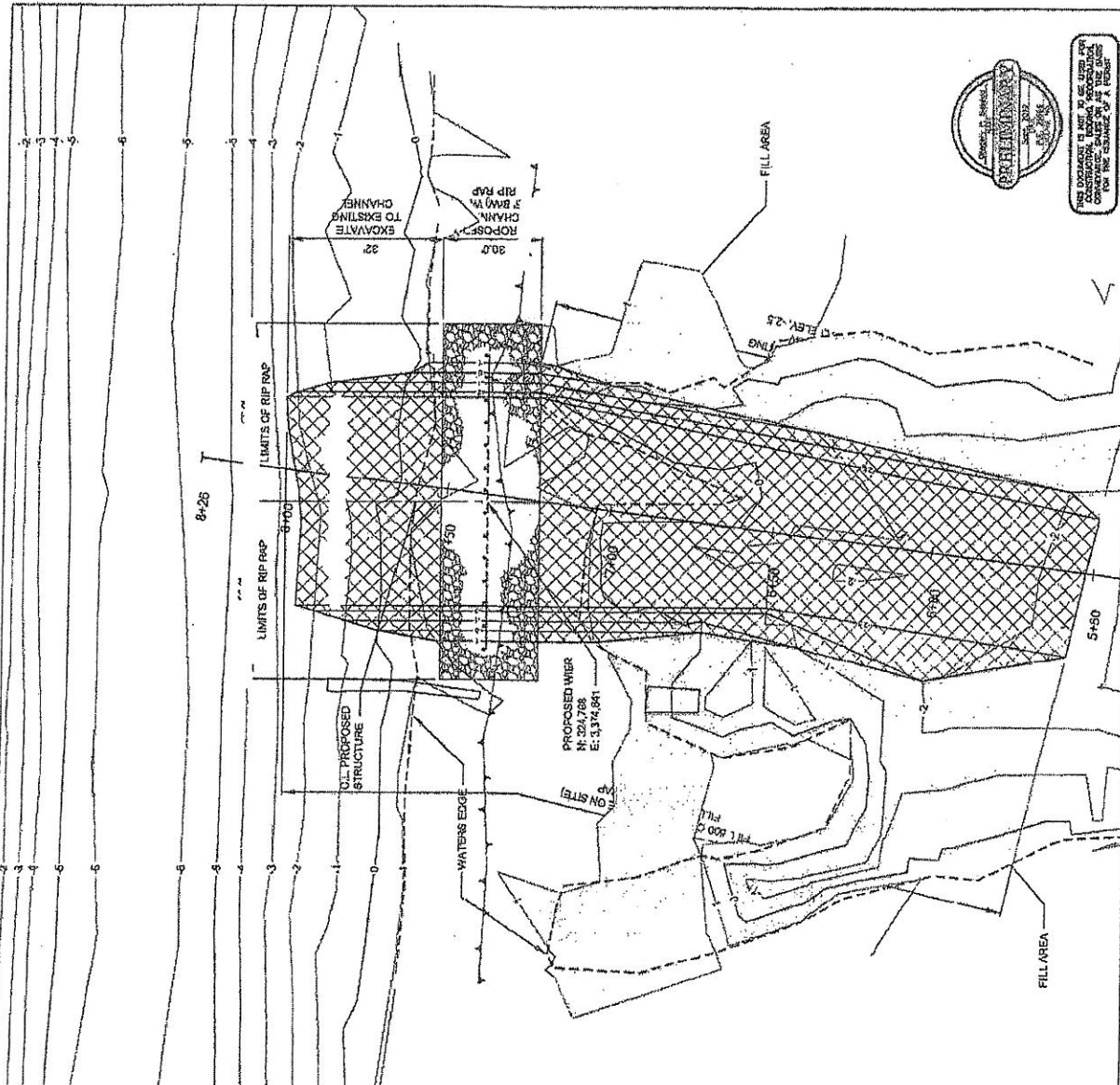
SOIL BORING 8-20 MAY BE REFERENCED FOR THIS LOCATION.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE IN AREAS DESIGNATED. REFER TO THE ELEVATION VIEW ON SHEET XX FOR ADDITIONAL INFORMATION.

