

OPERATION AND MAINTENANCE PLAN FOR BAYOU BONFOUCA MARSH CREATION PROJECT (PO-0104)



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Prepared by:
Coastal Protection and Restoration Authority
New Orleans Regional Office
New Orleans, Louisiana

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History of Revisions

05/10/2021 Draft O&M Plan submitted for internal CPRA review.
06/23/2021 Draft O&M Plan submitted to USFWS for review.

OPERATION AND MAINTENANCE PLAN FOR BAYOU BONFOUCA MARSH CREATION PROJECT (PO-0104)

The Coastal Protection and Restoration Authority (CPRA) and the Fish and Wildlife Service (FWS) agree to carry out the terms of this Operation and Maintenance Plan (hereinafter referred to as the Plan) of the accepted, completed project features in accordance with the CPRA Cost Share Agreement No. 2511-12-01 dated March 14, 2011 and amended on August 9, 2013 and the related letter agreement dated December 12, 2013 (Attachment I).

This plan includes all features of the Bayou Bonfouca Marsh Creation Project. CPRA intends to use this plan to maintain the project in a condition that will generally provide the anticipated benefits on which the project was based.

Construction of the Bayou Bonfouca Marsh Creation Project was authorized by Section 303(a) of Title III Public Law 101-646, the Coastal Wetlands Planning Protection and Restoration act (CWPPRA) enacted on November 29, 1990 as amended. The Bayou Bonfouca Marsh Creation Project was approved on the 20th Priority Project List.

A site map of the Bayou Bonfouca Marsh Creation Project identifying all of the project features is shown in Attachment II.

1. PROJECT DESCRIPTION, PURPOSE, AND LOCATION

The Bayou Bonfouca Marsh Creation Project is located in the Lake Pontchartrain Basin along the northeastern shoreline of Lake Pontchartrain. The primary goal of PO-104 was to re-create and nourish approximately 620 acres of low-salinity brackish marsh in open waters adjacent to Bayou Bonfouca with dredged sediment from Lake Pontchartrain. To accomplish this, earthen containment dikes were constructed on the perimeter of the marsh creation areas and a slurry of hydraulically dredged sediment was placed within the earthen containment dikes to a specified construction fill elevation of +2.5' to +2.7' NAVD 88. The project also includes three small (4 acre) ponds: one in Marsh Creation Area (MCA) 1 and two in MCA 2. These ponds will maintain a hydraulic connection with Bayou Bonfouca and other surrounding waters via tidal creeks.

The Project has a twenty-year (20 year) economic life, which began in 2018.

The principal project features include the following:

1.1. Marsh Creation Areas

The project includes 608 acres of low salinity brackish marsh in four marsh creation cells adjacent to the northeastern shore of Lake Pontchartrain. Fill material hydraulically dredged from the lake bottom borrow area was pumped into these cells and contained by approximately 58,000 linear feet of containment dikes. Along Lake Pontchartrain, the earthen containment dikes were armored with approximately 1,560 linear feet of Articulated Concrete Mats.

1.2. Marsh Nourishment Areas

Because of a combination of a low bid price and shearing/bulking of native soils, CPRA modified the plans to incorporate marsh nourishment outside of the marsh creation areas. Dredged sediment nourished 848 acres of broken marsh outside the containment limits. Due to the material stacking up, a large portion of this acreage will become intertidal marsh habitat.

1.3. Interior Ponds

The project includes three interior ponds in MCA 1 and MCA 2. Dredged material was used to fill these ponds to an elevation of +1.7' NAVD 88, one foot below the adjacent marsh creation elevation. A fourth pond was originally planned, also in MCA 1, but too much material was allowed into the pond containment, and as such, the fourth pond was not constructed.

2. **CONSTRUCTION COMPLETION**

The Bayou Bonfouca Marsh Creation Project Completion Report and As-Built drawings are 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 benefited acres, construction cost and CWPPRA project estimates, construction oversight costs, construction activities and change orders, pipeline and utility crossing owner information, and other significant milestone dates and comments.

The project As-Built construction drawings are updated with all field changes and modifications that occurred.

Containment dikes were gapped and tidal creeks excavated under a separate contract during the construction phase of the project. The Project Completion Report for this contract is also included in Attachment III.

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 IV. Provisions for renewal of certain Federal and State Permits may be required.

4. **ITEMS REQUIRING MAINTENANCE AND REHABILITATION**

The following completed project features, as accepted by FWS and CPRA, will require maintenance, repair, and/or rehabilitation (unless otherwise noted) throughout the 20-year life of the project:

Settlement Plates

The project includes a total of 5 traditional settlement plates and 3 instrumented settlement plates. Settlement plates were installed inside the marsh creation fill areas and on the earthen containment dikes as shown on the Plans. Data will be collected from the instrumented settlement plates during project inspections. No topographical surveys of the top of the settlement plates are required by this O&M Plan.

Uncontained Marsh Fill Areas

Because of the unique construction methods used in the uncontained marsh fill areas, it is of particular interest to CPRA to collect survey data in these areas. The uncontained marsh fill areas will be surveyed at years 5, 10, and 15 to document the conditions of the uncontained fill. The surveys at years 5 and 10 will follow the same transects as the post-construction survey. The surveys at year 15 will cover a subset of these transects.

5. OPERATION AND MAINTENANCE BUDGET

The costs associated with Operations and Maintenance of the project features outlined in Section 4 for the twenty (20) year project life are included and summarized in Attachment V.

6. STRUCTURE OPERATIONS

There are no operable project structures (Attachment VI is intentionally blank).

7. RESPONSIBILITIES - MAINTENANCE AND REHABILITATION

A. CPRA will:

1. In accordance with the Cost Sharing Agreement, assume all responsibilities for maintenance and rehabilitation of the accepted completed project features identified in Section 4.
2. Conduct joint site inspections with FWS of the project site at least once every 5 years and after major storm events if determined to be necessary by CPRA and/or FWS. CPRA will submit to FWS 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 an assessment of the urgency of such action.
3. Perform or have performed any corrective actions needed, if such corrections have been approved by CPRA or FWS. FWS 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 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 corrective action designs and specifications for review and concurrence by FWS. 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 FWS. Any plan and/or specification changes both before and after award of construction contracts, shall be approved by CPRA in coordination with FWS.

4. The representatives appointed above shall meet as necessary during the period of construction for corrective actions and shall make such recommendations as they deem necessary.
5. Provide a total contribution equal to the amount outlined in the Cost Share Agreement for the maintenance and rehabilitation cost needed for the 20-year life of the project.

B. FWS will:

1. Conduct joint inspections with CPRA of the project site at least once every 5 years and after major storm events if determined to be necessary by CPRA or FWS.
2. 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.
3. Provide a total contribution equal to the amount outlined in the Cost Share Agreement for the maintenance and rehabilitation cost needed for the twenty (20) year life of the project.
4. Conduct quarterly reviews of the State's progress against the goals and objectives of the Cooperative Agreement.

The undersigned parties, acting on behalf of their respective agencies, agree to maintain and rehabilitate the Bayou Bonfouca Marsh Creation Project (PO-0104) according to this document, referenced Cooperative Agreement, plans, and all applicable permits and laws.

UNITED STATES FISH AND WILDLIFE SERVICE

By: _____ Date: _____

Title: CWPPRA Program Coordinator

COASTAL PROTECTION AND RESTORATION AUTHORITY

By: _____ Date: _____

Title: Regional Operations Manager

ATTACHMENT I

BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)

COST SHARE AGREEMENT

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
BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)**

THIS AGREEMENT, 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") is effective as of the 14th day of March, 2011.


WITNESSETH, THAT:

WHEREAS, expenditure of Phase I funding for the Bayou Bonfouca Marsh Creation Project (PO-104) 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 2011; and,


WHEREAS, upon successful completion of Phase I, expenditure of Phase II funding for the Bayou Bonfouca Marsh Creation 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. 49:214.5.2 provides that the 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 PO-104 Bayou Bonfouca Marsh Creation Project. The PO-104 Project is located in St. Tammany Parish. The Project objectives are to restore marshes that were lost and/or damaged due to the effects of Hurricane Katrina. Restoring the marshes should reduce salinity effects on interior emergent marshes. Specific Phase 0 goals are to create 458 acres of intertidal emergent marsh in shallow open water and nourish 133 acres of fragmented and/or low marsh within the project area.

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 19, 2011; 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 19, 2011 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 proved 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 18 dated July 9, 2010).

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 \$2,567,244 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 \$385,087. 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 \$2,567,244 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 \$128,362. 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 19, 2011, 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.l. 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 there from.

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 Ecological Services 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 \$2,567,244. 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	\$ 1,809,853
2.	Easements and Landrights	\$ 50,896
3.	Federal S&A	\$ 372,708
4.	CPRA S&A	\$ 330,427
5.	U.S. Army Corps of Engineers Project Mgmt.	\$ 3,359
Total		<u>\$ 2,567,244</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 18 dated July 9, 2010).

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

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.

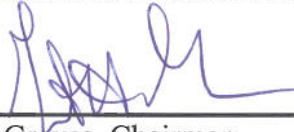
BAYOU BONFOUCA MARSH CREATION PROJECT PO-104

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

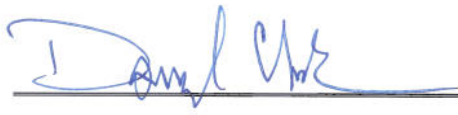
**U.S. DEPT. OF INTERIOR
FISH AND WILDLIFE SERVICE
SERVICE**

BY:  **DATE:** 3-14-11
Bradford S. Rieck,
Deputy Field Supervisor
Louisiana Ecological Services Office

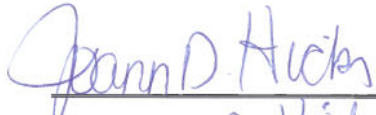
**STATE OF LOUISIANA
COASTAL PROTECTION AND
RESTORATION AUTHORITY**

BY:  **DATE:** 19 May 2011
Garret Graves, Chairman
Coastal Protection and
Restoration Authority

WITNESSES:


Dorey L. Clark (Print)
A. C. Trahan
Angela C. Trahan (Print)

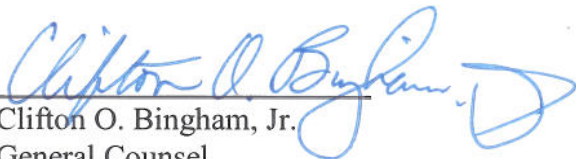
WITNESSES:


Joann D. Hicks (Print)
M. Nowlin
Matthew L. Nowlin (Print)

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 **BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)**, St. Tammany, 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 15th day of April, 2011.


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: 19th May 2011




Garret Graves, Chairman
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 14th day of March 2011, personally came and appeared Bradford S. Rieck who declared that he is the Deputy Field Supervisor 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.

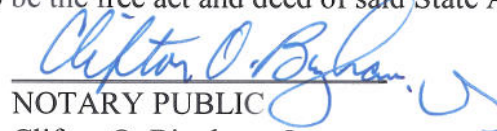

NOTARY PUBLIC
Notary ID 9237

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 19th day of May, 2011, 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
Clifton O. Bingham, Jr.
General Counsel
LA Bar No. 03052

My commission expires: with life
(SEAL)

CFMS # 705238
APPROVED UNDER OCP
SPECIAL DELEGATION

FWS Agreement No. _____
CPRA Agreement No. 2511-12-01
Amendment No. 1

Renita Hoskins

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

BAYOU BONFOUCA MARSH CREATION

PROJECT (PO-104)

Reference is made to **ARTICLE XX-AMENDMENTS TO BE IN WRITING**, of the Cost Sharing Agreement for the captioned Project entered into the 14th day of March, 2011, 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 Bayou Bonfouca Marsh Creation (PO-104) project was authorized by the Coastal Wetlands Planning, Protection, and Restoration Act Task Force (hereinafter referred to as "Task Force") in January 2011 as part of Priority Project List 20 (PPL 20); and,

WHEREAS, the agreement between FWS and CPRA entered into on the 14th of March, 2011 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 Bayou Bonfouca Marsh Creation (PO-104) 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 March 14, 2011 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 \$2,567,244 and a Phase II cost of \$ 25,456,740. 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 CPRA’s contribution for Phase I is \$385,087 and for Phase II is \$ 3,818,511, the total of which is \$ 4,203,598. 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 \$2,567,244 or the Phase II cost of \$ 25,456,740 are subject to amendment of this Agreement and Task Force approval, as provided in Article XIX of this agreement. The maximum amount of CPRA’s required minimum five percent (5%) cash contribution for Phase I is \$128,362 and Phase II is \$ 1,272,837. 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 14, 2011 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 \$ 2,567,244 and the Phase II at an estimated cost of \$ 25,456,740 for a total project cost of \$ 28,023,984. 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	\$	1,809,853
2.	Easements and Landrights	\$	50,896
3.	Federal S&A	\$	372,708
4.	CPRA S&A	\$	330,427
5.	U.S. Army Corps of Engineers Project Mgmt.	\$	<u>3,359</u>
Total Phase I		\$	2,567,244

PHASE II

1.	Construction	\$	18,937,491
2.	Construction supervision & inspection	\$	454,262
3.	Contingency	\$	4,734,373
4.	Landrights	\$	-0-
5.	FWS Administration	\$	377,926
6.	CPRA Administration	\$	335,053
7.	COE Project Management (Phase II Construction)	\$	1,759
8.	COE Project Management (Phase II Long Term)	\$	31,535
9.	Monitoring	\$	53,399
10.	Operation, Maintenance and Rehabilitation (State)	\$	406,150
11.	Operation, Maintenance and Rehabilitation (Federal)	\$	<u>124,793</u>
Total Phase II		\$	25,456,740"

BAYOU BONFOUCA MARSH CREATION PROJECT PO-104

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

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

BY: 

DATE: 10/25/13

Jeffrey D. Weller,
Supervisor
Louisiana Ecological Services
Office


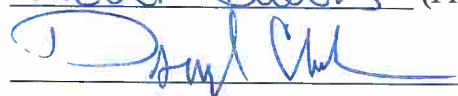
**STATE OF LOUISIANA
COASTAL PROTECTION AND
RESTORATION AUTHORITY BOARD**

BY: 

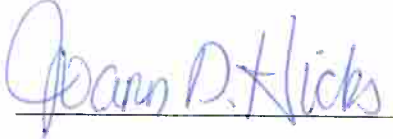
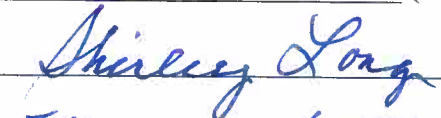
DATE: August 9, 2013

Garret Graves, Chairman
Coastal Protection and
Restoration Authority Board

WITNESSES:


Robert Dubois (Print)

Darryl Clark (Print)

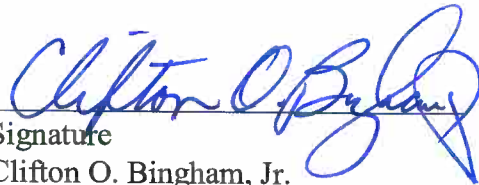
WITNESSES:


Joann D. Hicks (Print)

SHIRLEY LONG (Print)

CERTIFICATE OF AUTHORITY

I, Clifton O. Bingham, Jr., do hereby certify that I am the principal 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 in connection with the **BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)**, St. Tammany, 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

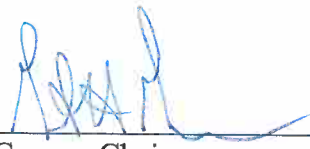
CERTIFICATION REGARDING LOBBYING

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 25th day of October 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)

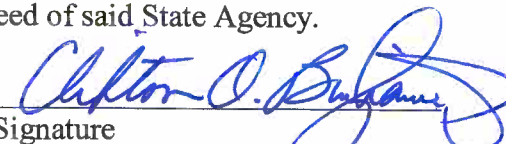
STATE OF LOUISIANA

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

BOBBY JINDAL
GOVERNOR

December 12, 2013

Mr. Jeffrey Weller
Supervisor
Louisiana Ecological Services Office
U.S. Fish and Wildlife Service
646 Cajundome Blvd
Suite 400
Lafayette, LA 70506

Dear Mr. Weller:

Please reference the Bayou Bonfouca Marsh Creation (PO-104) project, authorized under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), which was approved for engineering and design on the 20th Priority Project List. To implement that project, the United States Fish and Wildlife Service (USFWS) and the Coastal Protection and Restoration Authority (CPRA) entered into a cost sharing agreement (CSA) on March 14, 2011, and amended that agreement for construction on August 9, 2013.

Because certain funding categories (i.e., Monitoring and State Operations, Maintenance and Rehabilitation) require re-allocation, it is necessary to adjust funding amounts within those categories. The enclosed revised budget shows the existing and proposed cost-sharing agreement itemized costs for Phase I and Phase II. This adjustment revises costs among categories, but does not increase the total project cost (\$28,023,984) as defined in Article XIX.a. of Cost Share Agreement (CSA) Amendment No. 1. This action does not require approval of the Louisiana Coastal Wetlands Conservation and Restoration Task Force.


Confirmation and written approval of funding category revisions is, however, required by both USFWS and CPRA, according to Article XIX.b. of CSA Amendment No. 1. That article states, in part, "...FWS and DNR 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."

By this Letter Agreement, I am requesting your agreement and concurrence to make this funding adjustment so we can continue with the project and other work requirements. If you concur with this request, please indicate by signing in the space provided and returning one original signed copy to this office.

Mr. Jeffrey Weller
December 12, 2013
Page 2

Thank you for your consideration, and I look forward to continuing the partnership between the USFWS and CPRA with this and other jointly sponsored CWPPRA projects.

Sincerely,

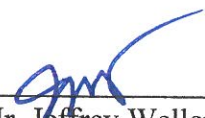


Garret Graves
Chairman
Coastal Protection and Restoration Authority

Enclosure

cc: Robert Dubois, Project Manager, USFWS
Cody Bruhl, Project Manager, CPRA-Contractor

Concur:



Mr. Jeffrey Weller
Supervisor
Louisiana Ecological Services Office
U.S. Fish and Wildlife Service

Date:

1/9/14

BAYOU BONFOUCA MARSH CREATION PROJECT
PO-104

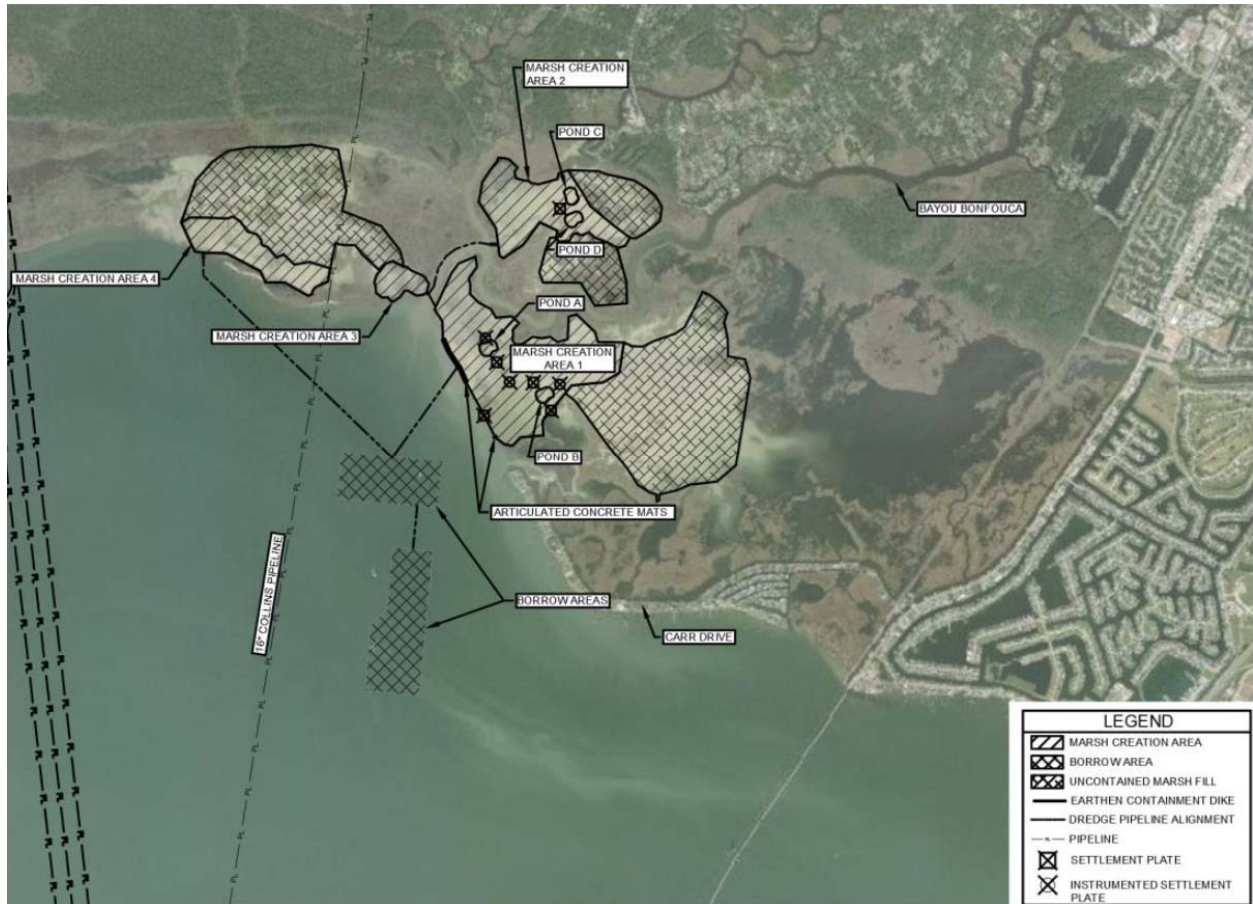
Letter Agreement Revised Budget
December 12, 2013

