SCOPE OF SERVICES

CAMERON-CREOLE MAINTENANCE PROJECT (CS-04A)
OPERATIONS AND MAINTENANCE CONTRACT

Water Control Structure Operations & Maintenance, Levee Maintenance, and Continuous Monitoring Station Servicing

THE COASTAL PROTECTION AND RESTORATION AUTHORITY (CPRA)

Note: Any attachments and attachment numbers reference in this document are attached only to this document, and are only an additional portion of this document.

I. PROJECT HISTORY

The Cameron-Creole Watershed Management Project began as joint effort between Natural Resource Conservation Service (NRCS), US Fish and Wildlife Service (USFWS), and Cameron Parish Gravity Drainage Districts No. 3 & 4 as early as 1969. The levee construction began in 1981 and the water control structure components were completed in 1989. The project is located about six miles northeast of Cameron, Louisiana, in Cameron Parish. It is bordered on the west by the eastern shore of Calcasieu Lake, on the north by the GIWW, and to the east and south by Louisiana Hwy 27. It encompasses approximately 54,076 acres of fresh-to-saline marsh and open water.

Funding for maintenance was not included in the original project budget. In the 1993 Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) PPL3, funds for maintenance of the project were approved as the Cameron-Creole Maintenance Project (State Project No. CS-04a). Water control structure operations were a USFWS responsibility until January 2012, when CWPPRA approved operations funding and Coastal Protection and Restoration Authority (CPRA) was tasked with contracting operations. The CS-04a project was approved for a 20-YR Life extension by the CWPPRA Task Force for a new end of life of 2037.

The project consists of five water control structures and a hydrologic levee along the eastern rim of Calcasieu Lake. Five monitoring locations within the watershed provide live data for making operations decisions. The project features map is included in Attachment No. 1.

The levee sustained major damage as a result of Hurricanes Rita (2005), Hurricane Ike (2008), and Hurricane Laura (2020). Where levee breaches occurred, repairs were made with sheetpile closures.

II. PROJECT MANAGEMENT

The Coastal Protection and Restoration Authority (CPRA) and the U.S. Dept. of Agriculture, Natural Resources Conservation Service (NRCS) provide financial and technical support for operations of the Project. The proper maintenance and operation associated with the Project is essential in achieving the long-term benefits envisioned and prescribed in the Resource

Management Plan. The Cameron-Creole Resource Management Plan dated February 1987 is included in Attachment No. 3.

Management of the control structures has reduced salinities and increased marsh productivity since constructed. The Cameron-Creole Advisory Committee makes recommendations for the water control operations, reviews the effectiveness of the management plan, provides technical assistance and management recommendations.

III. OBJECTIVE

The objective of this scope is to carry out the operations and maintenance measures for the CS-04a Cameron Creole Project, including operation of gates, structure evaluation and prescribed maintenance for five water control structures, servicing and troubleshooting five monitoring sites, and vegetation control on the Cameron Creole levee.

IV. CERTIFICATE OF DEBARMENT/ SUSPENSION STATUS

Contractor certifies with its execution of this agreement that it is not suspended, debarred or Ineligible from entering into contracts with any department or agency of the Federal Government or of the State of Louisiana, or in receipt of notice of proposed debarment or suspension.

Contractor agrees to secure from any contractor(s) and subcontractor(s) for the captioned project certification that such contractor(s) and subcontractor(s) are not suspended, debarred or declared ineligible from entering into contracts with any department or agency of the Federal Government or of the State of Louisiana, or in receipt of a notice of proposed debarment or suspension.

Contractor shall provide immediate notice to the CPRA in the event of it or its contractor(s) or any subcontractor(s) being suspended, debarred or declared ineligible by any department or agency of the Federal Government or of the State of Louisiana, or upon receipt of a notice of a proposed debarment or suspension, either prior to or after execution of this agreement.

Upon receipt of notice of suspension, debarment, or declaration that Contractor or its contractor(s) or any subcontractor(s) is/are ineligible to enter into contracts with any department or agency of the Federal Government or of the State of Louisiana, either prior to or after execution of this agreement, the State reserves the right to review cause for said debarment, suspension, or declaration of ineligibility, and to terminate this Contract pursuant to the terms of the article in this agreement entitled TERMINATION FOR CAUSE, or take such other action it deems appropriate under this Contract.

V. INSURANCE AND BONDS

The Contractor shall purchase and maintain without interruption, for the duration of the contract, insurance against claims for injuries to persons or damages to property which may

arise from or in connection with the performance of the Work hereunder by the Contractor, its agents, representatives, employees or subcontractors. The duration of the contract shall be from the inception of the contract until the date of final payment.

Minimum Scope and Limits of Insurance

1.1 Worker's Compensation

Worker's Compensation insurance shall be in compliance with the Worker's Compensation law of the State of Louisiana. Employers Liability is included with a minimum limit of $500,000 per accident/per disease/per employee. If Work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act or other maritime law coverage shall be included and the Employers Liability limit increased to a minimum of $1,000,000. A.M. Best's insurance company rating requirement may be waived for Worker's compensation coverage only.

1.2 Commercial General Liability

Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and Completed Operations Liability, shall have a minimum limit per occurrence based on the project value. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

The aggregate loss limit must apply to each project. ISO form CG 25 03 (current form approved for use in Louisiana), or equivalent, shall also be submitted. The State project number, including part number, and project name shall be included on this endorsement.

COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

The required minimum combined single limit amount of insurance shall be as provided below:

Initial Contract Amount	**Minimum Insurance**
Up to $1,000,000	**$1,000,000**
From $1,000,001 to $2,000,000	**$2,000,000**
Over $2,000,000	**$5,000,00**

1.3 Automobile and Watercraft Liability

Automobile Liability Insurance and Watercraft Liability Insurance shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles and/or watercraft. If any non-licensed motor vehicles and/or watercraft are engaged in operations within the terms of the contract on the site of the work to be performed thereunder, such insurance shall cover the use of any such vehicles.

NOTE: If the Contractor does not own an automobile and/or watercraft and such vehicles are utilized in the execution of the contract, then hired and non-owned coverage is acceptable. If an automobile and/or watercraft is not utilized in the execution of the contract, then automobile and/or watercraft coverage is not required.

