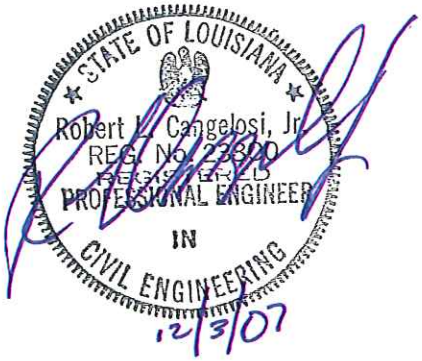
BID PACKAGE
FOR

PASS CHALAND TO GRAND BAYOU PASS BARRIER SHORELINE RESTORATION PROJECT (BA-35)



PLAQUEMINES PARISH, LOUISIANA

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

OCTOBER 2007

PASS CHALAND TO GRAND BAYOU PASS
BARRIER SHORELINE RESTORATION PROJECT (BA-35)

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LIST OF APPENDICES:

PASS CHALAND TO GRAND BAYOU PASS
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SCHEDULE OF BID ITEMS

Bid Item	Description	Unit	Estimated Quantities	*Cost Per Unit	Extended Cost
1	Mobilization/Demobilization	LS	1		
2	Surveying	LS	1		
3	Access Channel	LS	1		
4	Marsh Fill	CY	1,123,400		
5	Containment Dike	LF	27,300		
6	Beach and Dune Fill	CY	1,744,800		
7	Water Exchange Channel	LF	4,160		
8	Sand Fencing	LF	14,400		
9	Settlement Plates	Ea.	6		
10	Warning Signs	Ea.	12		
		BID TOTAL COST:			**$**

NOTE: **All items on this sheet must be completed by the bidder. The completed sheet must be attached to the bid submitted to the Office of State Purchasing in order for the bid to be considered.**

Total Amount of Bid:_____Dollars
and _____cents ($_____).

*****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 or remain within any funding limits. In the event of material underruns/overruns, unit costs will be used to determine payment to the Contractor**.**

The undersigned acknowledges receipt of the following addenda, and the cost, if any, of such revisions has been included in the price bid.

Addendum # _____ Dated: _____ Addendum # _____ Dated: _____
Addendum # _____ Dated: _____ Addendum # _____ Dated: _____

BIDDERS NAME_____

(THIS PAGE MUST BE COMPLETED AND RETURNED)

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BID PROPOSAL ATTACHMENT A - PLANT AND EQUIPMENT SCHEDULE

EQUIPMENT CATEGORY:_____

Type	Capacity	Manufacturer	Age & Condition	Location

EQUIPMENT CATEGORY:_____

Type	Capacity	Manufacturer	Age & Condition	Location

EQUIPMENT CATEGORY:_____

Type	Capacity	Manufacturer	Age & Condition	Location

NOTE: The Plant and Equipment Schedule is Mandatory. The Plant and Equipment Schedule is for information purposes only and will not be used as a basis for award. The information submitted is pertinent to the evaluation of the proposed dredges and their capability to perform the Work as required and as agreed to by the Bidder through the submittal of a Proposal. The Bidder may only omit information that he/she considers proprietary. Provide separate table for each category of equipment including dredging, excavating, material handling, pile driving, barges, loading, grading, earthworks, trucking, etc. Specify production rate of equipment. Use separate line for each major item. Use additional pages if necessary.

(THIS PAGE MUST BE COMPLETED AND RETURNED WITH CONTRACTOR BID)

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BID PROPOSAL ATTACHMENT B - DREDGE DATA SHEETS

NOTE: All Bids to be accompanied by *Dredge Data Sheets.* The Contractor shall complete the FOLLOWING data sheets for the Equipment proposed to perform the Work under this Contract. Separate *Dredge Data Sheets* for each dredge are required if the Contractor Plans to utilize multiple dredges. The dredge data sheet submittal shall constitute a certification that the described Equipment is available to, and under control of, the Contractor.

The Dredge Data Sheet is **MANDATORY**. The Dredge Data Sheet is for informational purposes only and will not be used as a basis for award. The information submitted is pertinent to the evaluation of the proposed dredges and their capability to perform the Work as required and as agreed to by the Bidder through the submittal of a Proposal. The Bidder may only omit data or information that he/she considers proprietary.

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DREDGE DATA SHEET (Sheet 1 of 2)

DREDGE INFORMATION:

Owned:_____ Leased: _____ Leased From: _____
Dredge name: _____
Minimum width of channel in which dredge can successfully operate and make a 180 degree turn:_____
Maximum draft of dredge: _____
Loaded freeboard: _____
Minimum depth in which the dredge can successfully operate: _____
Depth range to which dredge will dig:
Maximum: _____, Minimum: _____
Maximum effective dredge swing, in degrees: _____
Length of dredge spuds: _____
Length and beam of dredge hull: _____
Length of dredge ladder: _____
Length of suction and boat lines: _____
Inside diameter of pump discharge: _____
Inside diameter of pump suction inlet: _____
Suction lift (Elevation of main dredge pump relative to the water surface level): _____
Diameter of pump impeller eye: _____
Outside diameter of pump impeller: _____
Brake horsepower and corresponding engine RPMs (during dredging operations) applied to pump impeller at rated drive of the prime mover, during dredging operations: _____
_____
Cutterhead type and diameter: _____
Brake horsepower applied to cutterhead during dredging operations: _____
Pump engine(s) horsepower and corresponding RPM: _____
_____
Completion date of each dredge pump engine re-build: _____
_____
Type(s) of production rate monitoring Equipment on-board the dredge (measuring cy/hr of Material dredged):
_____
_____
Type of method to control discharge outflow rates near containment dikes:
_____
_____

(THIS PAGE MUST BE COMPLETED AND RETURNED)

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BARRIER SHORELINE RESTORATION PROJECT (BA-35)

DREDGE DATA SHEET (Sheet 2 of 2)

THE DREDGE MAY BE INSPECTED AT (List location of Equipment):

_____
_____
_____
_____
_____

DREDGE OWNER INFORMATION:

Firm name: _____
Point of contact: _____
Title: _____
Business address: _____
Street: _____
City: _____
Parish/County: _____
State: _____ Zip+4: _____
Telephone no. (_____)_____ Facsimile no. (_____)_____

(THIS PAGE MUST BE COMPLETED AND RETURNED)

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BID PROPOSAL ATTACHMENT C - STATEMENT OF EXPERIENCE

The Bidder is required to state below what work of similar magnitude is a judge of his/her experience, skill and business standing and of his/her ability to conduct the work as completely and as rapidly as required under the terms of the contract. Under Reference, please provide name, address, contact person, phone number, and email address.

PROJECT AND LOCATION	REFERENCE

NOTE: The Statement of Experience is Mandatory. The Statement of Experience is for information purposes only and will not be used as a basis for award. The information submitted is pertinent to the evaluation of the proposed dredges and their capability to perform the Work as required and as agreed to by the Bidder through the submittal of a Proposal.

(THIS PAGE MUST BE COMPLETED AND RETURNED WITH CONTRACTOR BID)

PASS CHALAND TO GRAND BAYOU PASS
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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.

1. Addenda: Those written or graphic instruments issued prior to opening of Bids in accordance with the Bidding Requirements which clarify or change the Bidding Requirements or the proposed Contract Documents.

2. Agreement: The written instrument signed by both Owner and Contractor covering the Work and which lists the Contract Documents in existence on the Effective Date of the Agreement including all Addenda and documentation pertaining to the Bid, Notice of Award, Bonds, General Provisions, Special Provisions, Technical Specifications, and Plans.

3. Application of Payment: The form acceptable to Owner which is used by the Contractor in requesting progress and final payments and which is accompanied by such supporting documentation as is required by the Contract Documents.