PHASE I		Existing	Revised
1	E & D	\$1,809,853	\$1,809,853
2	Easements and Land rights	\$50,896	\$50,896
3	Federal S&A	\$372,708	\$372,708
4	CPRA S&A	\$330,427	\$330,427
5	U.S. Army Corps of Engineers Project Mgmt.	\$3,359	\$3,359
Total Phase I		\$2,567,244	\$2,567,244
PHASE II			
1	Construction	\$18,937,491	\$18,937,491
2	Construction supervision & inspection	\$454,262	\$454,262
3	Contingency	\$4,734,373	\$4,734,373
4	Land rights	\$0	\$0
5	FWS Administration	\$377,926	\$377,926
6	CPRA Administration	\$335,053	\$335,053
7	COE Project Management (Phase II Construction)	\$1,759	\$1,759
8	COE Project Management (Phase II Long Term)	\$31,535	\$31,535
9	Monitoring	\$53,399	\$144,998
10	Operation, Maintenance and Rehabilitation (State)	\$406,150	\$314,551
11	Operation, Maintenance and Rehabilitation (Federal)	\$124,793	\$124,793
Total Phase II		\$25,456,740	\$25,456,740
Total Project Cost		\$28,023,984	\$28,023,984

ATTACHMENT II

BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)

PROJECT FEATURES



Project Features

- 608 acres of low salinity brackish marsh in four (4) marsh creation cells contained by approximately 58,000 linear feet of containment dikes
- 848 acres of uncontained marsh fill
- Three (3) interior ponds with tidal creeks
- Five (5) traditional settlement plates
- Three (3) instrumented settlement plates

Table 1.1 – Project Features

Area	Marsh Fill Area, Acres	Target Fill Elevation
MCA 1	331	+2.7'
Failed Pond	4	+1.7'
MCA 2	152	+2.7'
MCA 3	29	+2.5'
MCA 4	92	+2.7'
Uncontained Marsh Fill	848	N/A
Total	1,456	N/A

ATTACHMENT III

BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)

PROJECT COMPLETION REPORT

The project completion report for the original construction contract and the project completion report for the tidal features maintenance project can both be found using the Coastal Information Management System (CIMS) Document Library Search available at this link: <https://cims.coastal.louisiana.gov/DocLibrary/DocumentSearch.aspx?Root=0&Folder=0>

ATTACHMENT IV

BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)

**PROJECT PERMITS
&
PERMIT AMENDMENTS**

BOBBY JINDAL
GOVERNOR



STEPHEN CHUSTZ
INTERIM SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

June 28, 2013

Kenneth Bahlinger
CPRA
P. O. Box 44027
Baton Rouge, LA 70804

RE: **C20120367**, Coastal Zone Consistency
U. S. Fish and Wildlife Service
Direct Federal Action
Construction of the Bayou Bonfouca Marsh Creation CWPPRA Project (PO-104), **St. Tammany Parish, Louisiana**

Dear Mr. Bahlinger:

The above-referenced project has been reviewed for consistency with the approved Louisiana Coastal Resources Program (LCRP) as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. This office finds that the project, as proposed in the application, including a revision of June 27, 2013 to meet Louisiana Department of Wildlife and Fisheries concerns with the Bayou Liberty State Scenic River, is consistent with the LCRP

If you have any questions concerning this information request, please contact Brian Marcks of the Consistency Section at (225) 342-7939 or 1-800-267-4019.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Haydel".

Don Haydel
Acting Administrator
Interagency Affairs/Field Services Division

DH/JDH/bgm

cc: Robert Dubois, USFWS, Lafayette
Dave Butler, LDWF
Martin Mayer, COE-NOD
Dan Bond, St. Tammany Parish
Tim Killeen, OCM

BOBBY JINDAL
GOVERNOR



STEPHEN CHUSTZ
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

September 25, 2015

Sydney Dobson
CPRA
P. O. Box 44027
Baton Rouge, LA 70804

RE: **C20120367 mod 01**, Coastal Zone Consistency modification
U. S. Fish and Wildlife Service
Direct Federal Action
Bayou Bonfouca Marsh Creation CWPPRA Project (PO-104), modifications to borrow sites and containment dike alignments, **St. Tammany Parish, Louisiana**

Dear Mr. Dobson:

The above referenced project has been reviewed for consistency with the approved Louisiana Coastal Resource Program (LCRP) as required by Section 307 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 information request, 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: Jeffrey Weller, USFWS, Lafayette
Dave Butler, LDWF
Stephanie Castaing, COE-NOD
David Brunet, St. Tammany Parish
Craig Leblanc, OCM

DEC 10 2015

CASTAING/mmsk/1564

Operations Division
Eastern Evaluation Section

SUBJECT: MVN-2012-1645-EPP

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

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: Eastern 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,

Michael V. Farabee
Chief, Eastern Evaluation Section

Enclosures


FARABEE
OD-SE


MAYER
OD-S

DEPARTMENT OF THE ARMY PERMIT

Permittee: United States Fish and Wildlife Service

Permit No. MVN-2012-1645-EPP

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: Dredge, fill, and grade for marsh nourishment and creation project (PO-104), in accordance with the drawings enclosed in 17 sheets, dated July 2015.

PROJECT LOCATION: Along the Lake Pontchartrain shoreline at the confluence of Bayous Bonfouca and Liberty, in St. Tammany Parish, Louisiana.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **November 30, 2020**. 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: Page 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.

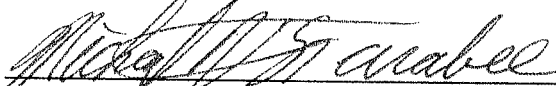
6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable 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 11/19/15
(DATE)

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



December 10, 2015
(DATE)

Michael V. Farabee, Chief Eastern Evaluation Section

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 for MVN 2012-1645-EPP:

7. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

8. The use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

9. Permittee must install and maintain, at permittee's expense, any safety lights, signs and signals prescribed by the US Coast Guard, through regulations or otherwise, on the authorized facilities.

10. If the authorized project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in the waterway, you are advised to notify the Eighth Coast Guard District, so that a Notice to Mariners, if required, may be prepared. Notification, with a copy of your permit approval and drawings, should be mailed to the Commander (dpw) Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, about 1 month before you plan to start work. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2107.

11. The permittee shall comply with the enclosed: "STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES" and "SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS".

12. If the authorized project requires any additional work not expressly permitted herein, or impacts wetlands other than the areas indicated on the attached drawings, the permittee must apply for an amendment to this authorization.

STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES

During in-water work in areas that potentially support manatees, all personnel associated with the project shall be instructed and aware of the potential presence of manatees, manatee speed zones, and the need to avoid collisions with, and injury to, manatee. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel shall be instructed not to attempt to feed or otherwise interact with the animal.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). To minimize potential impacts to manatees in areas of their potential presence, the permittee shall insure the following are adhered to:

- All work, equipment, and vessel operation shall cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the project area, all vessels associated with the project shall operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels shall follow routes of deep water whenever possible.
- If used, siltation or turbidity barriers shall be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½" X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring 8½" X 11" shall be posted at a location prominently visible to all personnel engaged in water-related activities and shall read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".
- Collisions with, injury to, or sightings of manatees shall be immediately reported to the U.S. Fish and Wildlife Service's, Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

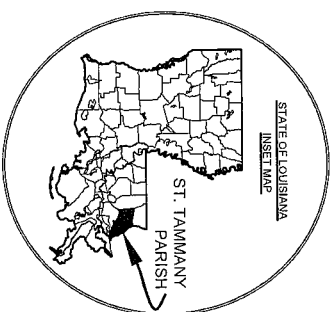
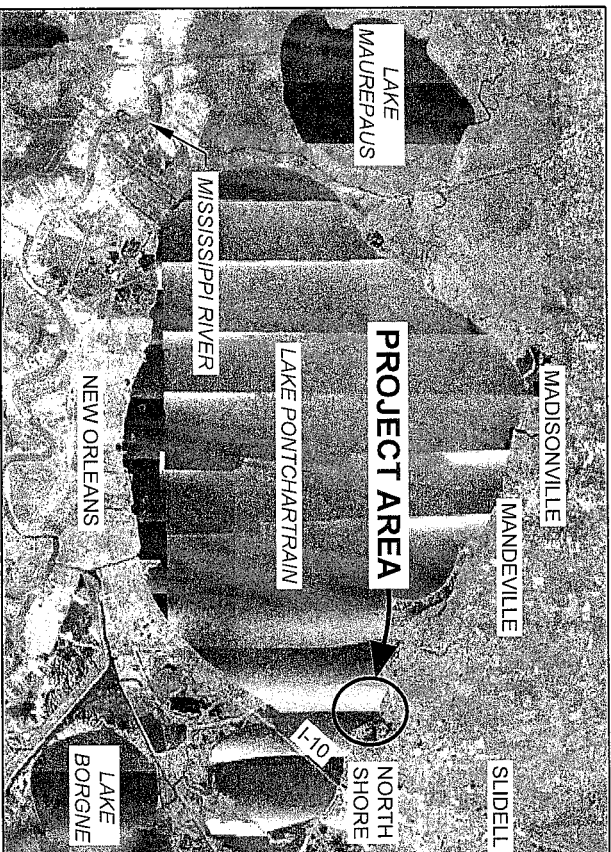
INDEX TO SHEETS

SHEET NO. DESCRIPTION

- 1 TITLE SHEET
- 2 PROJECT LAYOUT
- 3 BORROW AREA LAYOUT
- 4 MARSH CREATION AREA 1 LAYOUT
- 5 MARSH CREATION AREA 2 LAYOUT
- 6 MARSH CREATION AREA 3 LAYOUT
- 7 MARSH CREATION AREA 4 LAYOUT
- 8 - 10 TYPICAL SECTIONS
- 11 - 14 CONTAINMENT DIKE DETAILS
- 15 EARTHEN PLUG & PIPELINE & EQUIPMENT CORRIDOR DETAILS
- 16 PIPELINE CORRIDOR DETAIL
- 17 SETTLEMENT PLATE AND GRADE STAKE DETAILS

STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

BAYOU BONFOUCA
MARSH CREATION PROJECT
P0-104
ST. TAMMANY PARISH



APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA. 70445

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

BAYOU BONFOUCA
MARSH CREATION PROJECT

TITLE SHEET

STATE PROJECT NUMBER: PO-104

DATE: JULY 2015

DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

FEDERAL PROJECT NUMBER: PO-104

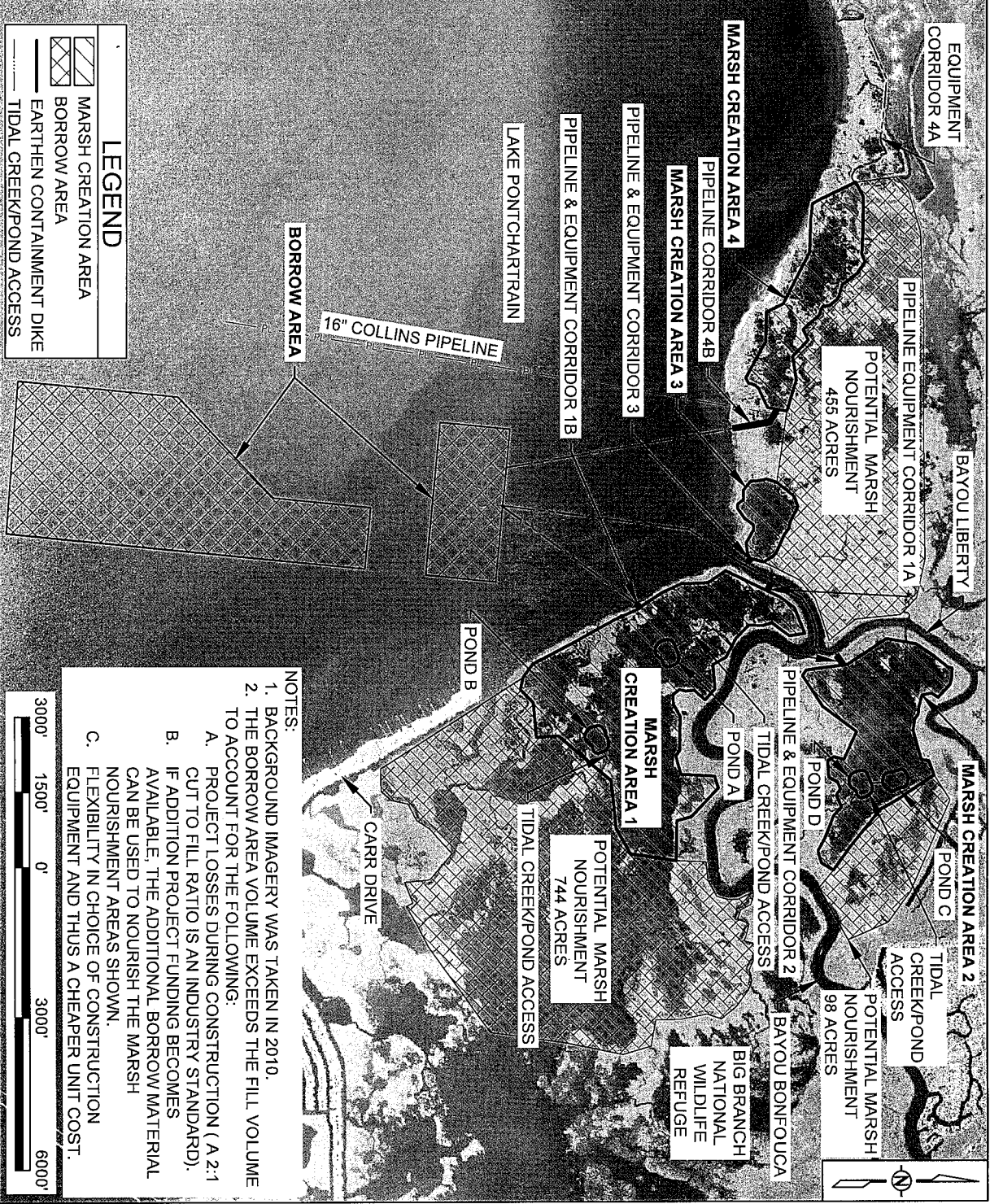
SHEET 1 OF 17

QUANTITIES		
BORROW AREA		
AREA	VOLUME (CY)	AREA (ACRES)
NORTHERN	1,001,787	65
SOUTHERN	5,341,072	338
TOTALS	6,342,859	403

MARSH CREATION		
AREA	VOLUME (CY)	AREA (ACRES)
1	2,223,322	322
POND A	35,902	4
POND B	23,345	4
2	988,496	155
POND C	27,169	4
POND D	23,864	4
3	220,643	32
4	531,864	94
TOTALS	4,074,605	620

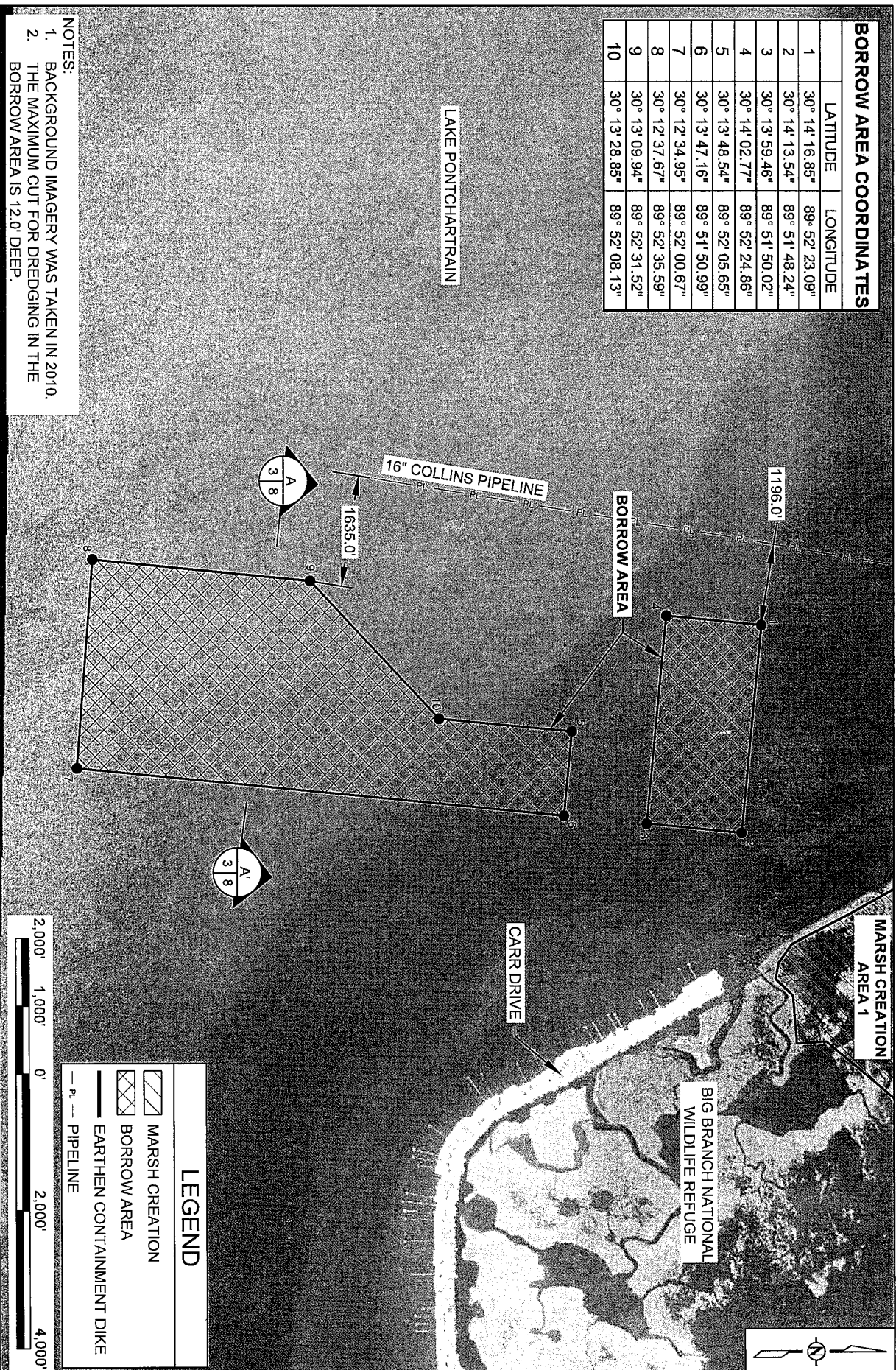
EARTHEN CONTAINMENT DIKE		
MARSH	VOLUME	LENGTH
1	77,048	20,948
POND A	4,524	1,665
POND B	3,206	1,438
2	42,327	14,361
POND C	3,789	1,538
POND D	3,333	1,609
3	16,217	4,720
4	30,917	11,495
TOTALS	181,361	57,774

PIPELINE/EQUIPMENT CORRIDOR	
CORRIDOR	AREA (ACRES)
1A	0.10
1B	0.13
2	0.28
3	0.06
4A	5.10
4B	2.40
TOTALS	8.07



APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA, 70445	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFFRION, P.E.	STATE PROJECT NUMBER: PO-104	FEDERAL PROJECT NUMBER: PO-104	DATE: JULY 2015
DRAWN BY: CANTU		COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		PROJECT LAYOUT	

BORROW AREA COORDINATES		
	LATITUDE	LONGITUDE
1	30° 14' 16.85"	89° 52' 23.09"
2	30° 14' 13.54"	89° 51' 48.24"
3	30° 13' 59.46"	89° 51' 50.02"
4	30° 14' 02.77"	89° 52' 24.86"
5	30° 13' 48.54"	89° 52' 05.65"
6	30° 13' 47.16"	89° 51' 50.99"
7	30° 12' 34.95"	89° 52' 00.67"
8	30° 12' 37.67"	89° 52' 35.59"
9	30° 13' 09.94"	89° 52' 31.52"
10	30° 13' 28.85"	89° 52' 08.13"



NOTES:
1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
2. THE MAXIMUM CUT FOR DREDGING IN THE BORROW AREA IS 12.0' DEEP.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA, 70445		DESIGNED BY: S. HAYNES, P.E.		APPROVED BY: R. JOFFRION, P.E.	
DRAWN BY: K. CANTU		COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		BAYOU BONFOUCA MARSH CREATION PROJECT	
		STATE PROJECT NUMBER: PO-104		DATE: JULY 2015	
		FEDERAL PROJECT NUMBER: PO-104		SHEET 3 OF 17	