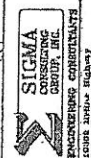
NON-VEGETATED WATER BOTTOM	
0.20 AC.	1,000.0 C.Y. EXCAVATION
0.28 AC.	500.0 C.Y. IN-SITU FILL
0.08 AC.	244.4 C.Y. ROCK/RIP RAP

LEGEND:

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TOP OF BANK
- PROPOSED WEIR
- PROPOSED RIP RAP 2' THICK (MIN)
- EXCAVATION AREA
- FILL AREA



SCALE: 1" = 30'



COASTAL PROTECTION AND RESTORATION AUTHORITY

LAST LARG MARE CREATION AND HYDROBATIC RESTORATION

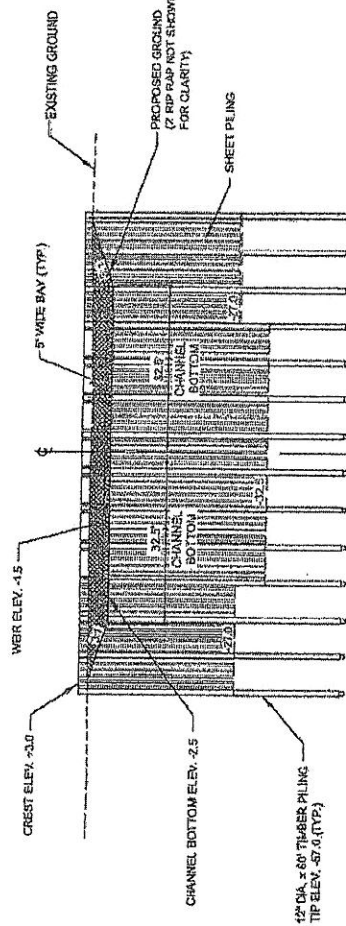
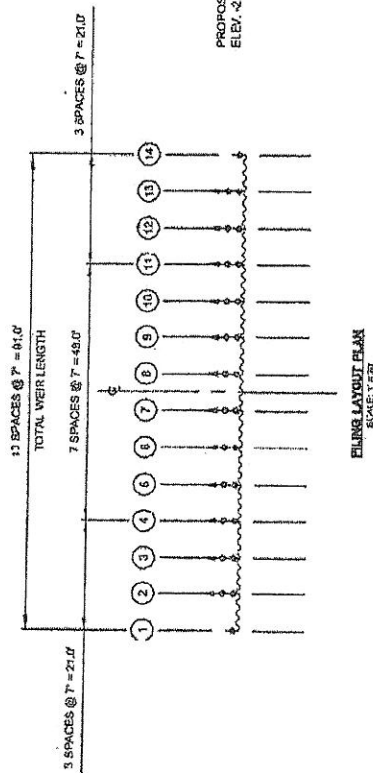
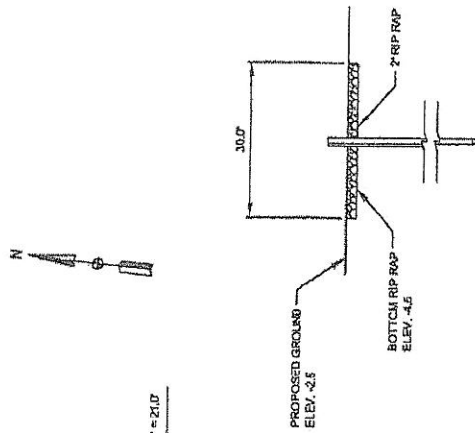
SITE-1 PLAN VIEW

STATE PROJECT NUMBER: TL-2
 FEDERAL AGENCY: ARMY
 APPROVED BY: [Signature]
 DATE: NOV 2014
 SHEET 24 OF 24



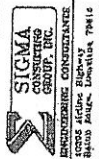
THIS DOCUMENT IS NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF SIGMA CONSULTING GROUP, INC.

NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET.
 1000' = 1.44 FT.
 1000' = 0.27 FT.



ELEVATION
 SCALE: 1" = 20'


THIS DOCUMENT IS NOT TO BE USED FOR
 ANY OTHER PROJECTS WITHOUT THE WRITTEN
 PERMISSION OF THE ENGINEER.
 FOR THE TRIMMING OF A POINT



**COASTAL PROTECTION AND
 RESTORATION AUTHORITY**
 400 ALABAMA AVE.
 BAYTOWN, ALABAMA 36520

**LOST LAKE MARSH CREATION
 AND HYDROLOGIC RESTORATION**
 STATE PROJECT NUMBER: 10-2
 FEDERAL PROJECT NUMBER: 10-2
 APPROVAL DATE: 12/10/20

**STE-1
 STRUCTURE DETAIL**
 DATE: 12/10/20
 SHEET: 2 OF 2

DATE	2/14/2014	BY	DR
 SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 10000 W. 10th Avenue, Suite 100 Denver, CO 80202			
SHEET 01 OF 01 PROJECT: 14-001-001 CLIENT: U.S. ARMY CORPS OF ENGINEERS LOCATION: 14-001-001			
COASTAL PROTECTION AND RESTORATION AUTHORITY SPECIAL REGULATION 64 USC 3201-3203, 3205-3206			
PREPARED BY: J. L. JONES CHECKED BY: J. L. JONES APPROVED BY: J. L. JONES DATE: 1/14/2014			
TYPICAL DETAILS			



DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS

P. O. BOX 60267

NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO

ATTENTION OF:

Operations Division
Western Evaluation Section

NOV 24 2014

SUBJECT: MVN-2011-00954-WPP

United States Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, Louisiana 70506

Gentlemen:

Additional drawings attached in four sheets, furnished with your letter dated August 13, 2014, requesting modification of the previously permitted Lost Lake Marsh Creation Project, in Terrebonne Parish, Louisiana, are approved and will be included in your plans for the work authorized by the Secretary of the Army in the permit dated February 24, 2014, from the District Engineer at New Orleans, Louisiana.