1.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability, Automobile Liability, and Watercraft Liability only.

1.5 Pollution Liability *(required when asbestos or other hazardous material abatement is included in the contract)*

Pollution Liability insurance, including gradual release as well as sudden and accidental, shall have a minimum limit of not less than $1,000,000 per claim. A claims-made form will be acceptable. A policy period inception date of no later than the first day of anticipated Work under this contract and an expiration date of no earlier than 30 days after anticipated completion of all Work under the contract shall be provided. There shall be an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy. The policy shall not be cancelled for any reason, except non-payment of premium.

1.6 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and accepted by the Owner. The Contractor shall be responsible for all deductibles and self-insured retentions.

Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

2.1 Worker's Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the Owner, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Owner.

2.2 General Liability Coverage

The Owner, its officers, agents, employees and volunteers are to be added as additional insureds as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor. ISO Form CG 20 10 (current form approved for use in Louisiana), or equivalent, is to be used.

The Contractor's insurance shall be primary as respects the Owner, its officers, agents, employees and volunteers. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees or volunteers. Any

insurance or self-insurance maintained by the Owner shall be excess and non-contributory of the Contractor's insurance.

The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the policy limits.

2.3 All Coverages

Coverage shall not be canceled, suspended, or voided by either party (the Contractor or the insurer) or reduced in coverage or in limits except after 30 days written notice has been given to the Owner. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy.

Neither the acceptance of the completed Work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.

The insurance companies issuing the policies shall have no recourse against the Owner for payment of premiums or for assessments under any form of the policies.

Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Owner, its officers, agents, employees and volunteers.

2.4 Acceptability of Insurers

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall placed with insurers with an A.M. Best's rating of A-:VI or higher. This rating requirement may be waived for Worker's compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another certificate of insurance as required in the contract.

2.5 Verification of Coverage

Contractor shall furnish the Owner with Certificates of Insurance reflecting proof of required coverage. The Certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates are to be received and approved by the Owner before Work commences and upon any contract renewal thereafter.

The Certificate Holder must be listed as follows:
State of Louisiana
Coastal Protection and Restoration Authority
150 Terrace Avenue
Baton Rouge, LA 70802
Attn: Project # _____

In addition to the Certificates, Contractor shall submit the declarations page and the cancellation provision endorsement for each insurance policy. The Owner reserves the right to request complete certified copies of all required insurance policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain such insurance as above provided, this contract, at the election of the Owner, may be suspended, discontinued or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

If the Contractor does not meet the insurance requirements at policy renewal, at the option of the Owner, payment to the Contractor may be withheld until the requirements have been met, OR the Owner may pay the renewal premium and withhold such payment from any monies due the Contractor, OR the contract may be suspended or terminated for cause.

2.6 Subcontractors

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Owner reserves the right to request copies of subcontractor's certificates at any time.

If Contractor does not verify subcontractors' insurance as described above, Owner has the right to withhold payments to the Contractor until the requirements have been met.

2.7 Worker's Compensation Indemnity

In the event Contractor is not required to provide or elects not to provide Worker's compensation coverage, the parties hereby agree the Contractor, its Owners, agents and employees will have no cause of action against, and will not assert a claim against, the State of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Worker's Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its Owners, agents and employees. The parties further agree that Contractor is a wholly independent Contractor and is exclusively responsible for its employees, Owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

2.8 Indemnification/Hold Harmless Agreement

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees and volunteers, from and against any and all claims, damages, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims,

demands, suits or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent.

VII. LANDOWNER REQUIREMENTS

CPRA currently has landrights agreements in place to access the water control structures and monitoring stations by water access only. The Contractor will be responsible for making the appropriate notifications and obtaining all landowner permissions prior to accessing the project site, including Miami Corporation, Sweet Lake Land and Oil, Henry A. McCall, and Cameron Prairie National Wildlife Refuge.

The Contractor will be required to enter into a Right of Way Agreement with Miami Alternatives LLC and Sweet Lake Land and Oil, and abide by all insurance requirements as stated in those agreements, specifically listing Miami Alternatives LLC and Sweet Lake Land and Oil as an additional insured to the Contractors policy with a waiver of subrogation in Miami Alternatives LLC and Sweet Lake Land and Oil Co LLC's favor.

The Contractor shall also be aware that airboat restrictions will apply at certain times of the year for duck season. Outboard shallow draft type boats are allowed year round.

Landowner Contact information:

USFWS, Southwest Louisiana Refuge Complex
Shaun Ziegler, Complex Manager
1428 highway 27
Bell City, LA 70630
337-774-5923
shaun_ziegler@fws.gov

Miami Alternatives, LLC
Chad J Courville, Land Manager
309 La Rue France; Suite 201
Lafayette, La 70508
337-264-1695
ccourville@miami-corp.com

Sweet Lake Land and Oil Co LLC
Doug Miller, Field Operations Manager
358 Chalkley Road
Bell City, Louisiana 70630
337-540-0839
dmiller@Sweetlake.com

Henry A. McCall Jr. Property (No Name Structure)
Henry McCall, Owner
P.O. Box 186
Cameron, LA 70631
337-912-0163
Rocky Kelley, McCall Property Manager
rockyk@camtel.net
337-912-1132
Steven Broussard, Lessee
337-496-7383
Sbroussard50@gmail.com

VIII. ITEMS OF WORK

A. Mobilization to and from the Structure Site:

The Contractor will be responsible for providing all equipment, including marine equipment, labor, transportation and all means necessary to mobilize and demobilize from the site for each operation and maintenance activity. Each structure location is only accessible by water. The water control structures and monitoring sites are at remote locations where there is no electricity or road access. Boats are required to be equipped with LDWF& USCG safety equipment. The cost for mobilization and demobilization is considered incidental to the work. No separate payment will be made for mobilization and demobilization.

B. Water Control Structure Operations (Line Item No. 1)

This bid item provides for accessibility to the contractor throughout the year. This retainer is necessary because the short response time required of the Contractor, i.e. 48 hours for routine operations and 24 hours in emergency cases. The operations for this project are not on a defined schedule due to varying environmental conditions. Payment under Line Item No. 1 is a per month basis for months where operations are required. Billing for 12 full months per annual contract period is not guaranteed.

