

**CONFORMED SPECIFICATIONS
FOR**

**BAYOU DE CADE RIDGE AND MARSH CREATION PROJECT
(TE-0138)**

TERREBONNE PARISH, LOUISIANA



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

SEPTEMBER 2020

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PART I GENERAL PROVISIONS

GP-1 DEFINITION OF TERMS

Whenever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to the singular or plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs and the titles of other documents or forms.

Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

- a. Acceptance: A written approval from the Engineer which certifies that specific items of work in the Contract have been completed and/or obligations have been fulfilled by the Contractor.
- b. Addenda: Those written or graphic documents which are issued prior to opening of Bids in accordance with the Bidding Requirements and clarify or change the bidding requirements or the proposed Contract Documents.
- c. Application of Payment: That form which is used by the Contractor to request partial and final payment and is deemed acceptable to the Owner. It shall be accompanied by any supporting documentation required by the Contract Documents.
- d. A.S.T.M.: American Society for Testing and Materials.
- e. Bid: An offer or proposal submitted on the prescribed form setting forth the prices for the Work.
- f. Bidder: The person, association of persons, firm, or corporation submitting a proposal for the Work.
- g. Bidding Requirements: The Advertisement for Bids, Instructions to Bidders, Form of Bid Security, if any, and Bid Form with any supplements.
- h. Change Order: A written order which is submitted to the Contractor, signed by the Owner, and authorizes an addition, deletion, or revision in the Work, or an adjustment in the contract price or the contract time issued after the effective date of the Contract.
- i. Claim: A written demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both or other relief with respect to the terms of the Contract.
- j. Contract: The written agreement between the Owner and the Contractor which defines the work to be completed and shall be understood to also include all Contract Documents.
- k. Contract Documents: The Contract, all addenda which pertains to the Contract Documents, Bid Documents and specified Attachments accompanying the Bid and any

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post-bid documentation submitted prior to the Notice of Award, Contractor's Bid when attached as an exhibit to the Agreement, the Bonds (Bid and Performance/Payment), General Provisions, Special Provisions, Technical Specifications, Plans, and all Field or Change Orders issued after the execution of the Agreement. Shop Drawings and other submittals by the Contractor are not Contract Documents.

- l. Contract Price: The moneys payable by the Owner to the Contractor for the Work in accordance with the Contract Documents as stated in the Contract.
- m. Contract Time: The number of calendar days specified in the Contract for completion of the Work, together with any extensions authorized through change orders.
- n. Contractor: The person, association of persons, firm, or corporation entering into the duly awarded Contract.
- o. Contracting Agency: The State of Louisiana, Coastal Protection and Restoration Authority (CPRA).
- p. Day: When any period of time is referred to in the Contract Documents using days, it will be computed to exclude the first day and include the last day of such period. If the last day of any such period falls on a Saturday, Sunday, or a legal holiday, that day will be omitted from the computation. A calendar day is measured as twenty-four (24) hour period starting at midnight and ending the following midnight.
- q. Design Report: A written report by the Engineer which provides the design methodology for the Work.
- r. Effective Date of the Contract: The date indicated in the Contract on which it becomes effective.
- s. Engineer: The State of Louisiana, Coastal Protection and Restoration Authority, or its designee.
- t. Equipment: All machinery, implements, and power-tools, in conjunction with the necessary supplies for the operation, upkeep, maintenance, and all other tools and apparatuses necessary for the proper construction and acceptable completion of the Work.
- u. Extension of Contract: Any extension of time for completion of Work beyond the Contract Time which is granted by the Owner, recommended by the Engineer and approved by the Coastal Protection and Restoration Authority in the form of a Change Order.
- v. Federal Sponsor: The federal agency which has been tasked, if applicable, to manage the implementation of the project.
- w. Field Order: A written order issued by the Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or Contract Time.
- x. Laboratory: The firm, company, or corporation which is used to test materials and is approved for use by the Engineer.

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- y. Laws and Regulations; Laws or Regulations: Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
- z. Materials: Any substance used in the Work to build structures, but does not include material used in false work or other temporary structures not incorporated in the Work.
- aa. Milestone: A principal event specified in the Contract Documents relating to an intermediated completion date or time prior to the Contract Times.
- bb. Notice of Award: A written notice to the successful Bidder stating that the Bid has been accepted by the Owner and that the successful Bidder is required to execute the Contract and furnish the Payment and Performance Bond and Non-Collusion Affidavit.
- cc. Notice to Proceed: The written notice to the Contractor by the Owner which provides the starting date for the Contract Time.
- dd. Owner: The Owner is the State of Louisiana (State) which acts through the Contracting Agency.
- ee. Performance and Payment Bond: The approved form of security furnished by the Contractor and Surety for the faithful performance of the Work, and the payment for all labor, materials, and/or obligations incurred by the Contractor in the prosecution thereof.
- ff. Plans: That part of the Contract Documents prepared or approved by the Engineer which graphically shows the scope, intent, and character of the Work to be completed by the Contractor.
- gg. Project Site: The location where the Work is to be performed as stated in the Contract Documents.
- hh. Resident Project Representative: An authorized representative of the Engineer who is responsible to inspect the Work and materials furnished by the Contractor.
- ii. Right-of-way: That entire area reserved for constructing, maintaining, and protecting the proposed improvement, structures, and appurtenances of the Work.
- jj. Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portions of the Work will be judged.
- kk. Shop Drawings: All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for the Contractor and submitted by the Contractor to illustrate some portion of the Work to be performed.
- ll. Specifications: That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the work to be performed and certain administrative details applicable thereto.
- mm. State: The State of Louisiana.

- nn. Structures: Bridges, plugs, weirs, bulkheads, berms, dams, levees, and other miscellaneous construction encountered during the Work and not otherwise classified herein.
- oo. Subcontractor: Any person, association of persons, firm, or corporation who contracts with the Contractor to perform any part of the project covered by the Contract.
- pp. Submittals: Certificates, samples, shop drawings, and all other project data which are submitted to the Engineer in order to verify that the correct products will be installed on the project.
- qq. Successful Bidder: The lowest responsive and responsible Bidder whom the Owner makes an award.
- rr. Special Provisions: That part of the Contract Documents which amends or supplements these General Provisions.
- ss. Surety: The corporate body, licensed to do business in Louisiana, bound with and for the Contractor's primary liability, and engages to be responsible for payment of all obligations pertaining to acceptable performance of the Work contracted.
- tt. Temporary Structures: Any non-permanent structure required while engaged in the prosecution of the Contract.
- uu. Work: All work specified herein or indicated on the Plans.
- vv. Work Plan: A written plan by the Contractor that details how the Work will be provided including layout drawings, projected schedule (Initial Progress Schedule), and a list of labor hours, materials, and equipment.

GP-2 BID REQUIREMENTS

The Contract and Bonds which govern the Work shall be performed in accordance with the Plans, Specifications, and the Louisiana Standard Specifications for Roads and Bridges, 2016 edition. The Bidder understands that all quantities for performing the Work have been estimated by the Engineer, and that the Bid shall be the sum of the quantities multiplied by their respective unit rates. The Contract shall be awarded by the Owner through a comparison of all bids. It is the responsibility of each Bidder before submitting a Bid to:

- 2.1. Examine the Bidding Documents including the Plans and Specifications and any Addenda or related data identified in the Bidding Documents;
- 2.2. Visit the Project Site to become familiar with the local conditions if they are believed to affect cost, progress, or the completion of the Work;
- 2.3. Become familiar and satisfied with all federal, state, and local Laws and Regulations that may affect cost, progress, or the completion of the Work;
- 2.4. Study and correlate all information known to the Bidder including observations obtained from Bidder's visits, if any, to the Project Site, with the Bidding Documents;

- 2.5. Submit a written notice to the Engineer within three (3) days regarding any conflicts, errors, ambiguities, or discrepancies discovered in the Bidding Documents and confirm that the written resolution thereof by the Engineer is acceptable to the Bidder; and
- 2.6. Determine that the Bidding Documents are generally sufficient to convey an understanding of all terms and conditions for completing the required Work.

The submission of a Bid will constitute an incontrovertible representation that the Bidder has complied with every requirement of these Specifications. The Bidder shall comply with all other requirements specified in the Advertisement For Bids and the Instruction To Bidders.

GP-3 AVAILABILITY OF PLANS AND SPECIFICATIONS

One (1) set of Plans and Specifications shall be furnished to each Bidder. Three (3) sets of the Plans and Specifications shall be furnished to the Contractor upon award of the Contract. Additional sets may be furnished to the Contractor upon request from the Coastal Protection and Restoration Authority, 150 Terrace Avenue, Suite 100, Baton Rouge, Louisiana 70802.

GP-4 LAWS, REGULATIONS, STANDARDS, SPECIFICATIONS, AND CODES

Bidders are required to become familiar and remain in compliance with all Federal, State, and local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority which may affect those employed for the execution of the Work or which may affect the conduct of the Work. The Contractor shall indemnify the Owner and its representatives against any claim or liability arising from all violations of any laws, bylaws, ordinances, codes, regulations, orders, or decrees, whether by the Contractor or by the Contractor's employees. The filing of a bid will be presumptive evidence that the Bidder has complied with this requirement. The Owner will not be responsible for any inaccurate interpretations or conclusions drawn by the Contractor from information and documentation provided by the Owner.

References to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws and Regulations, whether such reference be specific or by implication, may not be in effect at the time of opening the Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents. No provision of any such standard, specification, manual, or code, or any instruction of a supplier shall be effective to change the duties or responsibilities of the Owner or Engineer, or any of their Subcontractors, consultants, agents, or employees from those set forth in the Bid Documents. No such provision shall be effective to assign to the Owner or Engineer, or any of their consultants, agents, or employees any duty or authority to supervise or direct the performance of the Contractor's obligations or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

The obligations imposed by these specifications are in addition to and are not to be construed in any way as a limitation of any rights available to the Engineer or Owner which are otherwise imposed by any laws or regulations or other provisions within the Contract Documents.

The Contractor shall abide by laws set forth in the Davis-Bacon Act of 1931 which states that

all laborers and mechanics employed by recipients, the recipient's contractors, or subcontractors on this project shall be paid wages at rates no less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with Subchapter IV of Chapter 31 of Title 40 United States Code. Additionally, with respect to the labor standards specified in this section, the Secretary of Labor shall have the authority and functions set forth in Reorganization Plan Number 14 of 1950 (64 Stat. 1267; 5 U.S.C. App.) and The Copeland Act of Title 40 (40 U.S.C. § 3145). Prevailing Wage Determination Schedules, as determined by the United States Department of Labor, are provided in the Appendix. Prevailing Wage Determination Schedules are subject to modification by the United States Department of Labor. The Contractor is responsible for utilizing the most current Prevailing Wage Determination Schedule. These documents can be downloaded from the following link: <http://www.wdol.gov/dba.aspx#3>. Modifications to Prevailing Wage Determination Schedules shall be effective if received (or posted) no less than 10 days prior to bid opening.

GP-5 PRE-BID CONFERENCE AND SITE VISIT

A Pre-Bid Conference and/or Job Site Visit may be held at the location and on the date provided in the Advertisement For Bids. If the Pre-Bid Conference and/or Job Site Visit is stated in the Advertisement for Bids to be a MANDATORY Pre-Bid Conference and/or MANDATORY Job Site Visit, bids shall be accepted only from those bidders who attend the Pre-Bid Conference and/or Job Site Visit in its entirety. Failure to attend a mandatory Pre-Bid Conference and/or mandatory Job Site Visit in its entirety will result in a null or void Bid.

All questions shall be in writing and faxed or emailed to the Coastal Protection and Restoration Authority contact person listed in the Advertisement For Bids after the Pre-Bid Conference and by the due date announced at the Pre-Bid conference. In order to ensure adequate response time, all questions and/or requests for clarification or interpretation of the Bid Documents should be received by the Coastal Protection and Restoration Authority at least seven days prior to the date for receipt of bids. Oral statements will not be binding or legally effective. The Coastal Protection and Restoration Authority will issue addenda in response to all questions arising at the Pre-Bid Conference and site visit to all prospective Bidders on record. All prospective Bidders on record may contact the Coastal Protection and Restoration Authority contact person for any additional information.

GP-6 NOTICE OF AWARD

The Owner, or its designated bidding agent, shall provide written notice to the Successful Bidder stating that the Owner will sign and deliver the Contract upon compliance with the conditions enumerated therein and within the time specified.

GP-7 NOTICE TO PROCEED AND CONTRACT TIME

The Contractor shall start the Work and begin the Contract Time on the dates provided in the Notice to Proceed. The Work shall be conducted using sufficient labor, materials, and equipment as necessary to ensure completion within the Contract Time. The Contract Time for completion of the Base Bid for the Work is provided in the Instructions To Bidders, unless an extension is granted to the Contract Time as specified in GP-44. If the Bid contains an Alternate Bid(s), and the Alternate Bid(s) is awarded and included in the Contract, the Contract Time associated with the Alternate Bid(s) will be as provided in the Instructions To Bidders.

Unless otherwise noted in the Contract Documents, Contract Time will be on a calendar day basis. Contract Time shall consist of the number of calendar days stated in the Instructions To Bidders and the Contract beginning with the date noted in the written Notice to Proceed, including Saturdays, Sundays, holidays and non-work days.

The following table defines the monthly anticipated adverse weather days that are expected to occur during the Contract Time and will constitute the baseline monthly weather time for evaluations. The schedule is based upon National Oceanic and Atmospheric Administration (NOAA) or similar data for the regional geographic area.

Monthly Anticipated Adverse Weather Calendar Days											
Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
5	5	4	4	4	5	7	7	5	3	3	4

Adverse weather days must prevent Work for fifty percent (50%) or more of the work day and delay work critical to the timely completion of the project. The number of actual adverse weather days shall be calculated chronologically from the first to the last day of each month.

If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in Contract Time due to weather shall not be cause for an increase in the contract sum.

GP-8 WORK PLAN

The Contractor shall develop a written Work Plan which accounts for all of the construction activities required by the Contract Documents. The Work Plan shall include a list of the individual construction tasks to be completed and the estimated dates for beginning and completing the tasks. It shall also include all other items which are applicable to completing the Work such as, but not limited to, the following:

- a. Typical report form for the Bi-Weekly Progress Meeting;
- b. Typical form for Daily Progress Report;
- c. Hurricane and Severe Storm Plan;
- d. Site-specific Health and Safety Plan;
- e. The delivery method and source(s) of all construction materials (company or producer name, mailing and physical address, phone number, and name of contact person).
- f. The personnel, material, subcontractors, fabricators, suppliers, types of equipment, and equipment staging areas the Contractor proposes to use for construction;
- g. Shop drawings, test results, and sample submittals;
- h. Survey layout and stakeout;

- i. All supplemental items specified in the Special Provisions.

The Work Plan shall be submitted to the Engineer prior to the Pre-Construction Conference by the date provided in the Special Provisions. The Engineer shall review the Work Plan and have the Contractor make any necessary revisions prior to acceptance of the plan. **No payment for mobilization will be made until the Work Plan has been accepted by the Engineer.**

GP-9 PROGRESS SCHEDULE

The Contractor shall develop a written Progress Schedule which provides for an orderly progression of the Work, submittals, tests, and deliveries in order to complete the Work within the specified Milestones and Contract Time. All of the items listed in the Work Plan shall be integrated into the Progress Schedule. The format of the schedule shall be composed using Microsoft Project®, or any other software deemed acceptable by the Engineer. It shall be updated weekly by the Contractor, at a minimum. The Progress Schedule shall also include, but not be limited to the following:

- a. All of the elements in the Work Plan, including updates;
- b. A work order issued from Louisiana One Call ordering all their subscribers in the project area to mark their utilities;
- c. A telephone log verifying that all property owners and utilities have been contacted. This log should list the time, date, and names of the personnel representing the property owners, utilities, and Contractor;

The Progress schedule must reflect the anticipated adverse weather delays described in GP-7 on all weather dependent activities.

The Progress Schedule shall be submitted to the Engineer prior to the Pre-Construction Conference by the date provided in the Special Provisions. The Engineer shall perform a review and have the Contractor make any necessary revisions prior to acceptance of the schedule. Acceptance will not impose responsibility on the Owner or Engineer for the sequencing, scheduling, or progression of the Work. The Contractor is fully responsible for progression of the Work in order to maintain compliance with the Progress Schedule and Contract Time.

GP-10 DAILY PROGRESS REPORTS

The Contractor shall record the following daily information on Daily Progress Reports:

- a. Date and signature of the author of the report;
- b. Dollar amount of all bid items that are fabricated, installed, backfilled, pumped, constructed, damaged, replaced, etc. The amount of material shall be expressed in the units stated in the bid;
- c. Field notes of all surveys;

- d. Notes on all inspections;
- e. Details of Health and Safety meetings;
- f. A brief description of any Change Orders, Field Orders, Claims, Clarifications, or Amendments;
- g. Condition of all navigation aids (i.e., warning signs, lighted marker buoys) and any repairs performed on them;
- h. Weather conditions (adverse weather day, wind speed and direction, temperature, wave height, precipitation, etc.);
- i. The amount of time lost to severe weather or personnel injury, etc;
- j. Notes regarding compliance with the Progress Schedule;
- k. Visitor log (Instructions for format will be furnished by the Field Engineer).

The daily progress reports shall be submitted to the Engineer at the Bi-Weekly Progress Meetings specified in GP-13 in both hard copy and digital format (Adobe Acrobat® Format, or approved equal). The typical form for Daily Progress Reports shall be developed by the Contractor and incorporated into the Work Plan.

GP-11 HURRICANE AND SEVERE STORM PLAN

The Contractor shall develop and maintain a written Hurricane and Severe Storm Plan. The Plan shall include, but not be limited to, the following:

- a. What type of actions will be taken before storm strikes at the Project Site. The plan should specify what weather conditions or wave heights will require shutdown of the Work and removal of equipment, personnel, etc.
- b. Notes from continuous monitoring of NOAA marine weather broadcasts and other local commercial weather forecasts.
- c. Equipment list with details on their ability to handle adverse weather and wave conditions.
- d. List of safe harbors or ports and the distance and travel time required to transfer equipment from the Project Site.
- e. Hard copies of any written approvals or operations schedules associated with the use of the safe harbors or ports.
- f. Method of securing equipment at the safe harbors or ports.
- g. List of tug boats and work boats and their respective length, horsepower, etc. which will adequately transfer the equipment to safe harbor or port under adverse weather conditions.

- h. Methods which will be used to secure equipment left onsite during adverse weather conditions.
- i. Evacuation or immediate reaction plans to be taken by personnel for sudden storm occurrences.
- j. Operations procedures which will be used to secure critical dredging equipment such as spuds, swing wires, anchor wires, or tugs during adverse weather conditions.
- k. Communications protocol with local law enforcement and fire and rescue agencies.

The Contractor shall incorporate the Hurricane and Severe Storm Plan into the Work Plan. The Owner and Engineer are not responsible for the adequacy of this plan.

GP-12 HEALTH AND SAFETY PLAN AND INSPECTIONS

The Contractor shall develop and maintain a written Health and Safety Plan which allows the Work to be performed in compliance with all applicable laws, ordinances, rules, and regulations of any government agency having jurisdiction over the safety of personnel or property. This includes maintaining compliance with the Code of Federal Regulations, Title 29, Occupational Safety and Health Administration (OSHA) and all applicable Health and Safety Provisions of the State of Louisiana.

The Contractor shall institute a daily inspection program to assure that the requirements of the Health and Safety Plan are being fulfilled. Inspections shall include the nature of deficiencies observed, corrective action taken or to be taken, location of inspection, date, and signature of the person responsible for its contents. The results of the inspections shall be recorded on Daily Progress Reports and kept at the Project Site during the Work.

The Contractor shall incorporate the Health and Safety Plan into the Work Plan. The Owner and Engineer are not responsible for the adequacy of this plan.

GP-13 PROGRESS MEETINGS AND REPORTS

The Engineer shall schedule meetings to review the progress of the Work, coordinate future efforts, discuss compliance with the Progress Schedule and resolve miscellaneous problems. The Engineer or Resident Project Representative, Contractor, and all Subcontractors actively working at the Project Site shall attend each meeting. Representatives of suppliers, manufacturers, and other Subcontractors may also attend at the discretion of the Contractor. The Contractor shall record the details of each meeting in a Progress Report. The format of this report shall be developed by the Contractor, approved by the Engineer, and included in the Work Plan. The progress meetings and reports shall be scheduled according to the Special Provisions.

GP-14 PRE-CONSTRUCTION CONFERENCE

A Pre-Construction Conference shall be held by the Contractor, Owner, Engineer, local stakeholders, and other appropriate personnel prior to starting construction on the date specified

in the Special Provisions. This conference shall serve to establish a mutual understanding of the Work to be performed, the elements of the Progress Schedule and Work Plan, expectations for bi-weekly progress meetings, the Plans and Specifications, processing Applications for Payment, and any other items of concern. If any subcontractors are not present, another pre-construction conference will be required.

GP-15 CONTRACT INTENT

The Bid Documents are complementary; what is called for by one is as binding as if called for by all. Clarifications and interpretations or notifications of minor variations and deviations of the Contract Documents will be issued by Engineer as provided in these Specifications. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Bid Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided at no additional cost to the Owner.

GP-16 ENGINEER AND AUTHORITY OF ENGINEER

The Engineer will be the designated representative of the Owner, the initial interpreter of the Contract Documents and the judge over acceptability of all the Work. Claims, disputes, and other matters relating to the acceptability of the Work, performance by the Contractor or the interpretation of the requirements of the Contract Documents must be submitted to the Engineer in writing. Upon written request from the Contractor, the Engineer shall issue written clarifications or interpretations which are consistent with the overall intent of the Contract Documents. Such written clarifications and interpretations will be binding on the Owner and the Contractor. Either the Owner or the Contractor may make a Claim if a written clarification or interpretation justifies an adjustment in the Contract Price or Contract Times.

The Engineer has the authority to suspend the Work in whole or in part due to failure of the Contractor to correct conditions unsafe for workmen or the general public, carry out provisions of the Contract, perform conformance work, or to carry out orders. The Engineer shall submit a written order to the Contractor for work which must be suspended or resumed. Nothing in this provision shall be construed as establishing responsibility on the part of the Engineer for safety which is the responsibility of the Contractor.

The Engineer or Resident Project Representative shall keep a daily record of weather and flood conditions and may suspend the Work as deemed necessary due to periods of unsuitable weather, conditions considered unsuitable for execution of the Work, or for any other condition or reason deemed to be in the public interest.

GP-17 CONFORMITY WITH PLANS AND SPECIFICATIONS

All work and materials involved with the Work shall conform with the lines, grades, cross sections, dimensions, and other requirements shown on the Plans or indicated in these Specifications unless otherwise approved by the Engineer.

GP-18 CLARIFICATIONS AND AMENDMENTS TO CONTRACT DOCUMENTS

The Contract Documents may be clarified or amended by the Engineer to account for additions, deletions, and revisions to the Work after the Effective Date of the Contract. The clarifications and amendments shall be addressed by either a Change Order or a written clarification by the Engineer. The Contractor shall not proceed with the Work until the Change Order or clarification has been issued by the Engineer. The Contractor shall not be liable to the Owner or Engineer for failure to report any such discrepancy unless the Contractor had reasonable knowledge.

The Contractor may request a clarification or amendment for the following:

- a. Any conflict, error, ambiguity, or discrepancy within the Contract Documents; or
- b. Any conflict, error, ambiguity, or discrepancy between the Bid Documents and the provision of any Law or Regulation applicable to the performance of the Bid; or
- c. Any standard, specification, manual, or code (whether or not specifically incorporated by reference in the Bid Documents); or
- d. Instructions by a supplier.

The official form for a written clarification is provided in the appendices of the Contract Documents. This form shall be filled out appropriately by the Contractor and submitted to the Engineer. The Engineer shall clarify the issue in writing on either the clarification form, Field Order or a Change Order and submit it to the Contractor.

GP-19 SUBCONTRACTS

The Contractor shall provide the names of all Subcontractors to the Engineer in writing before awarding any Subcontracts. The Contractor shall be responsible for the coordination of the trades and Subcontractors engaged in the Work. The Contractor is fully responsible to the Owner for the acts and omissions of all the Subcontractors. The Owner and Engineer will not settle any differences between the Contractor and Subcontractors or between Subcontractors. The Contractor shall have appropriate provisions in all Subcontracts to bind Subcontractors to the Contractor by the terms of the General Provisions and other Contract Documents, as applicable to the Work of Subcontractors. The provisions should provide the Contractor the same power regarding termination of Subcontracts that the Owner may exercise over the Contractor under any provisions of the Contract Documents.

GP-20 WORKERS, METHODS, AND EQUIPMENT

The Contractor shall provide competent, qualified, and trained personnel to perform the Work. The Contractor shall not employ any person found objectionable by the Engineer. Any person employed by the Contractor or any Subcontractor who, in the opinion of the Engineer, does not perform the Work in a proper, skillful, and orderly manner shall be immediately removed upon receiving a written order by the Engineer. The Engineer may also suspend the Work until the

Contractor removes the employee or provides a suitable replacement. Such an employee shall not be re-employed in any portion of the Work without written approval from the Engineer.