LEGEND

MARSH CREATION

BORROW AREA

EARTHEN CONTAINMENT DIKE

PIPELINE

EARTHEN CONTAINMENT DIKE CENTERLINE COORDINATES

	LATITUDE	LONGITUDE
1	30° 14' 49.15"	89° 50' 44.04"
2	30° 14' 40.00"	89° 50' 45.74"
3	30° 14' 37.15"	89° 50' 51.42"
4	30° 14' 36.31"	89° 51' 02.47"
5	30° 14' 25.74"	89° 51' 12.83"
6	30° 14' 21.30"	89° 51' 12.59"
7	30° 14' 20.82"	89° 51' 20.56"
8	30° 14' 18.27"	89° 51' 23.52"
9	30° 14' 18.77"	89° 51' 26.22"
10	30° 14' 20.81"	89° 51' 29.34"
11	30° 14' 29.65"	89° 51' 34.45"
12	30° 14' 37.51"	89° 51' 39.23"
13	30° 14' 42.12"	89° 51' 41.54"
14	30° 14' 43.27"	89° 51' 42.51"
15	30° 14' 47.04"	89° 51' 45.27"
16	30° 14' 51.09"	89° 51' 47.33"
17	30° 14' 56.32"	89° 51' 47.42"
18	30° 14' 59.89"	89° 51' 50.09"
19	30° 15' 10.89"	89° 51' 43.89"
20	30° 15' 13.66"	89° 51' 41.47"
21	30° 15' 15.73"	89° 51' 35.49"
22	30° 15' 12.56"	89° 51' 35.03"
23	30° 15' 09.13"	89° 51' 37.97"
24	30° 15' 07.26"	89° 51' 37.46"
25	30° 15' 04.39"	89° 51' 37.54"
26	30° 15' 01.78"	89° 51' 34.55"
27	30° 14' 59.71"	89° 51' 30.32"
28	30° 14' 57.13"	89° 51' 28.64"
29	30° 14' 57.47"	89° 51' 28.13"
30	30° 14' 55.44"	89° 51' 20.61"
31	30° 14' 53.32"	89° 51' 22.82"
32	30° 14' 51.60"	89° 51' 22.69"
33	30° 14' 50.31"	89° 51' 23.05"
34	30° 14' 48.92"	89° 51' 21.91"
35	30° 14' 49.04"	89° 51' 19.69"
36	30° 14' 50.38"	89° 51' 16.94"
37	30° 14' 50.20"	89° 51' 09.24"
38	30° 14' 49.36"	89° 51' 07.95"
39	30° 14' 50.36"	89° 51' 03.68"
40	30° 14' 57.14"	89° 51' 03.20"
41	30° 14' 57.85"	89° 51' 00.50"
42	30° 14' 52.39"	89° 50' 54.06"
43	30° 14' 49.38"	89° 50' 53.10"

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70446

DRAWN BY: K. CANTU

PIPELINE & EQUIPMENT
CORRIDOR 3
SEE DETAIL ON SHEET 15
PIPELINE & EQUIPMENT
CORRIDOR 1A
SEE DETAIL ON SHEET 11

LAKE
PONTCHARTRAIN
ECD-1
SEE DETAIL
ON SHEET 11

TIDAL
CREEK/POND
ACCESS

C
4
9

PIPELINE &
EQUIPMENT
CORRIDOR 1B
SEE DETAIL
ON SHEET 15

MARSH CREATION AREA 1
CONSTRUCTION MARSH FILL
EL. = 2.7' ± 0.5'

B
4
8

POND B
CONSTRUCTION MARSH
FILL EL. = 1.7' ± 0.5'

POND A
CONSTRUCTION MARSH
FILL EL. = 1.7' ± 0.5'

ECD-2
SEE DETAIL ON SHEET 11

C
4
9

ECD-4
SEE DETAIL
ON SHEET 12

ECD-2
SEE DETAIL ON SHEET 11

TIDAL CREEK/POND
ACCESS



COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

BAYOU BONFOUCA MARSH CREATION PROJECT

STATE PROJECT NUMBER: PO-104

FEDERAL PROJECT NUMBER: PO-104

MARSH CREATION AREA 1 LAYOUT

DATE: JULY 2015

SHEET 4 OF 17

- NOTES:
1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
 2. INTERNAL TRAINING DIKES MAY BE USED AS NECESSARY AT ANY LOCATION WITHIN THE MARSH CREATION AREA TO PROPERLY CONTAIN AND DEWATER FILL MATERIAL AND ACHIEVE THE TARGET CONSTRUCTION MARSH FILL ELEVATION.
 3. DEWATERING OF FILL MATERIAL MUST NOT BE DIRECTLY DISCHARGED INTO BAYOU BONFOUCA AND LAKE PONTCHARTRAIN.
 4. THE DEWATERING OUTFALL SHALL BE RESTRICTED TO A LOCATION IN BETWEEN EARTHEN CONTAINMENT DIKE CENTERLINE POINTS 1 THROUGH 5.
 5. THE ALIGNMENT OF THE TIDAL CREEKS SHALL BE FIELD-FIT DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
 6. THE CONTRACTOR SHALL USE THE TIDAL CREEK ALIGNMENTS TO ACCESS THE PONDS.
 7. THE PIPELINE AND EQUIPMENT CORRIDOR SHALL BE RE-GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.
 8. EXCEPT ALONG BAYOU BONFOUCA AND LAKE PONTCHARTRAIN, CONTAINMENT DIKES TO BE GAPPED 25' LONG AT 500' INTERVALS AFTER CONSTRUCTION.

LEGEND

- MARSH CREATION AREA
- EARTHEN CONTAINMENT DIKE (ECD-1)
- EARTHEN CONTAINMENT DIKE (ECD-2)
- EARTHEN CONTAINMENT DIKE (ECD-3)
- EARTHEN CONTAINMENT DIKE (ECD-4)
- TIDAL CREEK/POND ACCESS
- PIPELINE & EQUIPMENT CORRIDOR

	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE
1	30° 15' 41.45"	89° 51' 02.82"	22	30° 15' 15.39"	89° 51' 25.33"
2	30° 15' 38.24"	89° 51' 00.47"	23	30° 15' 15.11"	89° 51' 25.83"
3	30° 15' 34.31"	89° 50' 57.60"	24	30° 15' 15.87"	89° 51' 27.09"
4	30° 15' 30.50"	89° 50' 55.16"	25	30° 15' 24.21"	89° 51' 28.27"
5	30° 15' 24.49"	89° 50' 46.99"	26	30° 15' 32.17"	89° 51' 34.17"
6	30° 15' 20.79"	89° 50' 41.39"	27	30° 15' 38.18"	89° 51' 32.81"
7	30° 15' 18.40"	89° 50' 45.13"	28	30° 15' 42.00"	89° 51' 29.83"
8	30° 15' 17.74"	89° 50' 44.84"	29	30° 15' 44.08"	89° 51' 27.50"
9	30° 15' 19.13"	89° 50' 48.66"	30	30° 15' 45.43"	89° 51' 27.11"
10	30° 15' 20.33"	89° 50' 51.88"	31	30° 15' 45.32"	89° 51' 24.81"
11	30° 15' 20.95"	89° 50' 53.74"	32	30° 15' 44.86"	89° 51' 23.23"
12	30° 15' 22.61"	89° 50' 55.75"	33	30° 15' 42.49"	89° 51' 20.48"
13	30° 15' 21.66"	89° 50' 58.56"	34	30° 15' 41.22"	89° 51' 21.50"
14	30° 15' 22.47"	89° 50' 59.88"	35	30° 15' 39.24"	89° 51' 21.06"
15	30° 15' 21.98"	89° 51' 01.41"	36	30° 15' 38.52"	89° 51' 18.31"
16	30° 15' 20.10"	89° 51' 02.61"	37	30° 15' 38.44"	89° 51' 16.73"
17	30° 15' 19.93"	89° 51' 06.33"	38	30° 15' 37.66"	89° 51' 15.66"
18	30° 15' 21.21"	89° 51' 07.28"	39	30° 15' 37.31"	89° 51' 12.99"
19	30° 15' 23.19"	89° 51' 06.70"	40	30° 15' 38.84"	89° 51' 06.47"
20	30° 15' 25.86"	89° 51' 12.91"	41	30° 15' 40.42"	89° 51' 06.12"
21	30° 15' 19.11"	89° 51' 18.82"			

- NOTES:
1. BACKGROUND IMAGERY WAS TAKEN IN 2010. INTERNAL TRAINING DIKES MAY BE USED AS NECESSARY AT ANY LOCATION WITHIN THE MARSH CREATION AREA TO PROPERLY CONTAIN AND DEWATER FILL MATERIAL AND ACHIEVE THE TARGET CONSTRUCTION MARSH FILL ELEVATION.
 2. DEMATERING OF FILL MATERIAL MUST NOT BE DIRECTLY DISCHARGED INTO BAYOUS BONFOUCA AND LIBERTY.
 3. THE DEMATERING OUTFALL SHALL BE RESTRICTED TO A LOCATION IN BETWEEN EARTHEN CONTAINMENT DIKE CENTERLINE POINTS 1 THROUGH 2 AND 15 THROUGH 18.
 4. THE ALIGNMENT OF THE TIDAL CREEKS SHALL BE FIELD-FIT DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
 5. THE CONTRACTOR SHALL USE THE TIDAL CREEK ALIGNMENTS TO ACCESS THE PONDS.
 6. THE PIPELINE AND EQUIPMENT CORRIDOR SHALL BE RE-GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.
 7. EXCEPT ALONG BAYOU LIBERTY, CONTAINMENT DIKES TO BE GAPPED 25.0' LONG AT 500' INTERVALS AFTER CONSTRUCTION.
 8. ECD-7 SHALL BE CONTINUOUSLY MONITORED DURING FILL PLACEMENT INTO MARSH CREATION AREA 2.
 - 9.



APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA. 70445

COASTAL PROTECTION AND
RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

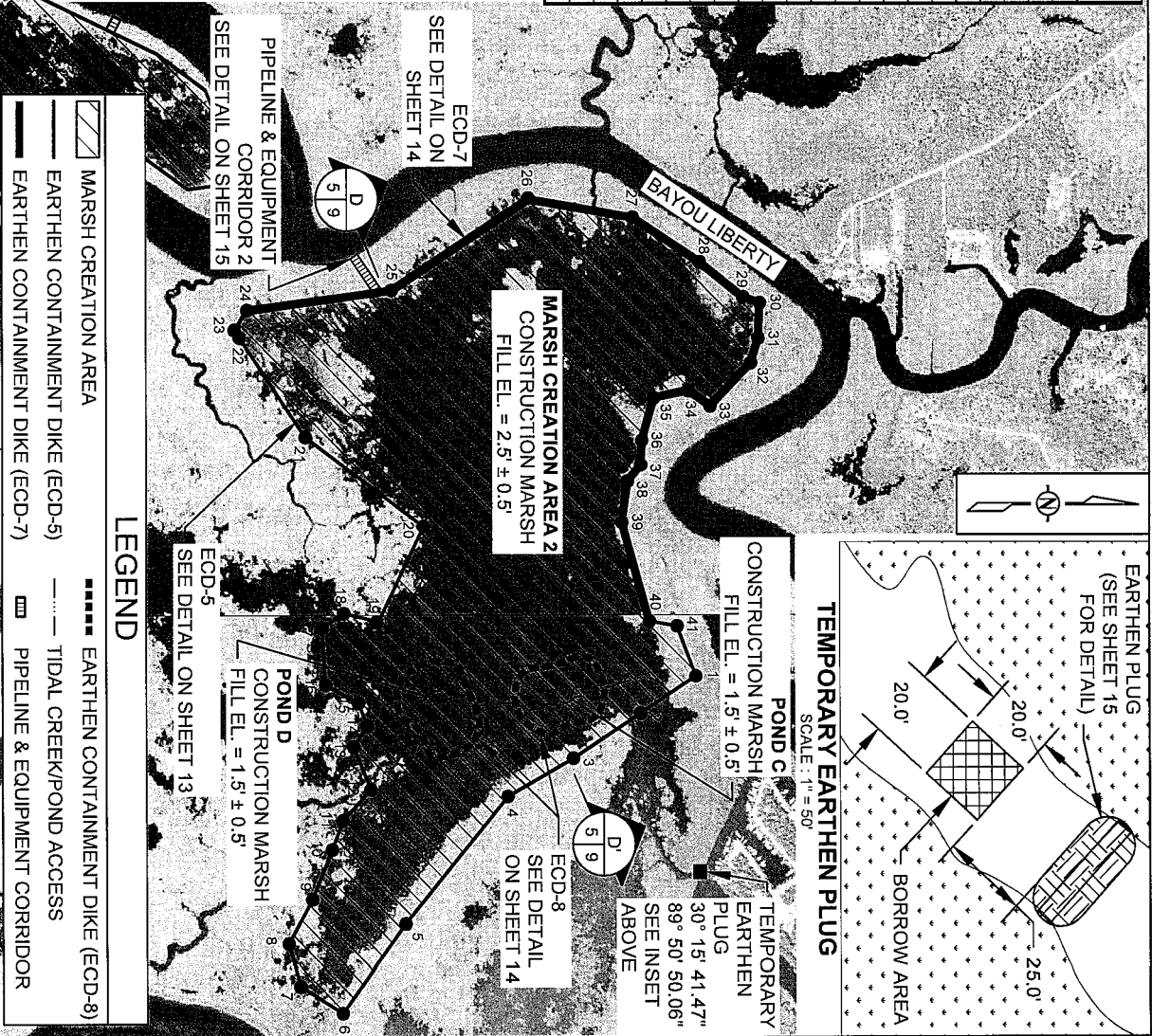
DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

FEDERAL PROJECT NUMBER: PO-104

SHEET 5 OF 17



EARTHEN CONTAINMENT DIKE CENTERLINE COORDINATES

	LATITUDE	LONGITUDE
1	30° 15' 10.45"	89° 52' 10.23"
2	30° 15' 13.88"	89° 52' 07.07"
3	30° 15' 14.65"	89° 52' 04.60"
4	30° 15' 12.98"	89° 52' 00.83"
5	30° 15' 12.84"	89° 51' 58.58"
6	30° 15' 11.79"	89° 51' 58.13"
7	30° 15' 10.07"	89° 51' 53.89"
8	30° 15' 09.45"	89° 51' 53.13"
9	30° 15' 07.58"	89° 51' 51.98"
10	30° 15' 04.89"	89° 51' 52.87"
11	30° 15' 04.37"	89° 51' 53.98"
12	30° 15' 04.14"	89° 51' 56.38"
13	30° 15' 05.63"	89° 51' 59.29"
14	30° 15' 05.68"	89° 52' 00.52"
15	30° 15' 03.98"	89° 52' 01.99"
16	30° 15' 02.48"	89° 52' 04.39"
17	30° 15' 02.59"	89° 52' 05.36"
18	30° 15' 03.74"	89° 52' 06.36"
19	30° 15' 03.70"	89° 52' 08.46"
20	30° 15' 05.16"	89° 52' 10.51"
21	30° 15' 07.12"	89° 52' 10.64"
22	30° 15' 08.37"	89° 52' 11.03"

NOTES:

1. BACKGROUND IMAGERY WAS TAKEN IN 2010.
2. INTERNAL TRAINING DIKES MAY BE USED AS NECESSARY AT ANY LOCATION WITHIN THE MARSH CREATION AREA TO PROPERLY CONTAIN AND DEWATER FILL MATERIAL AND ACHIEVE THE TARGET CONSTRUCTION MARSH FILL ELEVATION.
3. DEWATERING OF FILL MATERIAL MUST NOT BE DIRECTLY DISCHARGED INTO BAYOU BONFOUCA AND LAKE PONTCHARTRAIN.
4. THE DEWATERING OUTFALL SHALL BE RESTRICTED TO A LOCATION ON THE NORTHWEST QUADRANT OF THE MARSH CREATION AREA IN BETWEEN EARTHEN CONTAINMENT DIKE CENTERLINE POINTS 1 THROUGH 5.
5. THE PIPELINE AND EQUIPMENT CORRIDOR SHALL BE RE-GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.
6. EXCEPT ALONG BAYOU BONFOUCA AND LAKE PONTCHARTRAIN, CONTAINMENT DIKES TO BE GAPPED 25' LONG AT 500' INTERVALS AFTER CONSTRUCTION.

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

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

DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

BAYOU BONFOUCA
MARSH CREATION PROJECT
STATE PROJECT NUMBER: PO-104
FEDERAL PROJECT NUMBER: PO-104

MARSH CREATION
AREA 3 LAYOUT
DATE: JULY 2015
SHEET 6 OF 17

LAKE PONTCHARTRAIN

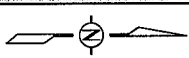
MARSH CREATION AREA 3
CONSTRUCTION MARSH FILL EL. = 3.0' ± 0.5'

ECD-6
SEE DETAIL ON SHEET 13

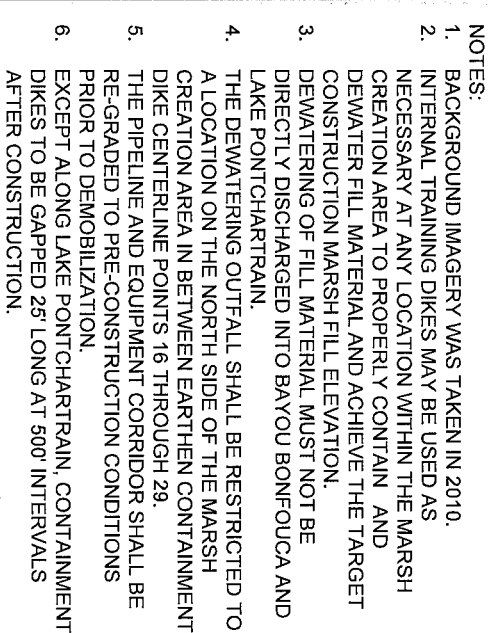
PIPELINE & EQUIPMENT CORRIDOR 3
SEE DETAIL ON SHEET 15

LEGEND

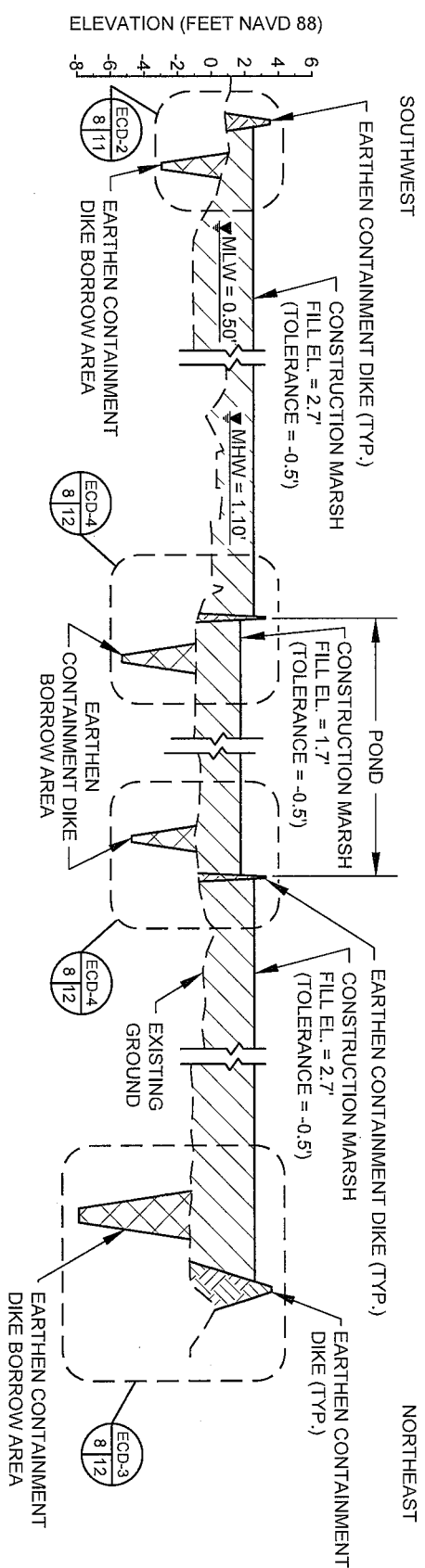
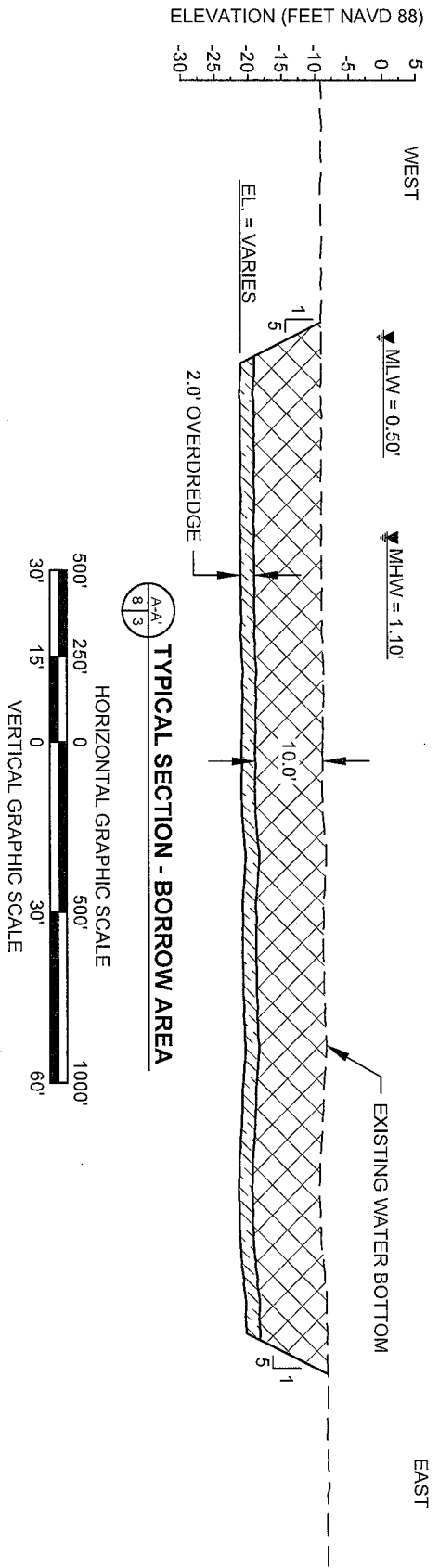
- MARSH CREATION AREA
- EARTHEN CONTAINMENT DIKE (ECD-6)
- PIPELINE & EQUIPMENT CORRIDOR



BAYOU
BONFOUCA

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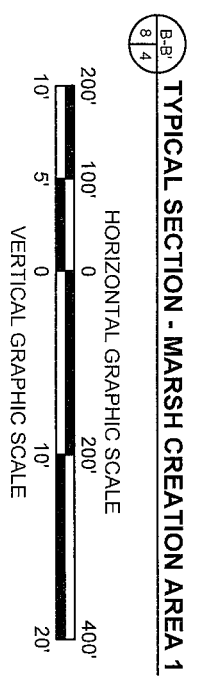
SHEET 7 OF 17



NOTE:
DISCHARGE SHALL BE DIRECTED TO
RETAIN AS MUCH MATERIAL AS POSSIBLE.