All other conditions to which the work is made subject remain in full force and effect.

A copy of this permit approval letter must be conspicuously displayed at the project site. Also, you must keep a copy of this signed letter, with attached drawings, at the project site until the work is completed.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

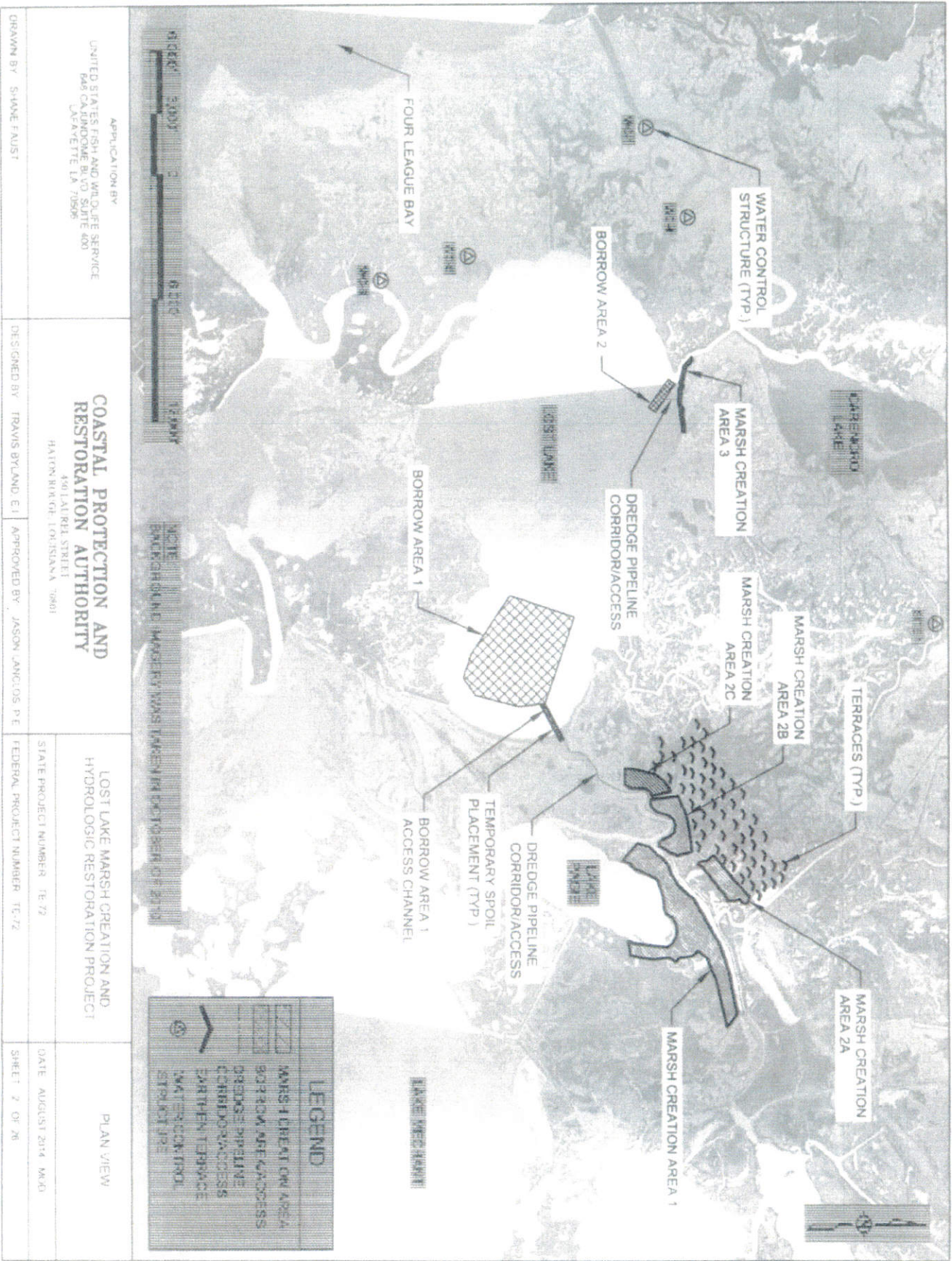
Martin S. Mayer
Chief, Regulatory Branch
for
Richard L. Hansen
Colonel, US Army
District Commander