C. Operations of No Name, Lambert, Grand Bayou, Mangrove and Peconi Water Control Structures (Line Item No. 2, 3, 4, 5 & 6)

There are five water control structures in the Cameron-Creole Maintenance Project. These water control structures are described in detail in Attachment No. 2. The configuration of the control structure gates varies per location. Typically, three of the structures are variable crest weirs consisting of four sets of upper and lower level gates, which are dual-stem gear-driven gates. Two of the structures are fixed crest weirs with four dual-stem gates. The Grand Bayou Structure has four pairs of weir gates, four lakeside flap gates, and one set of

Boat Bay gates, which allows for public access to the Cameron Prairie National Wildlife Refuge. Flap gates on the Grand Bayou Structure typically are free flapping unless drought conditions were to threaten drawdown of the watershed in which case they would be closed.

The Contractor will be responsible for operating the gated structures, performing routine maintenance, and inspecting the water control structures for condition, vandalism or other problems. All operations will be in compliance with applicable Federal, State and local permits. (USACE Permit LMNOD-SP (Calcasieu Lake) 382 dated October 16, 1980).

1. ***Line of Communication***
   All operations by the Contractor will be authorized by designated CPRA personnel (Project Manager/Monitoring Manager) through email; or at the discretion of the Project Manager, authorization may be provided verbally and followed up immediately in writing.

   Once authorized by CPRA personnel, normal structure operations shall be completed within 48 hours after notification. The Contractor shall notify CPRA if the structure operation cannot be completed within the specified timeframe. In the case of emergency operations (e.g., abnormal rainfall events, flooding, hurricanes, etc.), structure operation, once authorized by designated CPRA personnel, shall be completed within 24 hours.

   Upon completion of authorized operations, notification by email or fax to the designated CPRA personnel by the Contractor will be required. This notice will state time, date, and actual operation performed by the Contractor at the structure.

2. ***Operations and Maintenance***
   The Contractor will provide the personnel and equipment necessary to open or close the gates at the specified water control structure as directed by CPRA in accordance with the Resource Management Plan and Cameron Creole Advisory Committee recommendations. There is no power supply to the water control structures. Equipment includes but is not limited to portable generator, drill, sockets, gear assembly adaptor, salinity meter, grease, degreaser, rags, paint, and camera. This may entail fabricating a gear assembly adaptor for drill operation of the gates.

   The total numbers of structure operations per year are dependent on the salinity and water level values within the vicinity of the structures and within the watershed. Each structure operation will be directed by CPRA per Item No.1 – Line of Communication above. Under normal conditions, the structures are operated between 48 and 60 operations per year at each structure. At minimum, operations occur during each new moon and full moon each month.

   The Contractor will record the Operation performed and will measure and record the Salinity, Specific Conductivity, Temperature, and Water Levels at the Water Control Structure sites during each structure operation using a Handheld Meter. Excel forms will be provided by CPRA.

The Contractor will perform a visual inspection of mechanical parts and gate function, perform minor cleanup and maintenance of the structure, and ensure the ability to operate the gates. Maintenance will include routine mechanical upkeep of all moving parts on the water control structures, including periodic greasing. All equipment and materials necessary for maintenance of the structures will be provided by the Contractor. Upon inspection and identifying broken or missing parts, the Contractor shall report anticipated repair needs to the CPRA project manager.

Payment for Line Items No. 2, 3, 4, 5, & 6 is per each Structure where an Operation is performed. No separate payment will be made for equipment and materials required to facilitate routine operation and maintenance of the structures.

3. ***Payment for Parts and Repairs Outside of the O&M Contract***
Procurement of repair parts, replacement equipment, or missing hardware to repair water control structure is separate from this Operations Contract. When repair needs are identified in the field, the Contractor shall inform CPRA. The Contractor may provide a quote showing an itemized list of parts, description, and associated cost; however, procurement of replacement parts or equipment requires multiple quotes per State Procurement procedures. The Contractor shall not purchase any equipment without CPRA prior approval and issuance of a Purchase Order.

4. ***Nighttime Operations***
When directed to close the Grand Bayou Boat Bay, closure of the gate shall take place prior to the opening of the Refuge, which is one hour before sunrise. Therefore, the Contractor will be required to navigate to this structure during nighttime conditions and shall be adequately prepared, such as use of a GPS, spotlight, etc. This is the only structure that will require nighttime navigation.

5. ***Updating Gate Status***
When operating the Grand Bayou Boat Bay gate, the Contractor will set the "Refuge OPEN/CLOSED" sign located on the structure to the correct position. This sign is visible to boaters to make them aware of the gate status.

When returning to the boat launch, using a mobile device the Contractor will update the live CIMS website concerning the status of the structures. The OPEN/CLOSED status of each structure is made available to the public on this live web link: **(https://cims.coastal.louisiana.gov/WCS/WCS_Public.aspx)**

Login credentials will be provided once a contract is awarded.

D. Annual Maintenance of Water Control Structures (Line Item No. 7)

In addition, to routine maintenance, the following maintenance shall be required annually. To maintain smooth operation of the gear box, it is anticipated that each gear box will need to be opened, inspected, degreased, and cleaned of debris and water, and re-greased. The grease required for this application is a High/Low Temp Grease. The degreasing agent shall be all natural and environmentally friendly.

To maintain the smooth functionality of the gates, the stems are required to be cleaned. This process involves removing the stem cover, degreasing the threaded shaft, brushing and wiping debris from threads, and replacing a very thin layer of grease on the stem. Over greasing will attract dirt and debris which will hinder the operation of the gear.

All incidental waste generated from the degreasing and greasing process shall be stored in a closed container and disposed offsite.

Payment for Line Item No. 7, Annual Maintenance of Water Control Structure, is per each structure.

E. Paint Repair at Water Control Structures (Line Item No. 8)

Based on Contractor inspections during routine site visits, CPRA may require paint repairs at the Water Control Structures. The following outlines the repair procedures to the painted metal surfaces, primarily the gear drive housings and pedestals.

The contactor shall clean and properly prepare the repair surface prior to the paint application. All paint products within the coating system shall be compatible with each other. The Contractor shall follow the paint manufacturer specifications for paint storage, mixing, thinning, application conditions, and clean up. A minimum of two coats shall be required. Payment for Line Item No. 8, Paint Repair at Water Control Structures, shall be made based on a 1ft x 1ft square area of work.