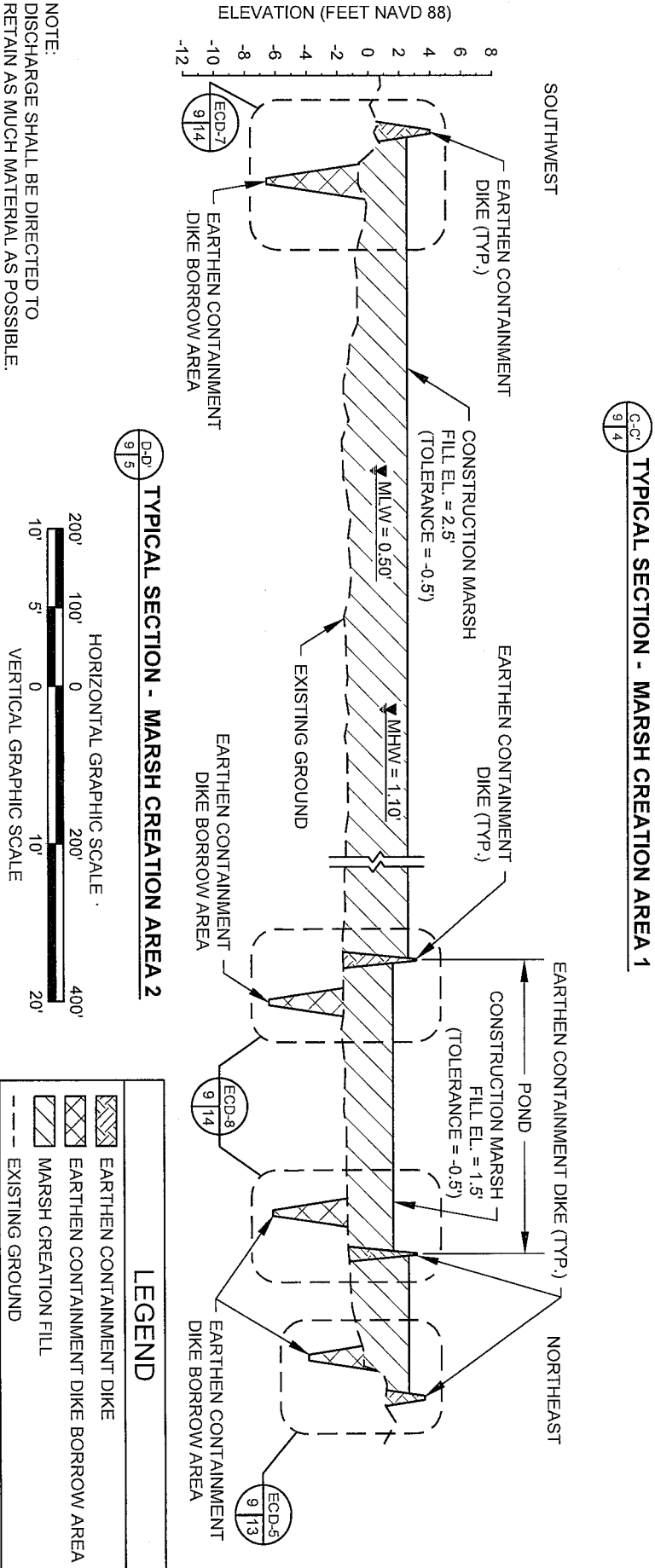
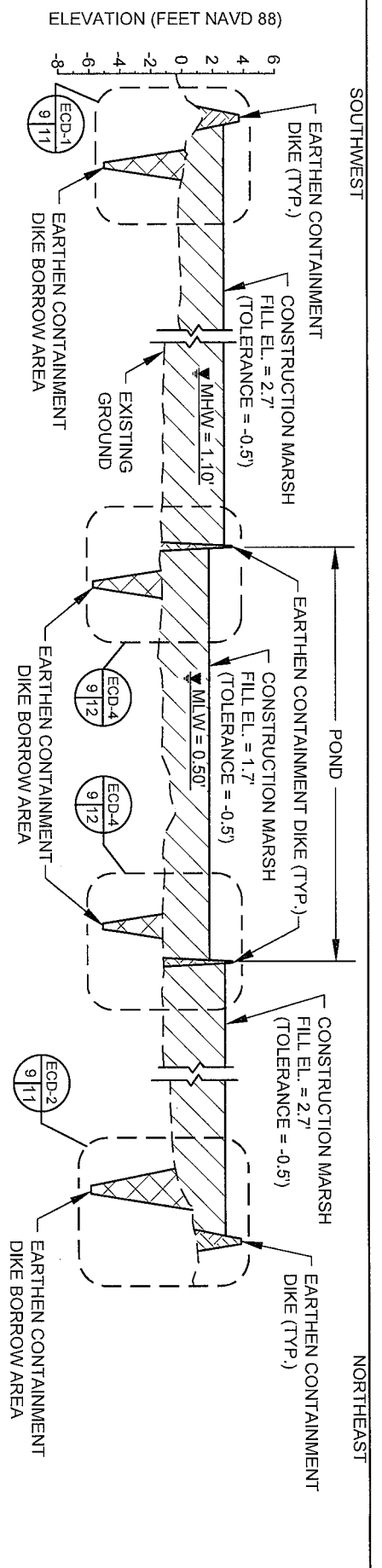
APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA. 70446

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



LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUNDWATER BOTTOM

DRAWN BY: K. CANTU	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFFRION, P.E.	STATE PROJECT NUMBER: PO-104	DATE: JULY 2015
			FEDERAL PROJECT NUMBER: PO-104	SHEET 8 OF 17



NOTE:
DISCHARGE SHALL BE DIRECTED TO
RETAIN AS MUCH MATERIAL AS POSSIBLE.

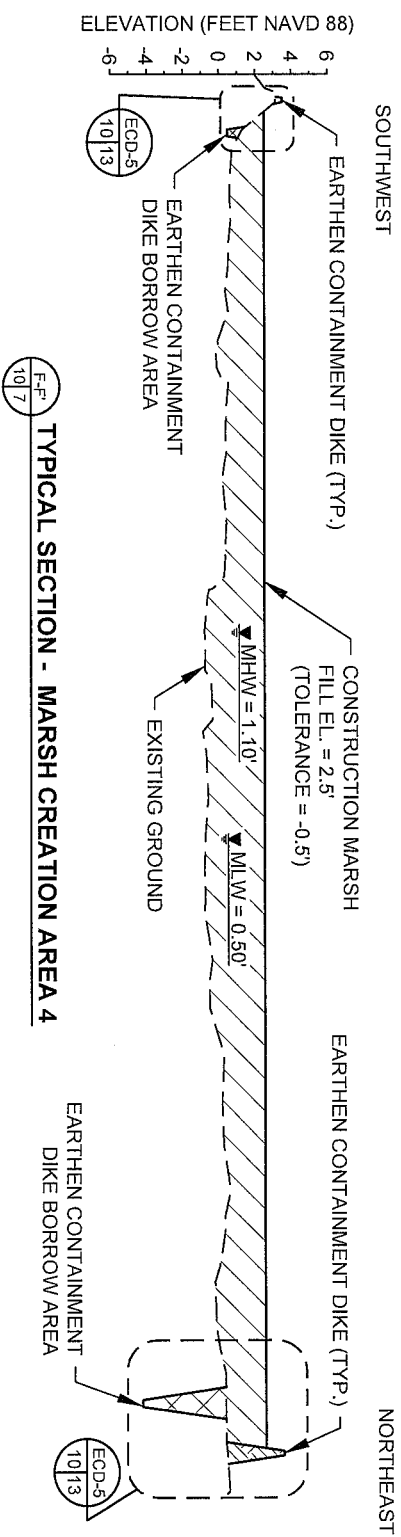
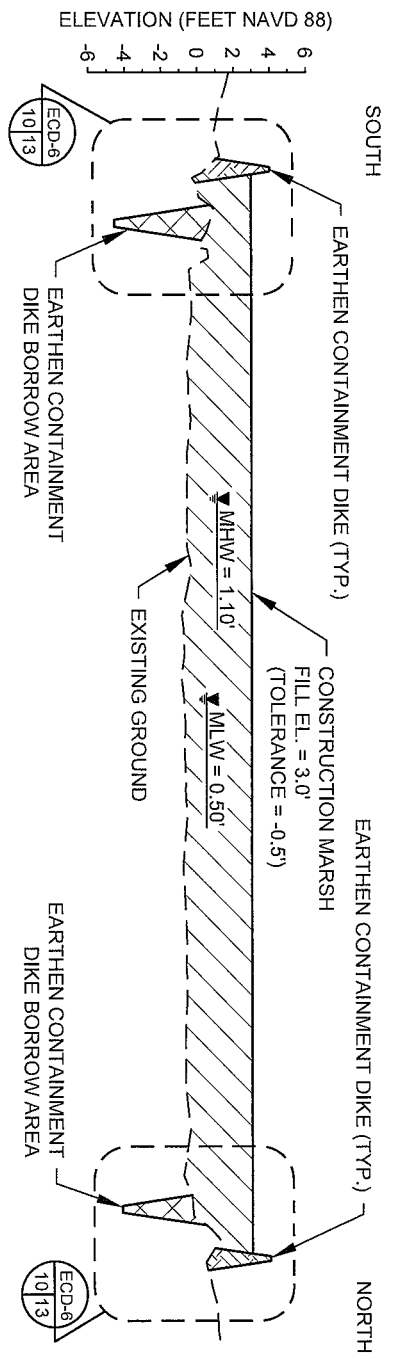
APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA. 70445

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

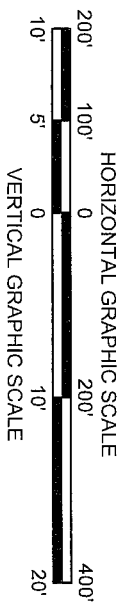
BAYOU BONFOUCA
MARSH CREATION PROJECT

TYPICAL SECTIONS

DRAWN BY: K. CANTU DESIGNED BY: S. HAYNES, P.E. APPROVED BY: R. JOFFRION, P.E. STATE PROJECT NUMBER: PO-104 FEDERAL PROJECT NUMBER: PO-104 DATE: JULY 2015 SHEET 9 OF 17



NOTE:
DISCHARGE SHALL BE DIRECTED TO
RETAIN AS MUCH MATERIAL AS POSSIBLE.



LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

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

BAYOU BONFOUCA
MARSH CREATION PROJECT

TYPICAL SECTIONS

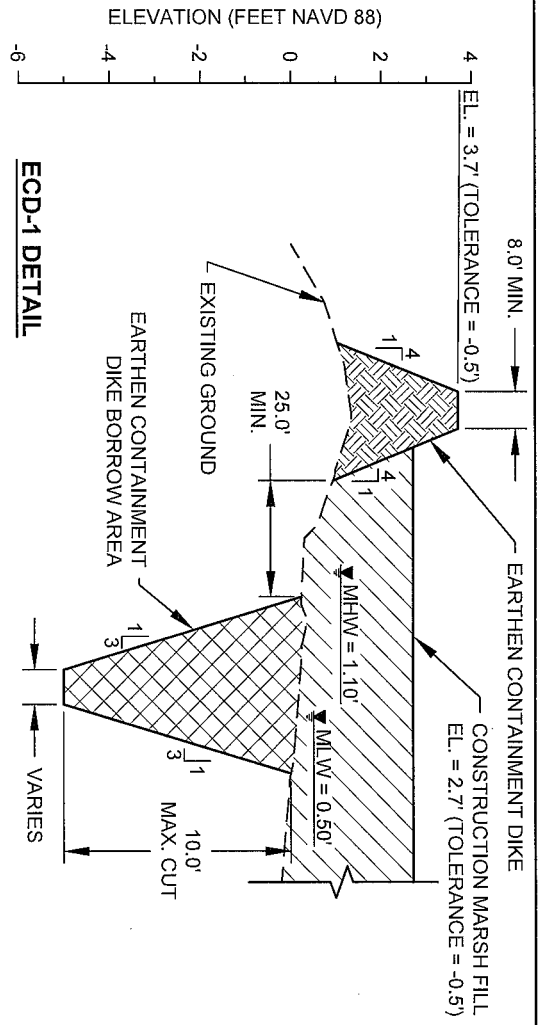
DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

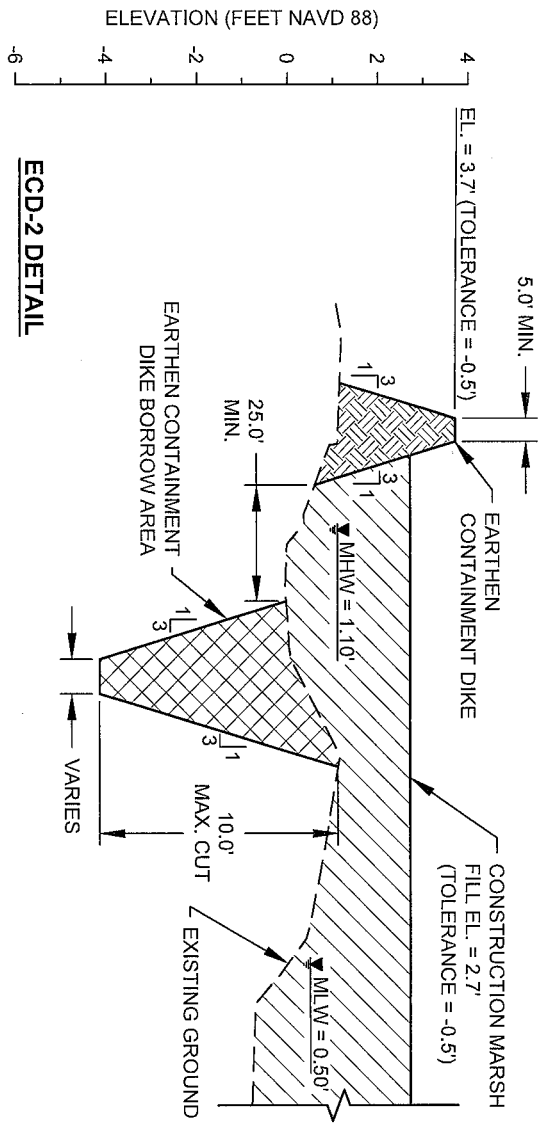
APPROVED BY: R. JOFFRION, P.E.

STATE PROJECT NUMBER: PO-104
FEDERAL PROJECT NUMBER: PO-104

DATE: JULY 2015
SHEET 10 OF 17



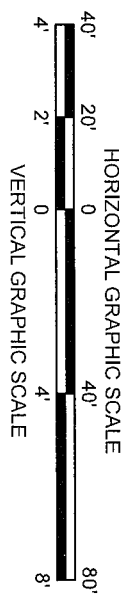
ECD-1 DETAIL



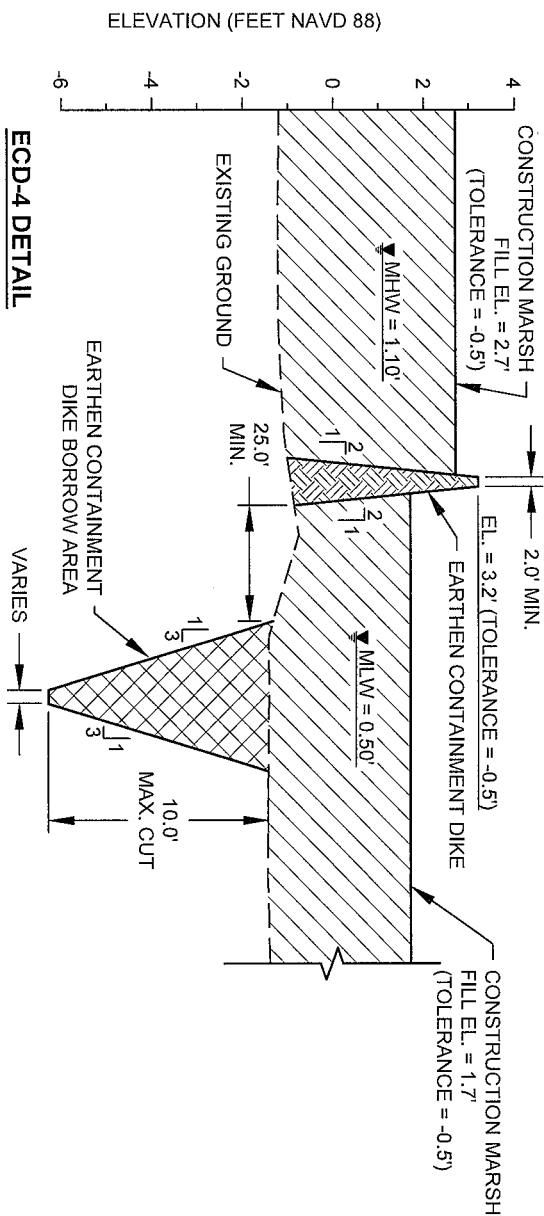
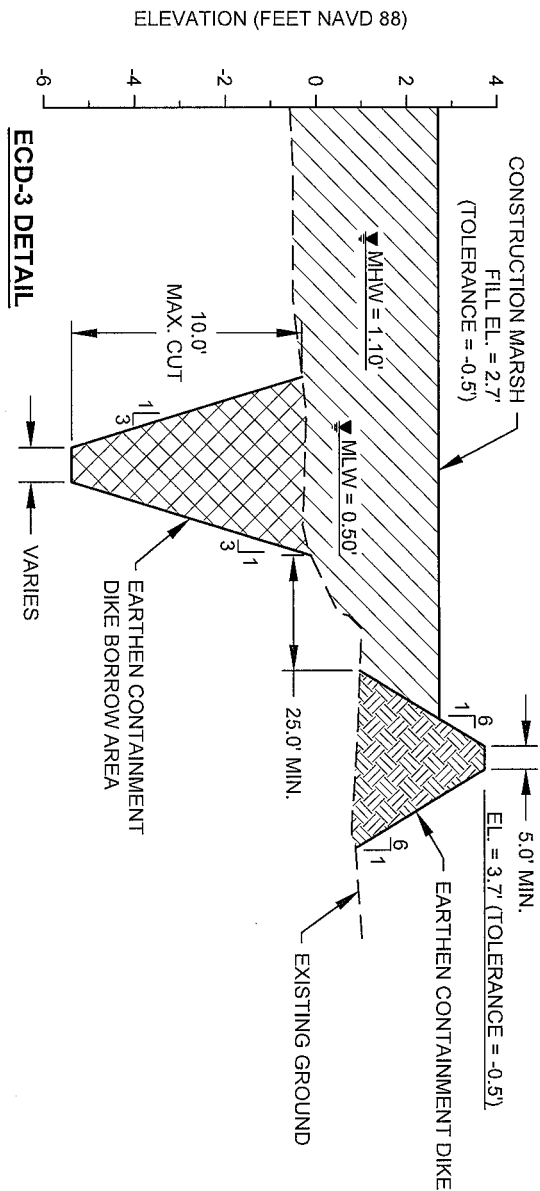
ECD-2 DETAIL

LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND

- NOTES:
1. EARTHEN CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL. SEE SHEETS 4 - 7 FOR EARTHEN CONTAINMENT DIKE LOCATIONS.
 2. THE EXISTING GROUND WITHIN THE PIPELINE CORRIDOR SHALL BE GRADED TO PRE-CONSTRUCTION CONDITIONS PRIOR TO DEMOBILIZATION.