Enclosure

CPRA

2014 NOV 26 P 2:33

RECEIVED



APPLICATION BY UNITED STATES FISH AND WILDLIFE SERVICE 645 CALIFORNIA BLVD SUITE 400 LAVERGNE LA 70506		DESIGNED BY TRAVIS BYLAND, E.I. APPROVED BY JASON LAMCLOS, P.E.	
COASTAL PROTECTION AND RESTORATION AUTHORITY 490 LAUREL STREET HATON BOROGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT	
DRAWN BY SHANE FAUST		STATE PROJECT NUMBER TE-72	DATE AUGUST 2014 MWD
		FEDERAL PROJECT NUMBER TE-72	SHEET 2 OF 26
		PLAN VIEW	

BORROW AREA 2 COORDINATES

POINT	LONGITUDE	LATITUDE
1	91° 04' 32.76"	29° 21' 22.59"
2	91° 04' 30.08"	29° 21' 25.85"
3	91° 04' 14.61"	29° 21' 16.33"
4	91° 04' 17.45"	29° 21' 13.01"

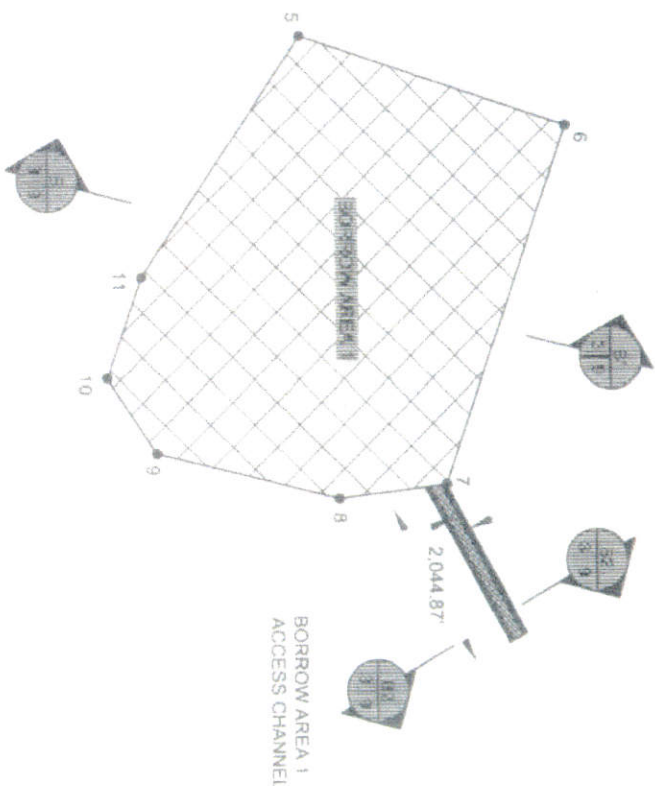
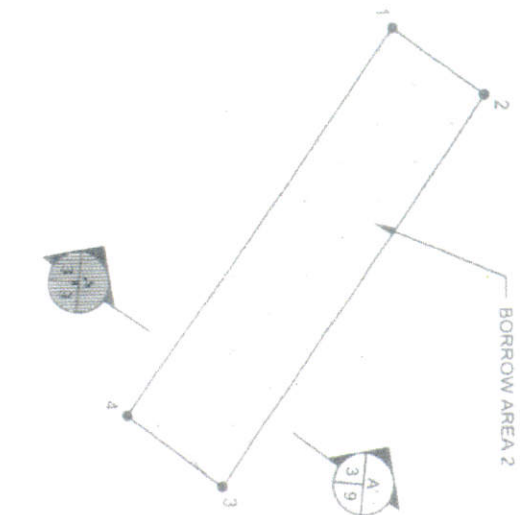


BORROW AREA 1 COORDINATES

POINT	LONGITUDE	LATITUDE
5	91° 02' 34.57"	29° 20' 04.59"
6	91° 02' 22.29"	29° 20' 35.93"
7	91° 01' 34.65"	29° 20' 21.47"
8	91° 01' 32.94"	29° 20' 08.76"
9	91° 01' 39.14"	29° 19' 47.45"
10	91° 01' 49.24"	29° 19' 41.70"
11	91° 02' 02.72"	29° 19' 45.78"



TEMPORARY SPOIL
PLACEMENT (TYP.)



NOTES:
1. BORROW AREA 1 CONTAINS APPROXIMATELY 7,400,000 CUBIC YARDS OF MATERIAL.
2. BORROW AREA 2 CONTAINS APPROXIMATELY 2,000,000 CUBIC YARDS OF MATERIAL.