1. Surface Preparation – Cleaning

The Contractor shall clean all surfaces by removing deposits of grease or oil prior to painting in accordance with the paint manufacturer specifications. Cleaning methods shall be in accordance with the SSPC Standards. SSPC-SP1shall apply where chemical cleaning is used.

2. Surface Preparation – Rust Removal

For areas where rusting has occurred, the rust and scale shall be removed as necessary to meet the paint manufacturer specifications for proper coating adhesion. Hand Tool or Power Tool techniques are required for this application to limit effects on the surrounding environment. Cleaning techniques shall be performed in accordance with the applicable SSPC standard, i.e. SSPC-SP2 – Hand Tool Cleaning, SSPC-SP3- Power Tool Cleaning, or SSPC-SP11- Power Tool Cleaning to Bare Metal. Where the surface is not taken down to bare metal, a rust converter may be applied provided it is compatible with the paint system/coating used on the project. Glossy surfaces should be dulled as necessary for proper coating adhesion.

3. Paint Products & Application

When applying the paint, surfaces must be clean, dry, and free of dirt, dust, and other contaminants that could interfere with the adhesion of the coating.

<u>Paint:</u>

An approved Zinc Chromate Metal Primer and Acrylic Enamel paint shall be used. All paints shall be in accordance with Richard's Rust Shield Zinc Chromate Metal Primer (Product No. 1017) and Richard's Rust Shield II 100% Acrylic Industrial Gloss Enamel (Product No. 1200 Series) or approved equivalent.

The minimum dry film thickness shall be 8.0mils per primer coat and finished coat. Based on the paint specifications, multiple layers per coat will be required to meet this minimum dry film thickness. For this project, the color of the finished topcoat shall be Grey. The color of the primer coat should be visually distinguishable from the finished coat.

Application:
The paint system may be applied by brush or roller in accordance with the manufacturer's specifications. Spray application will not be allowed for this project to limit effects on the surrounding environment. The coverage shall be complete and each coat shall be so applied as to produce an even film of uniform thickness, completely coating corners and crevices, and bonded to the underlying surface. Stripe coats shall be applied to welds, fasteners, crevices and corners where the paint thickness has a tendency to contract and thin upon drying.

Paint shall be applied within the minimum and maximum coat thicknesses and recoating periods specified in the paint manufacturer's specifications. Missed or damaged spots shall be touched up before succeeding coats are applied. Successive coats shall not be applied until the minimum recoat period has been met to prevent gassing or failure of the coating system.

Weather Limitations:
The Contractor is responsible for ensuring that weather conditions are within the manufacturer's specifications before the paint is applied. If fresh paint is damaged by the elements, it shall be replaced by the contracting party at no direct pay.

The paint shall be applied when the surface and ambient temperatures meet the minimum and maximum temperature limitations stated in the paint manufacturer's specifications. Paint shall not be applied in temperatures that will cause blistering or porosity, or otherwise will be detrimental to the life of the paint. The paint shall be approximately the same temperature as that of the surface on which it is applied.

The Contractor shall adhere to the paint manufacturer's maximum relative humidity or dew point limit for applying the paint. Paint shall not be applied during, rain, snow, fog, or misty conditions. Paint shall not be applied to wet or damp surfaces.

4. Pollution Control

The Contractor shall undertake measures to ensure that all debris, spent water, removed paint, or chemical products will not result in harmful effects to the environmental surroundings, nor be deposited into the waterway or onto the ground surfaces in the vicinity of the work area. Care shall be taken to avoid spillage during paint preparation, mixing, thinning, clean up, etc. If a spill occurs, it shall be cleaned up as soon as discovered. The Contractor is responsible for containing, collecting, and the temporary storage of all waste materials. Waste generated by the Contractor shall be stored in sealed containers, removed daily, and disposed of in an approved facility in accordance with State and Local regulations.

G. Maintenance of Cameron-Creole Levee (Line Item No. 9)

A portion of the Cameron-Creole Levee requires routine maintenance of the vegetation which includes mowing of approximately 17 miles of levee, along with herbicide treatment of trees, shrubs, and other invasive vegetation. Line Item No. 9 will be paid per maintenance event, which will be one maintenance event annually. Routine care of the

levee will prevent erosion, aid in levee inspections, and reduce future levee maintenance requirements.

1. Extents of Maintenance

Maintenance will be required from levee toe to toe along the entire 17 mile length of levee as identified below. The bottom width of the levee varies with an average bottom width of 30 feet, a 3:1 side slope, and a 5-foot crown width. The approximate acreage is 60 acres.

The levee maintenance begins South of the No Name Bayou Structure and proceeds north to the northern terminus (approximately 17 miles), south of Hebert's Landing. See Attachment No. 5.

Southern terminus: 29° 49' 19.6" N, 93° 20' 09.6" W
Northern terminus: 29° 58' 19.96" N, 93° 16' 17.21" W

2. Licensing

Where selective treating vegetation, the contractor must follow all Louisiana pesticide licensing/certification rules and regulations. The contractor must have a LDAF Ground Owner Operator License and must have or employ someone that has certification as a Commercial Pesticide Applicator.

3. Levee Maintenance

The Contractor will furnish all the necessary personnel and equipment including transportation by water, to perform annual maintenance of the levee in accordance with instructions provided by the CPRA Project O&M Manager and as outlined in this scope of services. Care shall be taken to remain within the toe to toe boundary of the levee.

<u>Mowing:</u>

a. This work will be accomplished by use of small amphibious equipment capable of operating a shredder or rotary cutter and able to traverse small bodies of water and navigate through wet/marsh areas (similar to Marsh Master, tractor on a small barge, or other equivalent).

b. Contractor will take care not to damage the levee with the mowing equipment. Additionally, uprooting of any trees or other vegetation should be avoided, as this could potentially compromise the integrity of the levee. Should any damage occur to the levee, the contractor shall take corrective action to repair and stabilize the damaged areas of the levee.

<u>Herbicide Application:</u>

Contractor will selectively spray herbicide to kill trees/shrubs and other potentially invasive vegetation on the levee from toe to toe along the entire length.