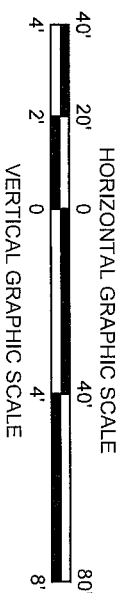


APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA. 70445	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	
	DESIGNED BY: S. HAYNES, P.E. APPROVED BY: R. JOFFRION, P.E.	BAYOU BONFOUCA MARSH CREATION PROJECT STATE PROJECT NUMBER: PO-104 FEDERAL PROJECT NUMBER: PO-104
	DRAWN BY: K. CANTU DATE: JULY 2015 SHEET 11 OF 17	CONTAINMENT DIKE DETAILS

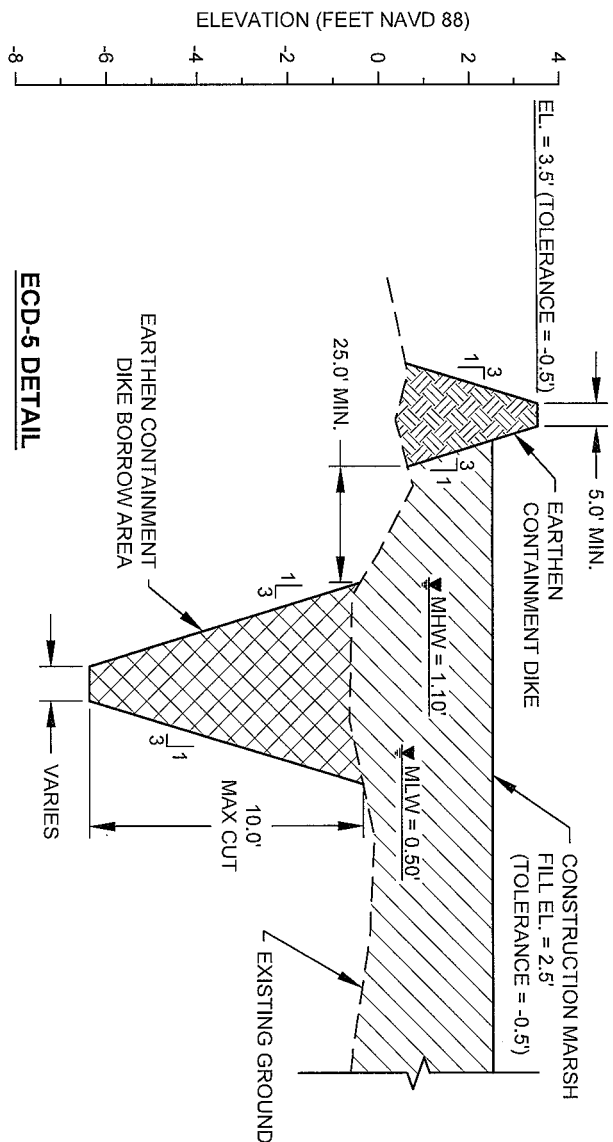


LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND

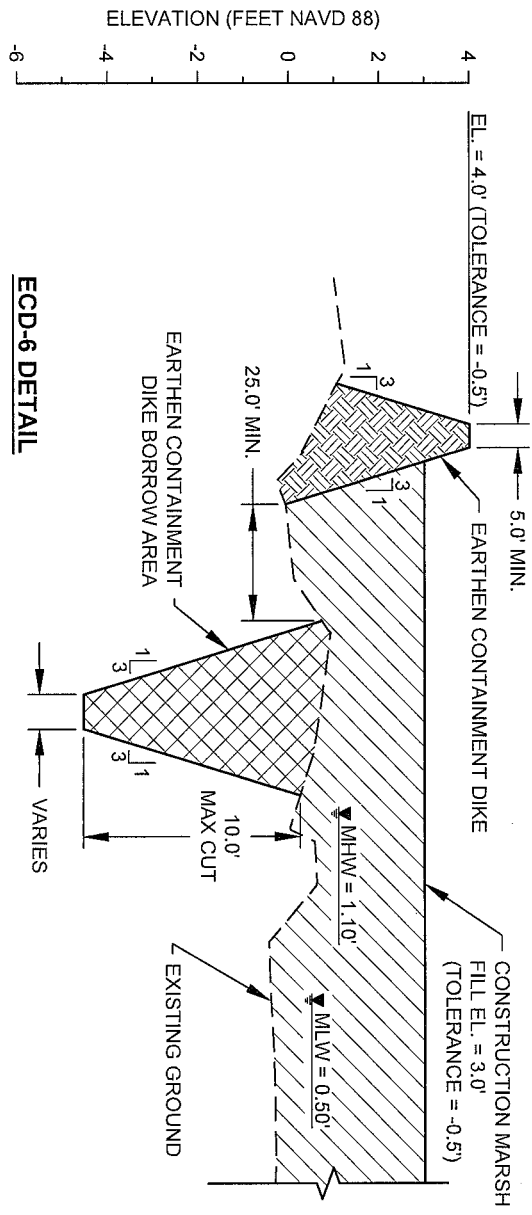
NOTE:
EARTHEN CONTAINMENT DIKES SHALL BE
CONSTRUCTED USING IN-SITU MATERIAL.
SEE SHEETS 4 - 7 FOR EARTHEN
CONTAINMENT DIKE LOCATIONS.



APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA. 70445	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	
	BAYOU BONFOUCA MARSH CREATION PROJECT STATE PROJECT NUMBER: PO-104	CONTAINMENT DIKE DETAILS DATE: JULY 2015
DRAWN BY: K. CANTU	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFFRION, P.E.
FEDERAL PROJECT NUMBER: PO-104		SHEET 12 OF 17



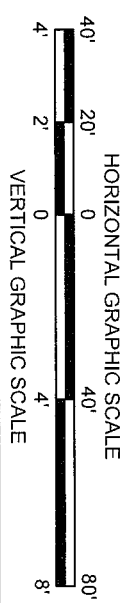
ECD-5 DETAIL



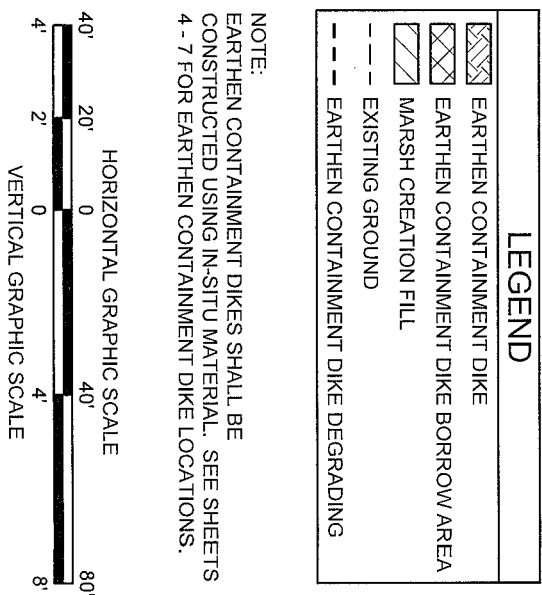
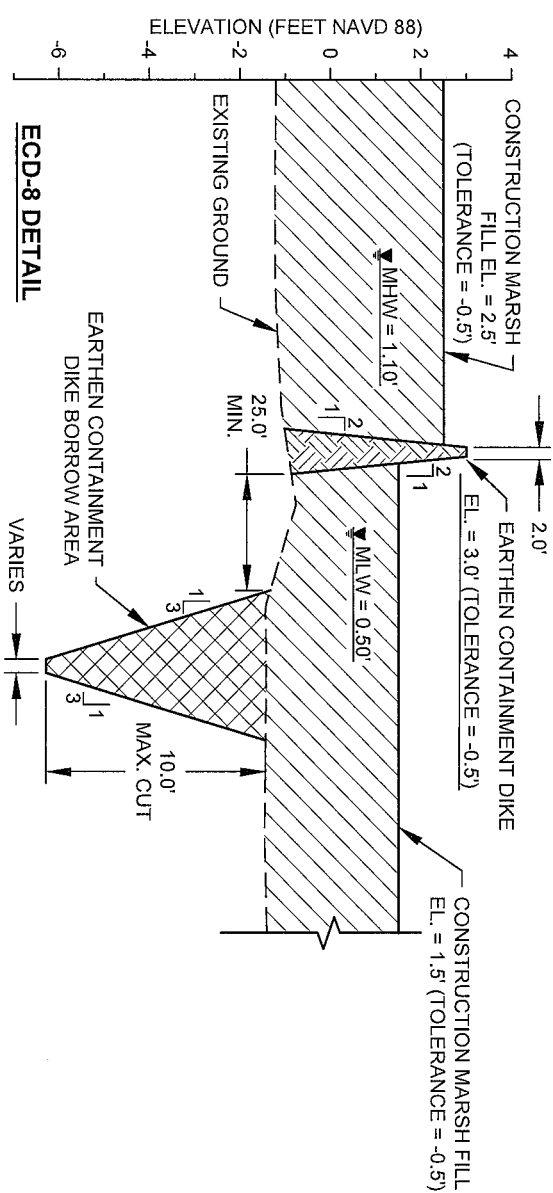
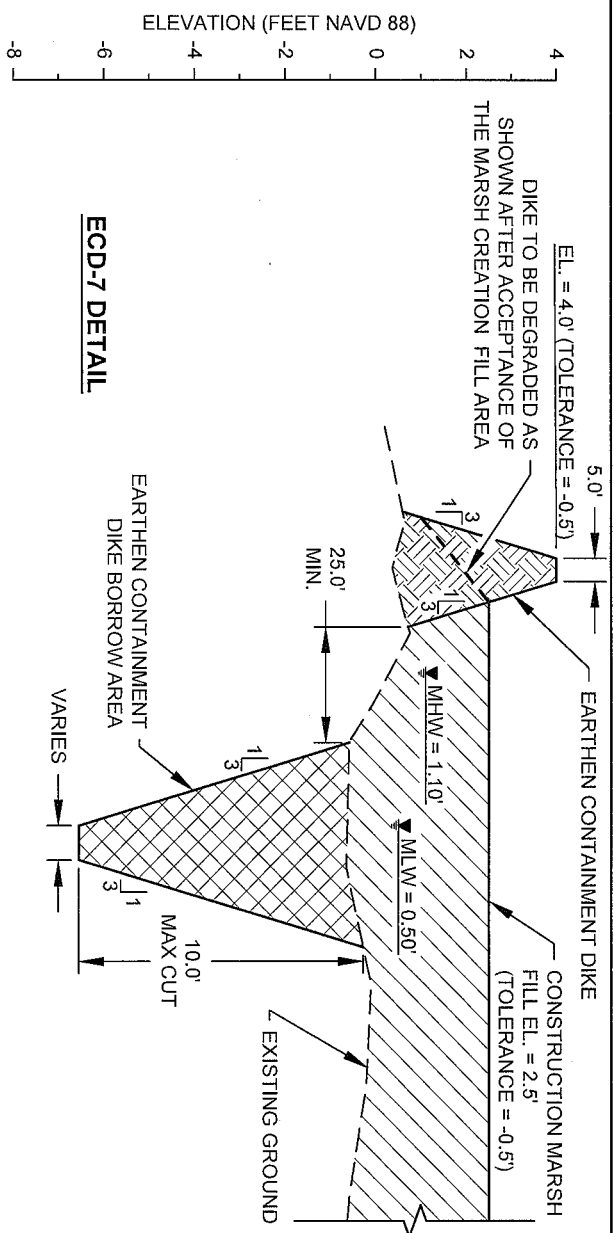
ECD-6 DETAIL

LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	EXISTING GROUND

NOTE:
EARTHEN CONTAINMENT DIKES SHALL BE CONSTRUCTED USING IN-SITU MATERIAL. SEE SHEETS 4 - 7 FOR EARTHEN CONTAINMENT DIKE LOCATIONS.



APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA, 70445		COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	
DRAWN BY: K. CANTU	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFFRION, P.E.	
BAYOU BONFOUCA MARSH CREATION PROJECT		CONTAINMENT DIKE DETAILS	
STATE PROJECT NUMBER: PO-104		DATE: JULY 2015	
FEDERAL PROJECT NUMBER: PO-104		SHEET 13 OF 17	



APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS),
61389 HWY 434
LACOMBE, LA. 70445

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

BAYOU BONFOUCA
MARSH CREATION PROJECT

CONTAINMENT DIKE DETAILS

STATE PROJECT NUMBER: PO-104

DATE: JULY 2015

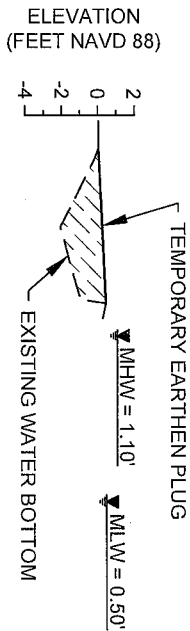
DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

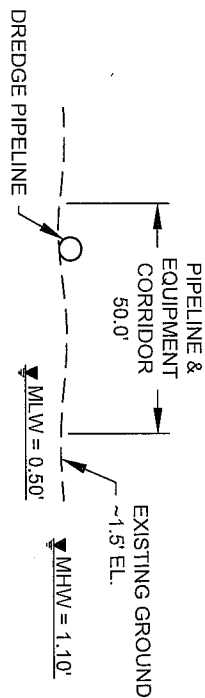
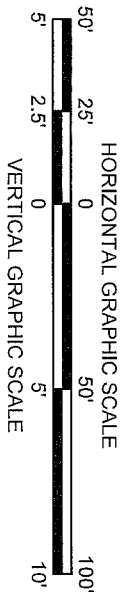
APPROVED BY: R. JOFFRION, P.E.

FEDERAL PROJECT NUMBER: PO-104

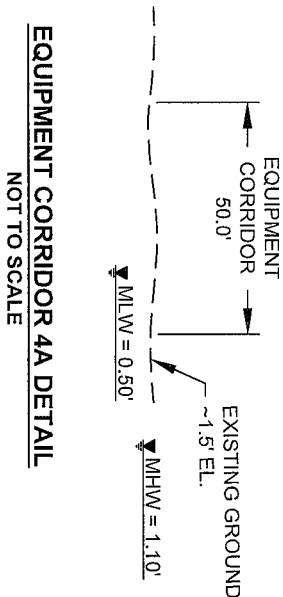
SHEET 14 OF 17



TEMPORARY EARTHEN PLUG DETAIL



**PIPELINE & EQUIPMENT CORRIDOR
1A, 1B, 2, AND 3 DETAIL**

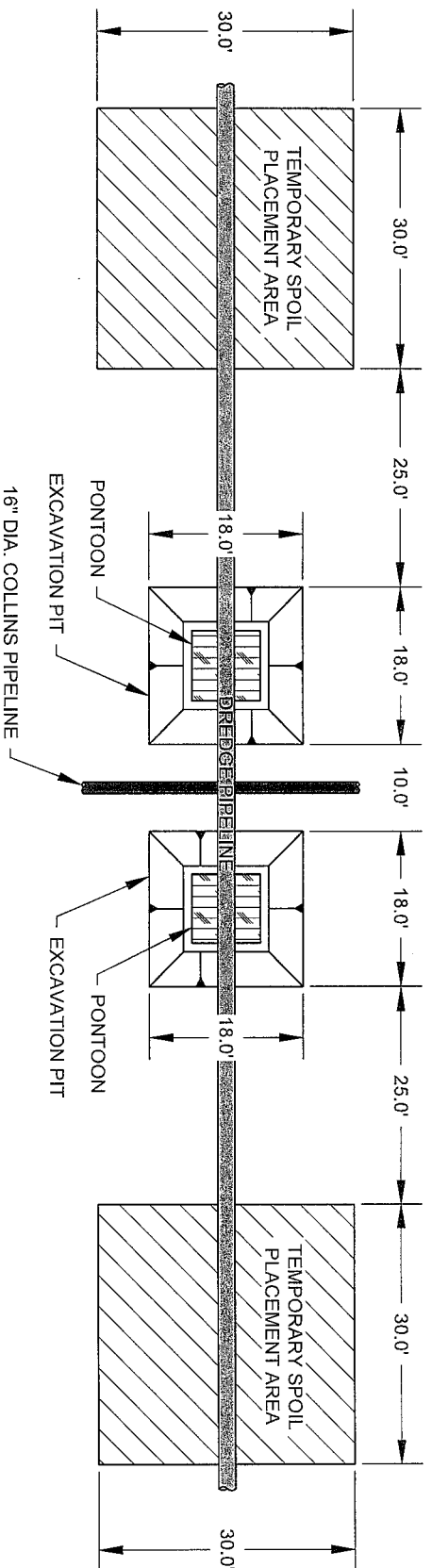


EQUIPMENT CORRIDOR 4A DETAIL

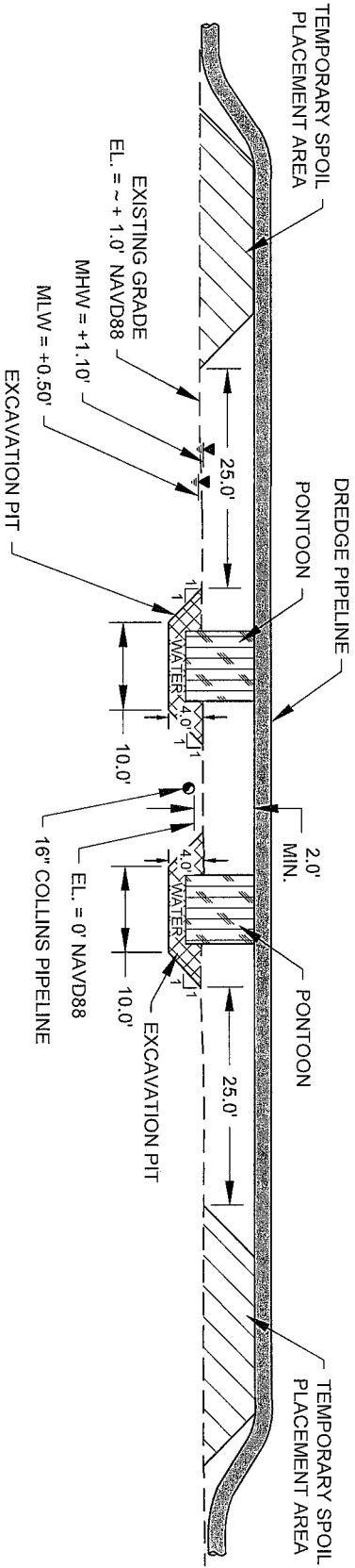
LEGEND	
	EARTHEN CONTAINMENT DIKE
	EARTHEN CONTAINMENT DIKE BORROW AREA
	MARSH CREATION FILL
	TEMPORARY EARTHEN PLUG
	EXISTING GROUND

NOTE:
THE EXISTING GROUND WITHIN THE
PIPELINE CORRIDOR SHALL BE GRADED
TO PRE-CONSTRUCTION CONDITIONS
PRIOR TO DEMOBILIZATION.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA, 70445		COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801	
DRAWN BY: K. CANTU	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFFRION, P.E.	
STATE PROJECT NUMBER: PO-104		FEDERAL PROJECT NUMBER: PO-104	
DATE: JULY 2015		SHEET 15 OF 17	



PLAN VIEW



SECTION VIEW



PIPELINE CORRIDOR 4B DETAIL
NOT TO SCALE

- NOTES:
1. SPOIL TO BE BACKFILLED.
 2. PONTONS AND PIPELINE TO BE ANCHORED.

APPLICATION BY:
UNITED STATES FISH AND WILDLIFE SERVICE (USFWS)
61389 HWY 434
LACOMBE, LA, 70445

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

BAYOU BONFOUCA
MARSH CREATION PROJECT

PIPELINE CORRIDOR
DETAIL

STATE PROJECT NUMBER: PO-104

DATE: JULY 2015

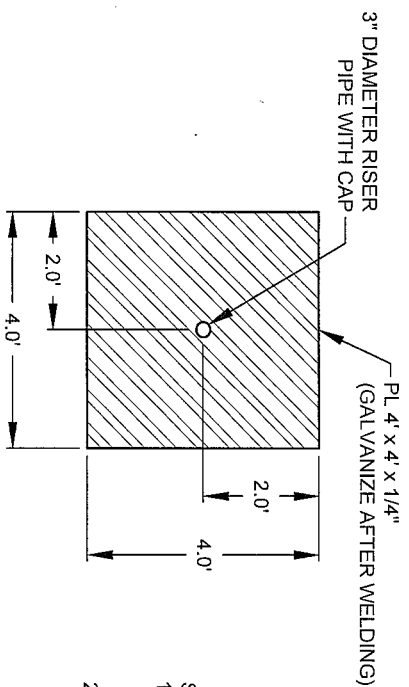
DRAWN BY: K. CANTU

DESIGNED BY: S. HAYNES, P.E.

APPROVED BY: R. JOFFRION, P.E.

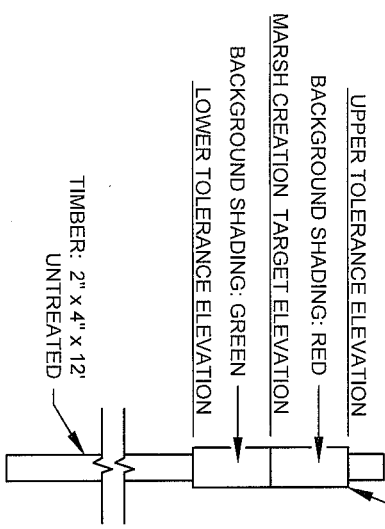
FEDERAL PROJECT NUMBER: PO-104

SHEET 16 OF 17



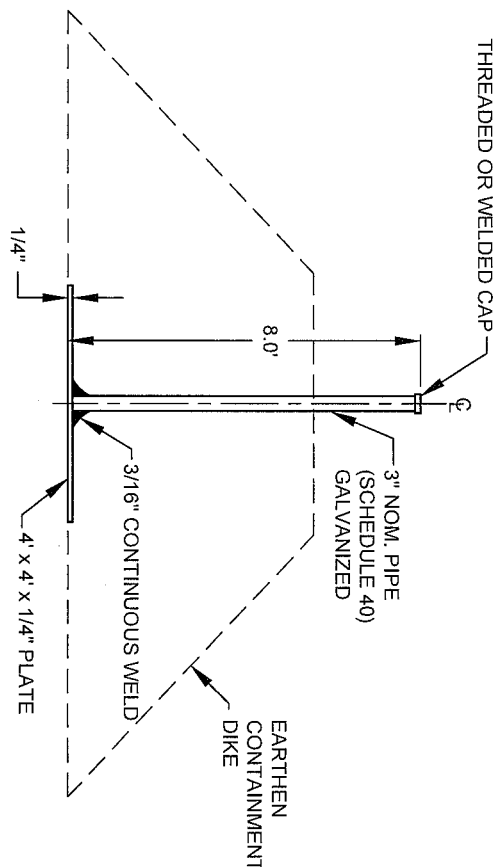
- SETTLEMENT PLATE NOTES:
1. SETTLEMENT PLATES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 2. LOCATION AND ELEVATION WILL BE RECORDED DURING AS-BUILT SURVEY.