The on-site superintendent for the Contractor shall be competent, English-speaking, and qualified to receive orders, supervise, and coordinate all Work for the Contractor and any Subcontractors. The qualifications of the superintendent must be established and approved by the Engineer prior to commencement of the Work. The superintendent shall be furnished by the Contractor regardless of how much Work may be sublet. In the performance of the Work under this Contract, the Contractor shall conduct operations to avoid interference with any other Contractors.

All equipment, products, and material incorporated into the Work shall be as specified, or if not specified, shall be new, of good quality, and protected, assembled, used, connected, applied, cleaned, and conditioned in accordance with the manufacturer's instructions, except as otherwise may be provided in the Bid Documents. All equipment shall be of sufficient size and mechanical condition to meet the requirements of the Work and produce a satisfactory quality of work. Equipment shall not damage adjacent property throughout the performance of the Work. The Plant and Equipment Schedule should be completed by the Contractor.

The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures used to complete the Work in conformance with the Contract Documents.

The Contractor shall obtain permission from the Engineer if a method or type of equipment other than specified in the Contract is desired. The request shall be in writing and shall include a full description of the methods, equipment proposed, and reasons for the modification. A proposed item of material or equipment may be considered by the Engineer to be functionally equal to an item specified in the Contract if:

- a. It is at least equal in quality, durability, appearance, strength, and design characteristics;
- b. There is no increase in any cost including capital, installation, or operating to the Owner;
- c. The proposed item will conform substantially, even with deviations, to the detailed requirements of the item named in the Bid Documents.

If, after trial use of the substituted methods or equipment, the Engineer determines that the Work produced does not meet Contract requirements, the Contractor shall discontinue use of the substituted methods or equipment and shall complete the Work with the specified methods and equipment. The Contractor shall remove the deficient Work and replace it with Work of specified quality or take other corrective action as directed. No change will be made in basis of payment for construction items involved or in Contract Time as a result of authorizing a change in methods or equipment.

GP-21 ACCIDENT PREVENTION, INVESTIGATIONS, AND REPORTING

The Contractor shall be responsible to develop and maintain all safeguards and safety precautions necessary to prevent damage, injury, or loss throughout the performance of the Work. All accidents at the Project Site shall be investigated by the immediate supervisor of employee(s) involved and reported to the Engineer or Resident Project Representative within one (1) working day. A complete and accurate written report of the accident including

estimated lost time days shall be submitted to the Engineer within four (4) calendar days. A follow-up report shall be submitted to the Engineer if the estimated lost time days differ from the actual lost time days.

GP-22 PRESERVATION AND RESTORATION OF PROPERTY, MONUMENTS, ETC.

The Contractor shall comply with all applicable laws, ordinances, rules, and regulations of any government agency having jurisdiction over the preservation and protection of public and private property. The Contractor shall install and maintain suitable safeguards and safety precautions during the Work as necessary to prevent damage, injury, or loss to property. This responsibility shall remain with the Contractor until the Work has been completed and accepted. Any damage, injury, or loss to property which is caused by the Contractor or Subcontractors shall be repaired or replaced at the expense of the Contractor.

The Contractor shall protect all land monuments, State and United States bench marks, geodetic and geological survey monuments, and property markers from disturbance or damage until an authorized agent has witnessed or otherwise referenced their location. The Contractor shall also provide protection for all public and private property including trees, utilities, pipes, conduits, structures, etc. These items shall not be removed unless directed by the Engineer.

The Contractor shall be responsible to completely repair all damages to public or private property due to any act, omission, neglect, or misconduct in the execution of the Work unless it is due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, public enemies, or governmental authorities. The damage must be repaired at the expense of the Contractor before final acceptance of the Work can be granted by the Engineer. If the Contractor fails to repair the damage within forty-eight (48) hours, the Owner may independently proceed with the repairs at the expense of the Contractor by deducting the cost from the Contract. If the Contractor cannot provide for the cost of repairs, the Surety of the Contractor shall be held until all damages, suits, or claims have been settled.

GP-23 PROTECTION OF THE WORK, MATERIALS, AND EQUIPMENT

It shall be the responsibility of the Contractor to protect the Work, materials, and equipment from damages or delays due to inflows, tidal rise, and storm water runoff which may occur at the Project Site. The Owner shall not be held liable or responsible for these types of delays or damages.

GP-24 LAND RIGHTS

The Owner has been granted all of the temporary easements, servitudes, and right-of-way agreements from public and private landowners in order to perform the Work. A land rights memorandum which lists all known responsible contacts and required stipulations is provided in the appendices of the Contract Documents. The Contractor is responsible to notify all of the contacts and abide by stipulations listed in that memorandum.

GP-25 UTILITIES

The Owner has been granted all of the temporary easements, servitudes, and right-of-way agreements from known public and private utilities in order to perform the Work. The utilities include, but are not limited to telephone, telegraph, power poles or lines, water or fire hydrants, water or gas mains and pipelines, sewers, conduits, and other accessories or appurtenances of a similar nature which are fixed or controlled by a city, public utility company or corporation.

The Contractor shall conduct the Work in such a manner as to cooperate and minimize inconveniences with utilities. Prior to commencement of the Work, the Contractor is responsible to notify all of the utilities and abide by stipulations required by the utility company(s). The Contractor shall also call Louisiana One Call at 811 or (800) 272-3020 a minimum of 5 working days prior to construction to locate existing utilities at the Project Site.

Any damage to utilities that is caused by the Contractor within the Project Site shall be repaired at the expense of the Contractor. The Owner will not be responsible for any delay or damage incurred by the Contractor due to working around or joining the Work to utilities left in place or for making adjustments.

Any unidentified pipes or structures which may be discovered within the limits of the Project Site shall not be disturbed and shall be reported to the Engineer as soon as possible. Construction or excavation shall not be performed around unidentified utilities without prior approval from the Engineer.

GP-26 PERMITS

Federal and State permits that are required to perform the Work, such as the Department of the Army Permit, Coastal Use Permit, LDEQ Clean Water Permit, LDWF Fill Material License, and LADOTD highway crossing permit have been secured by the Owner. Permit conditions affecting the construction processes have been included in these Specifications. Copies of these permits will be provided to the Contractor at the pre-construction conference. These permits will not relieve the responsibility of the Contractor from obtaining any additional permits which may be needed to complete the Work. Copies of any special permits that are obtained by the Contractor must be submitted to the Owner. The Contractor shall conform to the requirements therein and display copies of the permits in a public setting at the Project Site at all times.

GP-27 PROJECT SITE CLEAN-UP

The Contractor shall keep the Project Site free from accumulations of waste material or trash at all times. All trash and waste materials shall be removed by the Contractor and disposed off-site in an approved waste disposal facility. In addition, all equipment, tools, and non-conforming work shall also be removed prior to the Work being accepted. No materials shall be placed outside of the Project Site.

GP-28 OWNER INSPECTION

The Owner, Resident Project Representative, and Federal Sponsor shall have the right to perform reasonable inspections and testing of the Work at the Project Site. Access shall be granted to the entire Project Site including all materials intended for use in the Work. The

Contractor shall allow reasonable time for these inspections and tests to be performed. The inspections shall not relieve the Contractor from any obligation in accordance with the requirements of the Contract.

The Owner shall notify the Contractor prior to all tests, inspections, and approvals of the Work which are to be conducted at the Project Site. The Owner shall also provide the Contractor with the written results of all inspections and tests. Inspections, tests, or Payments made by the Owner shall not constitute acceptance of non-conforming Work or prejudice the Owner's rights under the Contract.

GP-29 DUTIES OF RESIDENT PROJECT REPRESENTATIVE

A Resident Project Representative may be assigned by the Engineer to the Project Site to observe the Contractor and monitor the progress and manner in which the Work is being performed. The Resident Project Representative will also report to the Engineer and Contractor whenever materials or Work fail to comply with the Contract. The Resident Project Representative is authorized to reject any materials or suspend work which does not comply with the Contract until the issue is resolved by the Engineer.

However, the Resident Project Representative is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, or to approve or accept any portion of the Work, or to issue instructions contrary to the Plans and Specifications. The Resident Project Representative shall not manage or perform duties for the Contractor.

GP-30 CONSTRUCTION STAKES, LINES, AND GRADES

The Engineer shall direct the Contractor to all control points necessary for setting stakes and establishing lines and grades as shown on the Plans. The Contractor shall be responsible for laying out all of the Work. All layouts shall be witnessed and verified by the Engineer or Resident Project Representative prior to beginning the Work. The Contractor shall be responsible for proper execution of the Work according to the layouts after receiving verification from the Engineer.

The Contractor shall be responsible for furnishing and maintaining stakes such that the Work can be verified for acceptance. The Engineer may suspend the Work at any time if it cannot be adequately verified due to the number, quality, or condition of the stakes.

GP-31 CONTRACTOR'S RESPONSIBILITY FOR WORK

The Contractor shall execute all items covered by the Contract, and shall furnish, unless otherwise definitely provided in the Contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to complete the Work. The Contractor shall pay constant attention to the progress of the Work and shall cooperate with the Engineer in every way possible. The Contractor shall maintain a complete copy of the Contract at all times, including the Plans, Specifications, and any authorized modifications.

GP-32 ENVIRONMENTAL PROTECTION

The Contractor shall comply with and abide by all federal, state, and local laws and regulations controlling pollution of the environment, including air, water, and noise. The Contractor shall take precautions to prevent pollution of waters and wetlands with fuels, oils, bituminous materials, chemicals, sewage, or other harmful materials and contaminants, and to prevent pollution of the atmosphere from particulate and gaseous matter, in accordance with all terms and conditions of federal, state, and local air and water pollution control laws and programs and their rules and regulations, including the federal Clean Air Act and the federal Clean Water Act.

The Contractor shall adhere to the provisions which require compliance with all standards, orders, or requirements contained under Section 306 of the Clean Air Act and Section 508 of the Clean Water Act, which prohibit the use under non-exempt Federal contracts, grants, or loans, of facilities included on the Environmental Protection Agency (EPA) list of Violating Facilities.

Construction operations in rivers, streams, lakes, tidal or coastal waters, reservoirs, canals, wetlands, and any other impoundments shall be restricted to areas where it is necessary to accomplish the Work and performed in accordance with any applicable federal, state, and local laws, regulations, permit requirements, and guidelines, and the Contractor shall conduct the Work in a manner that will not cause damaging concentrations of silt or pollution to water.

Contractor shall maintain and operate equipment to minimize noise, dust, and vibration near noise, dust and vibration-sensitive areas such as churches, hospitals, schools, and residential areas, and assure that any activities conducted near such areas are not unduly disruptive. Contractor shall maintain all equipment with properly functioning mufflers.

The Contractor shall be responsible for determining and utilizing any erosion and pollution control features or methods that may be necessary to comply with all federal, state, and local laws and regulations.

GP-33 SANITARY PROVISION

The Contractor shall provide and maintain sanitary accommodations for use by all employees and Subcontractors. Facilities shall comply with the requirements of the Louisiana State Board of Health and Hospitals and other authorities having jurisdiction. Committing public nuisance on the Project Site is prohibited.

GP-34 PAYMENT OF TAXES

The Contractor shall be responsible for all taxes and duties that maybe levied under existing State, Federal, and local laws during the completion of the Work. The Owner will presume that the amount of such taxes is included in the unit prices bid by the Contractor and will not provide additional reimbursement.

GP-35 RADIO AND TELEPHONES

The Contractor shall furnish and maintain radio and telephone equipment throughout the Contract Time which will allow communication between the Contractor and the Engineer or Resident Project Representative.

GP-36 NAVIGATION

All marine vessels shall comply with the following Federal Laws and Regulations:

- a. The International Navigational Rules Act of 1977 (Public Law 95-75, 91 Stat. 308, or 33 U.S.C. 1601-1608); and
- b. The Inland Navigation Rules Act of 1980 (Public Law 96-591, 94 Stat. 3415, 33 U.S.C. 2001-2038).

These rules can be found on the Internet at:
<http://www.navcen.uscg.gov/?pageName=navRulesContent>.

All marine vessels shall display the lights and day shapes required by Part C- Lights and Shapes of the Inland Navigation Rules. The location, type, color, and size of the lights and day shape shall be in accordance with Annex I - Positioning and Technical Details of Lights and Shapes. Any vessel engaged in dredging is considered a “Vessel restricted in her ability to maneuver” and shall display all the lights and shapes required in Rule 27, “Vessel Not Under Control.”

GP-37 OBSTRUCTION TO NAVIGATION

The Contractor shall minimize all obstructions to navigation in compliance with pertinent U. S. Coast Guard regulations while conducting the Work. The Contractor shall promptly move any floating equipment or marine vessels which obstruct safe passage of other marine vessels. Upon completion of the Work, the Contractor shall remove all marine vessels and other floating equipment such as temporary ranges, buoys, piles, and other marks or objects that are not permanent features of the Work.

GP-38 MARINE VESSELS AND MARINE ACTIVITIES

All marine vessels regulated by the USCG shall have the required USCG documentation that is current before being placed in service. A copy of any USCG Form 835 issued to the vessel in the preceding year shall be made available to the Owner and Engineer and a copy shall be on board the vessel. All officers and crew shall possess valid USCG licenses as required by USCG regulations. These certificates, classifications, and licenses shall be posted in a public area on board each vessel.

All dredges and quarter boats not subject to USCG inspection and certification or not having a current ABS classification shall be inspected in the working mode annually by a marine surveyor accredited by the National Association of Marine Surveyors (NAMS) or the Society of Accredited Marine Surveyors (SAMS) and having at least 5 years’ experience in commercial marine plant and equipment. The inspection certificate shall be posted in a public area on board each dredge and/or quarter boat.

All other plant and support vessels shall be inspected before being placed in service and at least annually by a qualified person. The inspection certificate shall be posted in a public area on board each plant and/or vessel.

GP-39 RECORD KEEPING

The Contractor shall maintain orderly records of the Progress Schedule, Daily Progress Reports, Progress Meetings, correspondence, submittals, reproductions of original Contract Documents, Change Orders, Field Orders, certificates, additional drawings issued subsequent to the executed Contract, clarifications and interpretations of the Contract Documents by the Engineer, and other related documents at the Project Site until all of the Work is accepted by the Engineer.

GP-40 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies. Each certificate shall be certified by an authorized agent of the supplying company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date of shipment. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the testing date. The Contractor shall also certify that all materials and test reports conform to the requirements of the Contract. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material if the material is tested and determined to be in nonconformance.

GP-41 SUBMITTALS

The Contractor shall review all Submittals for compliance with the requirements of the Contract prior to delivery to the Engineer. Each Submittal shall contain a signed statement by the Contractor that it complies with the Contract requirements with any exceptions explicitly listed. The Contractor shall comply with these requirements for Submittals from Subcontractors, manufacturers, and suppliers.

All Submittals shall include sufficient data to demonstrate that the requirements of the Contract are met or exceeded. All submittals shall be legible and marked with the project title and clearly identify the item submitted. Each submittal package shall include an itemized list of the items submitted.

All Submittals will be reviewed within fourteen (14) days after being received by the Engineer. The Contractor shall allow the Engineer sufficient time for review, corrections, and resubmission of all Submittals prior to beginning the associated Work. The Contract Time shall not be extended based on incorrect or incomplete Submittals.

GP-42 CLAIMS FOR EXTRA COST

The Contractor is expected to complete the Work according to the Contract Price specified in the Bid Documents. If the Contractor deems additional compensation is due for work, materials, delays or other additional costs/or expenses not covered in the Contract or not

ordered as extra work, the Contractor shall give the Engineer written notice thereof within fourteen (14) calendar days after the receipt of such instructions and, in any event, before commencing the procedure. The Contractor shall justify the claim for extra cost by providing supporting data and calculations. The Engineer shall determine whether the Contractor is entitled to be compensated for such extra cost and shall make any required adjustments of the Contract in accordance with GP-43. If no written claim is made within this fourteen (14) calendar-day period, the Contractor will be deemed to have waived any claim for extra cost for such work.

Claim for damages or delays of the Work shall not be made by the Contractor for a relocation of the construction operation or portions thereof to other locations within the geographical scope of the project, when in the opinion of the Engineer, such relocation is necessary for the most effective prosecution of the Work and may be accomplished without undue hardship.

GP-43 ALTERATION OF THE CONTRACT AND COMPENSATION

Using Change Orders, Field Orders, or Written Amendments, the Owner may order extra work or make changes by altering the details of construction, add to or deduct from the Work. The requirements and stipulations of these documents shall be binding on the Owner and Contractor throughout the remainder of the Contract. Any claim for an extension of Contract Time caused thereby shall be adjusted at the time of ordering such change.

The value of any such extra work or change shall be determined in one or more of the following ways and in the following priority:

- a. By application of the unit prices in the Contract to the quantities of the items involved or subsequently agreed upon; or
- b. By mutual acceptance between the Owner and Contractor of a lump sum.

If none of the above methods is agreed upon, the Contractor, provided he is so ordered by the Owner in writing, shall proceed with the Work on a "force account" basis. In such a case, the Contractor shall keep and preserve in such form as the Engineer may direct, a correct itemized account of the direct cost of labor, materials, equipment, together with vouchers bearing written certification by the Contractor. In any case, the Engineer shall certify to the amount, including an allowance of fifteen percent (15%) for jobsite and home office overhead indirect expenses and profit due to the Contractor. Where such change involves a subcontractor, an allowance of fifteen percent (15%) for overhead and profit shall be due the subcontractor and an allowance of ten percent (10%) shall be due the Contractor. Pending final determination of value, payments on account of changes shall be made on the Engineer's estimate and as approved in an executed Change Order.

If the Contractor is prevented from completing the Work according to the Contract Price due to the Owner, the Contractor may be entitled to any reasonable and necessary addition of cost as determined by the Engineer. Neither the Owner nor the Contractor shall be entitled to any damages arising from events or occurrences which are beyond their control, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, acts of war, and other like matters. The provisions of this section exclude recovery for damages caused by the Contractor and compensation for additional professional services by either party.

GP-44 EXTENSION OF CONTRACT TIME

The Contractor is expected to complete the Work within the Contract Time specified in the Bid Documents. A legitimate increase of the Contract time may be requested by the Contractor throughout the course of the Work. This Claim must be submitted to the Engineer in writing within fourteen (14) days of the event which caused the time delay to the Contractor. If an extension of Contract Time involves an increase in Contract Price, both claims shall be submitted together. The Contractor shall justify the increase of the Contract Time in the Claim using supporting data and calculations. The Engineer may deny the claim if there is insufficient information to make a determination. If the Claim is approved, the Engineer shall issue a Change Order within thirty (30) days of the Claim. The Contract Time shall be increased on a basis that is commensurate with the amount of additional or remaining Work. For example, the Contract Time can be increased where the number of actual adverse weather days exceeds the number of days estimated in the Contract.

GP-45 OWNER'S RIGHT TO TERMINATE CONTRACT FOR CAUSE OR CONVENIENCE

45.1 TERMINATION FOR CAUSE

The Owner shall submit a written notice to the Contractor and Surety which justifies placement of the Contractor in default if:

- a. The Work is not begun within the time specified in the Notice to Proceed; or
- b. The Work is performed with insufficient workmen, equipment, or materials to assure prompt completion; or
- c. The Contractor performs unsuitable, neglected or rejected work, refuses to remove materials; or
- d. The Work is discontinued; or
- e. The Work is not completed within the Contract Time or time extension; or
- f. Work is not resumed within a reasonable time after receiving a notice to continue;
or
- g. The Contractor becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency; or
- h. The Contractor allows any final judgment to stand unsatisfied for a period of ten (10) days; or
- i. The Contractor makes an assignment for the benefit of creditors; or
- j. The Work is not performed in an acceptable manner.

If the Contractor or Surety does not remedy all conditions cited in the written notice within ten (10) days after receiving such a notice, the Contractor will be in default and the Owner shall remove the Contractor from the Work. If the Contractor is placed into default, the Owner may

obtain the necessary labor, materials, and equipment or enter into a new Contract in order to complete the Work. All costs incurred by the Owner for completing the Work under the new Contract will be deducted from the payment due the Contractor. If the expense exceeds the sum payable under the Contract, the Contractor and Surety shall be liable to pay the Owner the difference.

45.2 TERMINATION FOR CONVENIENCE

Owner may, at any time, terminate this Contract or any portion thereof, for Owner's convenience, upon providing written notice to the Contractor. In such case, Contractor shall be paid for all work completed through the date notice was provided (less payments already received) and reasonable demobilization and restocking charges incurred and reasonable overhead and profit based upon industry standards on the work performed. In no event shall the Contractor be entitled to payment of overhead and profit on work not performed. In the event it is determined that the Contractor was wrongfully terminated for cause, pursuant to Section GP 45.1 above, such termination shall be automatically converted to a termination for convenience under and payment made as provided under this Section.

GP-46 TEMPORARY SUSPENSION OF WORK

The Engineer shall have the authority to temporarily suspend the Work in whole or in part. A Field Order shall be issued to the Contractor for any of the Work that is suspended for periods exceeding one (1) calendar day. The Field Order shall include the specific reasons and details for the suspension. The Contract Time shall not be extended if the Work is suspended due to failure by the Contractor to comply with a Field Order or with the Plans and Specifications. If the Work is suspended in the interest of the Owner, the Contractor shall make due allowances for the lost time.

GP-47 NON-CONFORMING AND UNAUTHORIZED WORK

Work not conforming to the Plans, Specifications, Field Orders, or Change Orders shall not be accepted for payment. Unacceptable or unauthorized work shall be removed and replaced in an acceptable manner at the expense of the Contractor in order to obtain final acceptance of the Work.

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the Owner after seven (7) calendar days written notice to the Contractor, may correct such deficiencies itself or by use of other contractors without prejudice to any other remedy it may have, and may deduct the cost thereof from the payment then or thereafter due to the Contractor.

GP-48 CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

The Contractor may terminate the Contract or Work and recover payment from the Owner for labor and materials if the Work is stopped through no act or fault of the Contractor for more than three (3) months. For example, such an occurrence could be caused by a court order or other public authority. In any case, the Contractor shall submit a written notice to the Engineer at the beginning of the occurrence, and a written Claim to the Owner at the end of the occurrence.

GP-49 BREACH OF CONTRACT

The Owner shall submit a written Claim to the Contractor regarding any breach of the Contract. The Contractor must provide a written response to the Owner regarding the breach of Contract within ten (10) days after the Claim. This response must provide either an admission to the Claim or a detailed denial based on relevant data and calculations. The failure of the Contractor to provide a proper response within ten (10) days shall result in justification of the Claim by default.

GP-50 NO WAIVER OF LEGAL RIGHTS

The Owner shall not be prevented from recovering costs from the Contractor, Surety, or both due to failure of the Contractor to fulfill all of the obligations under the Contract. If a waiver is provided to the Contractor for a breach of Contract by the Owner, it shall not apply to any other breach of Contract. Final acceptance of the Work shall not prevent the Owner from correcting any measurement, estimate, or certificate. The Contractor shall be liable to the Owner without prejudice to the terms of the Contract or any warranty for latent defects, fraud, or gross negligence.

GP-51 LIABILITY FOR DAMAGES AND INJURIES

To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, Engineer, and their officers, employees, representatives, and/or agents from all suits, actions, claims, costs, losses, demands, and judgments (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) brought because of injuries or damage sustained by a person or property due to the operations of Contractor; due to negligence in safeguarding the Work, or use of unacceptable materials in constructing the Work; or any negligent act, omission, or misconduct of the Contractor; or claims or amounts recovered under the Workmen's Compensation Act or other law, ordinance, order, or decree; any money due the Contractor as considered necessary by the Owner for such purpose may be retained for use of the State or in case no money is due, the performance and payment bond may be held until such suits, actions, claims for injuries or damages have been settled and suitable evidence to that effect furnished to the Owner; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that adequate Workman's Compensation, Public Liability, and Property Damage Insurance are in effect.

The indemnification obligations of the Contractor shall not extend to the liability of the Owner, Engineer, and their affiliates arising out of the preparation or approval of the Plans, Specifications, maps, opinions, reports, surveys, or Change Orders, or for providing directions or instructions which are the primary cause of the injury or damage.

Should the Owner or Contractor suffer from any injury or damage due to an error, omission, or act of the other party or their legally liable affiliates, a written Claim shall be submitted to the other party within ten (10) days. The Claim shall provide all details regarding the injury or damage, the results of any investigations, and the action to be taken to prevent any reoccurrence.

GP-52 LIABILITY FOR LOSSES BY ACTS OF THE GOVERNMENT

The Owner shall not be liable for any loss or damage suffered by the Contractor arising out of a cessation of Work under this Contract due to any act or order of any local, state, or federal government agency. If this cessation occurs, the Contractor may request an extension of the Contract Time according to the provisions in GP-44.