4. A.S.T.M.: American Society for Testing Materials.

5. Bid: An offer or Proposal submitted on the prescribed form setting forth the Prices for the Work.

6. Bid Documents/Bidding Documents: The Bidding Requirements and the proposed Contract Documents (including all Addenda).

7. Bidding Requirements: The Advertisement or Invitation to Bid, Instruction to Bidders, Form of Bid Security, if any, and Bid Form with any supplements.

8. Change Order: A document recommended by Engineer which is signed by the Owner and Contractor and authorizes an addition, deletion, revision to the Contract Documents or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

9. 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.

10. Contract: The entire and integrated written Agreement between the Owner and the Contractor concerning the Work to be performed. The Contract supersedes prior negotiations, representations, or Agreements, whether written or oral.

11. Contract Bond: (Also referred to herein as "Performance/ Payment Bond") The approved form of security furnished by the Contractor and his/her Surety for the faithful performance of the Work and the payment for all labor, Materials, and/ or obligations incurred by him/her in the prosecution thereof.

12. Contract Documents: Those items listed in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Files in electronic media format of text, data, graphics, and the like are not Contract Documents, and may not be relied on by the Contractor. Approved Shop Drawings and other Contractor's submittals are not Contract Documents.

13. Contract Price: The moneys payable by the Owner to the Contractor for the Work in accordance with the Contract Documents as stated in the Agreement.

14. Contract Time: The times stated in the Agreement by which the Work must be completed.

15. Contractor: The person, association of persons, firm or corporation entering into the duly awarded Contract.

16. Contracting Agency: The Louisiana Department of Natural Resources (LDNR) acting through the Division of Administration.

17. Day: Constituting a calendar day of 24 hours measured from midnight to the next midnight.

18. Effective Date of the Agreement: The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. Engineer: The Louisiana Department of Natural Resources, Coastal Engineering Division.

20. 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.

21. Extension of Contract: Any extension of time for completion of the Work beyond the Contract Time granted by the Owner and upon recommendation of the Engineer.

22. 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 Times.

23. Inspector: An authorized representative of the Engineer assigned to make inspections of the Work completed and Material furnished by the Contractor.

24. Laboratory: The testing laboratories designated by the Engineer.

25. 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.

26. Materials: Any substance used with the Construction of any Structure, not including Material used in false work or other temporary Structures not incorporated in the improvements.

27. Milestone: A principal event specified in the Contract Documents relating to an intermediated completion date or time prior to the Contract Times.

28. Notice to Proceed: The written notice given by Owner to Contractor fixing the date the Contract Times commence to run and on which the Contractor shall start to perform under the Contract.

29. Owner: The Owner is the State of Louisiana (State), acting through its agent, the Department of Natural Resources (Coastal Engineering Division).

30. Plans or Plan Drawings: The part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, intent, and character of the Work to be completed or furnished by the Contractor.

31. Point of Destination: The specific address of the location where delivery of the Submittals shall be made as stated in the Agreement.

32. Right-of-Way: The entire area reserved for constructing, maintaining and protecting the proposed improvement, Structures, and appurtenances.

33. 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.

34. 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.

35. Site of Work/Work Site/Work Area: The location where the Work to be performed will be constructed as stated in the Agreement.

36. Special Provisions: The part of the Contract Documents which amends or supplements these General Provisions.

37. Specifications: The 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.

38. State: The State of Louisiana.

39. Structures: Bridges, plugs, weirs, berms, dams, levees, and other miscellaneous Construction encountered during the Work and not otherwise classified herein.

40. 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.

41. Successful Bidder: The lowest responsible Bidder submitting a responsive Bid, to whom the Owner makes an award.

42. 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.

43. Temporary Structures: Any non-permanent Structure required while engaged in the prosecution of the Contract.

44. Written Amendment: A written statement modifying the Contract Documents, signed by the Owner and the Contractor on or after the Effective Date of the Agreement and normally dealing with the administrative aspects of the Contract Documents.

45. Work: All Work specified herein or indicated on the Plans as the recommended improvement.

GP-2 EXAMINATION OF BIDDING DOCUMENTS

It is the responsibility of each Bidder before submitting a Bid to:

1. Examine and carefully study the Bidding Documents, including any Addenda and the related data identified in the Bidding Documents.

2. If specified, or if, in Bidder's judgment, any local condition may affect cost, progress or the furnishing of the Work, visit the Site of Work to become familiar with the local conditions;

3. Become familiar with and satisfy Bidder as to all Federal, state, and local Laws and Regulations that may affect cost, progress, or the furnishing of the Work;

4. Carefully study and correlate the information known to Bidder, and information and observations obtained from Bidder's visits, if any, to the Site of Work, with the Bidding Documents;

5. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

6. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing the requested Work.

The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of these Specifications, that without exception the Bid is premised upon furnishing the Work which is required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing the requested Work.

GP-3 MANDATORY PRE-BID CONFERENCE

A mandatory Pre-Bid Conference will be held in the Louisiana Department of Natural Resources, LaSalle Building, in Baton Rouge (617 North 3rd Street). A mandatory site visit will be held at the site approximately one week after the Pre-Bid conference. The times dates, and location of the meetings will be announced in the Notice to Bidders. Representatives of the Owner and Engineer will be present to discuss the Work and visit the site of the Work. Bidders are required to attend and participate in the Pre-Bid Conference and job site visit. Failure to attend the Pre-Bid Conference and job site visit will result in a null or void Bid. The Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the Pre-Bid Conference and job site visit. Oral statements may not be relied upon and will not be binding or legally effective. All questions are to be submitted in writing to Russ Joffrion, P.E. by fax at (225) 342-6801 within three (3) calendar days after the site

visit. No additional questions shall be received after this time. **For additional information regarding this requirement, you may contact Russ Joffrion, P.E. at (225) 342-6850. Bidders will be required to furnish their own transportation to the site including a boat of suitable size and type to traverse Bay Joe Wise and the Gulf side of the Work Area.**

GP-4 NOTICE TO PROCEED

The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty (30) days after the Effective Date of the Agreement. Unless the Owner and Contractor agree in writing, the Contract Times will commence to run no later than the sixtieth (60^{th}) day after the day of Bid opening or the thirtieth (30^{th}) day after the Effective Date of the Agreement, whichever date is earlier. The Owner and the Contractor may agree to postpone issuing the Notice to Proceed.

GP-5 ENGINEER AND AUTHORITY OF ENGINEER

Engineer will be the designated representative of the Owner and will be the initial interpreter of the Contract Documents and judge of the acceptability of the Work. Claims, disputes, and other matters relating to the acceptability of the Work or to the interpretation of the requirements of the Contract Documents pertaining to the Contractor's performance will be referred initially to Engineer in writing, with a request for a formal decision in accordance with this paragraph.

Engineer will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents as Engineer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Such written clarifications and interpretations will be binding on the Owner and the Contractor. If either the Owner or the Contractor believes that a written clarification or interpretation justifies an adjustment in the Contract Price or Contract Times, either may make a Claim therefore.

Engineer will have the authority to disapprove or reject the Work which Engineer believes to be non-conforming. All Work to be ordered to be suspended or resumed will be in writing and will include the reasons for suspension. The Engineer will have 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, for failure to carry out provisions of the Contract or for failure to carry out orders.

The Engineer or his/her Inspector shall keep a daily record of weather and flood conditions and may suspend the Work for such periods as he/she deemed necessary due to unsuitable weather, for conditions considered unsuitable for prosecution of the Work, or for any other condition or reason deemed to be in the public interest.