H. Maintenance of Continuous Monitoring Stations (Line Item No. 10)

1. Monitoring Station Description

Monitoring stations located within the Cameron-Creole Watershed are used by CPRA to determine salinity levels as well as other parameters for structure operations. The

current equipment at each site includes the InSitu Aqua Troll 200 Sonde with the datalogger with cellular VuLink telemetry unit, external antenna, cable and D batteries. The monitoring stations measure conductivity, salinity, depth, and temperature.

The live data is made available online at the following website: www.hydrovu.com. A username and password will be provided once a contract is issued.

There are five monitoring station sites, four within the watershed and one on the outside (lakeside). (See Attachment No. 4)

Monitoring Station	Latitude	Longitude
Grand Bayou – Outside (#1)	29°51'43"N	93°14'14"W
Grand Bayou – Inside (#2)	29°51'53"N	93°13'55"W
EC-6 - 12 ppt Isohaline Line, North Prong of Grand Bayou (#6)	29°51'16"N	93°12'0"W
EC-7- 5 ppt Isohaline Line, (#7)	29°51'50.4"N	93° 8'31.2"W
Peconi (#10)	29°54'46"N	93°12'9"W

2. Monthly Service Procedures

All monitoring station sites are to be serviced once per month not to exceed sixty (60) days between service visits. Consideration will be given for landowner restrictions and factors outside the control of the Contractor, which may prohibit servicing trips during certain times of the year (i.e., duck season). Trips should be planned to closely bracket these restricted periods to minimize the length of time between servicing. CPRA expects high quality data to be collected and delivered with as few gaps as possible.

Following field maintenance of instrumentation, all downloaded data and Continuous Recorder Calibration Sheets must be provided to CPRA Lafayette Regional Office.

Contractor Supplied Equipment:

a. Wireless TROLL com device and Bluetooth mobile device with VuSitu mobile app to communicate with VuLink Telemetry unit and the In-Situ Aqua Troll 200 sonde.
b. Handheld Meter: YSI Pro30 or YSI EcoSense EC300A Conductivity Meter or approved equal with the following parameters:
    -Salinity: 0-70ppt, Accuracy - 1% of reading or +- 0.1ppt
    -Conductivity: 0-200 mS/cm, Accuracy- 2.5% of reading
    -Temperature: Accuracy- 0.2C or 0.4% of reading whichever is greater
c. Conductivity Calibration Standard
d. D Batteries
e. Incidental equipment needed to clean sonde sensor.

Monitoring Station Servicing & Data Download Procedure *(See Attachment No. 6 for Calibration Sheet)***:**

1. Disconnect sonde cable from VuLink telemetry unit.

2. Using wireless TROLL com and mobile device connect to sonde and record data onto calibration sheet under the "Dirty Readings" section/ "Constant Recorder" row.
3. Place Handheld Meter in the water next to the sonde and record its data on the calibration sheet under "Dirty Readings" section/ "Calibration Instrument" row.
4. Remove sonde from mounting pipe and record the depth reading in the "Dirty Readings" section/ "Depth out of Water" box.
5. Physically clean the sonde with a brush and clean water. Also remove sensor guard and clean each sensor. Then clean inside of sensor guard. Reinstall sensor guard.
6. Using the TROLL com and mobile app, stop the existing data logging file, and then download this file.
7. While the sonde is still out of the water; record the sonde depth reading under the "Clean Readings" section/ "Depth out of Water" box on the calibration sheet. Note: If this reading is not equal to Zero then calibrate depth to zero.
8. Reinstall sonde into mounting pipe and record data onto the calibration sheet under the "Clean Readings" section/ "Constant Recorder" row.
9. Place Handheld Meter in the water next to the sonde and record its data on the calibration sheet under "Clean Readings" section/"Calibration Instrument" row.
10. Calculate the SpCond difference in the "Clean Readings" section by subtracting the SpCond of the constant recorder from the SpCond of the calibration instrument and record this as a percentage in the "% Difference" box.
    i. Note: If this percent (%) difference is greater than 5% then a calibration on the sonde must be performed (see calibration procedure below).
11. Create a new data logging file and start the data logging process.
12. Disconnect sonde from the wireless TROLL com and reconnect field cable to the VuLink telemetry unit.
13. Read the Staff Gauge that is mounted at each station and record under "Staff Gauge" section/ "Staff Gauge (NAVD)."

Calibration Procedure:

Conductivity

1. Connect wireless TROLL com to sonde.
2. Remove sonde sensor guard.
3. Install sonde calibration cup.
4. Pour conductivity calibration solution into calibration cup.
5. Wait for conductivity readings to stabilize then calibrate using wireless TROLL com and VuSitu mobile app
6. Record data under the "Calibration Required" section/ "Constant Recorder" row on the data sheet.

Depth

1. Connect wireless TROLL com to sonde.
2. Hold sonde upright out of the water.
3. Wait for the depth readings to stabilize then calibrate depth to zero.
4. Record data under the "Calibration Required" section/ "Constant Recorder" row on the data sheet.

IX. DELIVERABLES

The Contractor will provide documentation of the Operations that occur at each water control structure, maintenance of the Monitoring Stations, and completion of each levee maintenance event. In addition, the Contractor will provide the Monitoring Station data as specified in the Section H: Maintenance of the Continuous Monitoring Stations.

Reporting:

1. After each Structure Operation Event, digitally deliver an excel spreadsheet which indicates the open/close status of each gate upon arrival and departure, time and date of operation, description of maintenance performed, gate crest elevation, water elevation, water temperature, specific conductivity, and salinity. (See Attachment No. 6 for excel spreadsheet)

2. Report by email the dates that maintenance work occurred, outline of the procedure used, and photos documenting the completed maintenance.

3. Monthly after Monitoring Station servicing, digitally deliver a pdf of the scanned field calibration sheet with any field notes.

4. After each Levee Maintenance Cycle, report by email the dates the work occurred and photos documenting the maintained levee.