GP-53 FINAL INSPECTION AND ACCEPTANCE

Whenever the Work provided for, or contemplated by the contract, has been satisfactorily completed, all punch list items completed and the final cleaning up is performed, the Engineer shall be notified in writing that said work is completed and ready for final inspection. The Engineer shall, unless otherwise provided, make the final inspection within a reasonable length of time after the receipt of such notification.

If all construction provided for in the contract is found completed to the Engineer's satisfaction, the inspection shall constitute the final inspection and the Engineer will make recommendation to the Owner for final acceptance and notify the Contractor in writing of this recommendation of acceptance.

The Owner will record the Notice of Acceptance with the Clerk of Court in the Parish(s) in which the Work has been performed. The recording of the Notice of Acceptance shall commence a lien period of not less than forty-five (45) consecutive calendar days, during which period the retainage will be withheld by the Owner. The Owner will provide the Contractor with a copy of the Certificate of Recordation.

GP-54 AS-BUILT DRAWINGS

The Contractor shall submit all originals and copies of the As-Built Drawings to the Engineer for review and acceptance in accordance with the Special Provisions. The As-Built Drawings shall provide complete data for quantities, dimensions, specified performance and design criteria, and similar items which clearly represent the services, materials, and equipment the Contractor has provided. All revision sheets shall be clearly stamped with the words "As-Built".

GP-55 COMPLETION OF CONTRACT

Notwithstanding any other provision of this Contract and all applicable and necessary time delays under Louisiana law, completion of the Contract requires all of the Work to be complete, inspected by the Engineer, accepted by the Owner as recommended by the Engineer, and after final payment is made. After the Contract is complete, the Contractor will then be released from further obligation except as set forth in the Contract Bond and Contractor's Guarantee.

GP-56 CONTRACTOR'S GUARANTEE

The Contractor is obligated to provide a written guarantee to the Owner that all of the Work conforms to the Contract Documents. The Work shall be guaranteed to survive for a minimum

period of 1 year after final acceptance, unless otherwise specified in the Technical Specifications.

- a. The guarantee shall include:
 1. A written warranty by the manufacturer for each piece of installed project equipment or apparatus furnished under the Contract.
 2. Any necessary repair or replacement of the warranted equipment during the guarantee period at no cost to the Owner.
 3. Satisfactory operation of installed equipment including, but not limited to, any mechanical and electrical systems furnished and constructed under the Contract during the guarantee period. The Contractor shall repair all equipment which fails due to defective materials or faulty workmanship during the guarantee period. The Contractor shall also be liable for all other ancillary expenses incurred by the Owner due to the failure.
- b. The guarantee shall exclude defects or damage caused by:
 1. Abuse or improper modification, maintenance, or operation by anyone other than the Contractor; or
 2. Wear and tear under normal usage.
- c. This obligation by the Contractor shall be absolute. The following actions will not constitute acceptance of non-conformance Work or release the Contractor from obligation to furnish the Work in accordance with the Contract Documents:
 1. Observations by the Owner or Engineer; or
 2. Recommendations by the Engineer or payment by the Owner; or
 3. Use of the Work by the Owner; or
 4. Issuance of a notice of acceptance by the Owner pursuant to the provisions of GP-53, or failure to do so; or
 5. Any inspection, test, or approval by others; or
 6. Any correction to non-conforming work by the Owner.

GP-57 DISPUTE RESOLUTION

The parties shall use their best efforts to resolve all disputes in an amicable fashion. Prior to filing suit by either party with respect to any claims, or disputes arising between the parties, the disputes shall be submitted first to non-binding mediation. The mediation shall be conducted in accordance with the Construction Industry Mediation Rules of the American Arbitration Association. If the parties cannot agree to a private mediator, then the mediator

shall be selected by the American Arbitration Association, upon the filing of a demand for mediation.

If the dispute is not resolved by mediation within 60 days from the request for mediation, then either party may institute legal proceedings. Any litigation involving the Owner and arising under or related to the Contract or the bidding or award thereof shall be instituted exclusively in the 19th Judicial District Court in and for the Parish of East Baton Rouge, State of Louisiana.

GP-58 PAYMENT

The Owner hereby agrees to pay to the Contractor as full compensation for all work performed under the contract, and/or supplemental agreements thereto, the monetary value of the actual quantities in the completed work according to the schedule of unit prices and/or lump sum

prices set forth in attached bid proposal and/or duly authorized supplements thereto, and made a part of the Contract.

Partial payments under the Contract shall be made at the request of the Contractor not more than once each month, based upon partial estimates agreed to by the Contractor and Engineer and shall be furnished to the Engineer and approved by the Engineer prior to transmittal to the Owner for approval and payment.

A Subcontractor Report (included in the appendices of the Contract Documents) should be submitted by the Contractor with each request for partial payment, to be used for informational purposes only by CPRA.

The partial estimates will be approximately stated, and all partial estimates and payments shall be subject to corrections in the estimate rendered following the discovery of any error in any previous estimates.

The payment of the partial estimate shall be taken as verification that the work has been performed and that its quality is satisfactory, however it will in no way serve as a release to the Contractor for the responsibility of any portions thereof. The work and any particulars relating thereto shall be subject to revision and adjustment by the Engineer and/or the Owner at any time prior to final payment, regardless of any previous action taken.

There shall be reserved from the payments provided for the Contract ten percent (10%) for contracts less than \$500,000 or five percent (5%) for contracts of \$500,000 or more, of the estimates submitted, said sum to constitute a trust fund for the protection of and payment to any person or persons, mechanic, subcontractor or materialmen who shall perform any labor upon such contract, or the doing of said work, and all persons who shall supply such person or persons or subcontractors with provisions and supplies for the carrying on of such work, and shall be withheld for a minimum of forty-five (45) calendar days after final acceptance of the completed contract and filing of the Notice of Acceptance as described in GP-53.

After the expiration of the forty-five (45) calendar day period, the reserve in excess of a sum sufficient to discharge the claims of materialmen and laborers who have filed their claims, together with a sum sufficient to defray the cost of such action and to pay attorneys' fees, shall be paid to the Contractor.

The Contractor shall be responsible for obtaining and furnishing a clear lien and privilege certificate to the Owner at the expiration of the retainage period, and prior to payment of any reserve withheld.

GP-59 PAYMENTS WITHHELD

In addition to the percentage provided for in Section GP-58 of these General Provisions and in accordance with any other provision of this Contract, the Owner may withhold such amounts from any payment as may be necessary to protect himself from loss on account of:

- a) Defective work not remedied;
- b) Claims filed or reasonable evidence indicating probable filing of claims;
- c) Failure of the Contractor to make payments properly to subcontractors or for material or labor;
- d) Reasonable evidence that the Work will not be completed within the Contract time and that the unpaid balance would not be adequate to cover damages for the anticipated delay;
- e) A reasonable doubt that the contract can be completed within the time period remaining under the contract;
- f) Damage to another contractor;
- g) Failure to submit required reports; or
- h) Modifications of the contract which necessitate the execution of change orders prior to payment of funds.

Furthermore, nothing contained in this Section shall be deemed to limit the right of the Owner to withhold liquidated damages, as stated in the Instructions to Bidders, from any amounts which may be due and owed the Contractor for work performed under the contract.

GP-60 LIENS

Neither the final payment nor any part of the retained percentage shall come due until the Contractor shall deliver to the Owner a complete release of all liens arising out of this contract, or receipts in full in lieu thereof, and, if required by the Owner, an affidavit that so far as he has knowledge or information, the releases and receipts include all labor and material for which a lien could be filed; but if any subcontractor refuses to furnish a release or receipt in full, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against any lien, construction cost, or attorney's fees.

GP-61 EQUAL EMPLOYMENT OPPORTUNITY

The State of Louisiana is an equal opportunity employer, and looks to its Contractor, subcontractors, vendors and suppliers to take affirmative action to effect this commitment in its operations.

By submitting the bid proposal and executing the Contract, the Contractor agrees to abide by the requirements of the following as applicable: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veterans Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, and the Age Act of 1975, and the Contractor agrees to abide by the requirements of the Americans with Disabilities Act of 1990.

The Contractor agrees not to discriminate in its employment practices, and will render services the Contract, without regard to their race, age, color, religion, sex, national origin, veteran status, political affiliation or disabilities. Any act of discrimination committed by the Contractor, or failure to comply with these statutory obligations when applicable, shall be grounds for termination of the Contract.

GP-62 ANTI-KICKBACK CLAUSE

The Contractor agrees to adhere to the mandate dictated by the Copeland “Anti-Kickback” Act which provides that each contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the completion of the work, to give up any part of the compensation to which he is otherwise entitled.

GP-63 SUSPENSION/DEBARMENT

Contractor certifies, by signing and submitting any bid, that their company, any subcontractors, or principals are 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 Owner 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 Contract.

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 Contract, Owner reserves the right to review cause for said debarment, suspension, or declaration of ineligibility, and to terminate this Contract pursuant to the terms of GP-45 OWNER’S RIGHT TO TERMINATE CONTRACT FOR CAUSE OR CONVENIENCE, or take such other action it deems appropriate under this Contract.

GP-64 LOUISIANA FIRST HIRING ACT

Contractor shall comply with the Louisiana First Hiring Act (La. R.S. 39:2201-2204), which requires that within ten (10) days of executing the Contract, Contractor shall submit the following information to the Louisiana Workforce Commission:

1. The number and types of jobs anticipated for the Work.
2. The skill level of the jobs anticipated for the Work.
3. The wage or salary range for each job anticipated for the Work.
4. Methods, if any, that the Contractor will use to recruit unemployed persons or person employed in low wage jobs to fill job openings for the Work.

END OF PART I - GENERAL PROVISIONS

PART II SPECIAL PROVISIONS

SP-1 LOCATION OF WORK

The Project Site is located in in Terrebonne Parish, Louisiana, near the western bank of Lake De Cade, north of Bayou De Cade, approximately eight miles west of Theriot, LA. Approximate coordinates for the center of the project are 29°22'26.06" N and 90°55'10.25" W (NAD 83).

The Project Site is only accessible by boat.

SP-2 WORK TO BE DONE

The Contractor shall provide all labor, materials, and equipment necessary to perform the Work. The Work shall include, but not be limited to, Mobilization and Demobilization to the Project Site, Surveying, Hydraulic Dredging and placement of dredged material, Clearing and Grubbing, construction of Earthen Ridge, construction of Earthen Containment Dikes, construction of Shoreline Containment Dike, construction of Internal Training Dikes, construction of Dewatering Containment Dike, installation of Dewatering Structures, installation of Grade Stakes, installation of Settlement Plates, installation of Instrumented Settlement Plates, removal of the Existing Weir within the Project Footprint, and installation of a Barrier. The Work shall be performed in accordance with these Specifications and in conformity to the lines, grades, and elevations shown on the Plans or as directed by the Engineer. Quantity calculations, layouts, shop drawings, and construction sequencing of these items shall be provided in the Work Plan. The major tasks associated with the Work are described as follows:

- 2.1 **Site Examination:** The Contractor shall examine the Project Site and data included in the Appendices of these Specifications to determine the character of the material to be dredged and the condition of the Marsh Creation Areas. Material such as logs, stumps, snags, tires, scrap, debris and other materials may be encountered within the Project Site. If these materials are encountered, the Engineer will determine if they shall be dispersed within or removed from the Project Site. Additionally, geotechnical analysis of the borrow material indicates that the presence of shells and oyster shells are expected to be encountered during dredging operations. Materials including shells and oyster shells shall be dispersed within the Marsh Creation Areas and covered with dredge material in accordance with these Specifications and as shown on the Plans. No Payment for dispersed or removed material shall be made. No consideration shall be given to any claims for additional payments based on the failure of the Contractor to inspect the Project Site and data provided in the Appendices of these Specifications.

- 2.2 **Surveying:** Prior to construction, a Pre-Construction Survey shall be performed on the Marsh Creation Area(s), Marsh Creation Borrow Area, Earthen Ridge, Earthen Ridge Borrow Area, Earthen Containment Dikes, Earthen Containment Dike Borrow Areas, Shoreline Containment Dike, Shoreline Containment Dike Borrow Area, Internal Training Dikes, Internal Training Dike Borrow Areas, Dredge Pipeline and Equipment Access Corridors, Pipeline Crossings, Grade Stakes, Settlement Plates, and Instrumented Settlement Plates. During construction, Process Surveys shall be performed for partial Acceptance and payment. After construction is complete, the Contractor shall perform an As-Built Survey for Acceptance of the Work.

- 2.3 Clearing and Grubbing: The Earthen Ridge alignment adjacent to Bayou De Cade and Earthen Containment Dike alignment adjacent to Turtle Bayou, shall be cleared and grubbed of trees, snags, logs, brush, stumps, shrubs, rubbish, and existing debris. All materials cleared and grubbed from the Project Footprint shall be properly disposed of offsite.
- 2.4 Instrumented Settlement Plates: Instrumented Settlement Plates shall be fabricated and installed in the Marsh Creation Area(s) as shown on the Plans.
- 2.5 Grade Stakes: Grade stakes shall be installed in the Marsh Creation Area(s) as required in the Specifications and approved in the Work Plan.
- 2.6 Earthen Containment Dikes: Earthen Containment Dikes shall be constructed from in-situ soils in order to create full perimeter containment for the Marsh Creation Area(s) as shown on the Plans.
- 2.7 Internal Training Dikes: Internal Training Dikes shall be constructed from in-situ soils in order to subdivide the entire marsh creation footprint into three (3) individual Marsh Creation Areas as shown on the Plans.
- 2.8 Shoreline Containment Dike: Shoreline Containment Dike shall be constructed from in-situ soils in order to create full perimeter containment adjacent to Lake De Cade for the Marsh Creation Area(s) as shown on the Plans.
- 2.9 Earthen Ridge: Earthen Ridge shall be constructed adjacent to Bayou De Cade from in-situ soils in order to create full perimeter containment for the Marsh Creation Area(s) as shown on the Plans.
- 2.10 Dewatering Containment Dike: Dewatering Containment Dike shall be constructed from in-situ soils adjacent to Lake De Cade to prevent discharged effluent from the Marsh Creation Area(s) from flowing into Lake De Cade as shown on the Plans.
- 2.11 Dredge Pipeline Corridor: A hydraulic dredge pipeline, which facilitates the transfer of dredge material from the Marsh Creation Borrow Area to the Marsh Creation Area(s), shall be installed along the proposed corridor shown on the Plans. This corridor includes crossing Bayou De Cade. The Contractor shall provide any proposed modifications to the corridor in the Work Plan.
- 2.12 Marsh Creation Area(s): Fill material shall be dredged from the Marsh Creation Borrow Area and placed in the Marsh Creation Area(s) shown on the Plans.
- 2.13 Weir Removal/Barrier Installation: The existing weir separating the Marsh Creation Areas from Turtle Bayou shall be removed upon acceptance of all Marsh Creation Areas and replaced with a timber-pile barrier as shown on the Plans.
- 2.14 Use of Equipment: The equipment used for the Work shall be operated within the boundaries of the Project Site and away from delineated no work zones, existing vegetated wetlands, or any other sensitive areas. The Contractor shall be responsible for returning all disturbed wetlands to pre-construction conditions at no additional expense to the Owner.

- 2.15 Existing Infrastructure: The Contractor shall be responsible for investigating, locating, and protecting all existing facilities, structures, utilities, and pipelines on, above, or under the surface of the Project Site. The Owner shall not be held responsible for damage to the Contractor's equipment, employees, subcontractors, adjacent property owners, or anyone else connected with this project due to encountering objects above and below the water line and existing ground.

Existing infrastructure, where indicated on the Plans, is shown only to the extent that such information was made available to, or discovered by, the Engineer during preparation of the Plans. There is no guarantee as to the accuracy or completeness of such information, and all responsibility for the accuracy and completeness is expressly disclaimed. If the Contractor fails to discover an underground installation and damages the same, the contractor shall be responsible for the cost of the repair.

SP-3 CONTRACT MILESTONES

Milestone	Location or Recipient	Due Date
Bid Advertisement	Publications	As advertised
Non-Mandatory Pre-Bid Conference and Non-Mandatory Site Visit (GP-5)	Location provided in Advertisement for Bids	Provided in Advertisement for Bids.
Questions on Bid Documents (GP-5 and SP-5)	Submit to CPRA	Provided in Instructions to Bidders.
Effective Date of Contract	Contractor and Owner	Stated in Contract.
Start of Contract Time	Contractor and Owner	Stated in Notice to Proceed.
List of all Subcontractors (GP-19)	Submit to Engineer	Prior to awarding any subcontracts.
Work Plan (GP-8 and SP-7)	Submit to Engineer	14 days prior to Pre-Construction Conference.
Progress Schedule (GP-9)	Submit to Engineer	14 days prior to starting construction, monthly thereafter.
Daily Progress Report (GP-10)	Submit to RPR, Engineer, Construction Manager, and NOAA-NMFS PM	12:00 pm each day from mobilization to demobilization.
USCG Notice to Mariners (SP-17)	Submit to Engineer	Prior to mobilization of the dredge and dredge pipeline.
Pre-Construction Conference (GP-14)	Contractor, Engineer and Resident Project Representative	Scheduled by the Engineer after the Notice to Proceed is issued.
Progress Meetings and Reports (GP-13, GP-39)	Engineer and Resident Project Representative	Bi-weekly
Pre-Construction Survey (TS-200)	Submit to Engineer	14 working days prior to anticipated start of Construction.
Process Surveys (TS-200)	Submit to Engineer	5 working days after notification that field data collection for each process survey is complete.
As-Built Survey (TS-200)	Submit to Engineer	Draft due five (5) working days prior to Final Inspection. Final due fourteen (14) working days after Final Inspection.
As-Built Drawings	Submit to Engineer	Five (5) working days prior to Final Inspection. Final due fourteen (14) working days after Final Inspection.
Written Notice of Completion of Work (GP-53)	Submit to Engineer	Provided in GP-53 Final Inspection and Acceptance.

Milestone	Location or Recipient	Due Date
End of Contract Time	Contractor and Owner	Provided in Instructions to Bidders.

SP-4 DELIVERABLES

- 4.1 Prior to Construction: The Contractor shall provide the following information to the Engineer at the Pre-Construction Conference:
 - 4.1.1 Updates to the Work Plan and Progress Schedule based on comments from the Engineer;
 - 4.1.2 Updates to the dredge or equipment data sheets;
 - 4.1.3 Proposed changes to the layout of the Work;
 - 4.1.4 Records of communication between the Contractor and private property owners, pipeline operators, government agencies, etc.

- 4.2 During Construction: The Contractor shall provide the following information to the Engineer during construction:
 - 4.2.1 The results of all surveys and calculations as specified in TS-200;
 - 4.2.2 Progress Schedule as specified in GP-9;
 - 4.2.3 Daily Progress Reports as specified in GP-10;
 - 4.2.4 Copies of all inspection and monitoring reports;
 - 4.2.5 All Change Orders, Field Orders, Claims, Clarifications, and Amendments;
 - 4.2.6 Results of any materials testing;
 - 4.2.7 Copies of all delivery slips, which shall include the source of construction materials, date of delivery, exact quantity, and size of materials delivered with each shipment to the Project Site;
 - 4.2.8 The Contractor shall contact the Engineer a minimum of five (5) working days prior to the anticipated completion of the Work in order to schedule the final inspection.

- 4.3 Post Construction: The following documents shall also be submitted to the Engineer after completion of the Work:
 - 4.3.1 As-Built Drawings with revisions such as field or change orders shown in red such that revisions are easily distinguishable from the original design.

SP-5 CONTACT INFORMATION

Prior to the Bid opening date, the Contractor shall send all questions and requests for clarification or interpretation of the Bid Documents in writing to the attention of Allison Richard of the Coastal Protection and Restoration Authority. The address and contact information is as follows:

Coastal Protection and Restoration Authority (CPRA)
150 Terrace Avenue
Baton Rouge, LA 70802
Attn: Allison Richard
Phone: 225-342-5453
Fax: 225-800-5599
Email: cpra.bidding@la.gov

After execution of the contract between Owner and Contractor, the successful Contractor shall contact the Construction Manager concerning bid documentation or questions. The addresses and contact information for the Construction Manager are listed as follows:

CPRA Construction Manager

Brian Babin, P.E.
1440 Tiger Dr.
Thibodaux, LA 70301
Phone: (985) 447-0956
Fax: (985) 447-0997
E-mail: brian.babin@la.gov

CPRA Project Engineer

Thomas McLain, P.E.
150 Terrace Ave.
Baton Rouge, LA 70802
Phone: (225) 342-6307
Fax: (225) 800-5596
E-Mail: thomas.mclain@la.gov

The Owner and Engineer shall submit all written Claims, Field Orders, Change Orders and all other documentation to the Contractor at the address indicated on the Bid.

SP-6 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.

6.1 Minimum Scope and Limits of Insurance

6.1.1 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.

6.1.2 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:

<u>Initial Contract Amount</u>	<u>Minimum Insurance</u>
Up to \$1,000,000	\$1,000,000
From \$1,000,001 to \$2,000,000	\$2,000,000
Over \$2,000,000	\$5,000,000

6.1.3 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.

6.1.4 Excess Umbrella

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

6.1.5 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.

6.1.6 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.

6.2 Other Insurance Provisions

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

6.2.1 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.

6.2.2 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.

6.2.3 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.

6.2.4 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 be 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.

6.2.5 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 # TE-0138

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.

6.2.6 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.

6.2.7 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.

6.2.8 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.

SP-7 WORK PLAN SUPPLEMENTAL

The following items shall be included in the Work Plan in addition to those required by those required by GP-8:

- 7.1 The field equipment, methodology and software to be used for survey data collection, post-processing, and calculations of quantities;
- 7.2 Hydraulic Dredge Data Sheet in Appendix J;
- 7.3 Equipment Data Sheet in Appendix K;
- 7.4 Layout of equipment staging area(s);
- 7.5 Layout and schedule for construction of the Earthen Containment Dikes;
- 7.6 Layout and schedule for construction of the Internal Training Dikes;
- 7.7 Layout and schedule for construction of the Shoreline Containment Dikes;
- 7.8 Layout and schedule for construction of the Earthen Ridges;
- 7.9 Layout and schedule for gapping all Earthen Containment Dikes;
- 7.10 Dike breach repair procedures and communications protocol;
- 7.11 Layout and schedule for dredging the Marsh Creation Borrow Area;
- 7.12 Layout and schedule for installing and removing all portions (Trunk and laterals) of the dredge pipeline. This information shall include the selected option for crossing Bayou De Cade, type, diameter and length of the dredge pipeline;
- 7.13 Layout for the installation of protection measures at all equipment and pipeline crossings;
- 7.14 Layout and schedule for dredged material placement into the Marsh Creation Area(s);
- 7.15 Layout and schedule for dewatering the Marsh Creation Area(s), including proposed locations of the dewatering structures;

SP-8 FAILURE TO COMPLETE ON TIME

For each day the Work remains incomplete beyond the Contract Time, as specified in SP-3, or Extension of Contract Time, as specified in GP-44, the sum of four-thousand dollars (\$4,000) per calendar day will be deducted from any money due to the Contractor as liquidated damages. The Contractor and Surety shall be liable for any liquidated damages that are in excess of the amount due the Contractor.

SP-9 TRANSPORTATION

The Contractor shall provide a safe and reasonable means of transportation to and from the staging area(s) and Project Site for the Engineer, Construction Manager, Resident Project

Representative, and Federal Sponsor. The schedule and pickup location shall be arranged by the Owner with the Contractor prior to mobilization.

During Mobilization, construction layout, construction, Demobilization, and until Final Inspection and Acceptance, should the Contractor utilize a boat, quarters barge, or quarters and stay at the project area overnight, then the Contractor shall provide room and board for the Resident Project Representative.

The Contractor shall provide the Engineer, Inspector, Federal Sponsor, and other representatives from the State daily access to an air boat (4 passenger capacity), as necessary, to properly inspect the various project features during the duration of construction activities. The Contractor shall supply an operator and fuel and shall maintain the air boat. All mechanical malfunctions of the air boat shall be repaired within twelve (12) hours.

In the event that the Contractor refuses, neglects, or delays compliance with the requirements of this provision, the Owner may obtain and use other necessary boats at the expense of the Contractor. The costs associated with providing the boats shall be included in the lump sum price for Bid Item No. 1, "Mobilization and Demobilization".

SP-10 OFFICE FOR OWNER

The Contractor shall provide an office for the Engineer and Resident Project Representative at the Project Site. This office shall be for the sole use of the Engineer or Resident Project Representative, suitably sized, and provided with lighting, heat, air conditioning, sufficient electrical outlets for a computer workstation, and a high-speed internet connection. The office furnishings shall include a work table, two chairs, and locking doors for security purposes.

In the event that the Contractor refuses, neglects, or delays compliance with the requirements of this provision, the Owner may obtain and use another necessary office at the expense of the Contractor. The cost for providing and furnishing this office shall be included in the contract lump sum price for Bid Item No. 1, "Mobilization and Demobilization."