GP-6 PROGRESS SCHEDULE

At least seven (7) days prior to the Pre-Construction Conference, the Contractor shall submit to the Owner and the Engineer an acceptable progress schedule of activities, including at a minimum, Plan Drawing and Sample submittals, tests, deliveries as required by the Bid Documents and items specifically required in TS-2 SUBMITTALS. No progress payment will be made to the Contractor until an acceptable schedule is submitted to the Owner and Engineer.

The progress schedule will be acceptable to the Owner and Engineer if it provides an orderly progression of the submittals, tests, and deliveries for completion within the specified Milestones and the Contract Times. Such acceptance will not impose on the Owner or Engineer responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve the Contractor from the Contractor's full responsibility therefore. Such acceptance shall not be deemed to acknowledge the reasonableness and attainability of the schedule.

GP-7 PRE-CONSTRUCTION CONFERENCE

Within thirty (30) days of the Effective Date of the Agreement, a Pre-Construction Conference attended by the Contractor, Subcontractor, the Owner, Engineer and others as appropriate shall be held to establish a working understanding among the parties as to the Work to be performed and to discuss the schedule referred to in GP-6 PROGRESS SCHEDULE, procedures for handling Plan Drawings and other submittals, processing Applications for Payment, and maintaining required records.

GP-8 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 of, or notifications of minor variations and deviations in, the Contract Documents, will be issued by Engineer as provided in GP-5 ENGINEER AND AUTHORITY OF ENGINEER.

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, whether or not specifically called for, at no additional cost to the Owner.

GP-9 LAWS AND REGULATIONS, STANDARDS, SPECIFICATIONS AND CODES

Bidders are required to make themselves familiar with all Federal, State, and local laws, ordinances, and regulations which may affect the Work or its prosecution. The filing of a Bid will be presumptive evidence that the Bidder has complied with these requirements. The Owner will not be responsible for any interpretations or conclusions drawn, by the Contractor from data or information provided by the Owner.

Reference 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, shall mean the standard, Specification, manual, code, or Laws and Regulations in effect at the time of opening of Bids (or on the Effective Date of the

Agreement 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, nor shall any such provision or instruction 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.

GP-10 REPORTING AND RESOLVING DISCREPANCIES

Reporting Discrepancies: If, during the performance of the Contract, the Contractor discovers any conflict, error, ambiguity, or discrepancy within the Bid Documents or between the Bid Documents and any provision of any Law or Regulation applicable to the performance of the Bid or of any standard, Specification, manual or code, or of any instruction of any supplier, the Contractor shall promptly report it to the Owner in writing for Engineer's review. The Contractor shall not proceed with the furnishing of the Work affected thereby until an amendment to or clarification of the Contract Documents has been issued. The Contractor shall not be liable to the Owner or Engineer for failure to report any such conflict, error, ambiguity, or discrepancy unless the Contractor knew or reasonably should have known thereof.

Resolving Discrepancies: Except as may be otherwise specifically stated in the Bid Documents, the provisions of the Bid Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Bid Documents and:

1. The provisions of any standard, Specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Bid Documents); or

2. The provisions of any Laws or Regulations applicable to the furnishing of the Work (unless such an interpretation of the provisions of the Bid Documents would result in violation of such Law or Regulation).

GP-11 AMENDING AND CLARIFYING BID DOCUMENTS

The Contract Documents may be amended to provide for additions, deletions, and revisions to the Work by a Change Order.

The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work to be performed not affecting Contract Price or Contract Times may be authorized, by one or more of the following ways:

1. A Field Order

2. Engineer's approval of a Plan Drawing

3. Engineer's written interpretation or clarification

GP-12 REVIEW OF PLANS, SPECIFICATIONS, AND SITE OF WORK

The Contractor is required to carefully examine the site of the proposed Work, Proposal form, Plans, Specifications, and Contract and bond forms for the Work. It is assumed that he/she has investigated and satisfied himself/herself to the physical features of the site and conditions to be encountered, the route to the site, as well as the character, quality, and quantities of the Work to be performed, Materials to be furnished, and the requirements of these Specifications, special provisions and Contract.

GP-13 SUBCONTRACTS

The Contractor shall notify the Engineer, in writing, the names of the Subcontractors proposed for the principal parts of the Work or other parts as the Engineer may direct, as soon as practicable and before awarding any Subcontracts. The Contractor shall not employ any to whom the Engineer may have an objection.

The Contractor agrees that he/she is as fully responsible to the Owner for the acts and omissions of his/her Subcontractors and of persons indirectly employed by him/her as he/she is for the acts and omissions of persons directly employed by him/her. The Contractor shall be responsible for the coordination of the trades, Subcontractors, and Material men engaged upon the Work.

The Owner and Engineer will not undertake to settle any differences between the Contractor and his/her 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 Conditions 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-14 WORKERS, METHODS, AND EQUIPMENT

The Contractor shall provide competent, qualified and trained personnel in all aspects of its performance of the Contract. Any person employed by the Contractor or any Subcontractor who, in the opinion of the Engineer does not perform the Work in a proper and skillful manner or is intemperate or disorderly shall, upon written request of the Engineer, be immediately removed by the Contractor or Subcontractor employing such person, and such person shall not again be employed in any portion of the Work without approval of the Engineer. If the Contractor fails to remove such a person or fails to furnish suitable and sufficient personnel for proper prosecution of the Work, the Engineer may suspend the Work until such orders are complied with.

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 original manufacturer's instructions, except as otherwise may be provided in the Bid Documents.

Equipment proposed for use, in the Work, shall be of sufficient size and mechanical condition to meet requirements of the Work and produce a satisfactory quality of Work. Equipment shall not damage existing marsh, adjacent property, the roadway, or other highways through performance of the Work.

The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures used in performing its obligations. The Contractor shall be responsible to see that the completed Work conforms to the Bid Documents.

If the Contractor desires to use a method or type of Equipment other than specified in the Contract, he/she may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods, Equipment proposed, and reasons to make the change. A proposed item of Material or Equipment may be considered functionally equal to an item so named if:

1. In the exercise of reasonable judgment, Engineer determines that:

    a. It is at least equal in quality, durability, appearance, strength, and design characteristics; and

    b. It will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole; and

2. the Contractor certifies that:

    a. There is no increase in any cost including capital, installation or operating to the Owner; and

    b. 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-15 PRESERVATION AND RESTORATION OF PROPERTY, MONUMENTS, ETC.

The Contractor shall be responsible for the preservation of all public and private property, monuments, etc., along and adjacent to the Structure(s) alignment and shall use suitable precautions to prevent damage to pipes, flow lines, conduits, and other underground Structures. The Contractor shall protect carefully from disturbance to or damage to all land monuments, State and United States bench marks, geodetic and geological survey monuments, and property markers until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.

Any utility lines injured by the Contractor shall be repaired at once, at Contractor's expense. The Contractor shall be responsible for any damage to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work, or on account of defective Work Material and he/she shall restore, at his/her own expense, such property to a condition similar or equal to that existing before such damage was done, by repairing, rebuilding, or otherwise restoring same, or he/she shall make good such damage or injury in an acceptable manner.

The Contractor must follow the requirements provided within the Agreements. See GP-26 COOPERATION WITH PUBLIC UTILITIES and GP-27 UTILITIES AND IMPROVEMENTS for more details regarding each utility.

In case of failure on the part of the Contractor to restore such property or make good such damages or injury, the Owner may, after forty-eight (48) hours, provide written notice of the Owner's intent to proceed to repair, rebuild, or otherwise restore such property as deemed necessary and the cost thereof will be deducted from any monies due or which may become due the Contractor under his/her Contract. In case no money is due or to become due, his/her Surety shall be held until damages, all suits, or Claims have been settled and suitable evidence to that effect furnished the Owner.