GAUGE SIGN: 4" WIDE x 12" HIGH 0.120" RIGID SUBSTRATE WITH ENGINEER-GRADE REFLECTIVE SHEETING (SEE TS-3 OF THE SPECIFICATIONS FOR ADDITIONAL DETAILS)



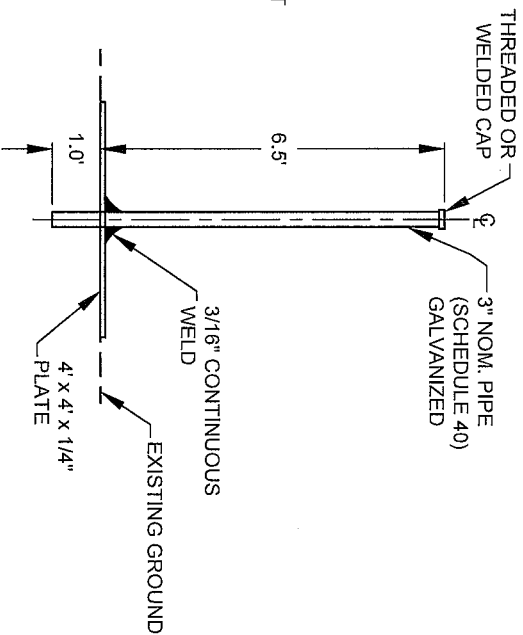
GRADE STAKE DETAIL

NOT TO SCALE



EARTHEN CONTAINMENT DIKE SETTLEMENT PLATE

(SEE NOTE 2)
NOT TO SCALE



MARSH CREATION SETTLEMENT PLATE

NOT TO SCALE

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) 61389 HWY 434 LACOMBE, LA. 70446	COASTAL PROTECTION AND RESTORATION AUTHORITY 450 LAUREL STREET BATON ROUGE, LOUISIANA 70801		BAYOU BONFOUCA MARSH CREATION PROJECT	SETTLEMENT PLATE AND GRADE STAKE DETAILS
DRAWN BY: K. CANTU	DESIGNED BY: S. HAYNES, P.E.	APPROVED BY: R. JOFRION, P.E.	STATE PROJECT NUMBER: PO-104 FEDERAL PROJECT NUMBER: PO-104	DATE: JULY 2015 SHEET 17 OF 17



State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

October 1, 2019

Taylor Daigle, Agent
Coastal Protection and Restoration Authority
2045 Lakeshore Drive
CERM Bldg. Suite 309
New Orleans, LA 70122
Via email: Taylor.Daigle@la.gov

RE: **C20190161**, Coastal Zone Consistency
U.S. Fish and Wildlife Service
Direct Federal Action
Goose Point/Point Platte and Bayou Bonfuca Marsh Creation Maintenance
St. Tammany Parish, Louisiana

Dear Mr. Daigle:

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 and subsequent revisions, 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 james.bondy@la.gov.

Sincerely,

/S/ Charles Reulet

Administrator
Interagency Affairs/Field Services Division

CR/MH/jab

cc: Daniel Breaux, USFWS
Michael Farabee, COE-NOD
Dave Butler, LDWF
Craig LeBlanc, OCM FI



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118

March 1, 2021

Operations Division
Regulatory Branch, ODR-E

SUBJECT: MVN-2012-1645-EPP

United States Fish & Wildlife Service
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

Dear Mr. Weller:

As requested, by letter dated November 4, 2020, the authorization granted by the Secretary of the Army in a permit dated December 10, 2015, from the District Engineer at New Orleans, Louisiana, to dredge and fill for marsh nourishment and creation project (PO-104), located along the Lake Pontchartrain shoreline, at the confluence of Bayous Bonfouca and Liberty, in St. Tammany Parish, Louisiana, is specifically extended to March 31, 2024.

The conditions to which the work is made subject, excepting the time limit for completion, remain in full force and effect.

A copy of the first page 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

Digitally signed by
Martin S. Mayer
Date: 2021.03.02
06:06:46 -06'00'

Martin S. Mayer
Chief, Regulatory Branch
for
Stephen F. Murphy
Colonel, U.S. Army
District Commander

Enclosure

cc: Taylor Daigle, CPRA



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS, LA 70118-3651

April 7, 2020

Operations Division
Eastern Evaluation Section

Subject: MVN 2019-1012 EBB

U.S. Fish and Wildlife Service
Attention: Daniel Breaux
61389 Highway 434
Lacombe, Louisiana 70445

Dear Mr. Breaux,

The proposed work, installation and maintenance of seven tidal creeks in five areas of the Goose Point/Point Platte Marsh Creation Project and five tidal creeks in four areas of the Bayou Bonfouca Marsh Creation Project, requiring excavation of 8.2 acres of marsh and excavation of gaps in the existing containment dikes with excavated material to be spread adjacent in a manner which will not create uplands or interfere with tidal flow, located in the Big Branch National Wildlife Refuge, on the northern shore of Lake Pontchartrain, near Lacombe, Louisiana, in St. Tammany Parish, as shown on the enclosed drawings, is authorized under **Category II** of the **Programmatic General Permit** provided that all conditions of the permit are met.

Permittee must comply with the enclosed: "Standard Manatee Conditions for In-Water Activities".

This authorization has a blanket water quality certification from the Louisiana Department of Environmental Quality; therefore, no additional authorization from DEQ is required.

However, prior to commencing work on your project, you must obtain approvals from state and local agencies as required by law and by terms of this permit. These approvals include, but are not limited to, a permit, consistency determination or determination of "no direct or significant impact (NDSI) on coastal waters" from the Louisiana Department of Natural Resources, Office of Coastal Management.

This approval to perform work is valid for 5 years from the date of this letter.

Permittee is aware that this office may reevaluate its decision on this permit at any time the circumstances warrant.

Should you have any questions, please feel free to contact Jennifer Burkett with this office at (504) 862-2045 or jennifer.e.burkett@usace.army.mil.

Sincerely,

FARABEE.MIC
HAEL.VERNE.
1053559979

Digitally signed by
FARABEE.MICHAEL.
VERNE.1053559979
Date: 2020.04.07
19:36:18 -05'00'

FOR: Martin S. Mayer
Chief, Regulatory Branch

Attachments

1. Activities authorized under this general permit shall not be used for piecemeal work and shall be applied to single and complete projects. All components of a single and complete project shall be treated together as constituting one single and complete project. All planned phases of multi-phased projects shall be treated together as constituting one single and complete project. This general permit shall not be used for any activity that is part of an overall project for which an individual permit is required.
2. No activity is authorized under this general permit which may adversely affect significant cultural resources listed or eligible for listing in the National Register of Historic Places until the requirements for Section 106 of the National Historic Preservation Act are met. Upon discovery of the presence of previously unknown historic and/or prehistoric cultural resources, all work must cease and the permittee must notify the State Historic Preservation Office and the Corps of Engineers. The authorization is suspended until it is determined whether or not the activity will have an adverse effect on cultural resources. The authorization may be reactivated or modified through specific conditions if necessary, if it is determined that the activity will have no adverse effect on cultural resources. The PGP authorization will be revoked if it is determined that cultural resources would be adversely affected, and an individual permit may be necessary.
3. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein. The permittee will, at his or her expense, install and maintain any safety lights, signals, and signs prescribed by the United States Coast Guard, through regulations or otherwise, on authorized facilities or on equipment used in performing work under the authorization.
4. No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the activity's primary purpose is to block or impound water.
5. If the **authorized** activity involves the installation of aerial transmission lines, submerged cable, or submerged pipelines across navigable waters of the United States the following is applicable:

The National Ocean Service (NOS) has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Your notification of completion must include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). Notification to NOS will be sent to the following address: National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282.

6. For pipelines under an anchorage or a designated fairway in the Gulf of Mexico the following is applicable: The NOS has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Within 30 days of completion of the pipeline, 'as built' drawings certified by a professional engineer registered in Louisiana or by a registered surveyor shall be furnished to this office, the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, and to the Director, National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282. The plans must include the location, configuration and actual burial depth of the completed pipeline project.

7. If the **authorized** project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc.,) in the waterway, you are advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification with a copy of your permit approval and drawings should be mailed to the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, about 1 month before you plan to start work. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2107.

8. All activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Clean Water Act (PL 92-500:86 Stat 816), or pursuant to applicable state and local laws.

9. Substantive changes to the Louisiana Coastal Resources Program may require immediate suspension and revocation of this permit in accordance with 33 CFR 325.7.

10. Irrespective of whether a project meets the other conditions of this permit, the Corps of Engineers retains discretionary authority to require an individual Department of the Army permit when circumstances of the proposal warrant this requirement.

11. Any individual authorization granted under this permit may be modified, suspended, or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of this permit or that such action would otherwise be in the public interest.

12. The Corps of Engineers may suspend, modify, or revoke this general permit if it is found in the public interest to do so.

13. Activities proposed for authorization under the PGP must comply with all other necessary federal, state, and/or local permits, licenses, or approvals. Failure to do so would result in a violation of the terms and conditions of PGP.

14. The permittee shall permit the District Commander or his authorized representative(s) or designee(s) to make periodic inspections of the project site(s) and disposal site(s) if different from the project site(s) at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

15. This general permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and it does not authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations nor does it obviate the requirements to obtain state or local assent required by law for the activity authorized herein.

16. In issuing authorizations under this permit, the federal government will rely upon information and data supplied by the applicant. If, subsequent to the issuance of an authorization, such information and data prove to be false, incomplete, or inaccurate, the authorization may be modified, suspended, or revoked, in whole or in part.

17. For activities resulting in sewage generation at the project site, such sewage shall be processed through a municipal sewage treatment system or, in areas where tie-in to a municipal system is not practical, the on-site sewerage system must be approved by the local parish sanitarian before construction.

18. Any modification, suspension, or revocation of the PGP, or any individual authorization granted under this permit, will not be the basis for any claim for damages against the United States.

19. Additional conditions deemed necessary to protect the public interest may be added to the general permit by the District Commander at any time. If additional conditions are added, the public will be advised by public notice. Individual authorizations under the PGP may include special conditions deemed necessary to ensure minimal impact and compliance with the PGP.

20. The PGP is subject to periodic formal review by MVN and OCM in coordination with the Environmental Protection Agency, US Fish and Wildlife Service, the National Marine Fisheries Service, and the Louisiana Department of Wildlife and Fisheries. Comments from reviewing agencies will be considered in determination as to whether modifications to the general permit are needed. Should the District Commander make a determination not to incorporate a change proposed by a reviewing agency, after normal negotiations between the respective agencies, the District Commander will explain in writing to the reviewing agency the basis and rationale for his decision.

21. CEMVN retains discretion to review the PGP, its terms, conditions, and processing procedures, and decide whether to modify, reissue, or revoke the permit. If the PGP is not modified or reissued within 5 years of its effective date, it automatically expires and becomes null and void.

22. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

23. 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 as described in Special Condition 25 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.

24. 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.

25. If you sell the property associated with this permit, you must provide this office with a copy of the permit and a letter noting your agreement to transfer the permit to the new owner and the new owner's agreement to accept the permit and abide by all conditions of the permit. This letter must be signed by both parties.

26. 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 floodplain ordinances, regulations or permits.

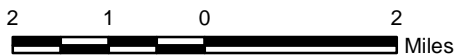
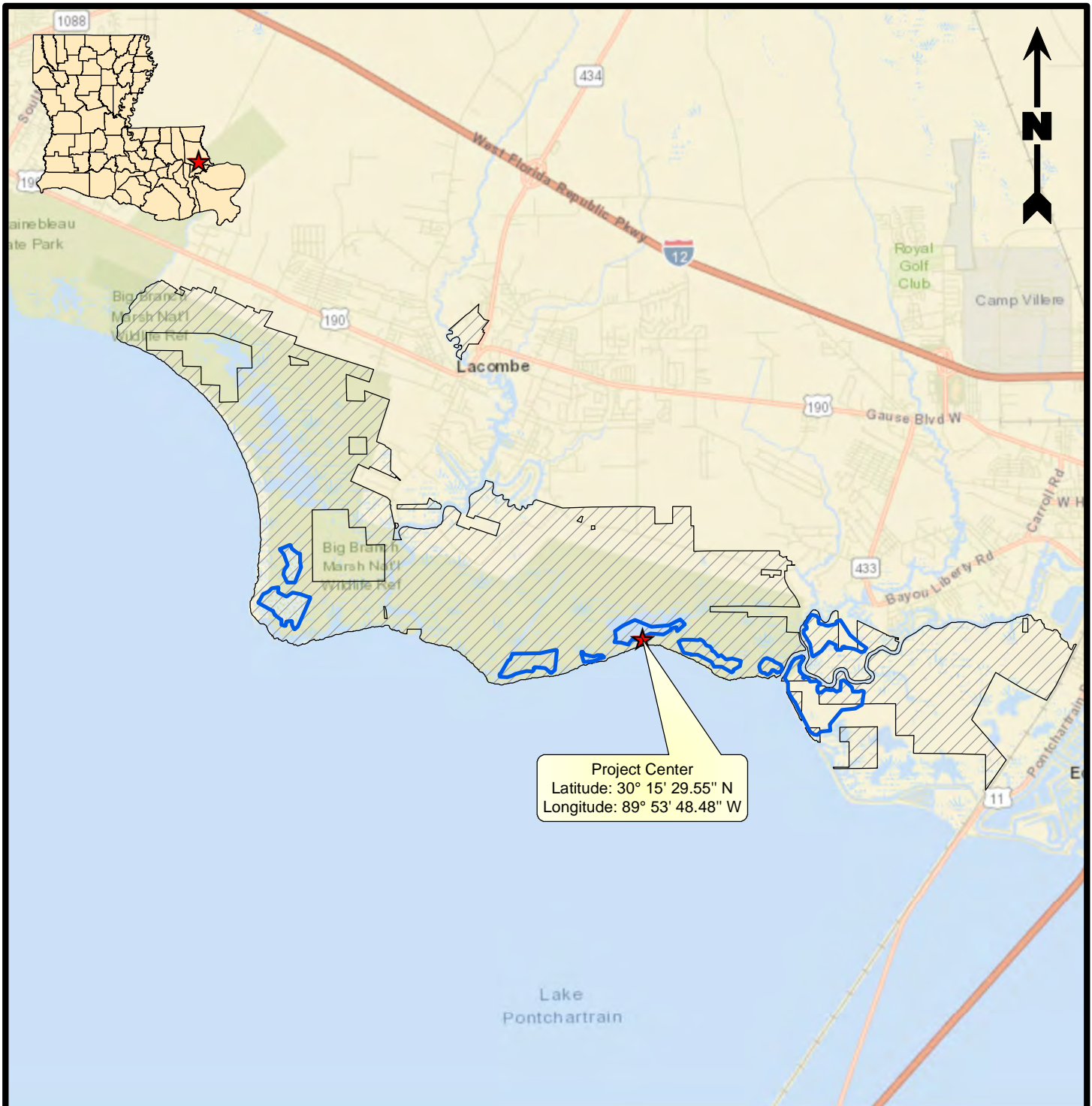
27. In issuing authorizations under this permit, the federal government does not assume any liability for: damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest; damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit, and; design or construction deficiencies associated with the permitted work.

STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES

During in-water work in areas that potentially support manatees, all personnel associated with the project shall be instructed and aware of the potential presence of manatees, manatee speed zones, and the need to avoid collisions with, and injury to, manatee. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel shall be instructed not to attempt to feed or otherwise interact with the animal.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). To minimize potential impacts to manatees in areas of their potential presence, the permittee shall insure the following are adhered to:

- All work, equipment, and vessel operation shall cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the project area, all vessels associated with the project shall operate at “no wake/idle” speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels shall follow routes of deep water whenever possible.
- If used, siltation or turbidity barriers shall be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½" X 11" reading language similar to the following: “CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT”. A second temporary sign measuring 8½" X 11" shall be posted at a location prominently visible to all personnel engaged in water-related activities and shall read language similar to the following: “CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION”.
- Collisions with, injury to, or sightings of manatees shall be immediately reported to the U.S. Fish and Wildlife Service’s, Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.



Legend

- Big Branch National Wildlife Refuge
- Existing Marsh Creation Cells/Containment Dikes

Reference

Base map comprised of ESRI StreetMap USA data.

Vicinity Map

Joint Permit Application
St. Tammany Parish, Louisiana

U.S. Fish and Wildlife Service

Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project



PROVIDENCE

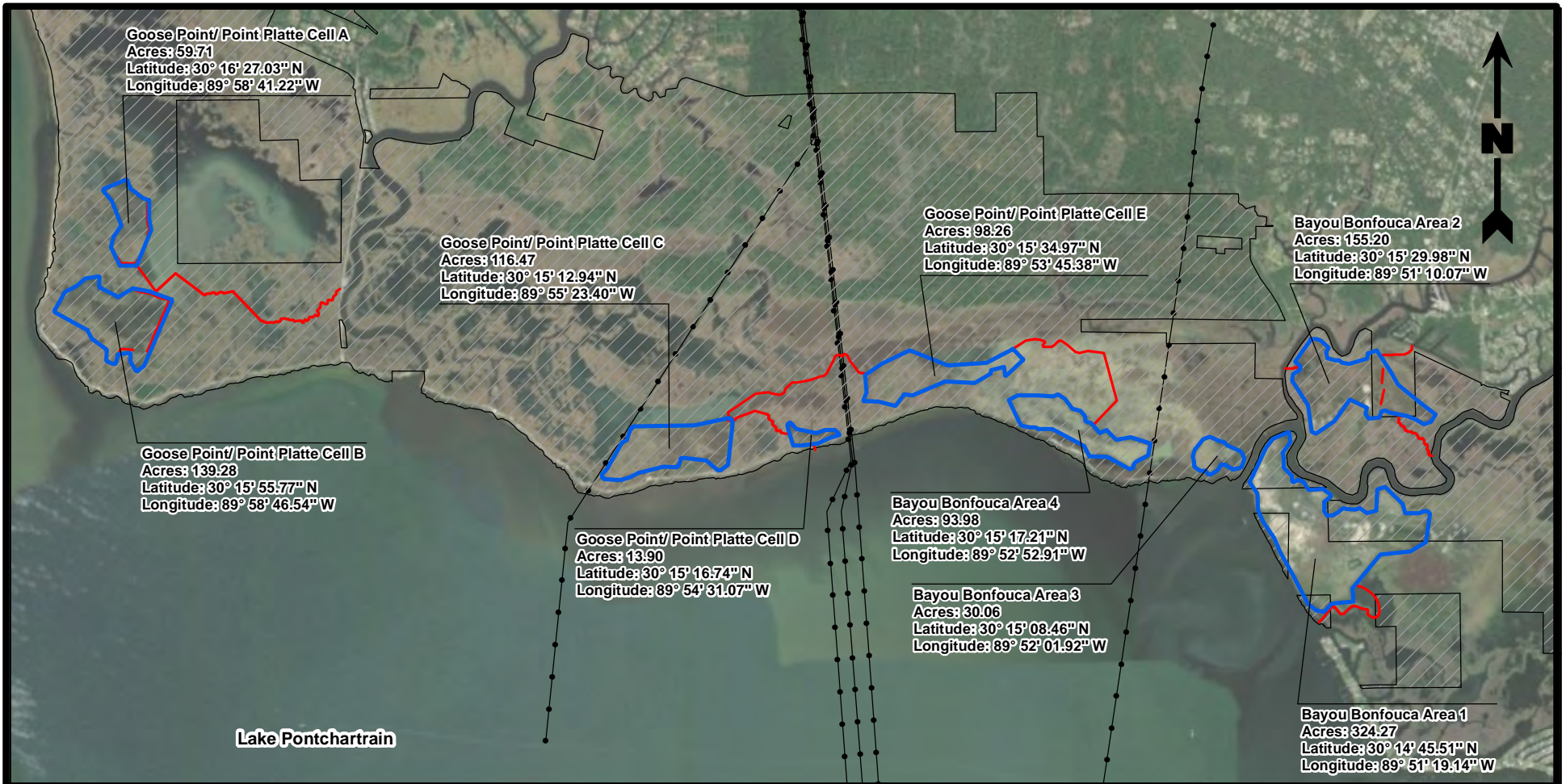
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Checked By	TS	8/26/2019
Approved By	RS	8/26/2019

Project Number
621-010

Drawing Number
621-010-A015

1

Figure

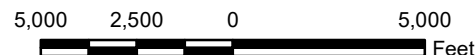


Legend

- Existing Marsh Creation Cells/Containment Dikes
- Big Branch National Wildlife Refuge
- Existing Pipelines
- Access

Reference

Base map comprised of ESRI's World Imagery exported 7/30/19.



Aerial Photograph

Joint Permit Application
St. Tammany Parish, Louisiana

U.S. Fish and Wildlife Service

Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project



PROVIDENCE

Drawn By	TDJ	11/13/19
Checked By	TS	11/13/19
Approved By	RS	11/13/19

Project Number	2 Figure
621-010	
Drawing Number	
621-010-A016	

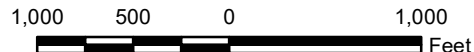


Legend

- Big Branch National Wildlife Refuge
- Existing Marsh Creation Cell/Containment Dike
- Proposed Tidal Creek (Maximum Width 50')
- Access
- Proposed Gap Installation (50' Wide)

Reference

Base map comprised of ESRI's World Imagery exported 7/30/19.