SP-11 LANDOWNER AND PIPELINE REQUIREMENTS

The Owner has executed temporary easement, servitude, or right-of-way agreements required to perform the Work at the Project Site from the landowners, utilities and pipeline operators (Grantors) listed below. A summary of the provisions in the executed agreements with the grantors are included in the Land Rights Memorandum in Appendix D. The Contractor shall abide by the stipulations set forth by the executed agreements. The Contractor shall notify all grantors at least fourteen (14) working days prior to initiation of access to the said lands for the purpose of work planning, implementing, constructing, operating, modifying, monitoring and maintaining the Project Site or as otherwise stipulated in the executed agreements. The Contractor shall abide by the stipulations set forth by the respective landowners below:

Apache Corporation

Timothy Allen, PLS
P.O. Box 206
Houma, LA 70361
Office: (985) 879-3528 ext. 8719
Timothy.Allen@apachecorp.com

The Contractor shall add all grantors as additional insured. It is also agreed and understood that the Contractor will at all times indemnify and hold harmless all landowners from and against any and all claims, demands, causes of action, judgments, liabilities, and expense of every nature, including attorney's fees, by reason of personal injury, death (including but not limited to injuries to and death of employees of the landowners and the Contractor's employees) or damage to property, (including environmental) which arises out of, results from, or is in any manner related to, directly or indirectly, any operations or acts hereunder, or to the exercise of your rights hereunder, or to your presence upon or use of the landowners' premises above referred to, or to the use or existence of your facilities on such premises. The indemnity provisions of this paragraph shall not apply if any such injury, death, damage, liability claim, or cause of action is caused by the negligence of the landowners, their employees, agents, or representatives.

The Contractor shall notify all pipeline and utility companies at least fourteen (14) working days in advance of any construction work. All pipelines located within one-hundred fifty (150) feet of the dredge pipeline corridor, Earthen Ridge, Earthen Containment Dikes, Shoreline Containment Dike, Internal Training Dikes, Dewatering Containment Dike, Dewatering Area, Marsh Creation Area(s), Marsh Creation Borrow Area, and Equipment Access Corridors shall be probed and their locations marked with buoys or flagged stakes prior to any excavation or installation of the dredge pipeline, for the duration of construction activities. The Contractor shall maintain all buoys and flagged stakes during construction.

Texas Petroleum Investment Co.

Headquarters:

Kris Korte
5850 San Felipe Suite 250
Houston, TX 77057
Main: 713-789-9225
Direct: 832-485-4348

Local:
Cypress Melville
101 La Rue France Suite 406
Lafayette, LA 70508
337-232-1702

Williams

Ernest Daigle
Supervisor Operations
Gulf of Mexico Louisiana South
Schriever
Phone: 985-446-7142
Ernest.DaigleJr@williams.com

Apache Corporation

Timothy Allen, PLS
P.O. Box 206
Houma, LA 70361
Office: (985) 879-3528 ext. 8719
Timothy.Allen@apachecorp.com

No access, excavation, anchors or spuds shall be permitted within fifty (50) feet of any pipeline or utility unless specified otherwise in the Contract Documents. No dredging shall be permitted within five hundred (500) feet of any existing pipeline or utility in the borrow areas unless specified otherwise in the Contract Documents.

SP-12 OYSTER LEASE AND SEED GROUND RESTRICTIONS

There are no known existing oyster leases or seed grounds near or within the boundaries of the Project Site.

SP-13 THREATENED AND ENDANGERED SPECIES

During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should 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 should 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 Contractor shall insure the following are adhered to:

- All work, equipment, and vessel operation should 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 should 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 should follow routes of deep water whenever possible.
- If used, siltation or turbidity barriers should 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 should be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities should 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" should be posted at a location prominently visible to all personnel engaged in water-related activities and should 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 should be immediately reported to the 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.

SP-14 NOTIFICATION OF DISCOVERY OF HISTORICAL OR CULTURAL SITES

If during construction activities the Contractor observes items that may have prehistoric,

historical, archeological, or cultural value, the Contractor shall immediately cease all activities that may result in the destruction of these resources and shall prevent his employees from trespassing on, removing, or otherwise damaging such resources. Such observations shall be reported immediately to the Owner and Engineer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special dispositions of the finds should be made. The Contractor shall report any observed unauthorized removal or destruction of such resources by any person to the Owner and Engineer so the appropriate State of Louisiana authorities can be notified. The Contractor shall not resume work at the site in question until State authorities have rendered judgment concerning the artifacts of interest.

SP-15 NAVIGATION

Navigable waterways shall not be impaired except as allowed by applicable laws or regulations. Dredging of access channels shall not be permitted unless otherwise specified in the Contract Documents. It is the responsibility of the Contractor to select equipment that can navigate from a maintained navigation channel to the Project Site without deepening or widening existing water bottoms unless otherwise specified in the Contract Documents. All equipment shall remain floating at all times during transit to the Project Site. The Contractor shall obtain NOAA Nautical Charts and/or other charts to become familiar with the water bottom depths in the vicinity of the Project Site.

SP-16 VESSEL-SHORE TRANSFERS

For shore-to-vessel and vessel-to-shore transfers of personnel and supplies, the Contractor may utilize any commercial, public, or private facility for shallow draft vessels. It is the responsibility of the Contractor to obtain the required permission from the facility owner and to pay any costs associated with the use of the sites. The Contractor shall be responsible for any damages caused by the use of any site for landing and transfers, and shall maintain navigation through all navigation channels and boat ramps. The Contractor shall use any landing site, transfer area, or staging area at their own risk. For informational purposes, the Contractor will be required to inform the Engineer of the site that the Contractor will be using for vessel-shore transfers. Temporary docks and landing facilities may be used. Details on these features should be included in the Work Plan for review by the Engineer.

SP-17 NOTICE TO MARINERS

The Contractor shall contact the Eighth Coastal Region District of the United States Coast Guard (USCG) at least thirty (30) days prior to mobilization of the hydraulic dredge and installation of the dredge pipeline and provide all necessary information regarding the layout and schedule for the entire dredging operation. This notification must be given in sufficient time so that it appears in the Notice to Mariners at least seven (7) days prior to the commencement of this dredging operation. The USCG shall publish this information in the local notice to mariners. A copy of the original notice and all updates shall be provided to the Engineer.

SP-18 AIDS TO NAVIGATION

The Contractor shall contact the Eighth Coastal Region District of the USCG and determine the type and location of aids to navigation that are required to be installed or removed in order to safely perform the Work. The types of aids to navigation may include warning signs, buoys, beacons or lights. The USCG typically requires that aids to navigation be installed along

dredge pipelines, temporary spoil banks and access channels. The Contractor shall also submit a permit application and obtain a permit from the USCG prior to installation or removal of any aids to navigation. The permit application shall include the type, position, color, and dates for installation or removal of all aids to navigation. New aids to navigation shall not be installed in a manner which conflicts with existing aids to navigation. The Contractor shall not otherwise remove, modify, obstruct, willfully damage, make fast to or interfere with any existing aids to navigation. The Contractor shall provide a copy of the permit and permit application to the Engineer at least seven (7) days prior to performing any excavation or hydraulic dredging.

SP-19 ADJUSTMENT OF QUANTITIES

Where the quantity of Work with respect to any item is covered by a unit price, such quantities are estimated quantities to be used when comparing bids and the right is reserved by the Owner to increase/decrease such quantities up to 25% without adjustment of the unit price as may be necessary to complete the Work as described in these Plans and Specifications and/or remain within funding limits.

SP-20 FINAL CLEAN-UP

Final clean-up shall include the removal of the Contractor's plant, all equipment, and materials either for disposal or reuse. The Contractor shall remove all non-perishable debris, trash, and garbage from the Project Site prior to final Acceptance. Unless otherwise approved in writing by the Engineer, the Contractor is not permitted to abandon pipelines, cables, pipeline supports, pontoons, or other equipment or materials in the disposal area, pipeline access areas, and water areas, or in any harbors, passes, or inlets, or other areas adjacent to the Project Site. Any stakes or other markers placed by the Contractor shall be removed as a part of the final clean-up. All stakes, including grade stakes, placed as part of the Work, shall be completely removed and not be left buried in the fill.

SP-21 AERIAL PHOTOGRAPHY

Aerial Photography shall be obtained to illustrate pre-construction conditions, verify the progress of Work, and for Final Acceptance.

Prior to commencing construction, monthly thereafter, and upon completion of all construction activities, low-elevation color, digital, oblique aerial photography shall be acquired and submitted that shows the progress of the Work. Best efforts shall be made to repeat monthly photographs at the same locations, altitude and viewpoints. Best efforts shall also be made to acquire imagery during good weather for adequate lighting. The pre-construction and post-construction photography shall obtain a project view(s) of the entire Project Site, with best efforts to repeat at the same locations, altitude and viewpoints. Submittals shall include high-resolution aerial photograph(s) in digital (TIF or JPG) format. Each photograph submitted shall include documentation of the horizontal limits displayed.

Contractor shall provide notice to the Engineer and name/contact information for aerial photography subcontractor a minimum of one week prior to execution of aerial photography.

There will be no direct payment for providing the Aerial Photography as described herein. Payment for Aerial Photography shall be included in the lump sum price for Bid Item No. 1, "Mobilization and Demobilization". Unrestricted rights to use of the photos shall be conveyed to the Owner.

SP-22 PROHIBITION OF DISCRIMINATORY BOYCOTTS OF ISRAEL IN STATE PROCUREMENT

By submitting a response to this solicitation, the bidder or proposer certifies and agrees that the following information is correct:

In preparing its response, the bidder or proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The bidder also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. The state reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.

SP-23 COMPLIANCE WITH STATE AND FEDERAL LAW

The Contractor and any subcontractors must comply with applicable Federal labor laws covering non-Federal construction, including but not limited to, the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 et seq.) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c) and to the extent if applicable 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantive change to the provisions of the Davis-Bacon Act) (formerly 40 U.S.C. 276a et seq). Contractor further agrees, in the case of any equipment and/or product authorized to be purchased under this Contract, to comply with the Buy American Act 41 U.S.C. 8301-8305 (formerly 41 U.S.C. 10a-10c).

Further, the Contractor and its employees, subcontractors and agents shall agree to comply with all applicable Federal, State, and Local laws, policies, and ordinances, in carrying out all provisions of this Contract.

END OF PART II - SPECIAL PROVISIONS

PART III TECHNICAL SPECIFICATIONS

TS-100 MOBILIZATION AND DEMOBILIZATION

- 100.1 Scope: The Contractor shall furnish all labor and equipment necessary to move personnel, equipment, construction materials (including dredge pipeline), and incidentals to and from the Project Site. This shall include but is not limited to establishing offices, buildings, and other facilities necessary for the Work. As part of this Bid Item, the Contractor shall obtain bonds, required insurance, and include any other Pre-Construction expenses necessary to perform the Work. This section shall exclude the cost of other construction materials explicitly listed on the Bid Form.
- 100.2 Arbitrary Mobilization and Demobilization by Contractor: The Owner will pay for only one Mobilization and Demobilization effort. Should the Contractor choose to demobilize and/or remobilize prior to completing the Work, it shall be performed at no additional expense to the Owner.
- 100.3 Justification of Mobilization and Demobilization Costs: If the Engineer determines that the unit price for this Bid Item does not bear a reasonable relation to the amount of Work, the Contractor shall be required to justify the unit price in the Application for Payment using cost data. Failure to justify such price to the satisfaction of the Engineer may result in payment of actual Mobilization and Demobilization costs, as determined by the Engineer, at the completion of Mobilization and Demobilization, respectively. Payment of the remainder of this item will be made in the final payment under this contract. The determination of the Engineer is not subject to appeal.
- 100.4 Ratio of Mobilization and Demobilization Effort/Payment: The Contractor shall not perform any Work prior to Acceptance of the Work Plan. Twenty-five percent (25%) of the mobilization/demobilization lump sum price will be paid to the Contractor upon confirmation of the start of Earthen Containment Dike or Earthen Ridge construction and the Contractor has provided the Office for Owner as specified in SP-10. Fifty percent (50%) of the mobilization/demobilization lump sum price will be paid to the Contractor once the completion of the entire hydraulic dredge pipeline to Marsh Creation Area 1 (MCA 1) and mobilization/arrival of the hydraulic dredge to the Project Site is confirmed. The remaining twenty-five percent (25%) will be paid to the Contractor upon final Acceptance of the Work and confirmation of the removal of all equipment and unused materials.
- 100.5 Measurement and Payment: Payment for Mobilization and Demobilization will be paid at the contract lump sum price for Bid Item No. 1, "Mobilization and Demobilization (TS-100)". Payment shall constitute full compensation for moving personnel, equipment, supplies, and incidentals to and from the job site and establishing offices, buildings, and other facilities for the work, obtaining bonds, insurance, permit application fees, and any other associated expenses.

TS-150 AIDS TO NAVIGATION

- 150.1 General Description: The Contractor shall provide, install, maintain, and remove aids to navigation as specified herein at no additional expense to the Owner. The Contractor shall contact the Eighth Coastal Region District of the USCG and determine the type and location of aids to navigation that are required to be installed or removed in order to safely

perform the Work. The types of aids to navigation may include, but not be limited to, warning signs, buoys, beacons and/or lights. The Contractor shall also submit a permit application and obtain a permit from the USCG prior to installation or removal of any aids to navigation. The permit application shall include the type, position, color, and dates for installation or removal of all aids to navigation. New aids to navigation shall not be installed in a manner which conflicts with existing aids to navigation. The Contractor shall not otherwise remove, modify, obstruct, willfully damage, make fast to or interfere with any existing aids to navigation. Discharge lines that cross a navigable channel shall be submerged. Lighted aids to navigation shall be deployed prior to commencement of any dredging operations. Lighted aids to navigation are required to maintain safe working conditions for construction in navigation channels. Any damages to existing U.S. Coast Guard or private navigation aids caused by the Contractor shall be repaired by the Contractor to the USCG standards at no expense to the Owner. The Contractor shall provide a copy of the permit and permit application to the Engineer at least seven (7) days prior to installation of the dredge pipeline and/or performing any excavation.

- 150.2 Temporary Warning Signs: The Contractor shall furnish all of the materials, labor and equipment necessary to construct and install the Temporary Warning Signs in accordance with the Plans and these Specifications. The USCG typically requires that aids to navigation be installed along the temporary spoil placement areas associated with the buried dredge pipeline crossing of Bayou De Cade. Temporary warning signs shall be installed prior to any dredging equipment entering the Lake De Cade Marsh Creation Borrow Area or placing the dredge discharge pipeline from the Marsh Creation Borrow Area to the Marsh Creation Areas. Submerged pipelines and any anchors securing the pipeline shall rest on the channel and shall be marked in accordance with USCG requirements. The Temporary Warning Signs shall conform to Title 3, Chapter 1 of the Code of Federal Regulations which requires signage, lighted buoys, or a combination of both aids to be installed near hazards to navigation. The USCG may require that the Contractor provide the coordinates of the Temporary Warning Signs after they are installed. The depth of any pipeline crossing a navigation channel shall be submitted to the USCG for publication. All submerged pipelines installed shall be marked with fluorescent orange buoys and signs stating "DANGER SUBMERGED PIPELINE" every one-hundred fifty (150) feet for the length of the pipeline. "DANGER SUBMERGED PIPELINE" signs shall also be placed at the beginning and end of all submerged pipelines and at all abrupt changes of direction. Unless otherwise specified by the USCG, submerged pipelines are considered to require special marks in accordance with USCG regulations and shall have USCG approved flashing yellow lights. When the submerged line is placed in shallow water outside the navigable channel, where the possibility exists for small boats to cross over the submerged pipeline, the pipeline shall be marked with fluorescent orange buoys and signs stating "DANGER SUBMERGED PIPELINE" every one-hundred fifty (150) feet throughout the length of the submerged pipeline. The Contractor shall notify the U.S. Coast Guard in accordance with subparagraph "Notice to Mariners" as described in SP-17. The notification shall contain maps, latitude/longitude coordinates, and descriptions of lighted aids for inclusion in the Notice to Mariners.
- 150.3 Operation and Maintenance: The Contractor shall operate and maintain all aids to navigation, piles, chains, anchors, and buoys. Should the Contractor's aids to navigation be displaced from their positioned locations, or otherwise fail to function as required, the Contractor shall reposition/repair the aids within twenty-four (24) hours. If any of the

buoys are not maintained in the proper location or condition, the Contractor shall cease dredging operations until the buoys are maintained, replaced, or repositioned.

- 150.4 Lighting and Markings: The dredge, anchor buoys, and floating dredge lines in the area shall be marked in accordance with U.S. Coast Guard Navigation Rules. The lights must have a one-mile nominal range and should be set every half-mile.
- 150.5 Removal: The Contractor shall remove all aids to navigation, piles, chains, anchors and buoys from the project area upon completion of this project.

TS-200 SURVEYS

- 200.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to perform the Pre-Construction, Process, and As-Built Surveys of the Work in compliance with the Plans and these Specifications. All Surveys shall be performed by personnel who are approved by the Engineer and under the direct supervision of a professional engineer or land surveyor licensed in the state of Louisiana. All survey drawings shall be signed and sealed by the Louisiana licensed professional surveyor, or professional engineer, under which supervision of the surveys were conducted. The Contractor shall provide schedules for the survey field work and deliverables in the Work Plan.
- 200.2 Notifications to the Engineer: The Contractor shall notify the Engineer a minimum of two (2) working days prior to performing the Pre-Construction, Process and As-Built Surveys. The Contractor shall also notify the Engineer immediately after the field data collection for each survey is complete. The Owner may stop the associated portions of the Work if the notifications are not made. The Contractor shall not submit a Claim for this type of Work stoppage.
- 200.3 Reference and Control: Survey data shall reference the North American Datum of 1983 (NAD 83), Louisiana South Zone, U. S. Survey Feet, and the North American Vertical Datum of 1988 (NAVD 88), U. S. Survey Feet Geoid 12A-Epoch 2010.00. Horizontal and vertical control shall be established by using the CPRA monument provided in Appendix G. Temporary Benchmarks (TBMs) shall be installed as deemed necessary by the Contractor to perform all surveys. Proposed TBMs shall be included in the Work Plan.
- 200.4 Method: Surveys shall utilize conventional Real-Time Kinematic (RTK) surveying methods or an appropriate Global Navigation Satellite System (GNSS) or Global Positioning System (GPS) Real Time Network such as the Gulfnet Virtual Real-Time Network (VRS).
- 200.5 Survey Equipment: The Contractor shall utilize appropriate equipment to survey the Work as follows:
 - 200.5.1 Topographic Surveys: Topographic survey equipment shall have a minimum vertical and horizontal accuracy of one-tenth (0.1) of a foot. A six (6) inch diameter metal plate shall be attached to the bottom of the survey rod to prevent the rod from sinking below ground level. Bathymetric and topographic surveys shall overlap by twenty-five (25) feet at all interfaces between land and water.

- 200.5.2 Bathymetric Surveys: Bathymetric survey equipment shall have a minimum vertical accuracy of one-tenth (0.1) of a foot $\pm 0.1\%$ of depth and a minimum horizontal accuracy of one-tenth (0.1) of a foot. Bathymetric surveys collected on board vessels must be differentially corrected to the referenced datum for tidal fluctuations and vessel pitch, roll, and heave. Bathymetric and topographic surveys shall overlap by twenty-five (25) feet at all interfaces between land and water.
- 200.5.3 Magnetometer Surveys: Magnetometer survey equipment shall have a minimum accuracy of three (3) gammas throughout its operational range.
- 200.5.4 Survey Stakes: Survey stakes utilized for topographic survey stakeout shall consist of forty-eight (48) inch long survey laths and be composed of #1 grade pine wood or approved equal. Survey stakes utilized for bathymetric survey stakeout shall consist of bamboo cane of sufficient length to remain a minimum of two (2) feet above mean water level.
- 200.5.5 Grade Stakes: Refer to TS-220.
- 200.6 Design Survey: The Design Survey Report is provided in Appendix I. The layout of the design survey shown on the Plans is for informational purposes only.
- 200.7 Pre-Construction Survey: The Pre-Construction Surveys shall be performed after the Pre-Construction Conference, Acceptance of the Work Plan, and prior to Mobilization, unless otherwise stated in these Specifications. This survey shall be used to verify the existing conditions at the Project Site, adjust quantities of the bid items (if needed), and modify the layout of the Work as deemed necessary by the Engineer, and lay out and stake out the Work. The Pre-Construction Survey shall show the existing bathymetry, topography, existing infrastructure and magnetic detections in plan and profile using markers, spot elevations, coordinates, contours, lines and grades. The Pre-Construction Survey shall follow the Construction Survey Layout shown on the Plans and shall include the following items:
- 200.7.1 Quantities: The Pre-Construction Survey shall provide the calculated quantities of all the bid items. The methodology or software that is proposed to be used to calculate quantities shall be approved by the Engineer and provided in the Work Plan.
- 200.7.2 Temporary Benchmarks: Contractor shall install temporary benchmarks at any location within the Project Site as necessary to perform the Work. All temporary benchmarks shall be repaired and resurveyed if disturbed or damaged during construction.
- 200.7.3 Temporary Aids to Navigation: All temporary aids to navigation shall be surveyed after installation and coordinates submitted to the Owner within two (2) weeks of installation.
- 200.7.4 Existing Infrastructure: All infrastructure (pipelines, power lines, etc.) that is located within one-hundred fifty (150) feet of the borrow area, Earthen Containment Dikes, Earthen Containment Dike Borrow Areas, Shoreline Containment Dike, Shoreline Containment Dike Borrow Areas, Earthen Ridge, Earthen Ridge Borrow

Areas, Internal Training Dikes, Internal Training Dike Borrow Areas, Dewatering Containment Dike, Dewatering Containment Dike Borrow Areas Marsh Creation Areas, the existing weir to be removed, Equipment Access Corridors, and Dredge Pipeline Corridors shall be surveyed and marked at a minimum of fifty (50) foot intervals and all points of inflection. The proposed methods for marking the infrastructure shall be included in the Work Plan. Pipelines shall be identified to a CI/ASCE 38-02 minimum utility level of B and probed for depth of cover (Top of pipe to existing ground) at fifty (50) foot intervals.

- 200.7.5 Significant Magnetic Detections: **For all anomalies** that exhibit amplitudes greater than fifty (50) gammas, the elevation, mudline elevation, and source of the anomalies shall be determined by running a thirty (30) foot closed loop path and by probing. The Contractor shall determine if the sources of any anomalies will interfere with the performance of the Work and provide proposed corrective measures in the Progress Schedule. Failure by the Contractor to identify the sources of anomalies and provide corrective measures shall not provide grounds for any Claims against the Owner.
- 200.7.6 Equipment Access Corridors: A magnetometer, bathymetric, and/or topographic survey shall be performed along the centerline of the equipment access corridor, shown on the Plans, prior to mobilization of equipment.
- 200.7.7 Dredge Pipeline Corridor: A magnetometer, bathymetric, and/or topographic survey shall be performed along the entire corridor of the dredge pipeline prior to installation. These surveys shall extend from the Marsh Creation Borrow Area to the marsh creation fill area(s). Perpendicular transects shall be surveyed at one thousand (1,000) foot intervals along the centerline and shall extend two-hundred and fifty (250) feet on each side of the dredge pipeline corridor centerline, as shown on the construction survey layout on the Plans. Bottom elevations and coordinates shall be recorded along the centerline of the corridor at one-hundred (100) foot intervals, all points of inflection, and changes in elevation greater than one-half (0.5) foot. Bottom elevations and coordinates shall be recorded along the perpendicular transects at five (5) foot intervals, all points of inflection, and changes in elevation greater than one-half (0.5) foot. The Contractor shall establish stationing along the entire dredge pipeline corridor.
- 200.7.7.1 Bayou De Cade Crossing: For the portion of the dredge pipeline corridor crossing Bayou De Cade, perpendicular transects shall be surveyed at fifty (50) foot intervals along the centerline and shall extend fifty (50) feet on each side of the dredge pipeline corridor centerline, as shown on the construction survey layout on the Plans. Bottom elevations and coordinates shall be recorded along the centerline of the corridor at one-hundred (100) foot intervals, all points of inflection, and changes in elevation greater than one-half (0.5) foot. Bottom elevations and coordinates shall be recorded along the perpendicular transects at five (5) foot intervals, all points of inflection, and changes in elevation greater than one-half (0.5) foot.
- 200.7.8 Marsh Creation Borrow Area: A bathymetric and magnetometer survey shall be performed on the Marsh Creation Borrow Area. The bathymetric survey shall be performed using single beam with dual frequencies. Transects shall be taken no

more than one-hundred (100) feet apart. Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the transects shown on the Plans and extend one-hundred (100) feet beyond the boundary of the Marsh Creation Borrow Area limits of pay. The projected quantity of available borrow shall be calculated based on this survey and the design dimensions shown on the Plans.