GP-16 LAWS TO BE OBSERVED

The Contractor shall keep informed of all Federal, State and local laws, ordinances and regulations, and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which affect those employed on the Work or which affect the conduct of the Work. He/She shall, at all times, comply with such laws, bylaws, ordinances, codes, regulations, orders and decrees; and shall indemnify the Owner and its representatives against any Claim or liability arising from violation of any such laws, bylaws, ordinances, code, regulation, order or decree, whether by himself/herself or his/her employees.

GP-17 PERMITS AND RIGHT-OF-WAYS

The Owner has secured a Section 404 U.S. Army Corps of Engineers and necessary State permits required for construction of the project. Copies of these permits will be provided to the Contractor. The Contractor shall display the U.S. Army Corps of Engineers 404 permit at the work site. All necessary Right-of-Way easements for the proper completion of the Work will be secured by the Owner without cost to the Contractor, unless otherwise specifically provided. The Contractor shall conform to all requirements set forth in the permits and easements.

GP-18 CONFORMITY WITH PLANS AND SPECIFICATIONS

All Work performed and all Materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, and material requirements shown on the Plans or indicated in the Specifications.

GP-19 DUTIES OF INSPECTOR

A Construction Inspector shall be assigned to the Construction site to report to the Engineer the progress of the Work and the manner in which it is being performed. The Inspector will also report whenever it appears that Materials furnished and the Work completed by the Contractor fail to fulfill the requirement of the Contract, and to call to the attention of the Contractor any such failure or other infringements.

In case of any dispute between the Contractor and the Inspector as to Materials furnished or the manner of performing the Work, the Inspector shall have the authority to reject Materials or suspend the Work until the issue can be referred to the Engineer.

However, the Inspector shall not be 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. He/She shall not act as foreman or perform other duties for the Contractor, nor interfere with the management of the Work.

GP-20 INSPECTION

The Owner shall have the right to perform, or cause to be performed, reasonable inspections and require reasonable tests of the Work to be performed at the Contractor's facility, and at the Site of Work. The Engineer and his/her Inspectors shall have free access to all parts of the Work and to all Materials intended for use in the Work. The Contractor shall allow the Owner a reasonable time to perform such inspections or tests. The inspections shall not relieve the Contractor from any obligation to perform all the Work in accordance with the requirements of the Contract.

The Contractor shall provide the Owner thirty (30) day's written notice of the readiness of the Work for all inspections, tests, or approvals which the Contract Documents specify are to be observed by the Owner prior to completion. The Owner will give the Contractor timely notice of all specified tests, inspections and approvals of the Work which are to be conducted at the Site of Work.

If, on the basis of any inspections or testing, the Work appears to be conforming, the Owner will give the Contractor prompt notice thereof. If on the basis of said inspections or testing, the Work appears to be non-conforming; the Owner will give the Contractor prompt notice thereof and will advise the Contractor of the remedy the Owner elects under the provisions in GP-41 TEMPORARY SUSPENSION OF WORK.

Neither payments made by the Owner to the Contractor prior to any tests or inspections, nor any tests or inspections shall constitute acceptance of non-conforming Work, or prejudice the Owner's rights under the Contract.

GP-21 CONSTRUCTION STAKES, LINES, AND GRADES

The Engineer shall direct the Contractor to all key "Control Points", as shown on the Plan Drawings, necessary for setting stakes and templates. The Contractor shall be responsible for laying out the Work and maintaining the stakes, which will be furnished by the Contractor at his/her expense. Stakes should be in sufficient quantities and sizes to

satisfy the Engineer. No work shall be performed by the Contractor in the no work zone. All layout Work shall be witnessed and checked by the Engineer prior to beginning the Work. At any time, the Engineer may require that the Work be suspended when stakes, established by the Contractor, are not reasonably adequate to permit verification of the Work. However, these checks will not relieve the Contractor of his/her responsibility for constructing the Work in the positions as shown on the Plans or approved revisions thereto. After lines and grades have been checked by the Engineer, the Contractor shall be responsible for proper execution of the Work to such lines and grade stakes.

GP-22 COOPERATION BY CONTRACTOR

The Contractor shall perform all items for the Work covered and stipulated in the Contract, and shall furnish, unless otherwise definitely provided in the Contract, all Materials, implements, machinery, Equipment, tools, supplies, transportation and labor necessary to the prosecution of the Work. The Contractor shall give the Work his/her constant attention to facilitate the progress thereof and shall cooperate with the Engineer in every way possible. He/She shall have available at the Work Site, at all times, one complete copy of the Contract, including Plans, Specifications, and authorized alterations supplied to the Contractor. He/She shall have, at all times, a competent, qualified and reliable English-speaking superintendent for the Work, satisfactory to the Engineer, authorized to receive orders and to supervise and coordinate all Work to be performed by the Contractor and any of his/her Subcontractors for the Engineer.

The superintendent shall be qualified to supervise the performance of the particular type of Work to be performed. The qualifications of the superintendent must be established prior to commencement of the Work. Such 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 his/her operations to avoid interference with any other Contractors. The Work under this Contract shall be performed in a skillful and workman-like manner by competent workers. The Engineer may, in writing, require the Contractor to remove, from the Work, any employee the Engineer deems incompetent, careless, or otherwise detrimental to the Project.

GP-23 CONTRACTOR'S RESPONSIBILITY FOR WORK

Until final acceptance of the Project, the Contractor shall have the charge and care thereof, and shall take every precaution against damage to any part thereof by action of the elements or from any other cause, whether arising from execution or non-execution of the Work. The Contractor shall rebuild, repair, restore, or make good all damages to any portion of the Work before final acceptance and shall bear the expenses thereof, except if the Engineer deems the damage 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, the public enemy or governmental authorities.

GP-24 RESPONSIBILITY FOR DAMAGE CLAIMS

To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, Engineer, and their officers, directors, shareholders, partners, employees, agents, consultants, Contractors and Subcontractors from any and all

Claims, costs, losses, and demands or judgments for damages for Claims (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) caused by, arising out of or relating to a negligent act or omission or the breach of any obligation under this Contract by the Contractor, or its officers, directors, shareholders, partners, employees, agents, consultants, Contractors or Subcontractors, or anyone for whom the Contractor is responsible, provided that any such Claim, cost, loss, or damage;

1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work to be performed themselves), including the loss of use resulting there from; and

2. is caused in whole or in part by any negligent act or omission of the Contractor or any individual or entity directly or indirectly employed to furnish any of the Work to be performed or anyone for whose acts the Contractor may be liable, regardless of whether or not caused in part by any negligence or omission of an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such individual or entity.

The indemnification obligations of the Contractor shall not extend to the liability of Engineer and Engineer's consultants or to the officers, directors, partners, employees, agents, and other consultants and Subcontractors of each and any of them arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Plan Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

GP-25 PAYMENT OF TAXES

The Contractor shall be responsible for all taxes and duties that may be 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 entertain no Claim for extra reimbursement to the Contractor on account of his/her failure to include such taxes.

GP-26 COOPERATION WITH PUBLIC UTILITIES

It shall be the Contractor's responsibility to notify all public utilities or other parties interested to make all necessary adjustments of public utility fixtures and appurtenances within or adjacent to the limits of Construction. It shall also be the responsibility of the Contractor to see that the necessary adjustments of public utility fixtures and appurtenances are made.

The Contractor will be responsible for any damage done by him/her to any telephone, telegraph, power poles or lines, water or fire hydrants, water or gas mains and pipelines, gas flow lines, sewers, conduits and other accessories or appurtenances of a similar

nature which are fixed or controlled by a city, public utility company or corporation. He/She shall perform and carry on the Work in such a manner not to interfere with or damage fixtures mentioned herein, or as shown on the Plans or discovered during Construction, which are within the limits of the Project.