APPLICATION BY

UNITED STATES FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD. SUITE 400
LAFALETTE, LA 70506

**COASTAL PROTECTION AND
RESTORATION AUTHORITY**

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND
HYDROLOGIC RESTORATION PROJECT

BORROW AREA
LAYOUT

STATE PROJECT NUMBER TE-72

DATE: AUGUST 2014 MOD

FEDERAL PROJECT NUMBER TE-72

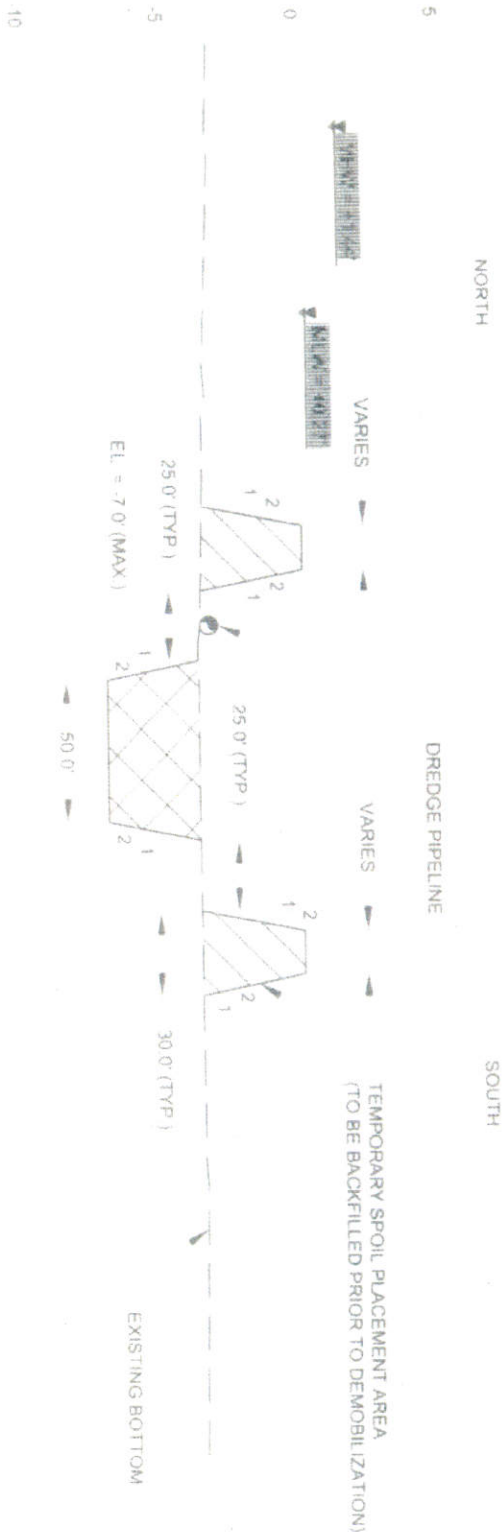
SHEET 3 OF 28

DRAWN BY SHANE FAUST

DESIGNED BY S. HAYNES, P.E.

APPROVED BY RUSS JOFFRON, P.E.

ELEVATION (FEET NAVD 88)



32-BZ
411

BORROW AREA 1 ACCESS CHANNEL TYPICAL SECTION

- NOTES
- 1 ACCESS CHANNEL DREDGED VOLUME = 20,775.51 CUBIC YARDS
 - 2 TEMPORARY SPOIL WILL BE BACKFILLED PRIOR TO ACCESS CHANNEL PRIOR TO DEMOBILIZATION