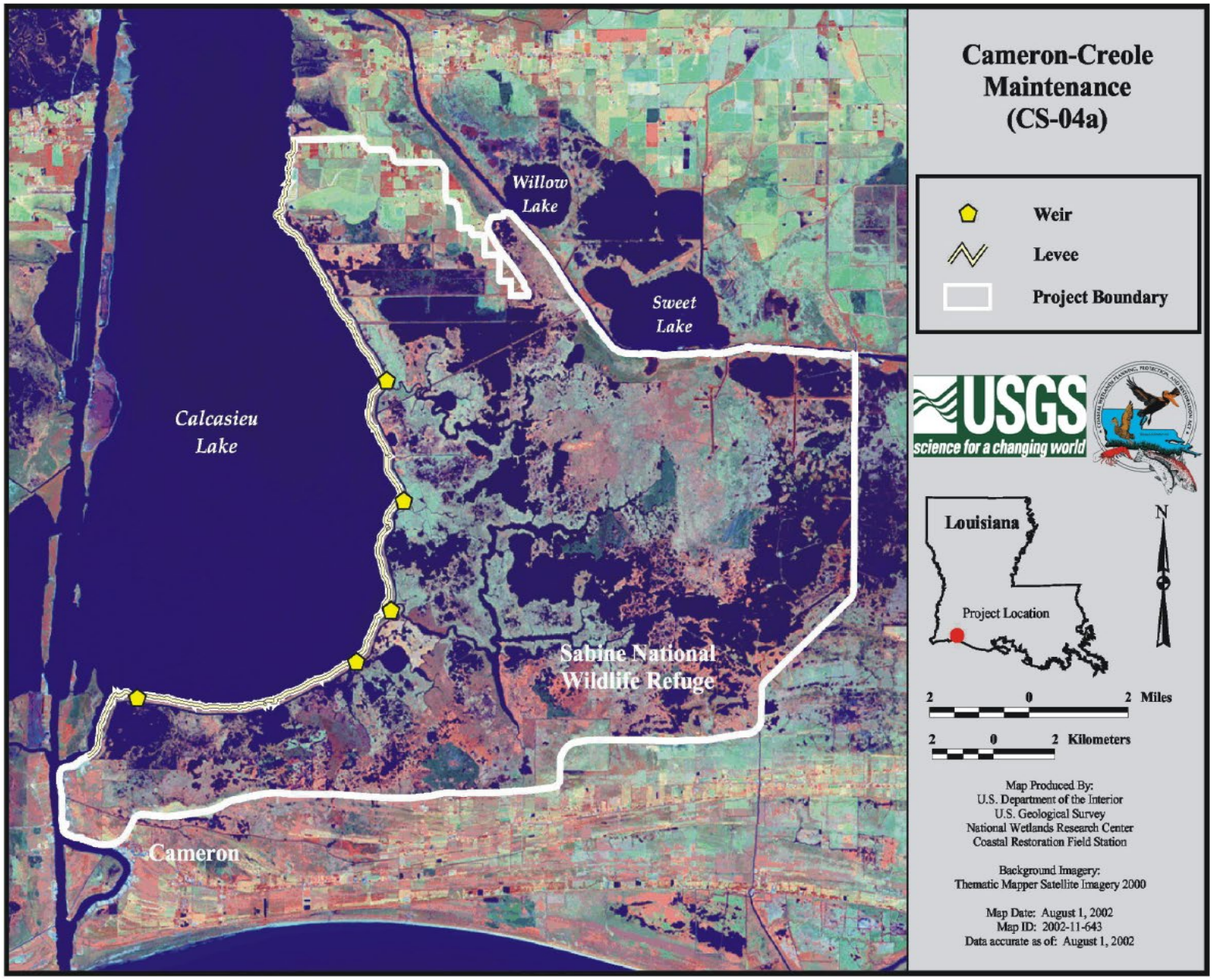
Agency contact information will be provided upon Award for monthly reporting.

X. PAY REQUESTS

Invoices shall be submitted to CPRA for processing. Pay requests shall be submitted on a monthly basis for the Operations and Maintenance performed during that period. All invoices shall indicate the Purchase Order Number, Vendor Name and Address, Invoice Period, Project Name, Line Item Number and Description, invoiced amount by line item, and total invoice amount for that period.

Agency contact information will be provided upon Award for monthly invoicing.

ATTACHMENT NO. 1 - PROJECT FEATURES MAP



ATTACHMENT NO. 2

PROJECT FEATURES LOCATION & DESCRIPTION

NO NAME STRUCTURE – This structure consists of four bays with wooden gates measuring 8 foot wide and 3 foot 9 inches high. There are four fish slots below one of the bays. This structure is located at **(Latitude 29°50′17.0″ Longitude 93°19′13.9″)**

LAMBERT STRUCTURE – This structure consists of four bays with upper and lower gates, the upper gates measure 8 foot wide and 3 foot high, the lower gates measure 8 foot wide and 6 foot high. There are three fish slots on one side of the structure. This structure is located at **(Latitude 29°50′54.3″ Longitude 93°14′49.3″)**

GRAND BAYOU - This structure consists of four bays with lower gates which measure 10 foot 6 inches wide and 6 foot high, and one center boat bay with upper and lower gate, the upper gate measures 10 foot 6 inches wide and 4 foot high, the lower gate measures 10 foot 6 inches wide and 6 foot high. There are four flap gates on the lake side. This structure is located at **(Latitude 29°51′47.3″ Longitude 93°14′07.7″)**

MANGROVE STRUCTURE – This structure consists of four bays with wooden gates measuring 8 foot wide and 3 foot 9 inches high. There are four fish slots below one of the bays. This structure is located at **(Latitude 29°53′37.1″ Longitude 93°13′52.4″)**

PECONI STRUCTURE – This structure consists of four bays with upper and lower gates, the upper gates measure 8 foot wide and 3 foot high, the lower gates measure 8 foot wide and 6 foot high. There are three fish slots on one side of the structure. This structure is located at **(Latitude 29˚55′33.5″ Longitude 93˚14′13.8″)**

ATTACHMENT NO. 3 - RESOURCES MANAGEMENT PLAN

RESOURCE MANAGEMENT PLAN FOR CAMERON CREOLE
February 1987

BASIC OBJECTIVE:

Restore the project area to approximate the 1972 vegetative communities and salinity regimes.