Aerial Photograph - Goose Point/Point Platte Cell A Joint Permit Application St. Tammany Parish, Louisiana

U.S. Fish and Wildlife Service

Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project



PROVIDENCE

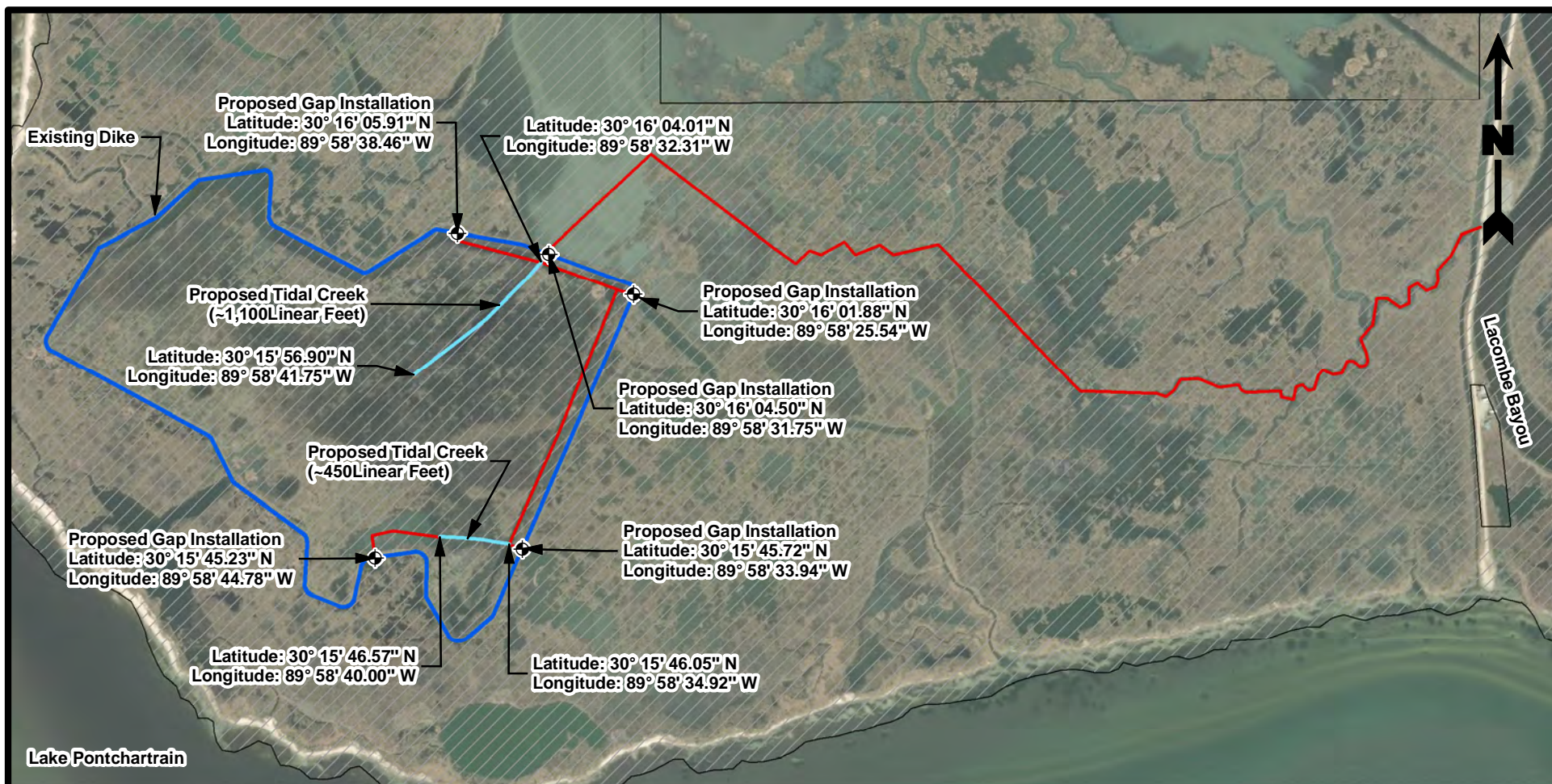
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Checked By	TS	11/13/19
Approved By	RS	11/13/19

Project Number
621-010

Drawing Number
621-010-A017

3

Figure



Legend

- Big Branch National Wildlife Refuge
- Existing Marsh Creation Cell/Containment Dike
- Proposed Tidal Creek (Maximum Width 50')
- Access
- Proposed Gap Installation (50' Wide)

Reference

Base map comprised of ESRI's World Imagery exported 7/30/19.

1,000 500 0 1,000
Feet

Aerial Photograph - Goose Point/Point Platte Cell B Joint Permit Application St. Tammany Parish, Louisiana

U.S. Fish and Wildlife Service

Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project



PROVIDENCE

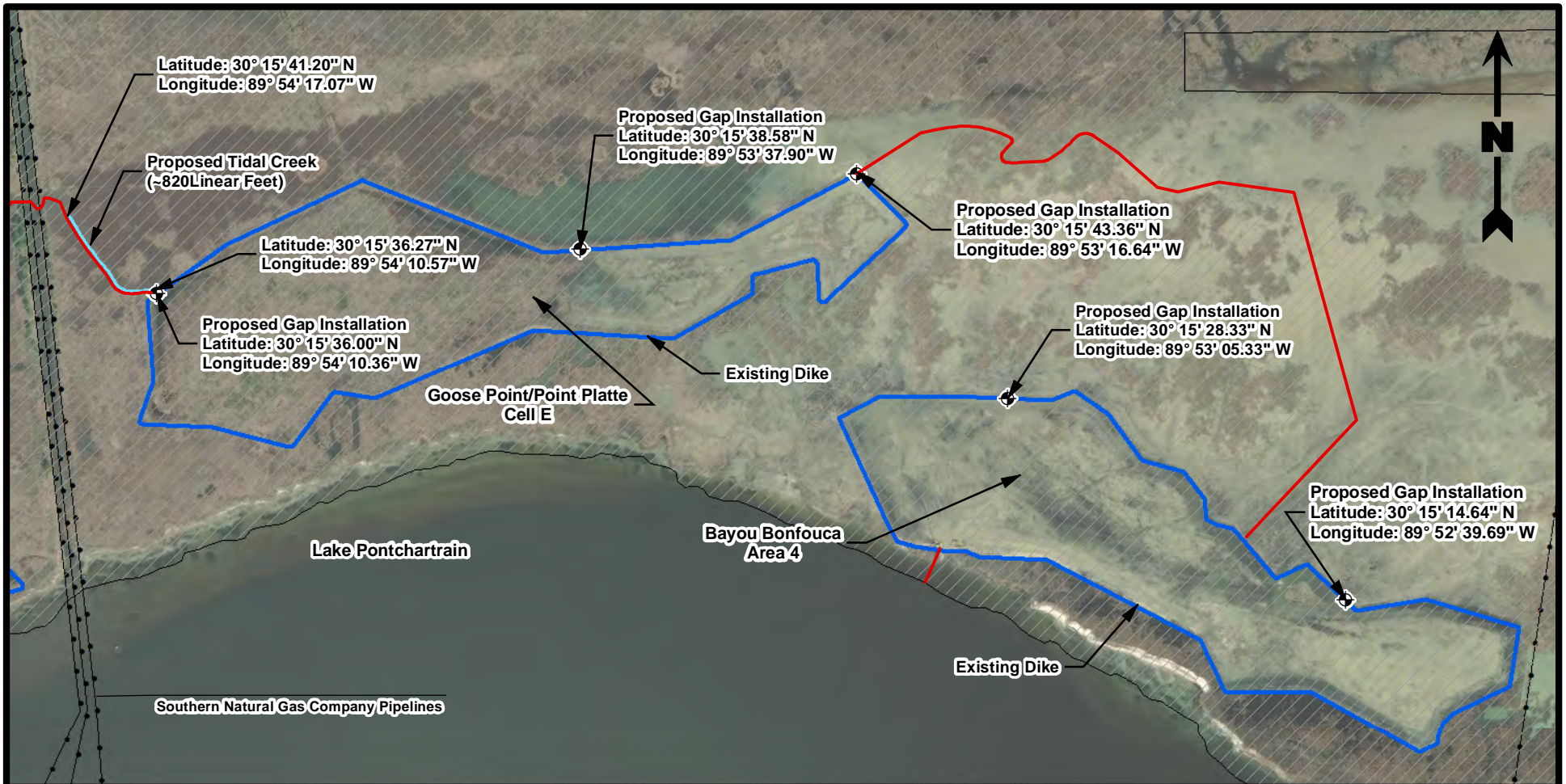
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Checked By	TS	08/13/2019
Approved By	RS	08/13/2019

Project Number
621-010

Drawing Number
621-010-A022

4

Figure



Legend

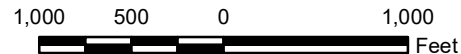
- | | |
|---|--------------------------------------|
| Big Branch National Wildlife Refuge | Proposed Gap Installation (50' Wide) |
| Existing Marsh Creation Cell/Containment DiKE | Access |
| Proposed Tidal Creek (Maximum Width 50') | Existing Pipelines |

Note

Primary access is shown via existing creek crossing Southern Natural Gas Pipelines. Secondary access, if required to avoid existing structures, is permissible to the North of existing pipeline crossing location (No further than 100' North).

Reference

Base map comprised of ESRI's World Imagery exported 7/30/19.




Aerial Photograph - Goose Point/Point Platte Cell E & Bayou Bonfouca Area 4

Joint Permit Application
St. Tammany Parish, Louisiana







U.S. Fish and Wildlife Service

Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project

 PROVIDENCE	Drawn By	OPB	11/13/19
	Checked By	TS	11/13/19
	Approved By	RS	11/13/19
	Project Number 621-010		6 Figure
	Drawing Number 621-010-A019		

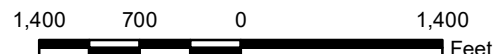


Legend

-  Big Branch National Wildlife Refuge
-  Existing Marsh Creation Cell/Containment Dike
-  Proposed Tidal Creek (Maximum Width 50')
-  Access
-  Existing Pipelines
-  Proposed Gap Installation (50' Wide)

Reference

Base map comprised of ESRI's World Imagery exported 7/30/19.



Aerial Photograph - Bayou Bonfouca Areas 1 & 3

Joint Permit Application
St. Tammany Parish, Louisiana

U.S. Fish and Wildlife Service

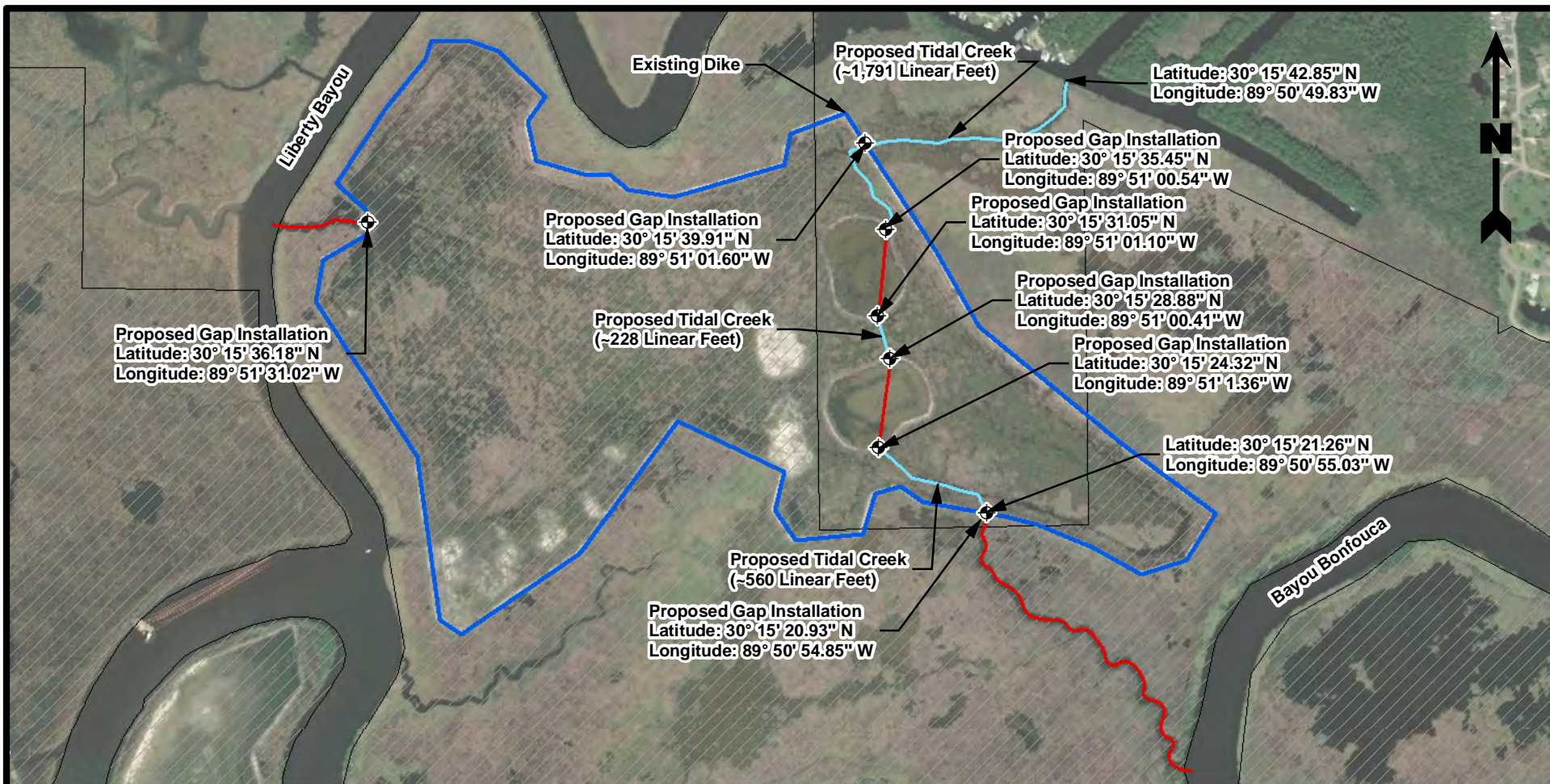
Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project



PROVIDENCE

Drawn By	OPB	11/13/19
Checked By	TS	11/13/19
Approved By	RS	11/13/19

Project Number 621-010	7 Figure
Drawing Number 621-010-A020	

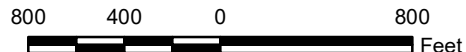


Legend

- Big Branch National Wildlife Refuge
- Existing Marsh Creation Cell/Containment Dike
- Proposed Tidal Creek (Maximum Width 50')
- Access
- Proposed Gap Installation (50' Wide)

Reference

Base map comprised of ESRI's World Imagery exported 7/30/19.



Aerial Photograph - Bayou Bonfouca Area 2

Joint Permit Application
St. Tammany Parish, Louisiana

U.S. Fish and Wildlife Service

Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project



PROVIDENCE

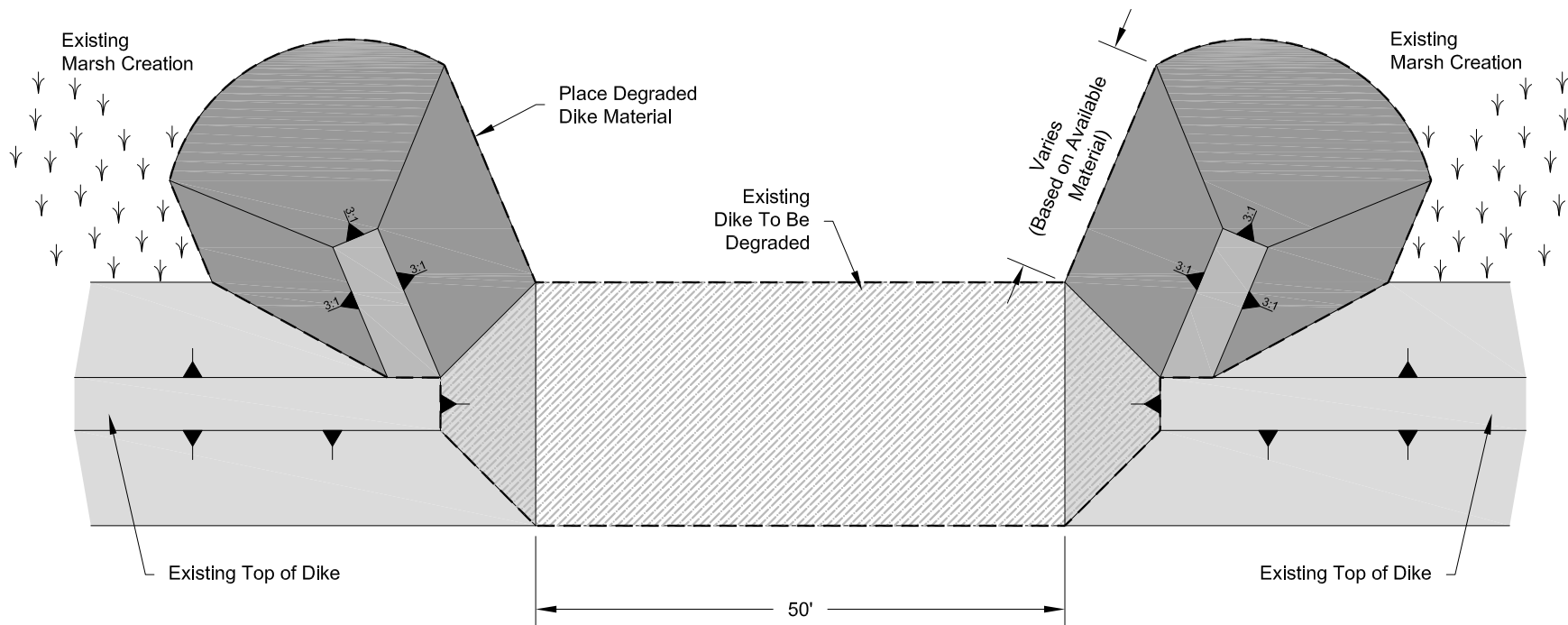
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Checked By	TS	11/13/19
Approved By	RS	11/13/19

Project Number
621-010

Drawing Number
621-010-A021

8

Figure



DIKE GAP TYPICAL PLAN VIEW

Not to Scale

Notes

1. The locations of the spoil placement adjacent to the dike gaps may be revised based on site specific conditions or recommendations from USFWS and the project owner.
2. Damage to established vegetation along the existing dikes shall be minimized.

Typical Sections

Joint Permit Application
St. Tammany Parish, Louisiana

U.S. Fish and Wildlife Service

Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project



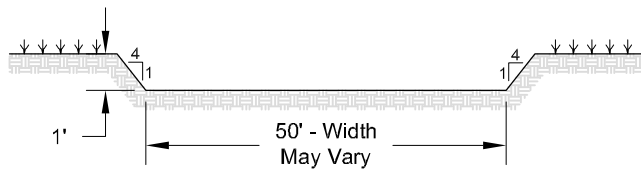
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Checked By	DSG	08/16/19
Approved By	RS	08/16/19

Project Number
621-010

Drawing Number
621-010-A023

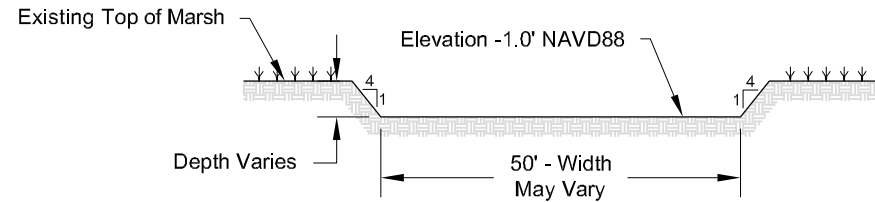
9

Figure



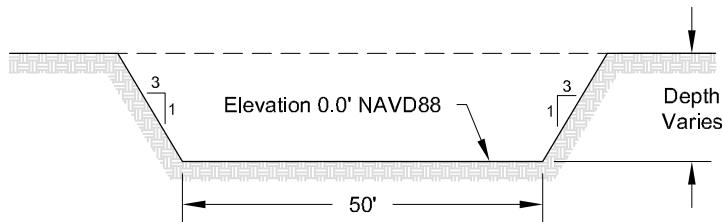
**Goose Point/Point Platte (PO-33)
Tidal Creek Typical Section**

Not to Scale



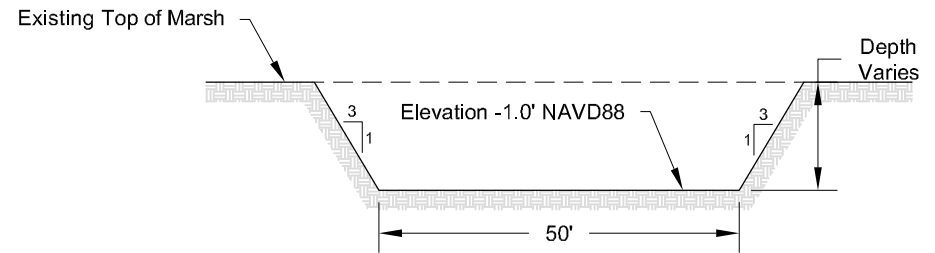
**Bayou Bonfouca (PO-104)
Tidal Creek Typical Section**

Not to Scale



**Goose Point/Point Platte (PO-33) and Bayou
Bonfouca (PO-104) Dike Gap Not Adjacent
to Tidal Creek Typical Section**

Not to Scale



**Bayou Bonfouca (PO-104)
Dike Gap Adjacent to Tidal Creek
Typical Section**

Not to Scale

Notes


1. The width and depth of the tidal creeks may vary based on site specific conditions or recommendations from USFWS and the project owner.
2. Spoil from the creation of the tidal creeks shall be deposited in areas adjacent to the tidal creek. Spoil shall be spread as to not create an upland area or habitat.
3. The width and bottom elevation of the dike gaps may vary based on site specific conditions or recommendations from USFWS and the project owner.