The Owner will not be responsible for any delay or damage incurred by the Contractor due to working around or joining the Work to fixtures left in place. The Owner will not be responsible for any delays or inconvenience to the Contractor in carrying on the Work in the above mentioned manner while the public utilities companies or cities are making necessary adjustments of their fixtures or appurtenances. The Owner will not be responsible for any costs that may be incurred by the Contractor or the utility owners for making said adjustments, by delays, etc.

GP-27 UTILITIES AND IMPROVEMENTS

Prior to commencement of Work, the Contractor shall call Louisiana One Call at 1-800-272-3020 within seven (7) days after the Notice to Proceed to locate existing utilities lines in the Project area. The Contractor shall cooperate with the authorities or company representatives and shall conduct his/her operations in such manner as to result in a minimum of inconveniences to the owners of said utilities.

The Contractor shall be responsible for notifying pipeline and utility operators within seven (7) days after the Notice to Proceed to coordinated construction activities in the vicinity of pipelines and utilities. All pipelines and underground utilities shall be marked for the duration of construction by the Contractor or pipeline or utility company representative. The Contractor shall not anchor, spud, or excavate within fifty (50) feet of any pipeline. The following is a list of known utilities and pipeline operators in the project area and their contact information.

Tennessee Gas (TGP) / Southern Natural Gas

Mike Byran
158 Regal Row
Houma, LA 70360
(985) 579-3516 ext 2023
Mike.bryan@elpaso.com or

Kurt Cheramie
(985) 223-6417
Kurt.cheramie@elpaso.com

Enterprise Products (EP) / Promix

Clint Kiffe
47504 Texaco Road
Sorrento, LA 70778
(225) 571-2517
ckiffe@epord.com

The Contractor shall not cross TGP's line with heavy equipment unless the Contractor first protects the TGP's line with mats. If TGP determines that sufficient cover already exists to protect its line from damage, then the Contractor will not be required to use the

mats. TGP will provide the locations that are safe to cross without the use of mats, if possible. The Contractor shall also notify TGP not less than forty-eight (48) hours prior to any construction work within or adjacent to the areas affected by the TGP pipeline right of way.

Within forty-eight (48) hours (excluding weekends and holidays), of commencing Work, the Contractor shall notify EP so that a designated representative may be present during the Work. The Contractor shall coordinate placement of excavated material within EP right of ways. The Contractor shall clean up and repair any damages resulting from the work on or across EP's line, subject to EP's acceptance. The Contractor shall place matting or other suitable material over the EP line, where needed, in coordination with EP's representative.

Any unidentified pipes or structures which may be found within the limits of the Work during the course of Construction shall not be disturbed nor shall Construction or excavation be performed at these locations until approved by the Engineer.

GP-28 SANITARY PROVISIONS

The Contractor shall provide and maintain sanitary accommodations for use by his/her employees and Subcontractors. Facilities shall comply with the requirements of the local and State Board of Health and of other authorities having jurisdiction. The committing of public nuisance on the Project site will be prohibited by the Contractor.

GP-29 SAFETY PROVISIONS

29.1 General

The Code of Federal Regulations, Title 29, Occupational Safety and Health Administration (OSHA) shall apply. Safety and Health Provisions of the State of Louisiana shall apply where applicable and where not covered by OSHA or specified herein.

29.2 Accident Investigations and Reporting

Accidents shall be investigated by the immediate supervisor of employee(s) involved and reported to the Engineer or his/her representative within one (1) working day after the accident occurs. A written report of all accidents occurring on the Project shall be submitted to the Engineer within four (4) calendar days following the incident. All data reported must be complete, timely, and accurate. A follow-up report shall be submitted when the estimated lost time days differ from actual lost time days.

29.3 Daily Inspections

The Contractor shall institute a daily inspection program to assure safety requirements are being fulfilled. Reports of daily inspections shall be maintained at the job site in accordance with these specific clauses. The reports shall be records of the daily inspections and resulting actions.

A DAILY QUALITY CONTROL REPORT Form has been provided in TS-20 QUALITY CONTROL. Each report shall include, as a minimum, the following:

1. Phase(s) of Construction underway during the inspection.
2. Locations of areas where inspections were made.
3. Results of inspections including nature of deficiencies observed,
4. Corrective action taken or to be taken, date, and signature of the person responsible for its contents.

GP-30 RADIO TELEPHONES

The Contractor shall furnish and maintain radio and telephone Equipment throughout the period of the Contract. This Equipment shall be of a quality so the Contractor can clearly communicate with the Engineer and Inspector on their commercial telephones.

GP-31 SUBMITTALS, REPORTS, AND RECORDS

The Contractor shall submit an estimated progress schedule, a schedule of Material compliance and sample submittals, and schedule of values of the Work to the Engineer within fifteen (15) days after the effective date of the Agreement for acceptability and approval, including those of Subcontractors, offsite fabricators, suppliers and purchasing agents. Upon receipt of a submittal, the Engineer shall be allowed a ten (10) day maximum return period for the processing and approval of the submittal.

The Contractor shall maintain, at the job site, orderly files for correspondence, reports of job conferences, submittals, reproductions of original Contract Documents including all Addenda, Progress Reports, Change Orders, Field Orders, additional Drawings issued subsequent to the executed Contract, and Engineer's clarifications and interpretations of the Contract Documents, Progress Reports, and other related documents.

In addition to the Daily Reports required under TS-20 QUALITY CONTROL, the Contractor shall prepare and submit a Monthly Report of Operations for each month's Work to the Owner and Engineer. The monthly report shall be submitted on or before the seventh (7^{th}) of each month, consolidating the previous month's Work. Upon completion of the job, the Contractor shall submit a consolidated job report, combining the monthly reports. The Contractor shall distribute one (1) copy of each report to the Owner and Engineer.

GP-32 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 signed by an authorized official to certify on behalf of the supplying company and shall contain the name and address of the Contractor, the Project name and location, and the quantity, date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing

satisfactory Material, if after tests are performed on selected samples, the Material is found not to meet specified requirements.

GP-33 PROGRESS MEETINGS

Engineer shall schedule and hold regular weekly progress meetings. Contractor, Engineer, and all Subcontractors active on the site shall be represented at each meeting. Contractor may, at his/her discretion, request attendance by representatives of his/her suppliers, manufacturers, and other Subcontractors.

Engineer shall preside at the meetings and provide for the keeping and distribution of the minutes. The purpose of the meetings will be to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop.

GP-34 CHANGES IN WORK

Without invalidating the Contract or any provisions thereof, the Owner may order additional Work or make changes by altering, adding to, or deducting from the Work. The Contract Amount and Contract Time shall be adjusted accordingly, and the consent of the Surety being first obtained where necessary or desirable. All Work Bid upon, shall be paid for at the Price stipulated in the Bid. Any increase or decrease in the quantities shall not alter the Contract Unit Prices.

Changes in the Work will be authorized in writing and by means of Change Orders. No Claims for any extra Work or Materials shall be allowed unless the Work is ordered, in writing, by the Engineer.

Engineer may authorize minor changes in the Work, not involving adjustments in the Contract Price or Time and consistent with the overall intent of the original Contract. The changes will be accomplished by a Field Order and shall be binding on Owner and Contractor. The Contractor shall perform the change promptly. Should the Contractor believe the Field Order justifies an increase in the Contract Price or Contract Time, he/she may make a Claim as provided in GP-35 CHANGE OF CONTRACT PRICE or GP-36 CHANGE IN CONTRACT TIME.