APPLICATION BY

UNITED STATES FISH AND WILDLIFE SERVICE
646 CALJINDOME BLVD. SUITE 400
LAFALETTE, LA 70506

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

STATE PROJECT NUMBER 1E-72

FEDERAL PROJECT NUMBER 1E-72

BORROW AREA LAYOUT

DATE AUGUST 2014 MOD

SHEET 9 OF 26

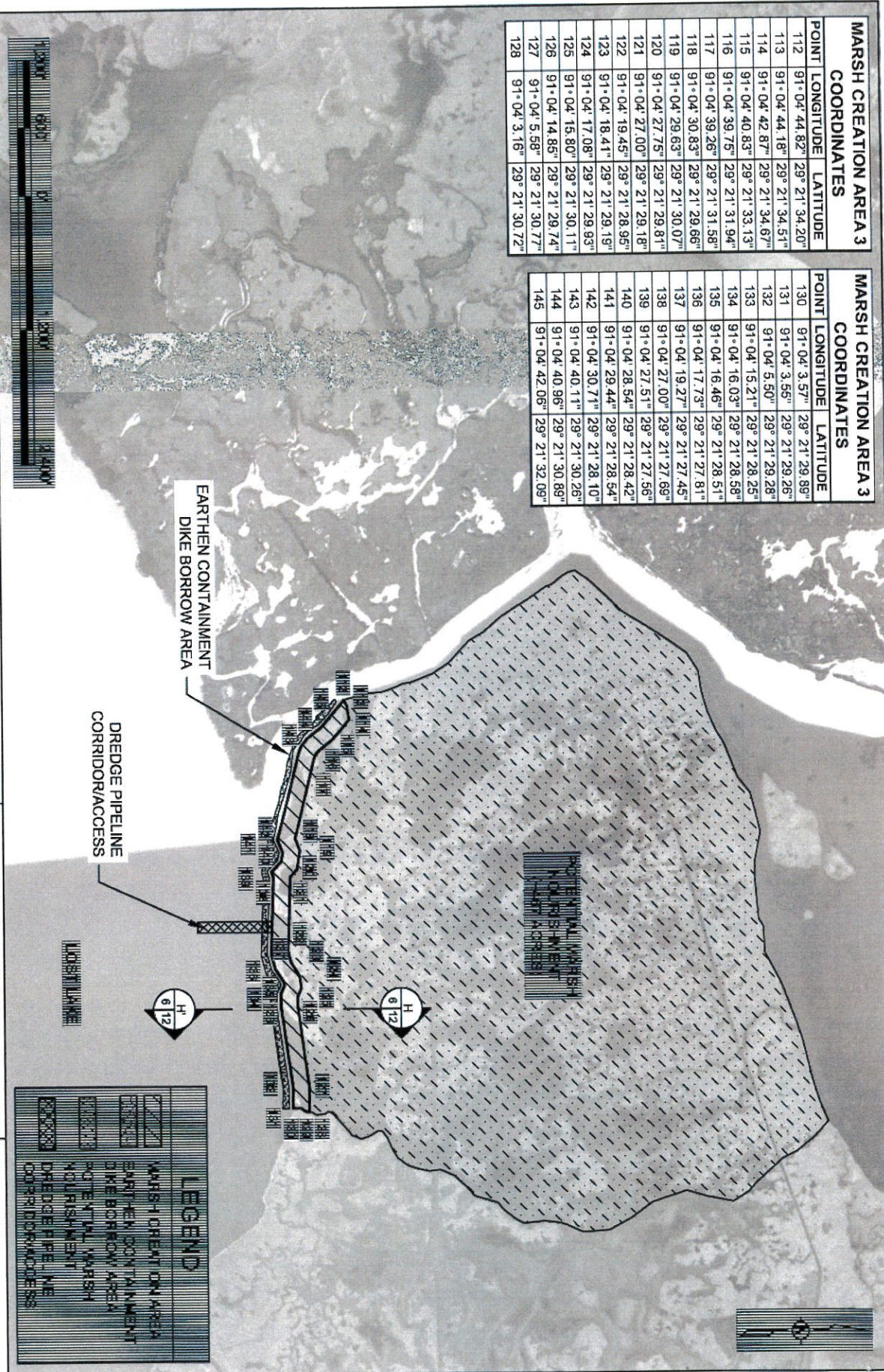
DRAWN BY SHANE FAUST

DESIGNED BY S. HAYNES, P.E.

APPROVED BY RUSS JOFFRION, P.E.

MARSH CREATION AREA 3 COORDINATES	
POINT	LONGITUDE LATITUDE
112	91° 04' 44.82" 29° 21' 34.20"
113	91° 04' 44.18" 29° 21' 34.51"
114	91° 04' 42.87" 29° 21' 34.67"
115	91° 04' 40.83" 29° 21' 33.13"
116	91° 04' 39.75" 29° 21' 31.94"
117	91° 04' 39.26" 29° 21' 31.58"
118	91° 04' 30.83" 29° 21' 29.66"
119	91° 04' 29.63" 29° 21' 30.07"
120	91° 04' 27.75" 29° 21' 29.81"
121	91° 04' 27.00" 29° 21' 29.18"
122	91° 04' 19.45" 29° 21' 28.95"
123	91° 04' 18.41" 29° 21' 29.19"
124	91° 04' 17.08" 29° 21' 29.93"
125	91° 04' 15.80" 29° 21' 30.11"
126	91° 04' 14.85" 29° 21' 29.74"
127	91° 04' 5.58" 29° 21' 30.77"
128	91° 04' 3.16" 29° 21' 30.72"