200.7.9 Marsh Creation Areas: A magnetometer, bathymetric, and/or topographic survey shall be performed on the Marsh Creation Areas. Transects shall be consistent with the construction survey layout shown on the Plans. Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals, changes in elevation greater than one-half (0.5) foot, and extend to the centerline of the Earthen Containment Dike, Shoreline Containment Dike, and/or Earthen Ridge. The Contractor shall calculate the projected fill quantities for the Marsh Creation Areas based on this survey and the construction marsh fill elevations. **So that interior Containment Dike Borrow Areas are captured in this survey, the Contractor shall not begin the Pre-Construction Marsh Creation Area Surveys until the constructed Earthen Ridge, Earthen Containment Dike, Internal Containment Dike, Shoreline Containment Dike (as applicable) for the respective Marsh Creation Area has been Accepted by the Engineer.** Details of this survey shall be included in the Work Plan.

200.7.10 Grade Stakes: Grade stakes shall be installed and surveyed by the Contractor at locations necessary to monitor dredge fill elevations during construction of the Marsh Creation Area(s). Horizontal and vertical coordinates shall be determined for all grade stakes installed. The identification number, existing ground elevation, coordinates, and top of grade stake elevation shall be recorded and submitted to the Engineer after all grade stakes have been installed in the Marsh Creation Area to confirm proper placement of the grade stake. The grade stakes shall be assembled per the guidelines shown on Sheet 14 of the Plans. The grade stakes shall be installed and surveyed no more than ten (10) days prior to commencement of hydraulic dredge fill operations in the Marsh Creation Areas. Grade stakes that are damaged or removed during the Work shall be immediately reinstalled and resurveyed. Each Marsh Creation Area shall include a minimum quantity of grade stakes as outlined below:

Marsh Creation Area 1:	10 Grade Stakes
Marsh Creation Area 2:	17 Grade Stakes
Marsh Creation Area 3:	15 Grade Stakes

The locations of the grade stakes shall be proposed by the Contractor and submitted in the Work Plan for approval by the Engineer.

200.7.11 Earthen Containment Dike: A magnetometer, bathymetric, and/or topographic survey shall be performed along the centerline alignment and perpendicular transects of the Earthen Containment Dikes and their respective borrow area(s). Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the centerline, change in grade greater than one-half (0.5) foot, and at all points of inflection. The projected quantities for the Earthen Containment Dikes shall be calculated based on this survey and the Earthen Containment Dike dimensions shown in the Plans. Stationing shall be established along the centerline alignment of

the Earthen Containment Dike.

For construction layout, the Earthen Containment Dike footprint (inside toe and crest, outside crest and toe) shall be surveyed and staked out every two-hundred and fifty (250) feet (at a maximum) and at each point of inflection shown on Sheet 5 of the Plans. As a baseline for the Process Surveys, cross sections shall also be surveyed every two-hundred and fifty (250) feet perpendicular to the Earthen Containment Dike centerline. Each cross section shall include the four points stated above (inside toe and crest, outside crest and toe) and one-hundred and twenty-five (125) feet beyond the toes, perpendicular, in both directions. Elevations shall be surveyed and recorded every twenty-five (25) feet, and at changes in topography greater than one-half (0.5) foot, along these survey transects. Details of this survey shall be included in the Work Plan.

- 200.7.12 Internal Training Dikes: A magnetometer, bathymetric, and/or topographic survey shall be performed along the centerline alignment and perpendicular transects of the Internal Training Dikes and their respective borrow area(s). Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the centerline, change in grade greater than one-half (0.5) foot, and at all points of inflection. The projected quantities for the Internal Training Dikes shall be calculated based on this survey and the Internal Training Dike dimensions shown in the Plans. Stationing shall be established along the centerline alignment of each Internal Training Dike.

For construction layout, the Internal Training Dike footprint (inside toe and crest, outside crest and toe) shall be surveyed and staked out every two-hundred and fifty (250) feet (at a maximum) and at each point of inflection shown on Sheet 5 of the Plans. As a baseline for the Process Surveys, cross sections shall also be surveyed every two-hundred and fifty (250) feet perpendicular to the Internal Training Dike centerline. Each cross section shall include the four points stated above (inside toe and crest, outside crest and toe) and extend one-hundred and twenty-five (125) feet beyond the toes, perpendicular, in both directions. Elevations shall be surveyed and recorded every twenty-five (25) feet, and at changes in topography greater than one-half (0.5) foot, along these survey transects. Details of this survey shall be included in the Work Plan.

- 200.7.13 Shoreline Containment Dike: A magnetometer, bathymetric, and/or topographic survey shall be performed along the centerline alignment and perpendicular transects of the Shoreline Containment Dike and respective borrow area. Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the centerline, change in grade greater than one-half (0.5) foot, and at all points of inflection. The projected quantities for the Shoreline Containment Dike shall be calculated based on this survey and the Shoreline Containment Dike dimensions shown in the Plans. Stationing shall be established along the centerline alignment of the Shoreline Containment Dike.

For construction layout, the Shoreline Containment Dike footprint (inside toe and crest, outside crest and toe) shall be surveyed and staked out every two-hundred and fifty (250) feet (at a maximum) and at each point of inflection shown on Sheet 5 of the Plans. As a baseline for the Process Surveys, cross sections shall also be surveyed every two-hundred and fifty (250) feet perpendicular to the Shoreline

Containment Dike centerline. Each cross section shall include the four points stated above (inside toe and crest, outside crest and toe) and extend one-hundred and twenty-five (125) feet beyond the toes, perpendicular, in both directions. Elevations shall be surveyed and recorded every twenty-five (25) feet, and at changes in topography greater than one-half (0.5) foot, along these survey transects. Details of this survey shall be included in the Work Plan.

- 200.7.14 Earthen Ridge: A magnetometer, bathymetric, and/or topographic survey shall be performed along the centerline alignment and perpendicular transects of the Earthen Ridge and respective borrow area(s). Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the centerline, change in grade greater than one-half (0.5) foot, and at all points of inflection. The projected quantities for the Ridges shall be calculated based on this survey and the Ridge dimensions shown in the Plans. Stationing shall be established along the centerline alignment of the Ridge.

For construction layout, the Earthen Ridge footprint (inside toe and crest, outside crest and toe) shall be surveyed and staked out every two-hundred and fifty (250) feet (at a maximum) and at each point of inflection shown on Sheet 5 of the Plans. As a baseline for the Process Surveys, cross sections shall also be surveyed every two-hundred and fifty (250) feet perpendicular to the Earthen Ridge centerline. Each cross section shall include the four points stated above (inside toe and crest, outside crest and toe) and extend one-hundred and twenty-five (125) feet beyond the toes, perpendicular, in both directions. Elevations shall be surveyed and recorded every twenty-five (25) feet, and at changes in topography greater than one-half (0.5) foot, along these survey transects. Details of this survey shall be included in the Work Plan.

- 200.7.15 Dewatering Containment Dike: A magnetometer, bathymetric, and/or topographic survey shall be performed along the centerline alignment and perpendicular transects of the Dewatering Containment Dike and respective borrow area(s). Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the centerline, change in grade greater than one-half (0.5) foot, and at all points of inflection. The projected quantities for the Dewatering Containment Dike shall be calculated based on this survey and the Dewatering Containment Dike dimensions shown in the Plans. Stationing shall be established along the centerline alignment of the Dewatering Containment Dike.

For construction layout, the Dewatering Containment Dike footprint (inside toe and crest, outside crest and toe) shall be surveyed and staked out every two-hundred and fifty (250) feet (at a maximum) and at each point of inflection shown on Sheet 5 of the Plans. As a baseline for the Process Surveys, cross sections shall also be surveyed every two-hundred and fifty (250) feet perpendicular to the Internal Training Dike centerline. Each cross section shall include the four points stated above (inside toe and crest, outside crest and toe) and extend two-hundred and fifty (250) feet beyond the toes, perpendicular, in both directions. Elevations shall be surveyed and recorded every twenty-five (25) feet, and at changes in topography greater than one-half (0.5) foot, along these survey transects. Details of this survey shall be included in the Work Plan.

- 200.7.16 Dewatering Area: A magnetometer, bathymetric, and/or topographic survey shall be performed on the Dewatering Area. Transects shall be consistent with the construction survey layout shown on the Plans. Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals, changes in elevation greater than one-half (0.5) foot, and extend to the centerline of the Dewatering Containment Dike. **So that interior Borrow Areas are captured in this survey, the Contractor shall not begin the Pre-Construction Dewatering Area Survey until the constructed Dewatering Containment Dike has been Accepted by the Engineer.** Details of this survey shall be included in the Work Plan.
- 200.7.17 Dewatering Structures: Upon installation, coordinates and elevations of crest and invert shall be recorded at the locations of each dewatering structure in the Marsh Creation Area(s).
- 200.7.18 Settlement Plates: Each Settlement Plate shall be surveyed immediately after installation in the Marsh Creation Area(s). The identification number, existing ground elevation, coordinates and elevation of the top of pipe shall be recorded. This survey shall be repeated every thirty (30) days until hydraulic dredge placement begins and no more than five (5) days prior to dredge material placement into Marsh Creation Area(s).
- 200.7.19 Instrumented Settlement Plates: Each Instrumented Settlement Plate shall be surveyed immediately after installation in the Marsh Creation Area(s). The identification number, existing ground elevation, coordinates and elevation of the top of pipe shall be recorded. This survey shall be repeated every thirty (30) days until hydraulic dredge placement begins and no more than five (5) days prior to dredge material placement into Marsh Creation Area(s).
- 200.8 Process Surveys: The Process Surveys shall be used to verify partial payments and Acceptance for completed portions of the Work and to adjust quantities of the bid items as deemed necessary by the Engineer. The Process Surveys shall show the constructed bid items in plan and profile using elevations, coordinates, lines and grades. The Process Surveys shall be consistent with the Pre-Construction Surveys, any modifications to these surveys, and shall include the following items:
- 200.8.1 Quantities: The Process Survey shall show the constructed quantities for each bid item. The calculation methodology used to determine the quantities shall be consistent with the Pre-Construction Surveys.
- 200.8.2 Submerged Dredge Pipeline Alignment Survey: Any submerged sediment pipelines installed within the dredge pipeline alignment shall be routinely monitored with side scan sonar, multi-beam bathymetry, or swath bathymetry for movement, breakage, and/or leaks resulting in sediment discharge on the water bottom. If it is determined water depths are too shallow to allow for bathymetric methods to be employed, topographic methods such as RTK may be substituted with prior approval from the Engineer. The surveys shall be repeatable and compared to prior surveys for any alignment, stability, and integrity issues.

An initial survey shall be conducted following installation of the submerged sediment pipeline within the dredge pipeline alignment. The initial survey must be

submitted to and approved by the Engineer prior to utilization of the submerged sediment pipeline for sediment transport.

After the initial survey, the submerged sediment pipeline shall be resurveyed weekly to determine if there are any leaks in the submerged line. The weekly check survey shall consist of two (2) lines located ten (10) feet from each side of the submerged sediment pipeline centerline running the length of the submerged sediment pipeline. If a leak, or elevated area, is detected, the area in the immediate vicinity shall be surveyed at a grid spacing of no more than fifty (50) feet (survey lines shall be orientated perpendicular to the submerged pipeline). The survey lines shall extend a minimum of one-hundred (100) feet from the edge of the elevated area. The results of the gridded survey may be used to calculate the volume of material contained in the elevated area, which may be deducted from the cut volume for payment purposes. Additional inspection surveys shall be conducted immediately upon detection of any loss of pressure indicative of leaks, the passage of a major storm, and/or evidence of pipeline disturbance by other activities (fishing or oyster vessels, etc.). Inspection survey reports with quality control analysis shall be submitted to Engineer for concurrence within five (5) calendar days of completion of each survey.

If, prior to Project completion and final demobilization, the dredge plant and supporting equipment (e.g. booster pumps) are temporarily or arbitrarily demobilized from the Work Area for more than fourteen (14) consecutive calendar days, a monitoring survey of the sediment pipeline shall be conducted within twenty-one (21) calendar days of the temporary or arbitrary demobilization and monthly thereafter.

The Owner reserves the right to require additional surveys in the wake of a severe storm event, at no additional cost to the Owner.

- 200.8.3 Marsh Creation Borrow Area: The Contractor shall delineate the specific dredged area within the Marsh Creation Borrow Area to be surveyed for payment. This dredged section of the Marsh Creation Borrow Area shall be surveyed to determine pay volumes for hydraulic placement of dredged material. If the Contractor remobilizes to any portion of the borrow area which has been previously dredged, that portion of the borrow area shall be resurveyed before and after it is re-dredged. This survey shall follow the same transects as the Pre-Construction Survey.
- 200.8.4 Marsh Creation Area(s): The Process Surveys associated with the Marsh Creation Area(s) shall be composed of the daily grade stake, bi-weekly instrumented settlement plate surveys, and bi-weekly settlement plate surveys as stated in TS-200.8.13, TS-200.8.12, and TS-200.8.11, respectively.
- 200.8.5 Earthen Containment Dikes: The topography of the Earthen Containment Dike and associated borrow area shall be surveyed after being fully constructed and prior to placement of the hydraulic dredge fill material into the respective Marsh Creation Area. Ground elevations and coordinates shall be recorded for the inside and outside crests and toes of the dikes and the inside and outside troughs of the associated borrow areas. These measurements shall be repeated at two-hundred and fifty (250) feet intervals along the centerline of the dike and at all points of inflection. The total in-place fill quantity and excavated borrow quantity for the dikes around each marsh

creation fill area shall also be calculated and shown on the survey plans.

After the Earthen Containment Dike is Accepted by the Engineer, and until Acceptance of all Marsh Creation Areas, the Contractor shall resurvey the centerline profile every fourteen (14) days. During these surveys, horizontal and vertical positions shall be surveyed and recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot. The Engineer may require dike cross sections (locations chosen by the Engineer) to be surveyed based on results of the bi-weekly centerline profile surveys. These cross sections shall extend twenty-five (25) feet beyond the outer limits of the adjacent dike borrow area, with horizontal and vertical positions recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot.

- 200.8.6 Internal Training Dikes: The topography of each Internal Training Dike and associated borrow area shall be surveyed after being fully constructed and prior to placement of the hydraulic dredge fill material into the respective Marsh Creation Area. Ground elevations and coordinates shall be recorded for the inside and outside crests and toes of the dikes and the inside and outside troughs of the associated borrow areas. These measurements shall be repeated at two-hundred and fifty (250) feet intervals along the centerline of the dike and at all points of inflection. The total in-place fill quantity and excavated borrow quantity for the dikes around each marsh creation fill area shall also be calculated and shown on the survey plans.

After the Internal Training Dike is Accepted by the Engineer, and until Acceptance of all Marsh Creation Areas, the Contractor shall resurvey the centerline profile every fourteen (14) days. During these surveys, horizontal and vertical positions shall be surveyed and recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot. The Engineer may require dike cross sections (locations chosen by the Engineer) to be surveyed based on results of the bi-weekly centerline profile surveys. These cross sections shall extend twenty-five (25) feet beyond the outer limits of the adjacent dike borrow area, with horizontal and vertical positions recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot.

- 200.8.7 Shoreline Containment Dike: The topography of the Shoreline Containment Dike and associated borrow area shall be surveyed after being fully constructed and prior to placement of the hydraulic dredge fill material into the respective Marsh Creation Area. Ground elevations and coordinates shall be recorded for the inside and outside crests and toes of the dikes and the inside and outside troughs of the associated borrow areas. These measurements shall be repeated at two-hundred and fifty (250) feet intervals along the centerline of the dike and at all points of inflection. The total in-place fill quantity and excavated borrow quantity for the dikes around each marsh creation fill area shall also be calculated and shown on the survey plans.

After the Shoreline Containment Dike is Accepted by the Engineer, and until Acceptance of all Marsh Creation Areas, the Contractor shall resurvey the centerline profile every fourteen (14) days. During these surveys, horizontal and vertical positions shall be surveyed and recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot. The Engineer may require dike cross sections (locations chosen by the Engineer) to be surveyed based on results of the bi-

weekly centerline profile surveys. These cross sections shall extend twenty-five (25) feet beyond the outer limits of the adjacent dike borrow area, with horizontal and vertical positions recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot.

- 200.8.8 Earthen Ridge: The topography of the Ridge and associated borrow area shall be surveyed after being fully constructed and prior to placement of the hydraulic dredge fill material into the Marsh Creation Areas. Ground elevations and coordinates shall be recorded for the inside and outside crests and toes of the Ridge and the inside and outside troughs of the associated borrow areas. These measurements shall be repeated at two-hundred and fifty (250) feet intervals along the centerline of the Ridge and at all points of inflection. The total in-place fill quantity and excavated borrow quantity for the Ridges around each marsh creation fill area shall also be calculated and shown on the survey plans.

After the Earthen Ridge is Accepted by the Engineer, and until Acceptance of all Marsh Creation Areas, the Contractor shall resurvey the centerline profile every fourteen (14) days. During these surveys, horizontal and vertical positions shall be surveyed and recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot. The Engineer may require Ridge cross sections (locations chosen by the Engineer) to be surveyed based on results of the bi-weekly centerline profile surveys. These cross sections shall extend twenty-five (25) feet beyond the outer limits of the adjacent Ridge borrow area, with horizontal and vertical positions recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot.

- 200.8.9 Dewatering Containment Dikes: The topography of the Dewatering Containment Dike and associated borrow area shall be surveyed after being fully constructed and prior to placement of the hydraulic dredge fill material into the Marsh Creation Areas. Ground elevations and coordinates shall be recorded for the inside and outside crests and toes of the dikes and the inside and outside troughs of the associated borrow areas. These measurements shall be repeated at two-hundred and fifty (250) feet intervals along the centerline of the dike and at all points of inflection. The total in-place fill quantity and excavated borrow quantity for the dikes shall also be calculated and shown on the survey plans.

After the Dewatering Containment Dike is Accepted by the Engineer, and until Acceptance of all Marsh Creation Areas, the Contractor shall resurvey the centerline profile every fourteen (14) days. During these surveys, horizontal and vertical positions shall be surveyed and recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot. The Engineer may require dike cross sections (locations chosen by the Engineer) to be surveyed based on results of the bi-weekly centerline profile surveys and or visual observations. These cross sections shall extend twenty-five (25) feet beyond the outer limits of the adjacent dike borrow area, with horizontal and vertical positions recorded every twenty-five (25) feet and at changes in topography greater than one-half (0.5) foot.

200.8.10 Post-Process Surveys: The Engineer may require the Contractor to re-survey the Earthen Containment Dike, Shoreline Containment Dike, Internal Training Dikes, Dewatering Containment Dike, Earthen Ridge and associated borrow areas if any of the following conditions are met:

200.8.10.1 Dikes are reworked due to material being placed above or below the specified tolerances.

200.8.10.2 Maintenance is performed on the dikes after Acceptance.

200.8.10.3 The time between Acceptance of the dikes and beginning of fill placement into the respective Marsh Creation Area is sixty (60) calendar days or longer.

The Contractor shall submit updated in-place and excavated borrow quantities for all post-process surveys.

200.8.11 Settlement Plates: The slurry elevation and top of pipe for all Settlement Plates within Marsh Creation Areas shall be surveyed bi-weekly during fill placement and until all Marsh Creation Areas are Accepted.

200.8.12 Instrumented Settlement Plates: The slurry elevation and top of pipe for all Instrumented Settlement Plates within Marsh Creation Areas shall be surveyed bi-weekly during fill placement and until all Marsh Creation Areas are accepted.

200.8.13 Grade Stakes: Dredge slurry elevations shall be recorded to the nearest tenth (0.1) of a foot daily, based on a visual inspection of the grade stakes, and submitted in the daily reports once hydraulic dredging has begun. Daily readings shall continue through Acceptance of the all Marsh Creation Areas. Additionally, the Contractor shall resurvey the grade stakes weekly in accordance with TS-200.7.10 to maintain the accuracy of the visual inspections. The weekly grade stake accuracy surveys shall be submitted in the daily report, as they are completed.

200.8.14 External Borrow Area Exhaustion Survey: External borrow areas that have been excavated to the maximum lines, grades, and elevations as shown on the Plans shall be surveyed prior to the Contractor receiving approval by the Engineer to utilize interior borrow areas for the effected reach.

A bathymetric survey shall be performed within the exhausted external borrow area. The bathymetric survey shall be performed using single beam with dual frequencies. Three (3) evenly-spaced transects shall be taken no more than fifty (50) feet apart along the along the alignment of the external borrow area. Ground elevations and coordinates shall be recorded at twenty-five (25) foot intervals along the transects.

200.9 As-Built Survey: The As-Built Survey shall be used to verify final payments and Acceptance for all Work. Accepted Process Surveys may be included as part of the As-Built Survey. The As-Built Survey shall show all constructed bid items in plan and profile using elevations, coordinates, lines and grades consistent with the Process Surveys. The As-Built Survey shall be consistent with the Pre-Construction and Process Surveys, any modifications to these surveys, and shall include the following items:

200.9.1 Quantities: The As-Built Surveys shall show the constructed quantities for each

constructed bid item.

- 200.9.2 Dredge Pipeline Corridor: The topography of the dredge pipeline corridor shall be resurveyed, consistent with the Pre-Construction Survey, after the dredge pipeline has been removed. Those portions of the corridor which have been reworked due to exceedance of the specified tolerances, upper or lower, shall be resurveyed for Acceptance.
- 200.9.3 Marsh Creation Area: Those portions of the Marsh Creation Area(s) which have been reworked due to exceedance of the specified dredge fill elevation tolerances, upper or lower, shall be resurveyed consistent with the Pre-Construction Survey for Acceptance.
- 200.9.4 Grade Stakes: All grade stakes shall be removed after Acceptance of the Marsh Creation Area(s).
- 200.9.5 Earthen Containment Dikes: Those portions of the dikes which have been reworked due to exceedance of the specified tolerances, upper or lower, shall be resurveyed consistent with the Pre-Construction Survey in order to gain Acceptance.
- 200.9.6 Internal Training Dike: Upon degradation of the Internal Training Dikes, the Contractor shall resurvey the centerline profile consistent with the Process Surveys in order to gain Acceptance.
- 200.9.7 Shoreline Containment Dike: Those portions of the dike which have been reworked due to exceedance of the specified tolerances, upper or lower, shall be resurveyed consistent with the Pre-Construction Survey in order to gain Acceptance.
- 200.9.8 Earthen Ridge: The topography of the Earthen Ridge shall be resurveyed, consistent with the Pre-Construction Survey, per TS-200.7.14 after Acceptance of all Marsh Creation Areas.
- 200.9.9 Dewatering Containment Dike: Those portions of the dike which have been reworked due to exceedance of the specified tolerances, upper or lower, shall be resurveyed consistent with the Pre-Construction Survey in order to gain Acceptance.
- 200.9.10 Dewatering Area: The topography of the Dewatering Area shall be resurveyed, consistent with the Pre-Construction Survey, after Acceptance of all Marsh Creation Areas.
- 200.9.11 Post Construction Marsh Creation Area Surveys: The Contractor shall perform a Post Construction Survey thirty (30) days after the Acceptance of all Marsh Creation Areas. This survey shall be consistent with the Pre-Construction Survey. Additionally, Settlement Plates shall be resurveyed and consistent with the Pre-Construction Survey. The results of this survey are for informational purposes only and shall not affect Acceptance and payment of the Marsh Creation Area(s).
- 200.9.12 Degradation of Earthen Containment Dike Survey: Upon completion of Earthen Containment Dike degradation as specified in TS-300.7, the Contractor shall survey the centerline profile of the degraded portion of Earthen Containment Dike with three (3) perpendicular cross-sections equally spaced along the centerline profile

within the degraded section extending thirty (30) feet from the centerline on both sides with horizontal and vertical positions recorded every five (5) feet and at changes in topography greater than one-half (0.5) foot. The Centerline Profile shall extend at least twenty-five (25) feet past the degraded section of the Earthen Containment Dike on each side with horizontal and vertical positions recorded every five (5) feet and at changes in topography greater than one-half (0.5) foot.

- 200.9.13 Barrier Installation Survey: Upon completion of the Barrier installation, the Contractor shall survey the top of pile elevation and center of pile coordinates of each timber pile within the Barrier structure. In addition, the approximate bottom tip elevation of each timber pile shall be shown.
- 200.9.14 Marsh Creation Area Borrow Area: The Marsh Creation Borrow Area As-Built Survey shall incorporate the previously accepted Process Surveys of the Marsh Creation Borrow Area as part of this As-Built submittal. The Contractor shall develop drawings which include the cross sections, plan views, elevations, and volumes from the accepted Process Surveys. Bathymetric surveys not tide corrected in real-time will not be accepted. The dates, elevations, and volumes for each Process Survey shall be superimposed onto the Marsh Creation Borrow Area plan views. The As-Built quantities of material borrowed shall be stated in cubic yards.
- 200.9.15 Equipment Access Corridors: A bathymetric and/or topographic survey shall be performed along the centerline of the Equipment Access Corridors upon demobilization.
- 200.10 Deliverables: The Contractor shall submit three (3) digital and hard copies of the survey data and drawings to the Engineer for review and Acceptance by the dates specified in SP-3. The Owner may stop the associated portions of the Work if the surveys are not submitted by the specified date. The Contractor shall not submit a Claim for an adjustment to either the Contract Time or Price on any bid item for failure to submit the surveys by the specified date.
- 200.10.1 Survey Data: Survey data shall be provided in Microsoft Excel, or approved equal, on a USB flash drive and a web-based file transfer site. Survey data shall be presented as follows:
- 200.10.1.1 Bathymetric and topographic survey data shall be provided in .csv format and include separate columns for the transect/alignment number, point number, point description, northing coordinate, easting coordinate and elevation. Bathymetric survey data shall include bar check results, survey scroll or BIN file, and corrections for tidal fluctuations and vessel pitch, roll and heave.
- 200.10.1.2 Magnetometer detections shall be provided in .csv format and include the transect/alignment number, shot point number, northing coordinate, easting coordinate, sensor height, signature type, amplitude and duration. Elevations and depth of cover shall be provided for all pipelines and magnetic detections higher than fifty (50) gammas. Descriptions shall also be provided for the probable causes of all magnetic detections higher than fifty (50) gammas.
- 200.10.1.3 The elevation data for the Settlement Plates shall be provided in .csv format

and line graphs which show marsh fill and top of riser pipe elevations verses time.