GP-35 CHANGE OF CONTRACT PRICE

The Contract Price constitutes the total compensation, subject to authorized adjustments, payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to, or undertaken by the Contractor shall be at his/her expense without change in the Contract Price. The Contract Price may only be changed by:

1. a Change Order;
2. a Written Amendment; or
3. a written unilateral order of the Owner, in which case the Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times for any reasonable and necessary costs or delays incurred by the Contractor to accommodate such a change.

The Contractor shall submit to the Engineer a written notice of any Claim for an increase in Contract Price, and must be delivered to the Engineer within fifteen (15) days of occurrence of the event resulting in the Claim. The Contractor shall justify the increase of the Contract Price in the Claim using supporting data and calculations. Notice of the extent of the Claim with the amount and all supporting data shall be delivered within forty-five (45) days of such occurrence, unless Engineer allows additional time to ascertain accurate cost or data. All Claims for adjustment in the Contract Price shall be determined by Owner and Contractor, with the assistance of the Engineer. Any change in the Contract Price, resulting from any Claim, must be incorporated into a Change Order.

An increase in Contract Price shall be determined in one of the following ways:

1. By application of Unit Prices to the quantities of the items involved, where the Work involved is covered by Unit Prices contained within the Contract Documents; or

2. By mutual acceptance between the Owner and Contractor of a lump sum.

GP-36 CHANGE IN CONTRACT TIME

All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Section exclude recovery for damages including compensation for additional professional services for delay by either party. The Contract Time may only be changed by:

1. a Change Order;

2. a Written Amendment; or

3. a written unilateral order of the Owner, in which case the Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times for any reasonable and necessary costs or delays incurred by the Contractor to accommodate such a change.

If the Contractor is prevented from delivering the Work within the Contract Times for any unforeseen reason beyond its control and not attributable to its actions or inactions, then the Contractor shall be entitled to an adjustment of the Contract Times to the extent attributable to such reason. Such reasons include fire, floods, epidemics, abnormal weather conditions, acts of God, acts of war, and directions by government authority and other like matters.

If such an event occurs and delays the Contractor's performance, the Contractor shall notify the Owner in writing within fifteen (15) days of the beginning of the event causing the delay, stating the reason therefore.

Notice of the extent of the Claim with all supporting data shall be delivered within forty-five (45) days of such occurrence, unless Engineer allows additional time to ascertain more accurate data. All Claims for adjustment in the Contract Time shall be determined by Owner and Contractor with the assistance of the Engineer. Any change in the Contract Time, resulting from any Claim, must be incorporated into a Change Order.

Contract Times will not be modified for delays within the control of the Contractor, including labor strife, transportation shortages or delays at the Contractor's facilities. Delays attributable to and within the control of the Contractor's Subcontractors or suppliers shall be deemed to be delays within the control of the Contractor.

If the Contractor is prevented from delivering the Work or furnishing the required Work within the Contract Times due to the actions or inactions of the Owner, the Contractor shall be entitled to any reasonable and necessary additional costs as determined by the Engineer arising out of such delay to the extent directly attributable to the Owner.

Neither the Owner nor the Contractor shall be entitled to any damages arising from delays which are beyond the control of both the Owner and the Contractor, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, and acts of war, direction by government authority, and other like matters.

GP-37 DETERMINATION AND EXTENSION OF CONTRACT TIME

The Contract Time, on a calendar basis, shall be the number of the calendar days stated in the Contract, counting from the effective date of the Notice to Proceed including all Sundays, holidays and non-working days. All calendar days between the effective dates for suspension and resumption of the Work, ordered by the Engineer and not the fault of the Contractor shall be excluded.

The number of Work days allowed in the awarded Contract is based on original quantities. If satisfactory fulfillment of the Contract requires time greater than that set forth in the Proposal, the Contract Time could be increased on a basis commensurate with the amount of and difficulty of the additional Work.

If the Contractor finds completion of the Work within the Contact Time, in accordance with the provisions of this Section, impossible, for reasons beyond his/her control, he/she may, prior to the expiration of the Contract Time, make a written request to the Engineer for an extension. The written request must set forth therein the reasons justifying the request. The Contractor's plea of insufficient time specified within the Contract is not a valid reason for extension of time. Delays in the Work are justifiable when occasioned and/or caused by the elements, priorities, order, rules or regulations imposed by any governmental body, or other circumstances unforeseen and beyond control of the Contractor.

If the Engineer finds that the Work was delayed because of conditions beyond control and without the fault of the Contractor, the Owner, upon the recommendation of the Engineer, may extend the completion time to rectify the time lost. The extended time shall then be enforced and affect the same as if it were the original time for completion.

GP-38 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

This provision specifies the procedure for determining Time Extensions due to unusually severe weather. The listing below defines the monthly anticipated adverse weather for 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 geographical area located near the Project.

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)

Upon acknowledgment of the Notice to Proceed, weather days will be recorded on a calendar day basis, includes weekends and holidays, and compared to the monthly anticipated adverse weather in the above paragraph. The term actual adverse weather days shall include days impacted by actual adverse weather days.

The number of actual adverse weather days shall be calculated chronologically from the first to the last day of each month. Adverse weather days must prevent Work for fifty percent (50%) or more of the Contractor's Work day and delay Work critical to the timely completion of the Project. If the number of actual adverse weather days exceeds the number of days anticipated in the above paragraph, the Engineer will determine whether the Contractor is entitled to a Time Extension. The Engineer will convert any qualifying delays into calendar days and issue a modification, in accordance with the Contract clauses in GP-37 DETERMINATION AND EXTENSION OF CONTRACT TIME.

The Contractor's schedule must reflect the above anticipated adverse weather delays on all weather dependent activities.

GP-39 DEFAULT AND TERMINATION OF CONTRACT

The Engineer will give written notice to the Contractor and his/her Surety that the Contractor may be placed in default if he/she:

1. Fails to begin the Work within the time specified in the "Notice to Proceed", or

2. Fails to perform the Work with sufficient workmen, Equipment, or Materials to assure prompt completion of said Work, or

3. Performs the Work unsuitably, neglects, refuses to remove Materials, or performs or continues to perform rejected Work, or

4. Discontinues prosecution of the Work, or

5. Fails to complete the Project within the Contract Time as extended, or

6. Fails to resume discontinued Work within a reasonable time after notice to continue, or

7. Becomes insolvent, or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

8. Allows any final judgment to stand against him/her unsatisfied for a period of ten (10) days, or

9. Makes an assignment for the benefit of creditors, or

10. Fails to carry on the Work in an acceptable manner.

If the Contractor or Surety does not proceed within ten (10) days after such notice, in accordance therewith, the Owner will, upon written notification from the Engineer to the Contractor and Surety the Contractor's failure to comply with such notice, have authority, without violating the Contract, to take prosecution of the Work out of the hands of the Contractor. The Owner may appropriate or use all Materials and Equipment on the Project, and may enter into an Agreement for completion of said Contract according to the provisions thereof, or use such other methods as required for completion of said Contract in an acceptable manner.

All costs incurred by the Owner, together with the cost of completing the Work under the Contract, will be deducted from any monies due or may become due the Contractor. If expense exceeds the sum payable under the Contract, the Contractor and Surety shall be liable and shall pay the Owner the amount of such excess.

GP-40 FAILURE TO COMPLETE ON TIME

The time of completion for this Project shall be within the contract time specified in SP-3 TIME OF COMPLETION after the Notice to Proceed has been issued, as specified in GP-37 DETERMINATION AND EXTENSION OF CONTRACT TIME.

For each Contract day, counted and charged, as outlined in GP-37 DETERMINATION AND EXTENSION OF CONTRACT TIME, that any Work remains uncompleted beyond the Contract Time, the sum specified in SP-3 TIME OF COMPLETION will be deducted per calendar day as liquidated damages provided the consideration of any adjustment of the Contract Time for completion of the Work granted under the provisions of GP-37 DETERMINATION AND EXTENSION OF CONTRACT TIME.