MARSH CREATION AREA 3 COORDINATES	
POINT	LONGITUDE LATITUDE
130	91° 04' 3.57" 29° 21' 29.89"
131	91° 04' 3.55" 29° 21' 29.26"
132	91° 04' 5.50" 29° 21' 29.28"
133	91° 04' 15.21" 29° 21' 28.25"
134	91° 04' 16.03" 29° 21' 28.58"
135	91° 04' 16.46" 29° 21' 28.51"
136	91° 04' 17.73" 29° 21' 27.81"
137	91° 04' 19.27" 29° 21' 27.45"
138	91° 04' 21.00" 29° 21' 27.69"
139	91° 04' 27.51" 29° 21' 27.56"
140	91° 04' 28.54" 29° 21' 28.42"
141	91° 04' 29.44" 29° 21' 28.54"
142	91° 04' 30.71" 29° 21' 28.10"
143	91° 04' 40.11" 29° 21' 30.26"
144	91° 04' 40.96" 29° 21' 30.89"
145	91° 04' 42.06" 29° 21' 32.09"



APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 846 CALADUNE BLVD SUITE 400 LAFALETTE, LA 70508		DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCIOS, P.E.		DATE: AUGUST 2014 -MOD SHEET 6 OF 26	
COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT STATE PROJECT NUMBER: TE-72 FEDERAL PROJECT NUMBER: TE-72		MARSH CREATION AREA 3 LAYOUT	
DRAWN BY: SHANE FAUST					

BOBBY JINDAL
GOVERNOR



STEPHEN CHUSTZ
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

April 30, 2015

Sydney Dobson
Coastal Protection and Restoration Authority
P. O. Box 44027
Baton Rouge, LA 70804-4027

RE: **C20130034 mod 03**, Coastal Zone Consistency Modification
USFWS
Direct Federal Action
Lost Lake Marsh Creation and Hydrologic Restoration CWPPRA Project TE-72:
Modifications to enlarge access channel to Borrow Area 1 and to build containment dikes
in Marsh Creation Area 3
Terrebonne Parish, Louisiana

Dear Mr. Dobson:

The above referenced project has been reviewed for consistency with the Louisiana Coastal Resources Program (LCRP) in accordance with Section 307 (c) of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in the application, is consistent with the LCRP.

If you have any questions concerning this determination please contact Jeff Harris of the Consistency Section at (225) 342-7949.

Sincerely,

/S/ Don Haydel

Acting Administrator
Interagency Affairs/Field Services Division

DH/jdh

cc:

Dave Butler, LDWF
James Miller, Terrebonne Parish
Rod Pierce, OCM FI

BOBBY JINDAL
GOVERNOR



STEPHEN CHUSTZ
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

November 9, 2015

Sydney Dobson, Agent for U. S. Fish and Wildlife Service
Coastal Protection and Restoration Authority
PO Box 44027
Baton Rouge, LA 70804-4027
Via e-mail: Sydney.Dobson@LA.GOV

RE: **C20130034 mod 04**, Coastal Zone Consistency Modification
USFWS
Direct Federal Action
Lost Lake Marsh Creation and Hydrologic Restoration CWPPRA Project TE-72:
Modification to add new marsh creation areas
Terrebonne Parish, Louisiana

Dear Mr. Dobson:

The above referenced project has been reviewed for consistency with the Louisiana Coastal Resources Program in accordance with Section 307 (c) of the Coastal Zone Management Act of 1972, as amended. The project, as proposed in the application, is consistent with the LCRP. If you have any questions concerning this determination please contact Jim Bondy of the Consistency Section at (225) 342-3870 or 1-800-267-4019.

Sincerely yours,

/S/ Don Haydel
Acting Administrator
Interagency Affairs/Field Services Division

DH/SK/jab

cc: Jeffrey Weller, USFWS
Dave Butler, LDWF
Rod Pierce, OCM FI
James Miller, Terrebonne Parish

TE-0072 Lost Lake Marsh Creation and Hydrologic Restoration

Attachment VI

Operations, Maintenance and Rehabilitation Budget

ATTACHMENT VI

OPERATION AND MAINTENANCE BUDGET

TE-72 LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT

FEDERAL SPONSOR: U.S. Fish and Wildlife Service

PROJECT FEATURES

- 5 water control structures
- 10 warning signs
- 30,000 linear feet of earthen terraces
- 442 acres marsh creation/nourishment

OPERATION AND MAINTENANCE / REHABILITATION ASSUMPTIONS

The operation, rehabilitation budget for the Lost Lake Marsh Creation and Hydrologic Restoration Project (TE-72) was based on the following assumption:

Years 1 through 20 - Perform annual project inspections.

Years 1 through 20 - Operate 5 structures bi-annually (spring and fall)

Years 7 and 14 - Maintenance of five (5) water control structures

Note: Earthen Terraces and Marsh Creation components of the project will not require maintenance.