SPECIFIC OBJECTIVES:

WEST OF 5 PPT ISOHALINE LINE

1. Curtail marsh erosion.

2. Maintain and improve the marsh and open water ponds for high value fisheries nursery and production areas.

3. Operate the water control structures to minimize reductions in access by estuarine organisms to nursery areas. Recruitment of estuarine dependent organisms will be accommodated to the greatest extent practicable to meet the overall basic objective.

4. Improve plant species diversity in emergent marshes which would improve the potential for wildlife habitat improvement.

5. Improve the aquatic vegetative component in the open water ponds.

EAST OF THE 5 PPT ISOHALINE LINE

1. Curtail marsh erosion.

2. Reclaim some of the emergent marshes that have benn recently converted to open water by saltwater intrusion and subsequent marsh erosion.

3. Improve plant species diversity in the emergent marshes which would improve the potential for wildlife habitat improvement.

4. Improve aquatic plant species diversity.

5. Improve the marshes and open water ponds for freshwater fisheries.

SALINITY AND WATER LEVEL MANAGEMENT CRITERIA

1. Establish two isohaline lines based on historical vegetative communities and salinities to aid in guiding management procedures.

   A. Isohaline line no. 1will be established at approximately 12 ppt (see attachment #1)

   B. Isohaline line no. 2 will be established at approximately 5 ppt (see attachment #1)

   C. Necessary salinity stations will be established and data gathered to monitor the salinity along these isohaline lines.

2. Water levels will be maintained in a range of 6 inches below normal marsh elevation up to 2 inches above normal marsh elevation based on water levels readings taken along the 5 ppt isohaline line monitoring stations.

3. Deviation from the normal planned operation of these structures will be allowed in the event of unusual weather conditions (hurricanes, abnormal rainfall, etc.) This would include utilizing the structures on Creole canal.

PHASE ONE - TWO YEAR PERIOD

GENERAL: Phase I of the management plan will place primary emphasis on curtailing marsh erosion and reclaiming some of the emergent marshes that have been converted to open water ponds east of the 5 ppt isohaline line. These shallow, open water ponds are a result or recent deteriorating marsh and offer the greatest potential for re-vegetation to emergent marshes. If not re-vegetated in the near future, these shallow open water ponds will become too deep to practically re-vegetate.

FEBRUARY 15 - JULY 15

1. Implement a partial drawdown of 6 inches below normal marsh elevation for the area east of the 5 ppt isohaline line. The open water ponds west of the 5 ppt isohaline line are mush deeper and would maintain shallow water during the drawdown period. The drawdown would be accomplished by manipulation fo the water control structures during winter and spring frontal passages. At least one of the vertical slots in each structure will remain open this entire time period.

JULY 15 - FEBRUARY 15

1. The partial drawdown will end on July 15 and water levels would be allowed to increase. On July 15 the crest of the variable structures will be set at 6 inches below normal marsh elevation and the vertical slots in all structures will be opened.

PHASE TWO

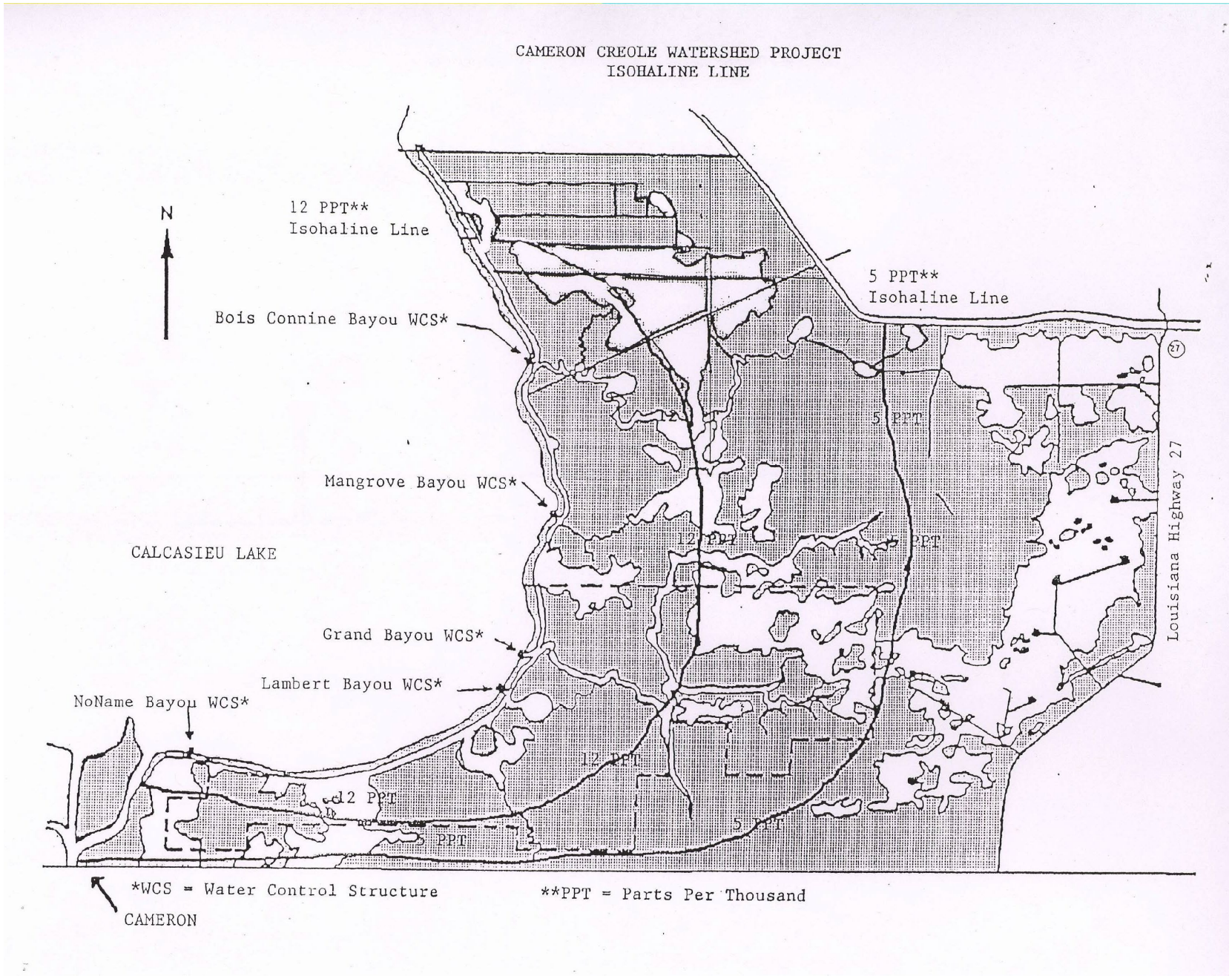
GENERAL: Phase II of the management plant will place primary emphasis on curtailing marsh erosion. Secondary emphases on Phase II will be (1) maintain and improve fisheries habitat, (2) maintain and improve wildlife habitat, (3) increase plant diversity in emergent marshes that have been converted to open water ponds east of 5 ppt isohaline line.