200.10.1.4 Digital copy of field notes for each survey submittal in PDF.

200.10.2 Survey Drawings: Surveys shall be provided in the latest version of AutoCAD and Adobe Acrobat on a USB flash drive or a web-based file transfer site. Three (3) hard copies of the As-Built Surveys shall be provided to the Engineer. All survey drawings shall conform to CPRA drafting standards and be presented as follows:

200.10.2.1 All sheets shall include the project name, number and seal of a professional engineer or surveyor licensed in the State of Louisiana;

200.10.2.2 The location of all secondary survey monuments and temporary benchmarks shall appear in plan view with table or call out showing horizontal and vertical coordinates;

200.10.2.3 Survey transects, spot elevations and +/-1.0 foot contours shall be shown in plan view. Transects shall also be shown in profile and include mean high and mean low water levels;

200.10.2.4 Magnetic anomalies and infrastructure (Pipelines, power lines, etc.) shall be shown in plan view. Infrastructure and magnetic anomalies higher than fifty (50) gammas shall also be shown in profile;

200.10.2.5 All plan views shall be overlaid onto 2016, or newer, geo-rectified Digital Orthophoto Quarter Quadrangle aerial color photographs;

200.10.2.6 Revisions such as field or change orders shall be noted, shown in red and be easily distinguishable from the original design.

200.11 Acceptance: The Contractor shall submit a request for Acceptance after completion of the Pre-Construction, Process, and As-Built Surveys. The Engineer shall determine Acceptance of this Work based on these surveys and conformance to the Plans and Specifications. The Engineer shall be afforded fourteen (14) working days from the date of receipt to review and determine Acceptance of each survey.

200.11.1 Pre-Construction Survey: The Contractor shall not mobilize equipment until Acceptance of the Pre-Construction Survey has been acquired for all Marsh Creation Areas. The Pre-Construction surveys for the Ridge and dikes must gain Acceptance prior to construction of the Ridge and dikes.

200.11.2 Process Surveys: Payment for bid items shall not be made until Acceptance of the associated Process Surveys. Those portions of the Work which are required to be re-worked, repaired or replaced due to non-compliance with the Plans and these Specifications shall be resurveyed for Acceptance.

200.11.3 As-Built Survey: A draft of the As-Built Survey shall be submitted to the Engineer for review prior to the Final Inspection as per SP-3. A final version of the As-Built Survey shall be submitted to the Engineer for Acceptance after the Final Inspection as per SP-3. Final payment for this bid item will not be received until the As-Built

Surveys have gained Acceptance from the Engineer.

- 200.12 Measurement and Payment: The Contractor shall submit Applications for Payment after gaining Acceptance. Payment shall be made at the Contract lump sum price for Bid Item No. 2, "Construction Surveys (TS-200)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work.
- 200.13 Ratio of Effort/Payment: Fifty (50) percent of the Contract cost for this bid item will be paid to the Contractor upon Acceptance of the Pre-Construction Surveys, less the Marsh Creation Area survey(s). Thirty (30) percent will be paid to the Contractor upon Acceptance of all Process Surveys. The remaining twenty (20) percent will be paid to the Contractor upon Acceptance of the complete As-Built Survey.

TS-220 GRADE STAKES

- 220.1 Scope: Grade stakes shall be installed within the Marsh Creation Areas in order to monitor the elevation of fill during placement. The Contractor shall furnish all of the materials, labor and equipment necessary to construct, install, maintain and inspect the grade stakes in accordance with the Plans and these Specifications.
- 220.2 Materials: Each gauge sign shall be fixed to and supported by one (1) four (4) x four (4) inch untreated pine stake of sufficient length to be embedded a minimum of six (6) feet below existing grade. The top of the gauge sign shall be fastened flush with the top of the lumber using three (3) #8 galvanized or zinc-coated wood screws and washers. Holes shall be drilled through the lumber and gauge sign before the fasteners are installed.

The gauge sign shall be composed of sheeting applied to a rigid substrate of four (4) x one-hundred twenty (120) x thirty-six (36) inch fiberglass reinforced thermoset polyester laminate using a pressure sensitive urethane adhesive. The sheeting shall be reflective, white in color and made from Avery Dennison T1500, or approved equal. The substrate shall be gray in color, dielectric, non-conductive, acrylic, UV stabilized and possess a tensile strength which exceeds five-thousands (0.005) of an inch aluminum.

The tolerance range for each target fill elevation shall be represented on the gauge sign using green transparent ink. The background color for the remaining portions of the gauge sign shall be red transparent ink. Border lines shall be applied at each target lift and tolerance elevation using one-eighth (1/8) inch thick black ink. Ink shall be Avery 7TS, or approved equal.

- 220.3 Installation: Grade stakes shall be installed prior to placement of the dredge fill material in the Marsh Creation Areas in a vertical position embedded at least six feet below existing grade within the Marsh Creation Areas. Proposed Grade Stake locations shall be included in the Work Plan and approved by the Engineer prior to installation.
- 220.4 Maintenance: The grade stakes shall be inspected bi-weekly, per TS-200.8.13, and maintained by the Contractor until Acceptance of the Marsh Creation Area(s). These inspections shall include the surveyed top elevation, recorded distance from the top of the stake to the dredge slurry (tape down distance), the stake identification number, and position coordinates for each grade stake. Grade stakes shall be repaired or replaced if

badly damaged or their plumb angle varies by more than fifteen (15) degrees from vertical.

- 220.5 Daily Inspections: Grade stakes shall be inspected daily, per TS-200.8.13. The results of all inspections shall be included in the Daily Progress Reports. The inspections may be witnessed by the Engineer or Resident Project Representative.
- 220.6 Removal: The grade stakes shall be removed after Acceptance of all Marsh Creation Areas. The grade stakes shall either be removed in their entirety or cut off at marsh grade. Impacts to the Marsh Creation Areas shall be minimized during removal of the grade stakes.
- 220.7 Acceptance: After installation, the installed grade stake survey shall be submitted to the Engineer for Acceptance. Grade stakes not Accepted shall be replaced, resurveyed and Accepted by the Engineer prior to placement of dredge fill material into the respective Marsh Creation Area.
- 220.8 Measurement and Payment: Payment shall be made for the Contract unit price per each for Bid Item No. 3, "Grade Stakes (TS-220)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work. No payment shall be made for grade stakes that are rejected or damaged and replaced due to fault or negligence by the Contractor.

TS-250 SETTLEMENT PLATES

- 250.1 Scope: The Contractor shall furnish all materials, labor and equipment necessary to construct, install, survey and maintain the Settlement Plates within the Marsh Creation Areas as shown on the Plans and these Specifications.
- 250.2 Materials: The base plate for each settlement plate shall be fabricated with a four (4) foot by four (4) foot by one-fourth (1/4) inch thick steel plate. A two and seven-eighths (2-7/8) inch diameter hole shall be drilled or cut through the center of the base plate for installation of the riser pipe and stand pipe.

The riser pipe for each Marsh Creation Area settlement plate shall be two and one-half (2-1/2) inch nominal diameter Schedule 40 steel pipe that is eight (8) feet long. The riser pipe for each Earthen Ridge settlement plate shall be two and one-half (2-1/2) inch nominal diameter Schedule 40 steel pipe that is twelve (12) feet long. The riser shall be inserted two (2) feet through the hole in the center of the base plate and welded on both sides of the plate using a 3/16" continuous fillet. The stand pipe shall be one and one-half (1-1/2) inch nominal diameter Schedule 40 steel pipe that is twelve (12) feet long. The top of the housing shall be fitted with a threaded steel cap. After fabrication, the Settlement Plates shall be hot-dip galvanized.

- 250.3 Zinc Coating: A zinc coating shall be applied in a manner and thickness quality conforming to ASTM A 123. In any case where the zinc coating becomes damaged, the damaged area shall be regalvanized with a suitable low-melting zinc base alloy as recommended by the American Hot-Dip Galvanizers Association. One coat of a vinyl wash primer followed by a red top coat shall be applied over the zinc coat. All painting shall conform to the latest edition of the LA DOTD Standard Specification Section 811 and 1008 or approved equivalent.

- 250.4 Installation: The Settlement Plates shall be installed and surveyed a minimum of two (2) weeks prior to placement of dredged material in the Marsh Creation Areas. Settlement Plates shall be installed inside the Marsh Creation Areas as shown on the Plans. Leveling of the plate bed shall be accomplished by removing the minimum amount of earth necessary to produce a level foundation. Leveling of the plate bed by the addition of any material will not be permitted.
- 250.5 Maintenance: The Contractor shall maintain all Settlement Plates until the Work is completed. Damaged Settlement Plates shall be immediately repaired or replaced and resurveyed by the Contractor at no expense to the Owner.
- 250.6 Acceptance: The Contractor shall request Acceptance after installation of the Settlement Plates. The Engineer shall determine Acceptance based on a review of the Pre-Construction Surveys. This Acceptance does not remove the Contractor of their responsibility to maintain the Settlement Plates as stated in TS-250.5.
- 250.7 Ratio of Effort: Ninety percent (90%) of the Contract cost for this bid item will be paid to the Contractor upon Acceptance of the Settlement Plates. The remaining ten percent (10%) will be paid to the Contractor upon Acceptance of the marsh creation fill area.
- 250.8 Measurement and Payment: The Contractor shall submit Applications for Payment after gaining Acceptance. Payment shall be made for the Contract unit price per each for Bid Item No. 4, "Settlement Plates (TS-250)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work. No payment shall be made for Settlement Plates that are rejected or damaged due to fault or negligence by the Contractor.

TS-251 INSTRUMENTED SETTLEMENT PLATES

- 251.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to construct, install, survey and maintain the Instrumented Settlement Plates (ISPs) in accordance with the Plans and these Specifications.
- 251.2 Materials and Fabrication:
- 251.2.1 Instrumentation: The instrumentation shall be delivered to the Engineer a minimum of one (1) month prior to installation of the instrumented settlement plates and shall become the property of the Owner upon delivery. The Engineer shall install the instrumentation concurrent with the installation of the settlement plates in the field by the Contractor. The instrumentation shall include the following:
- 251.2.1.1 Three (3) Four (4)-channel Multichannel Vibrating Wire Mesh Nodes (Geokon Model 8800-NA-04C-CBL, or approved equal);
- 251.2.1.2 One (1) Mesh Supervisor (Geokon Model 8800-NA-SUP-USB, or approved equal);
- 251.2.1.3 Three (3) vibrating wire earth pressure cells/transducers with fifteen (15) foot cables (Geokon Model 4810-170KPA, or approved equal);

- 251.2.1.4 Three (3) vibrating wire piezometers with fifteen (15) foot cables (Geokon model 4500AL-70KPA, or approved equal);
 - 251.2.1.5 Four (4) Omni Directional, 3dBd, 900MHz Antennae (Geokon Model ELC-947, or approved equal);
 - 251.2.1.6 Four (4) 400-Series, ten (10) feet Coaxial Cables N-Male to N-Male (Geokon Model ELC-945, or approved equal);
 - 251.2.1.7 Four (4) two (2) feet Coaxial Patch Cords N-Female to RPSMA-RA (Geokon Model ELC-932, or approved equal);
 - 251.2.1.8 Four (4) Lightning Protectors, N-Male to N-Female (Geokon Model ELC-931, or approved equal);
 - 251.2.1.9 Four (4) Antenna Mount for (FG9023 or 26) (Geokon Model ELC-948, or approved equal);
 - 251.2.1.10 Sixteen (16) D-size 3.6 volt, 17Ah lithium batteries (Geokon Model BAT-202, or approved equal).
- 251.2.2 Base Plate: The base plate for each ISP shall be fabricated with a six (6) foot by six (6) foot by one-fourth (1/4) inch thick steel plate. A two and seven-eighths (2-7/8) inch diameter hole shall be drilled or cut through the center of the base plate for installation of the riser pipe and stand pipe.
- 251.2.3 Riser Pipe: The riser pipe for each ISP shall be two and one-half (2-1/2) inch nominal diameter Schedule 40 steel pipe that is ten (10) feet long. The riser shall be inserted two (2) feet through the hole in the center of the base plate and welded on both sides of the plate using a three-sixteenths (3/16) inch continuous fillet. The stand pipe shall be one and one-half (1-1/2) inch nominal diameter Schedule 40 steel pipe that is twelve (12) feet long.
- 251.2.4 Instrument Housing: Six (6)-twelve (12) by twelve (12) by three-sixteenth inch (3/16") steel plates shall be provided as an instrument housing for each ISP. Five (5) of the plates shall be welded together at the edges in the shape of a box as shown on the Plans. The bottom plate of the housing shall be welded to the top of the rise pipe using a one-quarter (1/4) inch continuous fillet. A one and one-half (1-1/2) inch diameter hole shall be drilled into the bottom plate two (2) inches from the riser pipe for conduit access. A one and one-half (1-1/2) inch diameter hole shall be drilled into the center of the top plate for conduit access.
- 251.2.4.1 Instrument Housing Door: One plate shall function as the housing door and shall be affixed to the housing by two (2) steel welded-on hinges. A one-half (1/2) inch diameter hole shall be drilled through the door and adjacent plate located one (1) inch from the bottom corner to allow for a padlock.
- 251.2.5 ISP Number: The instrument housing shall have the number of the ISP painted on all sides using galvanized compound paint that is orange in color. The paint may be applied using stencil or other approved application. The number shall be ten

(10) inches high.

251.2.6 Antennae Extension: One (1) Schedule 40 steel pipe shall be provided as an antennae extension for each ISP. The pipe shall be two (2) feet long and have a nominal diameter of one and one-half (1-1/2) inches. The pipe shall be welded to the instrument housing using a one-quarter (1/4) inch continuous fillet. A steel cap shall be welded onto the top of the pipe. One (1)- one-half (1/2) inch diameter hole shall be drilled through the center and middle of the pipe.

251.2.7 Anchor Pipe: One (1) Schedule 40 steel stand pipe shall be provided to anchor each ISP. The stand pipe shall be ten (10) feet long and have a nominal diameter of one and one-quarter (1-1/4) inches.

251.2.8 Zinc Coating: A zinc coating shall be applied in a manner and thickness quality conforming to ASTM A 123. In any case where the zinc coating becomes damaged, the damaged area shall be re-galvanized with a suitable low-melting zinc base alloy as recommended by the American Hot-Dip Galvanizers Association. One coat of vinyl wash primer followed by a red top coat shall be applied over the zinc coat. All painting shall conform to the latest edition of the LA DOTD Standard Specification Section 811 and 1008, or approved equivalent.

251.2.9 Additional Materials: Three (3) three (3) inch diameter perforated PVC Schedule 40 pipes that are eight (8) feet long shall be provided to the Engineer. Perforations shall consist of one-half (1/2) inch holes that are spaced one-hundred-eighty (180) degrees apart on one-half (1/2) foot increments along the axis. Six (6) PVC non-threaded caps and fittings shall be provided to the Engineer. Twenty (20) Mesh T-304 sixteen-thousandths (0.016) inch stainless steel wire cloth shall be wrapped around the outside of the pipe and fastened with plastic wire straps. Two (2) 50-lb bags of all purpose sand shall be provided to the Engineer to be placed in the PVC pipe. Sixty (60) 24 inch heavy duty zip ties shall be provided to attach the instrumentation to the instrumented settlement plates.

Twelve (12) three-sixteenths (3/16) inch diameter by two (2) inch long bolts and twelve (12) three-sixteenths (3/16) inch by one and one-quarter (1-1/4) inch washers shall be provided to mount the vibrating wire earth pressure cells on the base of the instrumented settlement plate.

251.3 Installation: The Engineer shall be allowed to inspect the instrumented settlement plates and verify that the instrumentation can be properly installed a minimum of one (1) month prior to installation. The Instrumented Settlement Plates shall be installed at locations approved by the Engineer a minimum of two (2) weeks prior to placement of dredged material in order for the Engineer to install the instrumentation. The stand pipe shall be driven to a depth determined by the Engineer in the field. Leveling of the base plate shall be accomplished by removing the minimum amount of earth necessary to produce a level foundation. Leveling of the base plate by the addition of any material will not be permitted.

251.4 Monitoring: The Engineer shall be responsible for monitoring the equipment on the ISPs. The Contractor shall provide the Engineer with boat transportation to access ISPs at all times during construction.

- 251.5 Maintenance: The Contractor shall maintain all ISPs until Acceptance of the marsh creation fill areas. Damages to ISPs shall be immediately repaired or replaced and resurveyed by the Contractor at no expense to the Owner.
- 251.6 Acceptance: The Contractor shall request for Acceptance after installation of the ISPs. The Engineer shall determine Acceptance based on a review of the Pre-Construction Surveys. This Acceptance does not remove the Contractor of their responsibility to maintain the ISPs as stated in TS-251.5.
- 251.7 Ratio of Effort: Ninety percent (90%) of the Contract cost for this bid item will be paid to the Contractor after installation of the ISPs. The remaining ten percent (10%) will be paid to the Contractor upon Acceptance of the marsh creation fill area.
- 251.8 Measurement and Payment: Payment shall be made for the Contract Lump Sum price for Bid Item No. 5, "Instrumented Settlement Plates (TS-251)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of Work. No payment shall be made for ISPs that are rejected or damaged due to fault or negligence by the Contractor.

TS-300 EARTHEN CONTAINMENT DIKES

- 300.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to construct, and maintain the Earthen Containment Dikes (ECDs) in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans, or otherwise modified by the Engineer as a result of the Pre-Construction Survey. Construction sequencing of this item shall be included in the Work Plan.
- 300.2 Equipment: All ECDs shall be constructed and maintained using mechanical excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation equipment shall be in satisfactory operating condition, capable of efficiently performing the Work, and shall be subject to inspection by the Owner or Engineer throughout the performance of the Work.
- 300.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Recommended access to the Project Area is from the north via state water bottoms from the Houma Navigation Canal through Falgout Canal to Lake De Cade. The Contractor shall keep all equipment within the construction limits, shown on the Plans, to perform the Work. The Contractor shall be responsible for acquiring the appropriate permits and access agreements for all proposed routes outside of the permitted area. The Contractor shall provide a copy of the permit and/or access agreement to the Owner prior to mobilization. Impacts to wetlands or water bottoms outside of the Project Area shall be returned to pre-construction conditions prior to demobilization at no additional cost to the Owner. Access channel dredging shall not be permitted. The Contractor shall not traverse across any pipeline with land-based equipment (ex. Marsh Excavator) prior to placement of protective measures (if required by the pipeline owner) during construction and maintenance of the ECDs.
- 300.3.1 Existing Infrastructure Protective Measures: The Contractor shall be responsible for investigating, locating and protecting all existing facilities, structures, utilities, and

pipelines on, above, or under the surface of the equipment access corridor and Project Site. The Owner will not be held responsible for damage to the Contractor's equipment, employees, subcontractors, adjacent property owners, or anyone else connected with this Work. Protective measures shall be capable of withstanding equipment and pipeline loads while protecting the existing buried pipelines from damage. Type(s) of material used shall be coordinated with and approved by the pipeline owner, and included in the Work Plan. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline. The Contractor shall remove the protective measures from the Project Area prior to demobilization. Any damages to existing infrastructure shall be returned to pre-project conditions at no additional cost to the Owner.

300.4 Construction: The ECDs shall be constructed along the perimeter of the Marsh Creation Area(s) using in-situ borrow material that is excavated adjacent to the ECDs.

300.4.1 Interior Borrow: The ECD reach between points one (1) and twenty-six (26) shall be constructed with interior borrow areas from within inside of the Marsh Creation Areas as shown on Sheet 5 of the Plans. The borrow material shall not be excavated within the minimum offset distance from the toe of the ECDs as shown on the Plans. Material shall not be excavated from the borrow areas below the maximum elevation shown on the Plans.

300.4.2 Exterior Borrow: The ECD reach between points twenty-six (26) and sixty-one (61) shall be constructed with exterior borrow areas outside of the Marsh Creation Areas as shown on Sheet 5 of the Plans. The primary source of borrow material to construct these reaches of ECD will be excavated from Turtle Bayou. A secondary, interior borrow area has permitted and shown on the Plans but shall not be utilized until the primary bayou borrow area has been exhausted. Upon exhaustion of the external borrow area, the Contractor shall survey the exhausted external borrow area as outlined in TS-200.8.14. Material shall not be excavated within twenty (20) feet from the existing bank line of Turtle Bayou as determined by the Pre-Construction Surveys described in TS-210.7.11 or within the minimum offset distance from the toe of the ECD as shown on the Plans. Material shall not be excavated from the borrow areas below the maximum elevation shown on the Plans.

300.4.3 Tolerance: The vertical elevation tolerance for the crest height of the ECDs shall be plus one-half (+0.5) foot.

300.5 Borrow Material: The soil properties of the borrow material may vary across the Project Site. The Geotechnical Report is provided in Appendix H. All unsuitable organic debris (Logs, stumps, snags, etc.) greater than two (2) inches in diameter or two (2) feet in length that is encountered in the ECDs borrow area shall remain and not be utilized to construct the ECDs. All unsuitable inorganic debris (Tires, scrap, etc.) greater than five (5) pounds that is encountered in the ECD borrow areas shall be disposed off-site in an approved waste disposal facility.

300.6 Maintenance: All ECDs shall be maintained by the Contractor until Acceptance of all Marsh Creation Areas. Should a breach or failure of any of the ECDs occur before all Marsh Creation Areas gain Acceptance, the Contractor shall immediately notify the Engineer, cease filling of the Marsh Creation Area and initiate repairs to the ECD. All

external spills of fill or ECD material from the Marsh Creation Area shall be immediately returned to the Marsh Creation Area by the Contractor at no pay. The Contractor shall include a detailed procedure and communication protocol for the repair and reporting of ECD breaches in the Work Plan.

- 300.7 Degradation of Earthen Containment Dikes: Upon Acceptance of the Marsh Creation Areas, the Owner may require up to six-hundred (600) linear feet of ECDs be gapped or degraded. Whether a reach of ECDs should be gapped or degraded shall be determined by the Engineer once all of the Marsh Creation Areas are Accepted by the Engineer. Location and width of gaps shall be determined by the Engineer. Spoil from ECDs degradation or gapping shall be used to fill nearby low lying areas within the Marsh Creation Areas that may exist as a result of the ECD borrow pits, unless otherwise instructed by the Engineer. Upon completion of the ECD degradation, the Contractor shall survey the degraded areas as described in TS-200.9.12.
- 300.8 Acceptance: ECDs shall gain Acceptance after the Process and/or As-Built Surveys show compliance with the lines, grades, elevations, and tolerances shown on the Plans and are Accepted by the Engineer. The Engineer may require the addition or removal of material that is excavated or placed beyond the specified tolerances at no additional cost to the Owner. Partial Acceptance of the ECDs may be requested in one-thousand (1,000) foot (minimum) sections. Acceptance by the Engineer does not relieve the Contractor of their responsibility to maintain the ECDs until Acceptance of all Marsh Creation Areas.
- 300.9 Measurement and Payment: Payment for these ECDs shall be made at the Contract unit price per linear foot for Bid Item No. 6, "Earthen Containment Dikes (TS-300)". Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to these items of the Work. The Contractor may request partial payment, in one-thousand (1,000) foot (minimum) continuous, unbroken, and Accepted sections, on a monthly basis based on the linear feet of ECD constructed.
- 300.10 Ratio of Effort/Payment: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the dikes. The remaining ten (10) percent will be paid to the Contractor after Acceptance of all Marsh Creation Areas and the As-Built Survey of the degraded sections of ECDs specified in TS-200.9.12.

TS-301 INTERNAL TRAINING DIKES

- 301.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to construct, and maintain the Internal Training Dikes (ITDs) in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans, or otherwise modified by the Engineer as a result of the Pre-Construction Survey. Construction sequencing of this item shall be included in the Work Plan.
- 301.2 Equipment: All ITDs shall be constructed and maintained using mechanical excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation equipment shall be in satisfactory operating condition, capable of efficiently performing the Work, and shall be subject to inspection by the Owner or Engineer throughout the performance of the Work.