OPERATION AND MAINTENANCE CONSIDERATIONS

(Based on a 20 year project life; costs include inflation)

A. ANNUAL INSPECTIONS (State and Federal): **\$ 124,000**
(\$6,200 for 20 Years)
(1-day field trip including, boat, equipment, and report)

B. ANNUAL COST OF OPERATIONS: **\$1,156,240**
(Years 2014 through 2034):

1. Structure Operations:	\$ 54,540
(2012 price level)	
2. OCPR Administration	\$ <u>3,272</u>
(6% x Construction)	
	\$ 57,812 (Annually)

Total Operations Cost for 20 Years: \$1,156,240

C. USFWS Administration Costs (20 years): **\$ 65,440**
(6% x Operations = \$3,272 annually; \$65,440 (20 Years))

D. COSTS FOR MAINTENANCE PROJECT AT YEAR 7 (2021)

Construction:

1. Mobilization/Demobilization: \$ 250,000
(\$250,000)

2. Sign Replacement: \$ 20,000
(10 each @ \$2,000/ea.)

3. Structure Maintenance \$ 150,000
(5 structures @ \$30,000/structure)

Construction Total: \$420,000

Contingency (25%) \$105,000
\$525,000

Total construction cost (2012 price level) **\$ 525,000**

4. CPRA Administration **\$ 21,000**
(4% x Construction Cost)

5. Engineering Consultant Design, Survey and Inspection: **\$ 99,104**

Basic Services: \$ 39,236
(Calculated using ASCE log scale as per PPL 21)

Surveying: \$ 10,818
(3 days @ \$3,606/day)

Construction Inspection: \$ 49,050
(30 days @ \$1,635/day)

6. USFWS Administration **\$ 24,964**
(4% x Construction Cost)

TOTAL COST FOR MAINTENANCE AT YEAR 7 (2021)	\$ 670,068
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E. COSTS FOR MAINTENANCE PROJECT AT YEAR 14 (2028)

Construction:

1. Mobilization/Demobilization: (\$250,000)	\$ 250,000
2. Sign Replacement: (10 each @ \$2,000/ea.)	\$ 20,000
3. Structure Maintenance (5 structures @ \$30,000/structure)	\$ 150,000
Construction Total:	\$420,000
Contingency (25%)	<u>\$105,000</u> \$525,000
Total construction cost (2012 price level)	\$ 525,000
4. CPRA Administration (4% x Construction Cost)	\$ 21,000
5. Engineering Consultant Design, Survey and Inspection:	\$ 99,104
Basic Services: (Calculated using ASCE log scale as per PPL 21)	\$ 39,236
Surveying: (3 days @ \$3,606/day)	\$ 10,818
Construction Inspection: (30 days @ \$1,635/day)	\$ 49,050
6. USFWS Administration (4% x Construction Cost)	\$ 24,964

TOTAL COST FOR MAINTENANCE AT YEAR 7 (2021)	\$ 670,068
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**OPERATION, MAINTENANCE AND REHABILITATION (O&M) BUDGET
SUMMARY – TE-72 LOST LAKE MARSH CREATION AND HYDROLOGIC
RESTORATION PROJECT**

Total Estimated O&M Budget (Does not include inflation):	\$2,685,816
CWPPRA Approved O&M Budget	\$

TE-0072 Lost Lake Marsh Creation and Hydrologic Restoration

Attachment VII Operations of Structures

LOCATION OF STRUCTURES TO BE OPERATED

A. Water Control Structure 1	N 29°21'12.64"	W 91°06'50.09"
B. Water Control Structure 4	N 29°21'32.81"	W 91°06'00.95"
C. Water Control Structure 5	N 29°19'43.43"	W 91°05'42.22"
C. Water Control Structure 6	N 29°19'02.65"	W 91°05'27.73"
D. Water Control Structure Site 1	N 29°23'33.37"	W 91°02'17.42"

STRUCTURE OPERATION SCHEDULE

Special Condition 12 of USACE MVN-2011-00954-WPP states:

“To allow water levels to be maintained during the waterfowl season, stoplogs may be placed in the water control structure bays from November 1 to January 31. Stoplogs will be placed no higher than elevation 0.0 ft. NAVD88 to maintain interior marsh water levels. At all other times of the year, all stoplogs will be removed.”

Stoplogs shall refer to the aluminum panels. The structure operation schedule consists of removing the aluminum panels within five (5) calendar days of January 31 and installing the aluminum panels within five (5) calendar days of November 1. Between January 31 and November 1 the panels shall be stored offsite as described in section 4.20.

DELIVERABLES

- Condition of water control structures and panels w/ photos.
- Description of structures in need of maintenance.
- Date and time of structure operations and weather conditions.
- Personnel and equipment on-site.
- Water levels on either side of structure.
- Person contacted for permission to access site.
- A copy of field notebook records.
- Confirmation of storage of aluminum panels in secure facility.