Typical Sections

Joint Permit Application
St. Tammany Parish, Louisiana

U.S. Fish and Wildlife Service

Goose Point/Point Platte and Bayou Bonfouca Marsh Creation Maintenance Project

	Drawn By	DSG	11/26/19
	Checked By	DSG	11/26/19
	Approved By	RS	11/26/19
	Project Number 621-010		10 Figure
	Drawing Number 621-010-A024		

ATTACHMENT V

BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)

OPERATION AND MAINTENANCE BUDGET

Bayou Bonfouca Marsh Creation (PO-104)

Federal Sponsor: USFWS
Construction Completed : 06/14/2018
PPL 20

Current Approved O&M Budget	Year 1 2018	Year 2 2019	Year 3 2020	Year 4 2021	Year 5 2022	Year 6 2023	Year 7 2024	Year 8 2025	Year 9 2026	Year 10 2027	Year 11 2028	Year 12 2029	Year 13 2030	Year 14 2031	Year 15 2032	Year 16 2033	Year 17 2034	Year 18 2035	Year 19 2036	Year 20 2037	Project Life Budget
State O&M	\$41,531	\$3,251	\$53,461	\$3,369	\$3,430	\$38,492	\$3,555	\$3,618	\$3,684	\$15,084	\$3,817	\$3,886	\$26,334	\$4,027	\$4,100	\$46,009	\$4,249	\$4,325	\$4,403	\$43,926	\$314,551
Corps Admin	\$1,262	\$1,285	\$1,308	\$1,331	\$1,355	\$1,380	\$1,405	\$1,430	\$1,456	\$1,482	\$1,509	\$1,536	\$1,563	\$1,591	\$1,620	\$1,649	\$1,679	\$1,709	\$1,740	\$3,246	\$31,536
Federal S&A	\$6,661	\$3,251	\$6,318	\$3,369	\$3,430	\$5,591	\$3,555	\$3,618	\$3,684	\$6,157	\$3,817	\$3,886	\$5,299	\$4,027	\$4,100	\$6,683	\$4,249	\$4,325	\$4,403	\$38,369	\$124,792
Total																					\$470,879

Projected O&M Expenditures																					Remaining Project Life
Maintenance Inspection							\$14,537				\$15,894					\$17,376					\$47,807
Operations (N/A)																					\$0
State S&A					\$2,586					\$2,827					\$3,091						\$8,504
Topo Surveys					\$157,873					\$172,602					\$52,556						\$383,032
Total	\$0	\$0	\$0	\$0	\$160,459	\$0	\$14,537	\$0	\$0	\$175,430	\$0	\$15,894	\$0	\$0	\$55,647	\$0	\$17,376	\$0	\$0	\$0	\$439,343

ATTACHMENT VI

BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)

STRUCTURE OPERATIONS

There are no operable structures in this project.

ATTACHMENT VII

BAYOU BONFOUCA MARSH CREATION PROJECT (PO-104)

INSPECTIONS

The purpose of the inspections is to inspect and evaluate the conditions of all project features to determine if the project is functioning according to the design and identify any deficiencies that may require maintenance. An inspection report outlining these field observations will be drafted by CPRA. This report shall include the description, date and time of inspection, personnel present for inspection, weather conditions, water levels at the time of inspection, general condition of the project features. These reports may be compiled under Attachment VII - Inspections.

Inspection of project features shall be performed every 5 years for the 20-year economic life of the project. In the case of severe storms and tidal events, additional inspections may be required to assess potential damage. The first project inspection was held in 2019 and was funded by the construction phase of the project. The project was still in the construction phase through the completion of a separate contract to excavate dike gaps and tidal creeks.



**State of Louisiana
Coastal Protection and Restoration Authority**

2019 Annual Inspection Report

for

Bayou Bonfouca Marsh Creation Project

State Project Number PO-0104
Priority Project List 20

January 2020
St. Tammany Parish

Prepared by:

Taylor M. Daigle, P.E.
Coastal Protection and Restoration Authority
New Orleans Field Office
CERM, Suite 309
2045 Lakeshore Drive
New Orleans, LA 70122



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III. Project Description and History.....	1
IV. Summary of Past Operations and Maintenance Projects	2
V. Inspection Results	3
VI. Conclusions and Recommendations	3

Appendices

Appendix A	Project Features Map
Appendix B	Three Year Operations & Maintenance Budget Projection
Appendix C	Photographs
Appendix D	Field Inspection Check Sheet



I. Introduction

The Bayou Bonfouca Marsh Creation Project (PO-0104) is located in the Lake Pontchartrain Basin along the northeastern corner of Lake Pontchartrain as shown in Appendix A. The Louisiana Coastal Wetlands Planning, Protection and Restoration Task Force designated PO-0104 as a part of the 20th Priority Project List. The federal sponsor for the project is the US Fish and Wildlife Service (USFWS). The non-federal sponsor for the project is the Coastal Protection and Restoration Authority (CPRA).

II. Inspection Purpose and Procedures

The purpose of an annual inspection is to evaluate the constructed project features, identify any deficiencies, and prepare a report detailing the condition of project features and recommending any corrective actions needed. Should it be determined that corrective actions are needed, CPRA shall provide a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs. The annual inspection report also contains a summary of maintenance projects (Section IV – Summary of Past Operations and Maintenance Projects) and an estimated projected budget (Appendix B - Three Year Operations & Maintenance Budget Projection) for the upcoming three (3) years for operation, maintenance and rehabilitation.

This annual inspection was performed on October 28, 2019. Weather consisted of sunny skies, a temperature of approximately 70°F, and winds out of the north at around 3 MPH. At the time of the inspection, the nearby Bayou Liberty gauge read +1.9 feet NAVD 88. Taking part in the inspection were Bryan Gossman and Taylor Daigle of CPRA; Robert Dubois and Danny Breaux of USFWS; and Cliff Penick and Wheeler Penick, landowners for a large portion of Marsh Creation Area 2. The inspection was made using an airboat furnished by USFWS. Photographs of the inspection are included in Appendix C of this report.

III. Project Description and History

The goal of the Bayou Bonfouca Marsh Creation Project was to re-create and nourish low salinity brackish marsh in open waters adjacent to Bayou Bonfouca using sediment dredged from Lake Pontchartrain.

The poor condition of marsh in the project area was due to a combination of subsidence, hurricane-caused interior ponding, and shoreline erosion. Although shoreline erosion rates were relatively low, only a narrow strip of shoreline existed between Lake Pontchartrain and the interior ponds. Several breaches existed along the shoreline. Should shoreline breaching and enlargement of tidal channels have been allowed to extend, high tidal energy would have intruded into the interior ponds of the project area. This would have caused the interior marshes to experience accelerated loss rates. Restoration of the marsh adjacent to Lake Pontchartrain provides vital protection to the interior marsh to the north.



The project features include four marsh creation areas contained by approximately 58,000 linear feet of earthen containment dikes. Marsh Creation Area 1 and Marsh Creation Area 2 contain ponds that were constructed 1 foot below the surrounding marsh creation elevations. Outside of the earthen containment dikes, an additional 281 acres of marsh were created, and an additional 570 acres of marsh were nourished.

Table 1: Project Feature Areas and Target Fill Elevations

Feature	Acreage	Target Fill Elevation
Marsh Creation Area 1	335	+2.7' NAVD 88
Marsh Creation Area 2	152	+2.7' NAVD 88
Marsh Creation Area 3	29	+2.7' NAVD 88
Marsh Creation Area 4	92	+2.7' NAVD 88
Pond B	4	+1.7' NAVD 88
Pond C	4	+1.7' NAVD 88
Pond D	4	+1.7' NAVD 88
Uncontained Marsh Creation	281	N/A
Marsh Nourishment Area	570	N/A
Total	1,471	-

Following acceptance of the marsh creation areas, all earthen containment dikes were either degraded to design elevation, degraded to marsh platform elevation, or gapped to the same elevation of the marsh platform. Approximately 1,560 linear feet of the earthen containment dikes that were vulnerable to erosion due to their location adjacent to Lake Pontchartrain were fortified using articulated concrete mats. These areas were covered with sediment from the degradation of the earthen containment dikes to foster the filling of the voids within the mats and to encourage voluntary plant recruitment.

The project was designed to meet a final target marsh elevation of +1.1 feet NAVD 88 over the 20 year project life. According to the settlement curve developed for the project, it was expected for the marsh to settle to the final target marsh elevation during the first year after construction and remain roughly constant at that elevation throughout the project's economic life. The project has a 20 year economic life, which began at project completion in 2018.

IV. Summary of Past Operations and Maintenance Projects

There are no operable structures in the project.

The only maintenance events that have been conducted in the project area have been vegetative plantings. There have been three of these events.

- In October 2018, 86,862 native coastal plants were planted.
- In February 2019, 3,000 trees were planted in Marsh Creation Area 1, and 4,000 trees were planted in Marsh Creation Area 4.
- In May through October 2019, marsh grass was planted (approximately 75,000 plants) in Marsh Creation Area 1, Marsh Creation Area 3, the marsh nourishment

area southeast of Marsh Creation Area 1, and the marsh nourishment area north of Marsh Creation Area 4.

V. Inspection Results

The project's marsh creation areas appear to be healthy with a very successful establishment of natural vegetation. Most areas observed were not inundated at the time of the inspection. Marsh Creation Area 3 was the only area that was mostly inundated, but due to the shallow water depth, it appears that the area has not settled below the target elevation. Some high points were observed, mostly along the alignment of the earthen containment dikes. Observations and remarks for each of the four marsh creation areas are provided on the Field Inspection Check Sheet included in Appendix D.

VI. Conclusions and Recommendations

The objective for this project was to recreate marsh habitat in open water behind the existing shoreline. Based on findings from this inspection, the Bayou Bonfouca Marsh Creation Project appears to be achieving project objectives. From visual observations, the marsh does not appear to have settled below the final design target elevation (+1.1 feet NAVD 88).

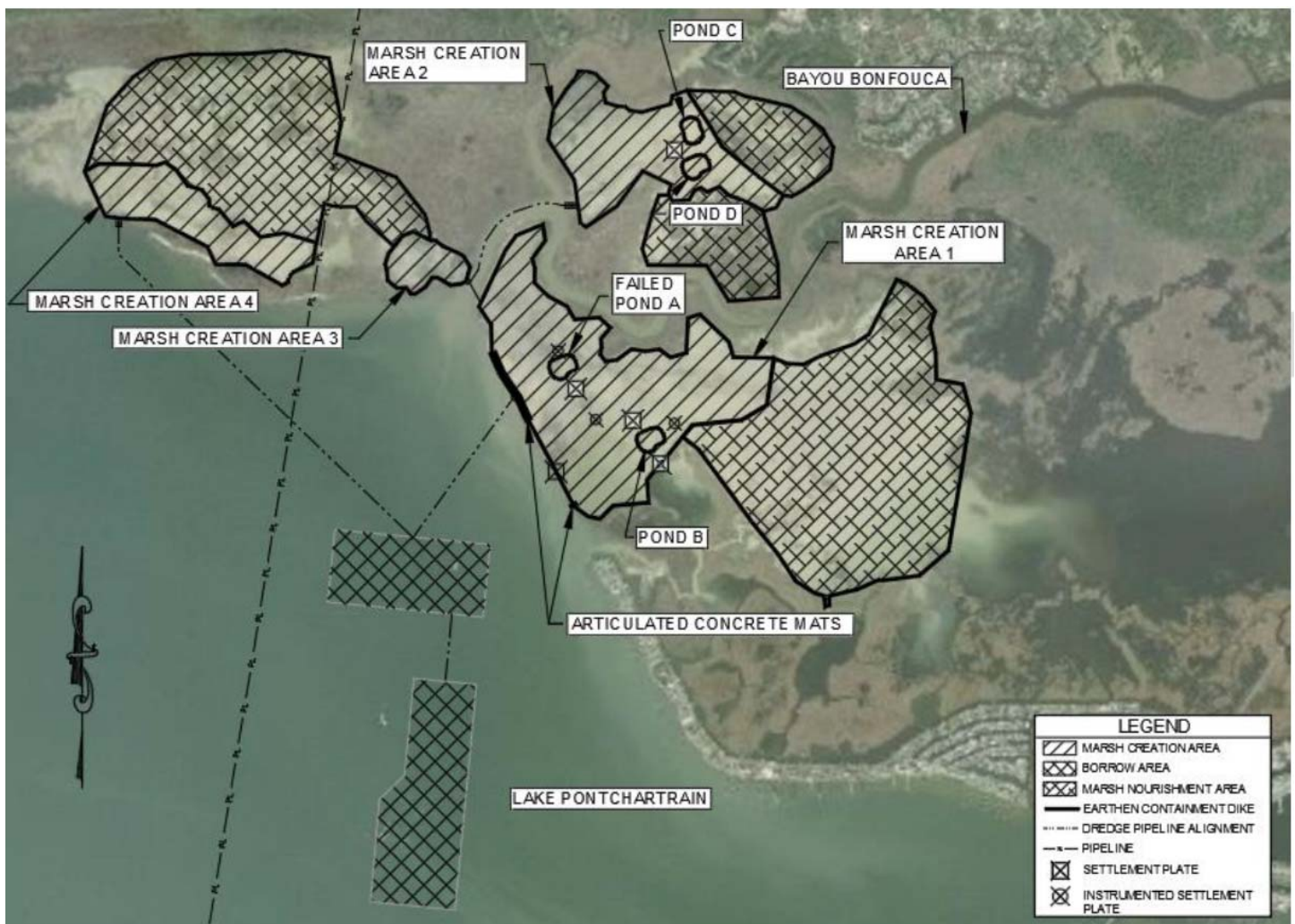
CPRA is currently planning a maintenance event to reestablish hydraulic connectivity throughout the project footprint by excavating tidal creeks in the marsh and additional gaps in the earthen containment dikes.

CPRA plans to inspect project features at a minimum frequency of every five years to document and assess site conditions. CPRA also plans to conduct surveys in the project area at least three times during the economic life of the project.



Appendix A

Project Features Map



Appendix B

Three Year Operations & Maintenance Budget Projection

Note: Budget for the maintenance event that is currently being planned is not included because it is funded under the construction budget for this project, not the O&M budget.

Bayou Bonfouca Marsh Creation (PO-104)
 Federal Sponsor: USFWS
 Construction Completed : 06/14/2018
 PPL 20

Current Approved O&M Budget	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024	Year 7 2025	Year 8 2026	Year 9 2027	Year 10 2028	Year 11 2029	Year 12 2030	Year 13 2031	Year 14 2032	Year 15 2033	Year 16 2034	Year 17 2035	Year 18 2036	Year 19 2037	Year 20 2038	Project Life Budget	Currently Funded
State O&M	\$41,531	\$3,251	\$53,461	\$3,369	\$3,430	\$38,492	\$3,555	\$3,618	\$3,684	\$15,084	\$3,817	\$3,886	\$26,334	\$4,027	\$4,100	\$46,009	\$4,249	\$4,325	\$4,403	\$43,926	\$314,551	
Corps Admin	\$1,262	\$1,285	\$1,308	\$1,331	\$1,355	\$1,380	\$1,405	\$1,430	\$1,456	\$1,482	\$1,509	\$1,536	\$1,563	\$1,591	\$1,620	\$1,649	\$1,679	\$1,709	\$1,740	\$3,246	\$31,535	
Federal S&A	\$6,661	\$3,251	\$6,318	\$3,369	\$3,430	\$5,591	\$3,555	\$3,618	\$3,684	\$6,157	\$3,817	\$3,886	\$5,299	\$4,027	\$4,100	\$6,683	\$4,249	\$4,325	\$4,403	\$38,369	\$124,793	
Total																					\$470,880	\$137,791

Projected O&M Expenditures																					Remaining Project Life	Current 3 Year Request
Maintenance Inspection							\$18,876					\$20,637					\$22,563				\$62,076	\$0
End of Life Admin																			\$17,974		\$17,974	\$0
Operations (N/A)																					\$0	\$0
State S&A			\$2,777			\$2,930	\$2,983		\$3,147					\$3,440	\$3,502						\$18,778	\$2,777
Topo Surveys			\$45,510				\$48,876		\$51,563					\$56,374							\$202,322	\$45,510
Settlement Plate Surveys			\$15,033			\$15,859										\$18,957					\$49,849	\$15,033
Total		\$0	\$63,320	\$0	\$0	\$18,789	\$70,735	\$0	\$0	\$54,710	\$0	\$20,637	\$0	\$0	\$59,814	\$22,459	\$22,563	\$0	\$17,974	\$0	\$351,000	\$63,320

O&M Expenditures from COE Report	\$0	Current O&M Budget	\$137,791	Current Project Life Budget less COE Admin	\$439,344
State O&M Expenditures not submitted for in-kind credit	\$0	Estimated O&M Expenditures to-date	\$0	Total Projected Project Life Budget	\$351,000
Federal Sponsor MIPRs (if applicable)	\$0	Remaining Available O&M Budget	\$137,791	Project Life Budget Surplus (Shortfall)	\$88,345
Total Estimated O&M Expenditures (as of Oct 2019)	\$0	Projected 3-Year Budget Expenditures	\$63,320		
		3-Year Budget Surplus (Shortfall Request)	\$74,471		

Appendix C

Photographs

Note: Reference the Project Features Map in Appendix A for features called out in the following photographs.



Photo 1: Marsh Creation Area 1

Location of proposed tidal creek on southern end of MCA 1(near Pond B)



Photo 2: Marsh Creation Area 1

Pond B viewed from the pond containment dike.



Photo 3: Marsh Creation Area 1

Articulated concrete mats at the intersection of the MCA 1 containment dike and Lake Pontchartrain



Photo 4: Marsh Creation Area 1

Existing gap on western side of northern earthen containment dike.



Photo 5: Marsh Creation Area 1
Northwestern corner of MCA 1



Photo 6: Tidal Creek NE of Marsh Creation Area 2
Pilings at the intersection of the proposed tidal creek and the Bayou Liberty Marina



Photo 7: Marsh Creation Area 2

Northeastern corner viewed from earthen containment dike



Photo 8: Access Route South of Marsh Creation Area 2

Southern access to Marsh Creation Area 2 for upcoming maintenance event. This is within the marsh nourishment area.



Photo 9: Marsh Creation Area 2

High point along southern earthen containment dike



Photo 10: Marsh Creation Area 2

Earthen containment dike at the proposed gap location on the west end of MCA 2



Photo 11: Marsh Creation Area 3

From visual observation, this area appeared to be about 6" deep. With the tide reading of +1.9 feet NAVD 88, the elevation here may be approximately +1.4 feet NAVD 88.



Photo 12: Marsh Creation Area 3



Photo 13: Marsh Nourishment Area NW of MCA 3



Photo 14: Marsh Creation Area 4

Fragile earthen containment dike location adjacent to Lake Pontchartrain. A breach has previously occurred here.



Photo 15: Marsh Creation Area 4
Earthen containment dike



Photo 16: Marsh Creation Area 4
Healthy marsh viewed from earthen containment dike



Photo 17: Marsh Creation Area 4
Earthen containment dike at the NE corner of MCA 4



Photo 18: Marsh Nourishment Area North of MCA 4



Photo 19: Goose Point / Point Platte Cell E

Location of proposed earthen containment dike gap at NE corner of cell



Photo 20: Southern Natural Gas Pipeline Canal

Canal is wide and deep. Equipment for the upcoming maintenance event can likely be floated across the canal with permission from pipeline operator.

Appendix D

Field Inspection Check Sheet

FIELD INSPECTION CHECK SHEET				
Project No. / Name: Bayou Bonfouca Marsh Creation Project (PO-104)			Date of Inspection: <u>10/28/2019</u> Start Time: <u>10:00 AM</u>	
Structure No.	N/A		Inspector(s): <u>Bryan Gossman (CPRA), Taylor Daigle (CPRA), Robert Dubois (USFWS), Danny Breaux (USFWS), Cliff Penick (landowner), Wheeler Penick (landowner)</u>	
Structure Description:	Marsh Creation Fill Areas		Water Level: <u>+1.9 feet NAVD 88</u>	
Type of Inspection: Annual			Weather Conditions: <u>Sunny, N winds at 3 MPH</u>	
Feature	Condition	Physical Damage	Photo #	Observations and Remarks
MCA 1	Very Good	None	1-5	The previously proposed gap slightly to the east (on the north side) is already open. This gap will be removed from the upcoming maintenance event plans. The previously proposed gap slightly to the west (on the north side) and adjacent proposed creek should also be removed from plans. Need to add creek to southern end of marsh creation area.
MCA 2	Very Good	None	6-7, 9-10	We observed a silted in gap on the southern dike, west of the proposed dike gap location. Dike gaps will be added to planned maintenance event where proposed creeks meet pond dikes. Southernmost proposed creek will be revised to follow interior borrow canal.
MCA 3	Very Good	None	11-12	Much of MCA 3 is a shallow area about 6" deep. USFWS (D. Breaux) said that prior to construction, the area was about 2.5' deep. With the tide at +1.9 feet NAVD 88 at the time of the inspection, MCA 3 is at an approximate elevation of +1.4 feet NAVD 88, which is higher than the target elevation of +1.1 feet NAVD 88. Both previously proposed gaps for this marsh creation area will be removed from the plans because tidal exchange is already occurring at these locations. USFWS (D. Breaux) noted that the eastern gap was previously existing, but when they chose to put a gap there, it was much smaller. Now it allows for sufficient tidal exchange.
MCA 4	Very Good	None	14-17	End of dike degradation on western side appears to be slightly different than the location marked on the as-builts. It appears that the dike continues a couple hundred feet further than marked on the as-builts. End of dike degradation on the eastern side appears to match what is reflected in the as-builts. Previously proposed gap will be removed from plans. Per as-builts, this part of the dike has been degraded. We were not able to access the exact location because the water got too deep to continue on foot, so tidal exchange is already occurring in that area.
Uncontained Marsh Creation (SE of MCA 1)	Very Good	None	N/A	USFWS would like to plan a tidal creek in this area in the future, not as a part of the upcoming maintenance event.
Marsh Nourishment	Very Good	None	8, 13, 18	Appears to be in good condition. We observed the plantings from February which appear to be surviving.