- 301.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Recommended access to the Project Area is from the north via state water bottoms from the Houma Navigation Canal through Falgout Canal to Lake De Cade. The Contractor shall keep all equipment within the construction limits, shown on the Plans, to perform the Work. The Contractor shall be responsible for acquiring the appropriate permits and access agreements for all proposed routes outside of the permitted area. The Contractor shall provide a copy of the permit and/or access agreement to the Owner prior to mobilization. Impacts to wetlands or water bottoms outside of the Project Area shall be returned to pre-construction conditions prior to demobilization at no additional cost to the Owner. Access channel dredging shall not be permitted. The Contractor shall not traverse across any pipeline with land-based equipment (ex. Marsh Excavator) prior to placement of protective measures (if required by the pipeline owner) during construction and maintenance of the dikes.
- 301.3.1 Existing Infrastructure Protective Measures: The Contractor shall be responsible for investigating, locating and protecting all existing facilities, structures, utilities, and pipelines on, above, or under the surface of the equipment access corridor and Project Site. The Owner will not be held responsible for damage to the Contractor's equipment, employees, subcontractors, adjacent property owners, or anyone else connected with this Work. Protective measures shall be capable of withstanding equipment and pipeline loads while protecting the existing buried pipelines from damage. Type(s) of material used shall be coordinated with and approved by the pipeline owner, and included in the Work Plan. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline. The Contractor shall remove the protective measures from the Project Area prior to demobilization. Any damages to existing infrastructure shall be returned to pre-project conditions at no additional cost to the Owner.
- 301.4 Construction: The ITDs shall be constructed to subdivide the Project Site into three (3) individual Marsh Creation Areas using in-situ borrow material that is excavated adjacent to the ITDs within the Marsh Creation Area(s), unless otherwise shown on the Plans or approved by the Engineer. The borrow material shall not be excavated within the minimum offset distance from the toe of the ITDs as shown on the Plans. Material shall not be excavated from the borrow areas below the maximum elevation shown on the Plans.
- 301.4.1 Tolerance: The vertical elevation tolerance for the crest height of the ITDs shall be plus one-half (+0.5) foot.
- 301.5 Borrow Material: The soil properties of the borrow material may vary across the Project Site. The Geotechnical Report is provided in Appendix H. All unsuitable organic debris (logs, stumps, snags, etc.) greater than two (2) inches in diameter or two (2) feet in length that is encountered in the dike borrow area shall remain and not be utilized to construct the dike. All unsuitable inorganic debris (tires, scrap, etc.) greater than five (5) pounds that is encountered in the dike borrow areas shall be disposed off-site in an approved waste disposal facility.
- 301.6 Maintenance: The Contractor shall maintain all ITDs until Acceptance of both adjoining Marsh Creation Areas. Should a breach or failure of any of the ITDs occur before the adjoining Marsh Creation Areas gain Acceptance, the Contractor shall immediately notify the Engineer, cease filling of the Marsh Creation Area and initiate repairs to the ITDs. The

Contractor shall include a detailed procedure and communication protocol for the repair and reporting of ITD breaches in the Work Plan.

- 301.7 Degradation of Internal Training Dikes: Upon Acceptance of all Marsh Creation Areas, the Contractor shall degrade the entirety of the ITDs to the final constructed marsh elevation. Spoil from ITDs degradation shall be used to fill nearby low lying areas within the Marsh Creation Areas that may exist as a result of the Dike borrow pits, unless otherwise instructed by the Engineer.
- 301.8 Acceptance: Internal Training Dikes shall gain Acceptance after the Process Surveys show compliance with the lines, grades, elevations, and tolerances shown on the Plans and are Accepted by the Engineer. The Engineer may require the addition or removal of material that is excavated or placed beyond the specified tolerances at no additional cost to the Owner. Partial Acceptance of the ITDs may be requested in one-thousand (1,000) foot (minimum) sections. Acceptance by the Engineer does not relieve the Contractor of their responsibility to maintain the ITDs until Acceptance of both of the adjoining Marsh Creation Areas.
- 301.9 Measurement and Payment: Payment for these dikes shall be made at the Contract unit price per linear foot for Bid Item No. 7, "Internal Training Dikes (TS-301)". Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to these items of the Work. The Contractor may request partial payment, in one-thousand (1,000) foot (minimum) continuous, unbroken, and Accepted sections, on a monthly basis based on the linear feet of ITD constructed.
- 301.10 Ratio of Effort/Payment: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the ITDs. The remaining ten (10) percent will be paid to the Contractor after Acceptance of both of the adjoining Marsh Creation Areas and complete degradation to the final constructed marsh elevation of the ITDs.

TS-302 SHORELINE CONTAINMENT DIKES

- 302.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to construct, and maintain the Shoreline Containment Dikes (SCDs) in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans, or otherwise modified by the Engineer as a result of the Pre-Construction Survey. Construction sequencing of this item shall be included in the Work Plan.
- 302.2 Equipment: All SCDs shall be constructed and maintained using mechanical excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation equipment shall be in satisfactory operating condition, capable of efficiently performing the Work, and shall be subject to inspection by the Owner or Engineer throughout the performance of the Work.
- 302.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Recommended access to the Project Area is from the north via state water bottoms from the Houma Navigation Canal through Falgout Canal to Lake De Cade. The Contractor shall keep all equipment within the construction limits, shown on the Plans, to perform the Work. The Contractor shall be responsible for acquiring the appropriate

permits and access agreements for all proposed routes outside of the permitted area. The Contractor shall provide a copy of the permit and/or access agreement to the Owner prior to mobilization. Impacts to wetlands or water bottoms outside of the Project Area shall be returned to pre-construction conditions prior to demobilization at no additional cost to the Owner. Access channel dredging shall not be permitted. The Contractor shall not traverse across any pipeline with land-based equipment (ex. Marsh Excavator) prior to placement of protective measures (if required by the pipeline owner) during construction and maintenance of the SCDs.

- 302.3.1 Existing Infrastructure Protective Measures: The Contractor shall be responsible for investigating, locating and protecting all existing facilities, structures, utilities, and pipelines on, above, or under the surface of the equipment access corridor and Project Site. The Owner will not be held responsible for damage to the Contractor's equipment, employees, subcontractors, adjacent property owners, or anyone else connected with this Work. Protective measures shall be capable of withstanding equipment and pipeline loads while protecting the existing buried pipelines from damage. Type(s) of material used shall be coordinated with and approved by the pipeline owner, and included in the Work Plan. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline. The Contractor shall remove the protective measures from the Project Area prior to demobilization. Any damages to existing infrastructure shall be returned to pre-project conditions at no additional cost to the Owner.
- 302.4 Construction: The SCD shall be constructed along the shoreline of Lake De Cade offset landward of the existing shoreline using in-situ borrow material that is excavated adjacent to the dikes from within Marsh Creation Area(s), unless otherwise shown on the Plans or approved by the Engineer. The borrow material shall not be excavated within the minimum offset distance from the toe of the SCDs as shown on the Plans. Material shall not be excavated from the borrow areas below the maximum elevation shown on the Plans.
- 302.4.1 Tolerance: The vertical elevation tolerance for the crest height of the SCDs shall be plus one-half (+0.5) foot.
- 302.5 Borrow Material: The soil properties of the borrow material may vary across the Project Site. The Geotechnical Report is provided in Appendix H. All unsuitable organic debris (Logs, stumps, snags, etc.) greater than two (2) inches in diameter or two (2) feet in length that is encountered in the dike borrow area shall remain and not be utilized to construct the SCD. All unsuitable inorganic debris (Tires, scrap, etc.) greater than five (5) pounds that is encountered in the dike borrow areas shall be disposed off-site in an approved waste disposal facility.
- 302.6 Maintenance: All SCDs shall be maintained by the Contractor until Acceptance of all Marsh Creation Areas. Should a breach or failure of any of the SCDs occur before all Marsh Creation Areas gain Acceptance, the Contractor shall immediately notify the Engineer, cease filling of the Marsh Creation Area and initiate repairs to the SCDs. All external spills of fill or SCD material from the Marsh Creation Area shall be immediately returned to the Marsh Creation Area by the Contractor at no pay. The Contractor shall include a detailed procedure and communication protocol for the repair and reporting of

SCD breaches in the Work Plan.

- 302.7 Acceptance: SCDs shall gain Acceptance after the Process and/or As-Built Surveys show compliance with the lines, grades, elevations, and tolerances shown on the Plans and are Accepted by the Engineer. The Engineer may require the addition or removal of material that is excavated or placed beyond the specified tolerances at no additional cost to the Owner. Partial Acceptance of the SCDs may be requested in one-thousand (1,000) foot (minimum) sections. Acceptance by the Engineer does not relieve the Contractor of their responsibility to maintain the SCDs until Acceptance of the all Marsh Creation Areas.
- 302.8 Measurement and Payment: Payment for these SCDs shall be made at the Contract unit price per linear foot for Bid Item No. 8, "Shoreline Containment Dikes (TS-302)". Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to these items of the Work. The Contractor may request partial payment, in one-thousand (1,000) foot (minimum) continuous, unbroken, and Accepted sections, on a monthly basis based on the linear feet of SCD constructed.
- 302.9 Ratio of Effort/Payment: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the SCDs. The remaining ten (10) percent will be paid to the Contractor after Acceptance of all Marsh Creation Areas and the As-Built Survey of the SCDs.

TS-303 EARTHEN RIDGE

- 303.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to construct and maintain the Earthen Ridge (Ridge) in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans, or otherwise modified by the Engineer as a result of the Pre-Construction Survey. Construction sequencing of this item shall be included in the Work Plan. The Contractor shall not begin construction of the Ridge prior to Acceptance of both Clearing and Grubbing (TS-323) and the Earthen Ridge Pre-Construction Survey (TS-200.7.14).
- 303.2 Equipment: The Ridge shall be constructed and maintained using mechanical excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation equipment shall be in satisfactory operating condition, capable of efficiently performing the Work, and shall be subject to inspection by the Owner or Engineer throughout the performance of the Work.
- 303.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Recommended access to the Project Area is from the north via state water bottoms from the Houma Navigation Canal through Falgout Canal to Lake De Cade. The Contractor shall keep all equipment within the construction limits, shown on the Plans, to perform the Work. The Contractor shall be responsible for acquiring the appropriate permits and access agreements for all proposed routes outside of the permitted area. The Contractor shall provide a copy of the permit and/or access agreement to the Owner prior to mobilization. Impacts to wetlands or water bottoms outside of the Project Area shall be returned to pre-construction conditions prior to demobilization at no additional cost to the Owner. Access channel dredging shall not be permitted. The Contractor shall not traverse across any pipeline with land-based equipment (ex. Marsh Excavator) prior to placement

of protective measures (if required by the pipeline owner) during construction and maintenance of the Ridge.

- 303.3.1 Existing Infrastructure Protective Measures: The Contractor shall be responsible for investigating, locating and protecting all existing facilities, structures, utilities, and pipelines on, above, or under the surface of the equipment access corridor and Project Site. The Owner will not be held responsible for damage to the Contractor's equipment, employees, subcontractors, adjacent property owners, or anyone else connected with this Work. Protective measures shall be capable of withstanding equipment and pipeline loads while protecting the existing buried pipelines from damage. Type(s) of material used shall be coordinated with and approved by the pipeline owner, and included in the Work Plan. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline. The Contractor shall remove the protective measures from the Project Area prior to demobilization. Any damages to existing infrastructure shall be returned to pre-project conditions at no additional cost to the Owner.
- 303.4 Construction: The Ridge shall be constructed along Bayou De Cade using in-situ borrow material adjacent to the Ridge. The primary source of borrow material to construct the Ridge will be excavated from Bayou De Cade. A secondary, interior borrow area has permitted and shown on the Plans but shall not be utilized until the primary bayou borrow area has been exhausted. Upon exhaustion of the external borrow area, the Contractor shall survey the exhausted external borrow area as outlined in TS-200.8.14. Material shall not be excavated within twenty (20) feet from the existing bank line of Bayou De Cade as determined by the Pre-Construction Surveys described in TS-210.7.14 or within the minimum offset distance from the toe of the Ridge as shown on the Plans. Material shall not be excavated from the borrow areas below the maximum elevation shown on the Plans.
- 303.4.1 Tolerance: The vertical elevation tolerance for the crest height of the Ridge shall be plus one-half (+0.5) foot.
- 303.5 Borrow Material: The soil properties of the borrow material may vary across the Project Site. The Geotechnical Report is provided in Appendix H. All unsuitable organic debris (Logs, stumps, snags, etc.) greater than two (2) inches in diameter or two (2) feet in length that is encountered in the Ridge borrow area shall remain and not be utilized to construct the Ridge. All unsuitable inorganic debris (Tires, scrap, etc.) greater than five (5) pounds that is encountered in the Ridge borrow areas shall be disposed off-site in an approved waste disposal facility.
- 303.6 Maintenance: The Contractor shall maintain the Ridge to the lines, grades, elevations, and tolerances shown on the Plans until Acceptance of all Marsh Creation Areas. Should a breach or failure of the Ridge occur before the Marsh Creation Area gains Acceptance, the Contractor shall immediately notify the Engineer, cease filling of the Marsh Creation Area and initiate repairs to the Ridge. All external spills of fill or Ridge material from the Marsh Creation Area shall be immediately returned to the Marsh Creation Area by the Contractor at no pay. The Contractor shall include a detailed procedure and communication protocol for the repair and reporting of Ridge breaches in the Work Plan.
- 303.7 Acceptance: The Ridge shall gain Acceptance after the Process Surveys show compliance with the lines, grades, elevations, and tolerances shown on the Plans and are Accepted by

the Engineer. The Engineer may require the addition or removal of material that is excavated or placed beyond the specified tolerances at no additional cost to the Owner. Partial Acceptance of the Ridge may be requested in one-thousand (1,000) foot (minimum) sections. Acceptance by the Engineer does not relieve the Contractor of their responsibility to maintain the Ridge until Acceptance of all Marsh Creation Areas.

- 303.8 Measurement and Payment: Payment for the Ridge shall be made at the Contract unit price per linear foot for Bid Item No. 9, "Earthen Ridge (TS-303)". Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to these items of the Work. The Contractor may request partial payment, in one-thousand (1,000) foot (minimum) continuous, unbroken, and Accepted sections, on a monthly basis based on the linear feet of Ridge constructed.
- 303.9 Ratio of Effort/Payment: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the Ridge. The remaining ten (10) percent will be paid to the Contractor after Acceptance of the As-Built Survey of the Ridge showing conformity with the lines, grades, elevations and tolerances shown on the Plans.

TS-304 DEWATERING CONTAINMENT DIKE

- 304.1 Scope: The Contractor shall furnish all of the material, labor and equipment necessary to construct, and maintain the Dewatering Containment Dike (DCD) in accordance with these Specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans, or otherwise modified by the Engineer as a result of the Pre-Construction Survey. Construction sequencing of this item shall be included in the Work Plan.
- 304.2 Equipment: The DCD shall be constructed and maintained using mechanical excavation equipment. The Equipment Data Sheet in Appendix K shall be included in the Work Plan for all mechanical excavation equipment proposed to perform the Work. The mechanical excavation equipment shall be in satisfactory operating condition, capable of efficiently performing the Work, and shall be subject to inspection by the Owner or Engineer throughout the performance of the Work.
- 304.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. Recommended access to the Project Area is from the north via state water bottoms from the Houma Navigation Canal through Falgout Canal to Lake De Cade. The Contractor shall keep all equipment within the construction limits, shown on the Plans, to perform the Work. The Contractor shall be responsible for acquiring the appropriate permits and access agreements for all proposed routes outside of the permitted area. The Contractor shall provide a copy of the permit and/or access agreement to the Owner prior to mobilization. Impacts to wetlands or water bottoms outside of the Project Area shall be returned to pre-construction conditions prior to demobilization at no additional cost to the Owner. Access channel dredging shall not be permitted. The Contractor shall not traverse across any pipeline with land-based equipment (ex. Marsh Excavator) prior to placement of protective measures (if required by the pipeline owner) during construction and maintenance of the DCD.
- 304.3.1 Existing Infrastructure Protective Measures: The Contractor shall be responsible for investigating, locating and protecting all existing facilities, structures, utilities, and pipelines on, above, or under the surface of the equipment access corridor and

Project Site. The Owner will not be held responsible for damage to the Contractor's equipment, employees, subcontractors, adjacent property owners, or anyone else connected with this Work. Protective measures shall be capable of withstanding equipment and pipeline loads while protecting the existing buried pipelines from damage. Type(s) of material used shall be coordinated with and approved by the pipeline owner, and included in the Work Plan. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline. The Contractor shall remove the protective measures from the Project Area prior to demobilization. Any damages to existing infrastructure shall be returned to pre-project conditions at no additional cost to the Owner.

- 304.4 Construction: The DCD shall be constructed along the shoreline of Lake De Cade using in-situ borrow material that is excavated from Lake De Cade adjacent to the DCD. A secondary, interior borrow area has permitted and shown on the Plans but shall not be utilized until the primary Lake borrow area has been exhausted. Upon exhaustion of the external borrow area, the Contractor shall survey the exhausted external borrow area as outlined in TS-200.8.14. Borrow material shall not be excavated within twenty (20) feet from the existing bank line of Lake De Cade as determined by the Pre-Construction Surveys described in TS-210.7.15 or within the minimum offset distance from the toe of the DCD as shown on the Plans. Material shall not be excavated from the borrow areas below the maximum elevation shown on the Plans.
- 304.4.1 Tolerance: The vertical elevation tolerance for the crest height of the DCD shall be plus one-half (+0.5) foot.
- 304.5 Borrow Material: The soil properties of the borrow material may vary across the Project Site. The geotechnical investigation report is provided in Appendix H. All unsuitable organic debris (Logs, stumps, snags, etc.) greater than two (2) inches in diameter or two (2) feet in length that is encountered in the dike borrow area shall remain and not be utilized to construct the DCD. All unsuitable inorganic debris (Tires, scrap, etc.) greater than five (5) pounds that is encountered in the DCD borrow areas shall be disposed off-site in an approved waste disposal facility.
- 304.6 Maintenance: The DCD shall be maintained to the Minimum Allowable Cross Section as shown on the Plans by the Contractor until Acceptance of all Marsh Creation Areas. Should a breach or failure of the DCD occur before all Marsh Creation Areas gain Acceptance, the Contractor shall immediately notify the Engineer, cease filling of the Marsh Creation Area and initiate repairs to the DCD to the original Accepted Cross Section. All external spills of fill or DCD material from the Marsh Creation Area shall be immediately returned to the Marsh Creation Area by the Contractor at no pay. The Contractor shall include a detailed procedure and communication protocol for the repair and reporting of DCD breaches in the Work Plan.
- 304.7 Acceptance: The DCD shall gain Acceptance after the Process Surveys show compliance with the lines, grades, elevations, and tolerances shown on the Plans and are Accepted by the Engineer. The Engineer may require the addition or removal of material that is excavated or placed beyond the specified tolerances at no additional cost to the Owner. Partial Acceptance of the DCD may be requested in one-thousand (1,000) foot (minimum) sections. Acceptance by the Engineer does not relieve the Contractor of their responsibility to maintain the DCD until Acceptance of the all Marsh Creation Areas.

- 304.8 Measurement and Payment: Payment for these DCD shall be made at the Contract unit price per linear foot for Bid Item No. 10, "Dewatering Containment Dike (TS-304)". Payment shall constitute full compensation for furnishing the labor, equipment and other incidentals related to these items of the Work. The Contractor may request partial payment, in one-thousand (1,000) foot (minimum) continuous, unbroken, and Accepted sections, on a monthly basis based on the linear feet of DCD constructed.
- 304.9 Ratio of Effort/Payment: Ninety (90) percent of the Contract cost for this bid item will be paid to the Contractor after Acceptance of the DCD. The remaining ten (10) percent will be paid to the Contractor after Acceptance of all Marsh Creation Areas and the As-Built Survey of the DCD.

TS-323 CLEARING AND GRUBBING

- 323.1 Scope: This work shall consist of clearing, grubbing and disposal of trees, snags, logs, brush, stumps, shrubs, rubbish, and existing debris from the Earthen Ridge, Earthen Containment Dike, and Shoreline Containment Dike alignments prior to performing earthwork in those areas. Additionally, the Marsh Creation Areas shall be cleared all inorganic debris prior to placement of dredge fill material. The Contractor shall submit a proposed work detail and access routes for equipment used to facilitate Clearing and Grubbing in the Work Plan for approval.
- 323.2 Protection of Existing Vegetation: Trees and other vegetation outside the work limits shown on the Plans shall be protected from damage throughout the duration of the construction period. Any damages resulting from the Contractor's operations or neglect shall be repaired or replaced by the Contractor.

Earthen fill, stockpiling of materials, excavation equipment parking, tracking, and excessive foot and vehicular traffic shall not be allowed outside the limits of work. Vegetation damaged by any of these or similar actions shall be replaced with viable vegetation of the same species, similar condition, and like size unless otherwise approved by the Engineer.

All roots one (1) inch or greater in diameter which are cut, broken or otherwise severed during construction operations shall have the end smoothly cut perpendicular to the root level or below existing grade. Roots exposed during excavation or other operations shall be covered with moist earth and/or backfilled as soon as possible to prevent the roots from drying out.

- 323.3 Clearing and Grubbing: All trees, snags, logs, brush, stumps, shrubs, rubbish and similar materials shall be cleared from within the limits of the fill footprint of the Earthen Ridge Earthen Containment Dike, and Shoreline Containment Dike and extend five (5) feet beyond those limits of fill. Unless otherwise specified, all stumps, roots and root clusters having a diameter of one (1) inch or larger shall be grubbed.

- 323.4 Disposal: All vegetative materials cleared and grubbed shall be disposed of in an appropriate landfill. Certificates of Disposal or other applicable documents will be required for payment. The Contractor shall show their expected offsite disposal locations in the Work Plan for review and approval. In lieu of offsite disposal of the cleared and grubbed vegetative materials, the Contractor may propose onsite mechanical chipping of the vegetative materials in the Work Plan. The chippings shall be evenly dispersed within the Marsh Creation Areas and covered with dredge fill material to the lines, grades, and elevations, as shown on the Plans. The Contractor shall provide a chipping and chip dispersal plan as part of the Work Plan Submittal if the Contractor intends to perform mechanical chipping. Rubbish, debris, and trash: such as but not limited to plastics, large boards or timbers encountered within the Construction Limits shown on the Plans shall be gathered and disposed offsite in the approved offsite location. Burning is prohibited for this project.
- 323.5 Ratio of Clearing and Grubbing Effort/Payment: Fifty percent (50%) of the Clearing and Grubbing lump sum price will be paid to the Contractor upon confirmation all clearing and grubbing is complete by the Engineer or Resident Project Representative. The remaining fifty percent (50%) will be paid to the Contractor upon submission of Certificates of Disposal or other applicable documents by the Contractor confirming proper disposal of all cleared and grubbed materials and/or confirmation by the Engineer or Resident Project Representative of satisfactory dispersal within the Marsh Creation areas of the chipped vegetative material if the Contractor chooses to utilize the mechanical chipping option outlined in TS-323.4. Mechanical chipping does not relieve the Contractor of their responsibility to properly dispose of rubbish, debris, and trash encountered as described in TS-323.4.
- 323.6 Measurement and Payment: Payment for all Clearing and Grubbing activities shall be made at contract lump sum price for Bid Item No. 11, "Clearing and Grubbing (TS-323)". Price and payment shall constitute full compensation for furnishing all labor, materials, and equipment to perform all tasks associated with Clearing and Grubbing.

TS-400 HYDRAULIC DREDGING AND MARSH CREATION

- 400.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to hydraulically dredge the Marsh Creation Borrow Area and place the material into the Marsh Creation Area(s) in accordance with these specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans. The borrow material shall be dredged, pumped, and placed in such a manner to ensure that negative impacts are avoided or minimized to the maximum extent practicable. This section shall include the operation and maintenance of the hydraulic dredge and booster pump, if required.
- 400.2 Equipment: All equipment shall be in satisfactory operating condition, capable of efficiently performing the Work and shall be subject to inspection by the Engineer or Resident Project Representative at all times. The Contractor shall provide an equipment protection plan in the Work Plan addressing procedures for stage fluctuations and adverse weather conditions.
- 400.2.1 Equipment Data Sheet: The Equipment Data Sheet in Appendix K shall be submitted in the Work Plan for all heavy equipment proposed to perform the Work other than the hydraulic dredge (I.E., marsh buggies, tenders, etc.).