1. The Phase II basic management plan involves a "semi-static" water management scheme. The crests of all structures will be set at 6 inches below normal marsh elevations. The three, 6 inch slots in the structures will be left open. The boat bay on the Grand Bayou structure will be left open. (Boat Bay is serving same function as the slots for the Grand Bayou Structure). Additionally, another flapgate on the Grand Bayou structure can be opened for fisheries purposes in (a) late winter and spring, (b) late summer and fall, (c) night, (d) in the winter with the approach of weather fronts expected to cause significant decrease in temperature, or (e) other special circumstances when conditions favor recruitment of young into the nursery areas.

NOTE: Temporary closures of the boat bay and other bays will be allowed if salinities exceed the 5 ppt limit at isohaline line no. 2.

2. Periodic partial drawdowns, as outlined in Phase One, can be carried out dependent on the success of the drawdowns in Phase One and recommendations of the advisory committee.

NOTE: The advisory committee will meet annually to review the progress of the management plan, and make recommendation regarding any needed changes. More frequent meeting can be held if the need arises.


CAMERON CREOLE WATERSHED PROJECT
ISOHALINE LINE
N
12 PPT**
Isohaline Line
5 PPT**
Isohaline Line
Bois Connine Bayou WCS*
Mangrove Bayou WCS*
CALCASIEU LAKE
Grand Bayou WCS*
Lambert Bayou WCS*
NoName Bayou WCS*
12 PPT
5 PPT
Louisiana Highway 27
*WCS = Water Control Structure
**PPT = Parts Per Thousand
CAMERON

ATTACHMENT NO. 4

Cameron Creole Watershed
Structure Locations and Monitoring Stations

ATTACHMENT NO. 5

Extents of Levee Maintenance

ATTACHMENT NO. 6 – EXAMPLE REPORTS

CS-04 Cameron Creole Maintenance Project
Water Control Structure Operations
Gate Status

Date: **Personnel:**
Summarize Action:

Gate Number	Gate	Gate Status: Arrival Open/Closed	Gate Status: Departure Open/Closed	Departure Time	Structure Elevation (ft)	Crest Elevation* (ft) when crest gate opened	Water Surface Elevation: Inside	Water Surface Elevation: Lake	Notes
Peconi Structure	Crest 1 (N)				4.8				
	Crest 2								
	Crest 3								
	Crest 4 (S)								
	Deep 1 (N)								
	Deep 2								
	Deep 3								
	Deep 4 (S)								
Mangrove Structure	Crest 1 (N)				4.6				
	Crest 2								
	Crest 3								
	Crest 4 (S)								
Grand Bayou Structure	Boat Bay Upper				4.1				
	Boat Bay Lower								
	Flaps								
Lambert Structure	Crest 1 (E)				4.3				
	Crest 2								
	Crest 3								
	Crest 4 (W)								
	Deep 1 (E)								
	Deep 2								
	Deep 3								
	Deep 4 (W)								
No Name Structure	Crest 1 (E)				4.1				
	Crest 2								
	Crest 3								
	Crest 4 (W)								

* Crest Elevation is defined as the top of the deep gate when the gate is down. Tape down from the concrete walkway to get crest and water elevations.
Structure Elevation is from a 2012 C&C Survey (NAVD88 Geoid 99). It refers to the concrete walkway used to access the structure (aka sill or flow wall).

Station ID		Date (mm/dd/yyyy)	Time (hh:mm)	Bottom Water Temp (°C)	Bottom SpCond (uS/cm)	Bottom Salinity (ppt)	Surface Water Temp (°C)	Surface SpCond (uS/cm)	Surface Salinity (ppt)	Company Name	Comments
Peconi	Outside										
Peconi	Inside										
Peconi	Mouth										
Mangrove	Outside										
Mangrove	Inside										
Mangrove	Mouth										
Grand	Outside										
Grand	Inside										
Grand	Mouth										
Lambert	Outside										
Lambert	Inside										
Lambert	Mouth										
Noname	Outside										
Noname	Inside										
Noname	Mouth										

Continuous Recorder Calibration Sheet

Station	Collected By	Agency	Date & CS Time
EC1 Grand out			

Calibration Instrument	Serial Number	Sonde Date & Time

Continuous Recorder	Serial Number	Battery Volts	Download Filename	Deployed Date and Time
Aqua Troll 200				

Station Information

Marsh Elevation (NAVD88, FT)	Mark Elevation (NAVD88, FT)
	Mark to Sensor Distance (FT)
	If floating: Mat to Sensor Distance (FT)

Dirty Readings

	Continuous Recorder	Calibration Instrument	Difference	% Difference
Temp. (°C)				
SpCond (µS/cm)			0	-
Salinty (ppt)				
Depth (ft)			0	-

Post-Calibration Readings

	Continuous Recorder	Calibration Instrument	Difference	% Difference
Temp. (°C)				
SpCond (µS/cm)			0	-
Salinty (ppt)				
Depth (ft)			0	-

Deployment

Continuous Recorder	Serial Number	Battery Volts	Desiccant Changed
Aqua Troll 200			

Deploy Filename	Date & CS Time	Batteries Changed

Notes: (Note any communication problems, equipment damage, changes in Mark to Sensor distance, changes to 4X4 sonde setup, etc.)

Biofouling:

Staff Gauge (NAVD88, FT):

Marsh Flooded:

Vegetation Condition:

SAV:

Calibration Information: (Note any problems/issues encountered during sonde calibration)

Infrastructure Damage Assessment: (Note any damage to sonde setup and/or other CRMS features)