The amount of liquidated damages, determined as provided SP-3 TIME OF COMPLETION, will be deducted from any money due or may become due the Contractor, under this Contract, and the Contractor and his/her Surety shall be liable for any liquidated damages in excess of the amount due the Contractor.

GP-41 TEMPORARY SUSPENSION OF WORK

The Engineer shall have the authority to suspend the Work, in whole or in part. The order to suspend the Work for periods exceeding one (1) calendar day shall be in writing and include the specific reasons for the suspension. If the Work is suspended in the interest of the Owner, due allowances shall be made for the time elapsed during the period of suspension as herein provided. If the Work is suspended because of the failure or refusal of the Contractor to comply with an order of the Engineer or with the Plans and Specifications, no Time Extension will be allowed for the time elapsed during such suspension.

GP-42 NON-CONFORMING AND UNAUTHORIZED WORK

Work not conforming to GP-18 CONFORMITY WITH PLANS AND SPECIFICATIONS or the Plans to the Contract will be considered unacceptable.

Unacceptable Work resulting from poor workmanship, defective Materials, damage through carelessness or other cause, found to exist prior to final acceptance of the Work shall be removed and replaced in an acceptable manner.

The Work completed contrary to the instructions of the Engineer, beyond lines shown on the Plans, except as herein specified or extra Work done without authority of the Engineer will be considered unauthorized and for which will not be paid. The Work completed may be ordered removed or replaced at the Contractor's expense.

Upon failure of Contractor to comply with any order of the Engineer made under the provisions of the Section, the Engineer will have authority to cause unacceptable Work to be remedied, removed, or replaced and unauthorized Work to be removed and to deduct the cost from payments for the Work.

GP-43 CLAIMS FOR ADJUSTMENT AND DISPUTES

If the Contractor deems additional compensation is due him/her for Work or Material not clearly covered in the Contract or not ordered by the Engineer as extra Work, as defined herein, the Contractor shall notify the Engineer, in writing, of his/her intention to make Claim for such additional compensation before he/she begins the Work on which he/she bases the Claim. Such notice by the Contractor shall not be construed as proving or substantiating the validity of the Claim. If the Claim, after consideration by the Engineer, is found to be just, it will be paid for as extra Work. If proper notification is not given, or the Engineer is not afforded proper facilities by the Contractor for keeping account of actual cost, the Contractor agrees to waive any Claim for such additional compensation.

Nothing in this Section shall be construed as establishing any Claim contrary to the terms of GP-34 CHANGES IN WORK.

GP-44 CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

If the Work should be stopped under an order of any court or other public authority, for a period of three (3) months, through no act or fault of the Contractor or of anyone employed by him/her, then the Contractor may upon ten (10) days written notice to the Owner, stop Work or terminate this Contract and recover payment from the Owner for all Work executed and Material and Equipment delivered to the site for incorporation in the Work.

GP-45 TERMINATION OF CONTRACTOR'S RESPONSIBILITY

The Contract will be considered complete when all Work has been satisfactorily completed, final inspection made, the Work accepted by the Owner upon recommendation of the Engineer, and the final payments made. The Contractor will then be released from further obligation except as set forth in his/her Contract bond.

GP-46 FINAL INSPECTION AND ACCEPTANCE

After submitting post-construction survey drawings as specified in TS-6 SURVEYING, the Contractor may submit written notice that the Work is complete; the Engineer will make an inspection with the Owner and the Contractor. If the Engineer is satisfied that the Work has been completed and the Contractor has fulfilled all of his/her obligations under the Contract, the Engineer will make the final acceptance and notify the Owner, in writing, the acceptance, from the date of inspection considered to be the final inspection.

If the inspection disclosed any Work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions. Cost of repairs for the Work that was previously deemed satisfactory by the Substantial Completion will be borne by the Owner unless the damage was caused due to negligence of the Contractor. All other corrections for unsatisfactory Work will be at the expense of the Contractor. Upon correction of the Work and provided the Work has been satisfactorily completed, another inspection shall be made constituting the final inspection. In such event, the Engineer will make the final acceptance and notify the Owner, in writing, of the acceptance as of the final inspection.

If, on the basis of the final inspection, the Work, in whole or in part, is non-conforming, the Owner will identify the non-conformity in writing and will provide the Contractor the necessary instructions. Cost of repairs for the Work that was previously deemed satisfactory will be borne by the Owner unless the damage was caused due to negligence of the Contractor. All other corrections for unsatisfactory Work will be at the expense of the Contractor. Upon correction of the Work and provided the Work has been satisfactorily completed, another inspection shall be made constituting the final inspection. In such event, the Engineer will make the final acceptance and notify the Owner, in writing, of the acceptance as of the final inspection.

GP-47 WARRANTY

The Contractor warrants and guarantees to the Owner that all of the Work will conform to the Contract Documents, including any Samples approved by Engineer, and the Work will be of merchantable quality. The Engineer shall be entitled to rely on representation of the Contractor’s warranty and guarantee. The Contractor’s warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, improper modification or improper maintenance or operation by persons other than the Contractor, or
2. normal wear and tear under normal usage.

The Contractor’s obligation to furnish the Work in accordance with the Contract Documents shall be absolute.

None of the following will constitute an acceptance of the Work that are non-conforming, or a release of the Contractor's obligation to furnish the Work in accordance with the Contract Documents:

1. observations by the Owner or Engineer;
2. recommendation by Engineer or payment by the Owner of any progress or final payment;
3. use of the Work by the Owner;
4. any acceptance by the Owner (subject to the provisions of GP-42 NON-CONFORMING AND UNAUTHORIZED WORK) or any failure to do so;
5. the issuance of a notice of acceptance by the Owner pursuant to the provisions of GP-42 NON-CONFORMING AND UNAUTHORIZED WORK;
6. any inspection, test or approval by others; or
7. any correction of non-conforming Work by the Owner.

The Owner shall within a reasonable time notify the Contractor of any breach of the Contractor's warranties or guarantees. If the Owner receives notice of a suit or Claim as a result of such breach, the Owner also may give the Contractor notice in writing to defend such suit or Claim. If the Contractor fails to defend such suit or Claim, the Contractor will be bound in any subsequent suit or Claim against the Contractor by the Owner by any factual determination in the prior suit.

GP-48 NO WAIVER OF LEGAL RIGHTS

Upon completion of the Work, the final inspection will be performed expeditiously as described in GP-46 FINAL INSPECTION AND ACCEPTANCE, and when the Work is acceptable, the Contractor will be notified of the acceptance. Final acceptance shall not prevent the Owner from correcting any measurement, estimate, or certificate made before or after completion of the Work, nor shall the Owner be prevented from recovering from the Contractor, his/her Surety, or both, overpayment as it may sustain, or through failure by the Contractor to fulfill his/her obligations under the Contract. A waiver, by the Owner, of any breach of any part of the Contract shall not be held as a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the Contract, shall be liable to the Owner for latent defects, fraud or such gross mistakes as may amount to fraud, or as regards to the Owner's rights under any warranty or guaranty.

GP-49 PERSONAL LIABILITY OF PUBLIC OFFICIALS

In execution of any of the above provisions or in exercising any power or authority granted to him/her by the Contract, there shall be no liability upon the Engineer or his/her authorized representatives.

GP-50 LIABILITY FOR LOSSES BY ACTS OF THE FEDERAL OR STATE GOVERNMENTS

The Owner shall not be liable for any loss or damage suffered by the Contractor arising out of the interruption or cessation of Work under this Contract, resulting from any act or order of any official, agency, the United States Government, or the Government of the State of Louisiana. However, the Contractor may request a Time Extension, as provided elsewhere in these Specifications, for any delay suffered by the Contractor as the result of the aforementioned government act or order.