400.3 Equipment Access & Hydraulic Dredge Pipeline Routes: All proposed routes for equipment access and hydraulic dredge pipelines shall be provided in the Work Plan. Recommended access to the Project Area is from the north via state water bottoms from the Houma Navigation Canal through Falgout Canal to Lake De Cade. The Contractor shall keep all equipment within the construction limits, shown on the Plans, to perform the Work. The Contractor shall be responsible for acquiring the appropriate permits and access agreements for all proposed routes outside of the permitted area. The Contractor shall provide a copy of the permit and/or access agreement to the Owner prior to mobilization. Impacts to wetlands or water bottoms outside of the permitted Project Area shall be returned to pre-project conditions, prior to demobilization, at no additional cost to the Owner. Channel dredging shall not be permitted. The Contractor shall not traverse across any pipeline with any equipment (ex. marsh excavator, dredge pipeline, etc.) prior to placement of protective measures (if required by the pipeline owner) during construction and of the Marsh Creation Area(s).

400.3.1 Existing Infrastructure Protective Measures: The Contractor shall be responsible for investigating, locating, and protecting all existing facilities, structures, utilities, and pipelines on, above, or under the surface of the equipment access corridor and Project Site. The Owner will not be held responsible for damage to the Contractor's equipment, employees, subcontractors, adjacent property owners, or anyone else connected with this Work. Protective measures shall be capable of withstanding equipment and pipeline loads while protecting the existing buried pipelines from damage. Type(s) of material used shall be coordinated with and approved by the pipeline owner, and included in the Work Plan. The Contractor shall not traverse across any pipeline with equipment which could damage the pipeline. The Contractor shall remove the protective measures from the Project Area prior to demobilization. Any damages to existing infrastructure shall be returned to pre-project conditions at no additional cost to the Owner.

400.3.2 Bayou De Cade Dredge Pipeline Crossing: The Contractor shall be responsible for safely crossing Bayou De Cade with the hydraulic dredge pipeline and marking the crossing in accordance with TS-150 to ensure safe and uninterrupted use of Bayou De Cade for marine traffic. The Contractor shall place the hydraulic dredge pipeline on the existing bottom of Bayou De Cade and ensure the hydraulic dredge pipeline remains submerged on the bottom for the duration of hydraulic dredging operations.

The Owner has permitted the option to bury the dredge pipeline across Bayou De Cade. The Contractor may request to bury the dredge pipeline across Bayou De Cade in the Work Plan at no additional expense to the Owner. This option would require the Contractor to backfill the excavation prior to demobilization.

400.4 Hydraulic Dredging: The Contractor shall dredge the Marsh Creation Borrow Area and transfer the dredged material to the Marsh Creation Area(s).

- 400.4.1 Borrow Material: The material to be dredged from the borrow areas may consist of fat clay (CH) in the uppermost ten (10) to twelve (12) feet with intermittent layers of silt (ML) and silty sand (SM) up to 3 feet thick. Soil boring logs for the Marsh Creation Borrow Area are provided in Appendix H. Additional materials such as logs, stumps, snags, tires, scrap and other materials may be encountered within the Project Site. If any of these materials are encountered, the Engineer will determine if they shall be dispersed within the Project Site or removed and properly disposed of by the Contractor. Materials including shells and oyster shells shall be dispersed within the Marsh Creation Areas and covered with dredge material in accordance with these Specifications and as shown on the Plans. No additional payment for dispersed or removed material shall be made.
- 400.4.2 Dredging Limits: Dredging shall occur within the limits of the borrow area as shown on the Plans. The Contractor shall immediately notify the Engineer if an infraction of the Marsh Creation Borrow Area limits of pay does occur. No payment shall be made for any material dredged beyond the Marsh Creation Borrow Area limits of pay. The Contractor shall also pay all permit fines and other expenses related to dredging beyond the Marsh Creation Borrow Area limits of pay at no additional cost to the Owner.
- 400.4.3 Dredge Location Control: The Contractor is required to utilize a Differential Global Positioning System (DGPS) to accurately and continuously track and record the position and depth of the dredge and cutter head while dredging the Marsh Creation Borrow Area. The position of the dredge and cutter head shall be recorded in Louisiana South State Plane Coordinate System, NAD 1983 with an accuracy of six (6) feet. The Engineer and/or Resident Project Representative shall be allowed to board the dredge and observe dredging operations, including access to the bridge. The Contractor is required to calibrate the DGPS equipment as per manufacturer's specifications. The Contractor is also required to have a dredging depth indicator capable of gauging the depth being dredged at all times for each piece and type of dredging plant being utilized. The instrument shall be of electronic recorder type. The indicators shall be in plain view of Operators and Resident Project Representative and be adjusted to the reference datum, NAVD88 Geoid 12A-Epoch 2010.00. The Contractor shall use surveying equipment and methodology specified in TS-200 to achieve this vertical datum. The position data and calibration records shall be included in the Daily Progress Reports. The proposed type of positioning equipment and proposed tide corrections methods and measurements shall be included in the Work Plan.
- 400.4.4 Dredge Pipeline Maintenance: The Contractor shall operate and maintain a stable and non-leaking dredge pipeline at all times during dredging and placement of dredged material. If a leak does occur, dredging shall cease, the Engineer shall be notified and the leak shall be repaired. If requested by the Engineer, the Contractor shall transport the Engineer or Resident Project Representative to the leak for visual inspection. The Engineer may require the Contractor to remove all material deposited as a result of a pipeline leak at no additional expense to the Owner.
- 400.5 Marsh Creation: The Contractor shall place the material dredged from the Marsh Creation Borrow Area into Marsh Creation Areas.

400.5.1 Placement of Dredged Material: Dredged material shall be placed into the Marsh Creation Areas after Acceptance of Earthen Containment Dike, Shoreline Containment Dike, Earthen Ridge, Internal Training Dikes, Dewatering Containment Dike, and Marsh Creation Area Pre-Construction Survey. The Dredged material shall be placed to the construction marsh fill elevation of plus one and three-quarter (+1.75) feet NAVD 88, as shown on the Plans. The vertical elevation tolerance for the crest height of the marsh creation shall be plus or minus one quarter (0.25) foot.

The dredge flow rate and slurry density shall be regulated to insure that the construction marsh creation fill elevations comply with the specified tolerances, the integrity of the dikes are maintained, and no slurry material is discharged from the Marsh Creation Areas. The Contractor shall be responsible for the restoration of any damages to adjacent wetlands or water bodies resulting from marsh creation activities.

400.5.2 Marsh Creation Area Construction Sequencing: The Contractor shall begin placement of dredged material into Marsh Creation Area 1. Once the Contractor has notified the Engineer that grade stake elevations indicate the target elevation has been achieved for the respective Marsh Creation Area and submitted a request for Acceptance as specified in TS-400.6, the Contractor will be allowed to temporarily start pumping into the adjacent Marsh Creation Area once the start of the topographic survey, as outlined in TS-200.9.3, field work in the previous Marsh Creation Area is confirmed. Confirmation of commencement of this field work will come from the Engineer or Resident Project Representative witnessing the Acceptance surveys. If the Engineer determines that the previous Marsh Creation Area does not meet Acceptance and more dredge material is needed in the previous Marsh Creation Area, then the Contractor shall receive written notice to stop pumping dredge material into the adjacent Marsh Creation Area and start filling the low areas, specified by the Engineer, in the previous Marsh Creation Area within twenty-four (24) hours of receiving the notice. If the previous Marsh Creation Area is accepted by the Engineer, then the Contractor shall continue pumping dredge material into the adjacent Marsh Creation Area.

400.5.3 Right to Vary: The Owner reserves the right to vary the fill elevation of the marsh from the lines and grades shown on the Plans or observed at the Project Site in order to establish a uniform Marsh Creation Area. The Marsh Creation Area cross-sections shown on the Plans are for the purpose of estimating the amount of dredged material needed and will be used by the Engineer in making any change in the lines and grades. Quantities are estimates based on surveys conducted October 2017 through February 2018. Where the quantity of Work with respect to any item is covered by a unit price, such quantities are estimated quantities to be used when comparing bids and the right is reserved by the owner to increase/decrease such quantities as may be necessary to complete the Work and remain within funding limits. In the event of material overruns/underruns by less than twenty-five percent (25%), the contract unit costs will be used to determine payment to the Contractor. If the actual quantity of the unit-priced item varies more than twenty-five percent (25%) above or below the estimated quantity, a reasonable and equitable adjustment in the contract unit costs will be negotiated upon request of either party.

- 400.5.4 Dewatering: The Contractor shall dewater the Marsh Creation Area(s) in order to achieve the construction marsh creation elevation within the specified tolerances. The Contractor shall be responsible for sizing the dewatering structures to remove dredged water as well as rainfall so that the perimeter dikes are not overtopped.

Dewatering structures such as weirs or spill boxes shall be utilized to discharge the decanted water from Marsh Creation Area. The Contractor may use any number or design of water control structures for water discharge provided the structure is of sufficient size to discharge an appropriate volume of water and control the loss of dredged material. The rate of discharge must be manually controllable with the ability to completely shut off discharge through the structure. No plastic sheeting (such as Visqueen) will be allowed as part of a dewatering structure. The Marsh Creation Areas shall be dewatered into the adjacent marsh north of the Marsh Creation Areas as shown on Sheet 5 on the Plans. This is the only allowed dewatering location for the Marsh Creation Areas. The Contractor shall keep the immediate vicinity of the dewatering structure outfall free-flowing and prevent accumulation of sediment from hindering the flow of decanted water from the Marsh Creation Areas. Decanted water shall not be discharged directly into other adjacent water bodies without written request from the Contractor and prior approval by the Engineer. The hydraulic grade and loss of fine dredged material may be further reduced by installing additional internal training dikes, weirs, hay bales or silt fences at no additional expense to the Owner. The proposed shop drawings of the dewatering structures shall be provided in the Work Plan.

- 400.6 Acceptance: The Contractor shall submit a request for Acceptance from the Engineer once the target Marsh Creation Area elevation has been met. Daily grade stake elevations shall be used to determine when the target elevation has been met. The Contractor shall notify the Engineer when grade stake elevations indicate target elevation have been achieved for the respective Marsh Creation Area. All of the grade stake readings must be within the tolerance in order to receive approval to initiate the topographic survey. No less than two (2) working days after the Engineer Accepts this grade stake data, a topographic survey shall be performed in accordance with TS-200.9.3. At least 80% of the survey points must be within the Acceptable elevation tolerance as shown on the plans for the respective Marsh Creation Area to be Accepted. All Marsh Creation Area surveys shall be witnessed by the Engineer or Resident Project Representative. If the Marsh Creation Area is below the target/minimum elevation, the Engineer may require the Contractor to place additional material prior to Acceptance. The Engineer may require material placed above the elevation tolerance to be removed or reduce the pay volume by this amount. This volumetric calculation shall be determined by the Engineer at his/her discretion.

- 400.7 Measurement and Payment: Payment will be made at the Contract unit price per cubic yard (Dredged from the Marsh Creation Borrow Area/Payment on the Cut) for Bid Item No. 12, "Hydraulic Dredging and Marsh Creation (TS-400)". Payment shall constitute full compensation for furnishing the material, labor, equipment and other incidentals related to this item of the Work. Payment will be based on the result of the comparison of the Marsh Creation Borrow Area Pre-Construction and Process/As-Built surveys. The Engineer will verify the pay quantities provided by the Contractor based on the Pre-Construction and Process/As-Built surveys conducted by the Contractor and Accepted by the Engineer. The Engineer, at their discretion, may verify the As-Built survey results of the Contractor with an independent Engineer's Survey. The Engineer's Survey will be used for payment if, in

the Engineer's opinion, a significant difference is found between the Contractor's As-Built survey and the Engineer's survey. The quantity of material placed above the tolerances stated in TS-400.5.1, will be deducted from payment per cubic yard at the Contract unit price. The volume of material placed above the tolerances and/or outside the Marsh Creation Area(s) will be calculated by the Engineer. The Contractor may request partial payment, monthly, based on the cubic yards dredged from the Marsh Creation Borrow Area. This volume shall be determined by the Accepted Marsh Creation Borrow Area Process Surveys.

TS-1115 WEIR REMOVAL/BARRIER INSTALLATION

- 1115.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to fully demolish and remove the existing weir within the project footprint and install a timber-pile barrier in accordance with these specifications and in conformity to the lines, grades, elevations and tolerances shown on the Plans. Photographs of the existing water control structures are provided in Appendix M. The Contractor shall not begin removal of the existing weir prior to Acceptance of all Marsh Creation Areas and shall not install the timber-pile barrier prior to confirmation of the complete removal of the existing weir.
- 1115.2 Equipment: All equipment shall be in satisfactory operating condition, capable of efficiently performing the Work and shall be subject to inspection by the Engineer or Resident Project Representative at all times. The Contractor shall provide an equipment protection plan in the Work Plan addressing procedures for stage fluctuations and adverse weather conditions.
- 1115.3 Equipment Access: All proposed routes for equipment access shall be provided in the Work Plan. The Contractor may use the equipment access corridor, shown on the Plans, to perform the Work. The Contractor shall be responsible for acquiring the appropriate permits and access agreements for all proposed routes outside of the permitted area. The Contractor shall provide a copy of the permit and/or access agreement to the Owner prior to mobilization. Impacts to wetlands or water bottoms outside of the permitted Project Area shall be returned to pre-project conditions, prior to demobilization, at no additional cost to the Owner. Channel dredging shall not be permitted. The Contractor shall not traverse across any pipeline with any equipment (ex. marsh excavator, dredge pipeline, etc.) prior to placement of protective measures (if required by the pipeline owner) during removal of the existing weir and construction of the barrier.
- 1115.4 General Construction Requirements: The Contractor shall remove and dispose of all portions of structures or obstructions on the project site, except utilities and those items for which other provisions have been made for removal or relocation. Materials shall be disposed of in an appropriate landfill. Certificates of Disposal or other applicable documents will be required before Acceptance. Shop drawings of the replacement structure including all materials shall be provided in the Work Plan for Acceptance by the Engineer prior to installation.

1115.5 Removing Structure: All materials in the structure designated for removal shall become the property of the Contractor and shall be removed and disposed of by the Contractor. Appurtenances forming a part of a structure to be demolished, whether integral or not integral to the structure, shall be demolished and removed from the Project Site by the Contractor. The existing timber piles shall be completely removed by the Contractor. In the event that a timber pile cannot be entirely removed or breaks during removal, the Contractor shall cut the timber pile to a minimum depth of five (5) feet below the existing mudline. Any excavation required to cut the timber pile below the mudline shall be backfilled by the Contractor to the pre-existing mudline.

1115.6 Treated Timber Piles:

1115.6.1 Material: The piles shall be new, round, Southern Yellow Pine or Douglas Fir. The butts shall have a minimum forty-one (41) inch circumference and thirteen (13) inch diameter. The tips shall have a minimum twenty-two (22) inch circumference and seven (7) inch diameter. The piles shall also have a maximum diameter of twenty (20) inches measured three (3) feet from the butt as specified in Table 1 of ASTM D 25.

1115.6.2 All piles shall be pressure treated to a minimum of twenty (20) pounds per cubic foot net retention with a creosote-coal tar solution conforming AWP A P2. Wood treatment and quality assurance shall comply with Section 1014 of the Louisiana Standard Specifications for Roads and Bridges, as published by the Louisiana Department of Transportation and Development (2006 Edition), or approved equivalent.

1115.6.3 Pile Lengths: The lengths given in the order list will be based on the lengths that are assumed after cutoff to remain in the completed structure. The determination of pile order length increased to provide for fresh heading and for such additional length as may be necessary to suit the Contractor's method of installation shall be the Contractor's responsibility unless otherwise specified.

1115.6.4 Protection of Pile Heads: The heads of all piles shall be protected during driving by suitable caps, rings, heads, blocks, mandrels, and other devices which shall be provided by the Contractor as needed for the type of pile and shall conform to the recommendations of the pile manufacturer. Collars, bands, or other approved devices to protect timber piles against splitting or brooming shall be provided when necessary, or as required by the Engineer.

1115.6.5 Installation: A description of the proposed pile driving system, which includes the pile driving equipment and method of installation, shall be submitted as part of the Work Plan for approval by the Engineer. The Contractor shall notify the Engineer before pile driving operation commences. Such notice shall be far enough in advance, a minimum of twenty-four (24) hours, to provide the Engineer adequate time to be present for the driving operations. Piles shall be driven only in the presence of the Engineer or authorized representative. Piles shall be furnished and driven full length.

1115.6.6 Unless otherwise approved, piles shall be driven with steam, air, diesel powered hammers or a combination of hammers.

- 1115.6.7 If drop hammers are used, the height of drop shall not be more than ten (10) feet for timber piles, unless otherwise specified.
- 1115.6.8 The driving of piles with followers shall be allowed only when expressly approved by the Engineer.
- 1115.6.9 The piles shall be driven in a manner not to exceed the maximum allowable compressive driving stress of 3,600 psi.
- 1115.6.10 Piles shall be driven to the position, line, and batter specified on the Plans. Each pile shall be driven continuously and without interruption to the specified depth. Deviation from this procedure is permitted only when interruption of driving is caused by conditions that could not reasonably be anticipated.
- 1115.6.11 Location and Alignment Tolerance: Piles shall be driven at locations shown on the Plans or as ordered in writing. The centroid of a pile at cut-off elevation shall not vary from plan location by more than three (3) inches. The final pile head at cut-off elevation shall be plus or minus two (2) inches of the final grade shown in the plans. Piles shall be installed so that the axial alignment is within two (2) percent of the specified alignment shown in the Plans.
- 1115.6.12 Cutting Off Piles: Timber piles that are to be capped shall be accurately cut off so that true bearing is obtained on every pile without the use of shims. Piles shall be driven and the damaged end cut off to the lines and grades as shown on Plans. Maximum cutoff is two (2) feet. Cut-off ends shall be disposed of at an acceptable off-site facility.
- 1115.6.13 Galvanized Metal Coverings: The sawed surface shall be thoroughly brush coated with two applications of creosote oil, after which there shall be placed two layers of heavy canvas size twenty (20) by twenty (20) inches saturated with hot roofing pitch, followed by a twenty-four (24) by twenty-four (24) inches, twenty-eight (28) gage galvanized metal cover. The cover shall be bent down over the pile approximately forty-five (45) degrees. Pile caps should be attached using aluminum or stainless steel nails. Roofing pitch shall comply with ASTM D4586.
- 1115.6.14 Defective Piles: Any pile damaged in driving, driven out of proper location, driven below the specified cutoff elevation, or inaccurately cut off shall be corrected by one of the following methods, as approved by the Engineer:
- 1115.6.14.1 The defective pile shall be pulled and replaced or re-driven.
- 1115.6.14.2 A second pile shall be driven adjacent to the defective pile.
- All piles pushed up by the driving of adjacent piles or by any other cause shall be re-driven to final grade.
- 1115.7 Treated Timber
- 1115.7.1 Materials: Species and grade of structural timber and lumber shall comply with AASHTO M 168 and the following requirements.

- 1115.7.2 Timber shall be Southern Yellow Pine of Grade No. 1 Dense SR Timbers referring to the latest Standard Grading Rules for Southern Pine Lumber, as published by the Southern Pine Inspection Bureau (SPIB) or Douglas Fir of the equivalent grade, provided the same species is used throughout each structure.
- 1115.7.3 All timber shall be of the dimensions shown on the Plans and shall be pressure treated with either a minimum of twenty (20) pounds per cubic foot net retention with a creosote-coal tar solution conforming AWPA P2 or 2.5 PPSF of CCA preservative. Wood treatment and quality assurance shall comply with Section 1014 of the Louisiana Standard Specifications for Roads and Bridges, as published by the Louisiana Department of Transportation and Development (2006 Edition).
- 1115.7.4 Storage of Materials: Lumber and timber stored on the site shall be kept in orderly stacks. Material shall be open stacked on supports above ground, and shall be so stacked and stripped as to permit free circulation of air between tiers and courses. When directed, protection from weather by suitable covering will be required.
- 1115.7.5 Timber:
- 1115.7.5.1 Workmanship: Nails and spikes shall be driven with just sufficient force to set the heads flush with the surface of the wood. Deeper hammer marks in wood surfaces shall be considered evidence of poor workmanship and sufficient cause for removal of the workman causing them.
 - 1115.7.5.2 Surfacing: Lumber and timber shall be S4S.
 - 1115.7.5.3 Handling: Treated timber shall be handled with rope slings, without dropping or breaking of outer fibers, bruising, or penetrating the surface with tools.
 - 1115.7.5.4 Framing and Boring: Cutting, framing and boring of treated timber shall be done before treatment insofar as practical. When treated timber is to be placed in water infested by marine borers, untreated cuts, borings or other joint framings below high-water elevation shall be avoided.
 - 1115.7.5.5 Cuts and Abrasions: Cuts and abrasions in creosoted timbers, after having been carefully trimmed, shall be covered with two applications of creosote complying with AWPA M4 and covered with hot roofing pitch. Roofing pitch shall comply with ASTM D4586.
 - 1115.7.5.6 Bolt Holes: Holes bored in pressure-treated material shall be filled with preservative. Unused bore holes and spike holes shall be poured full of preservatives and plugged with tight-fitting treated plugs.
 - 1115.7.5.7 Temporary Attachment: When, with the approval of the Engineer, forms or temporary braces are attached to treated timber with nails or spikes, holes shall be filled by driving galvanized nails or spikes flush with the surface or plugged as required for bolt holes.
- 1115.7.6 Holes for Bolts: Holes for bolts shall be bored perpendicular to the face of the timber and shall be one-sixteenth (1/16) inch less in diameter than bolt.

- 1115.7.7 Bolts, Nuts, and Washers: The hardware use to fasten the structure shall consist of stainless steel fittings in accordance with Section 1015.02(c)(1) of the LA DOTD 2006 Standard Specifications for Roads and Bridges. A washer of the size and type specified shall be used under bolt heads and nuts which would otherwise come in contact with wood. Stacked washers will not be permitted. Bolts shall not project more than one (1) inch beyond the nut on work securely tightened. Nuts on bolts shall be locked after they have been tightened.
- 1115.7.8 Framing: Lumber and timber shall be accurately cut and framed to a close fit in such manner that joints will have even bearing over the contact surfaces. No shimming will be permitted in making joints nor will open joints be accepted. Mating pieces shall be tightly bound or clamped in position prior to drilling bolt holes.
- 1115.8 Permanent Warning Sign and Reflective Markings: The Contractor shall furnish all of the materials, labor and equipment necessary to construct and install the permanent warning sign and reflective markings in accordance with the Plans and these Specifications. The sign shall also conform to the regulations in the United States Coast Guard (USCG) Commandant Directives Manuals No. 16500.3 (Series), "Aids to Navigation Manual – Technical" and No. 10360-3 (Series), "Coatings and Color Manual."
- 1115.8.1 Materials: The warning sign shall be fabricated from thirty-six (36) inch by thirty-six (36) inch by 0.080-inch-thick aluminum alloy 6061-T6 sheet in accordance with Section 1015.04 of the LA DOTD 2006 Standard Specifications for Roads and Bridges. The aluminum plate shall be overlaid with white vinyl film. The border shall be overlaid with two (2) inch wide orange vinyl film. All letters and borders shall be retroreflective and match the locations, dimensions, colors and sizes shown on the Plans. The film, letters and borders shall be obtained from a USCG qualified supplier. Reflective markings shall be comprised of materials in accordance with Section 1015.05 of the LA DOTD 2006 Standard Specifications for Roads and Bridges.
- 1115.8.2 Installation: One warning sign shall be installed on the center timber pile of the structure as directed by the Engineer. The warning sign shall be fastened to the structure with stainless steel fittings in accordance with Section 1015.02 of the LA DOTD 2006 Standard Specifications for Roads and Bridges. The face of the sign shall be mounted parallel to the structure and leaning down at five (5) degrees from vertical. Reflective markings shall be permanently affixed to each timber pile as shown on the Plans.
- 1115.9 Acceptance: The timber-pile barrier shall gain Acceptance after the As-Built Survey shows compliance with the lines, grades, elevations, and tolerances shown on the Plans and is Accepted by the Engineer. The Engineer may require the Contractor to remove, reinstall, and/or modify any component of the timber-pile barrier not within compliance of the lines, grades, elevations, and tolerances shown on the Plans at no additional cost to the Owner.

1115.10 Ratio of Weir Removal/Barrier Installation Effort/Payment: The Contractor shall not begin removal of the existing weir prior to Acceptance of all Marsh Creation Areas. Forty percent (40%) of the lump sum price will be paid to the Contractor upon confirmation of the complete removal the existing weir by the Engineer or Resident Project Representative. Twenty percent (20%) of the lump sum price will be paid to the Contractor upon submission of Certificates of Disposal or other applicable documents by the Contractor confirming proper offsite disposal of the removed weir. The remaining forty percent (40%) of the lump sum price will be paid to the Contractor upon Acceptance of the timber-pile barrier and confirmation of the removal of all equipment and unused materials.

1115.11 Measurement and Payment: Payment for Weir Removal/Barrier Installation shall be made at the contract lump sum price for Bid Item No. 13, "Weir Removal/Barrier Installation (TS-1115)". Payment shall constitute full compensation for moving personnel, equipment, supplies, and incidentals to and from the job site and establishing offices, buildings, and other facilities for the work, obtaining bonds, insurance, permit application fees, and any other associated expenses.

END OF PART III – TECHNICAL SPECIFICATIONS