GP-51 MISCELLANEOUS

1. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation. A calendar day of twenty-four (24) hours measured from midnight to the next midnight shall constitute a day.

2. Should the Owner or the Contractor suffer injury or damage to itself or its property because of any error, omission, or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, a Claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage, and the Claim shall provide all particulars relating to the extent of injury or damage, the details and results of the investigation, and action that has been or is to be taken to prevent a reoccurrence.

3. The duties, warranties, guarantees, and obligations imposed by these General Provisions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor by GP-39 DEFAULT AND TERMINATION OF CONTRACT and GP-41 TEMPORARY SUSPENSION OF WORK and all of the rights and remedies available to Owner and Engineer hereunder, are in addition to and are not to be construed in any way as a limitation of any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Section will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

End of PART I GENERAL PROVISIONS

PASS CHALAND TO GRAND BAYOU PASS
BARRIER SHORELINE RESTORATION PROJECT (BA-35)

PART II SPECIAL PROVISIONS

SP-1 LOCATION OF WORK

The Work is located in Plaquemines Parish, LA and ***the site is only accessible by water.*** A vicinity map and project area map have been included on the Plans.

SP-2 WORK TO BE DONE

The Work to be performed under these Plans and Specifications consists of furnishing all plant, labor, materials, and equipment for performing all Work required for mobilizing; demobilizing; conducting surveys; dredging; constructing containment dikes; placing marsh fill material; placing beach and dune fill materials; constructing a water exchange channel; and installing settlement plates, warning signs, navigation aids, and marsh creation grade stakes in accordance with these Specifications and in conformity to lines, grades, and elevations shown on the Plans or as directed by Engineer.

All Work shall be performed in accordance with Louisiana Standard Specifications for Roads and Bridges, 2000 edition unless otherwise specified herein.

SP-3 TIME OF COMPLETION

The time of completion for this project shall be within **two hundred forty (240) calendar days** after the Notice to Proceed has been issued. Liquidated damages will be assessed in **the sum of thirteen hundred dollars ($1,380) per calendar day** accordance with GP-40 FAILURE TO COMPLETE ON TIME.

SP-4 LANDOWNER REQUIREMENTS

The Owner has obtained all temporary easement, servitude and Right-of-Way Agreements required for construction of the Project. The Contractor shall adhere to all access requirements set forth in these Specifications and on the Plans. Additionally, the Contractor shall give seven (7) days notice to the Plaquemines Parish Government (PPG), Plaquemines Parish School Board (PPSB), and Charles B. Brearley et al. (Brearley) prior to initiation of access to or Work on lands owned by these entities. The Contractor shall also remove and dispose of any and all debris associated with the accessing or performing the Work on these lands. Landowner tracts are depicted on the Plans and contact information is listed below.

PPG
Albertine Kimble
Plaquemines Parish Government
8056 Hwy. 24, Suite 308
Belle Chasse, LA 70037
Phone: (504) 392-6690

PPSB
James C. Hoyle, Superintendent
Plaquemines Parish School Board
P.O. Box 69
Belle Chasse, LA 70037
Phone: (504) 392-4970

Brearley
William Christian Jr.
5937 Stones Throw Road
Houston, TX 77057
Phone (713) 975-1119

SP-5 PROTECTION OF WORK

The construction areas may be subject to flows of water during construction. It will be the responsibility of the Contractor to protect his/her Work and Equipment from damages due to inflows, rises in Bay Joe Wise, the Gulf or other surrounding bodies of water, and ground water. The Owner shall not be held liable or responsible for delays or damages to the Contractor's Work or Equipment resulting from inflows of surface or ground water or other conditions.

SP-6 CLEAN-UP

The Contractor shall, at all times, keep the area free from accumulations of waste material or rubbish caused by the Contractor's employees or by the Work. At the completion of the Work, all trash, tools, and surplus Materials shall be removed from the Work Site within seven (7) days.

SP-7 CONTROL OF SILTATION AND WATER POLLUTION

The Contractor shall conduct his/her Work in a manner that will not cause damaging siltation or pollution of navigable waters. All applicable Federal and State regulations of agencies and statutes relating to the prevention and abatement of pollution shall be compiled within the performance of the Contract.

The disturbance of lands and waters that are outside the Work Area is prohibited, except as found necessary and approved by the Engineer. The Contractor shall conduct his/her Work in such a manner as to prevent the entry of fuels, oils, bituminous materials, chemicals, sewage or other harmful materials into streams, lakes, bays, open waters, or marshlands. If such materials are dispersed into the environment, the U.S. Coast Guard (USCG) and the Engineer should be notified immediately and containment of the dispersement should commence with diligence. All waterways shall be cleared as soon as practicable of false work, piling, debris, or other obstructions placed during construction operations and not a part of the finished Work.

SP-8 SAFETY AND PROTECTION

In addition to the requirements set forth in GP-29 SAFETY PROVISIONS, the Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees and other persons who may be affected thereby; all the Work and all Materials both on and off the Work Area; other property in the Work Area including trees, structures, utilities, etc. Costs incurred by the Contractor for compliance with this section should be included in the mobilization and demobilization cost in the Bid Price.

The Contractor shall take all necessary precautions to insure public safety in relation to his/her operations in the borrow area. The Contractor shall display signal lights and conduct his/her operations in accordance with USCG regulations governing lights and day signals to be displayed, as set forth in Commandant, US Coast Guard Instruction MI 16672.2, Navigation Rules, International - Inland (COMMDTINST MI 16672); 33CFR 81, Appendix A (International); and 33CFR 84 through 33CFR 90 (Inland) as applicable.

The Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction over the safety of persons or property and to protect them from damage, injury, or loss; and will erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and utilities when the execution of the Work may affect them. All damage, injury or loss to any property referred to in this item caused directly or indirectly, in whole or in part, by Contractor, and Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all the work is completed and the Engineer has issued a notice to the Owner and the Contractor that the work is acceptable.

SP-9 HURRICANE AND SEVERE STORM PLAN

The Contractor shall submit a Hurricane and Severe Storm Plan at least seven (7) days prior to the pre-construction conference. This plan shall include but not be limited to the following:

1. Time interval before a storm strike in the Work Area when action will be taken and details of the actions to be taken. The plan should be specific as what weather/wave conditions will require Work shutdown, removal of the dredge, etc.

2. List of Equipment to be used on the job and its ability to handle adverse weather and wave conditions.

3. List of safe harbor or ports and the distance from the Work Area to these harbors and the time required to move the Equipment to these harbors or ports. Copies of letters of approval for use of these safe harbors or ports (local Authorities, USCG, etc.) where applicable. List of all flood control structures with their operation schedule that will be encountered along the route to the safe harbors.

4. Method of securing Equipment in these safe harbors.

5. List of Equipment to be utilized to make this move to safe harbor or port (tug boats, Work boat etc.). This list shall include the name and horsepower of this Equipment. The plan will include only Equipment capable of making the move to safe harbors or ports in adverse weather or sea conditions.

6. Methods of securing Equipment not moved: i.e. pipelines (floating or

submerged), Pump out stations, etc.

7. Plan of evacuation to include interim measures; i.e., immediate reaction plans to be taken for all storm occurrences, particularly sudden/flash storms.

8. Operation procedure to be undertaken when critical dredging Equipment fails during sudden and severe adverse conditions, to include breaking of spuds, swing wires, anchor wires, or other mooring Equipment or facilities, or inability of tugs or similar vessels to secure the dredge.

The Contractor shall continually monitor, for the duration of construction, the NOAA marine weather broadcast and shall use other local commercial weather forecasting as may be available. Submission of a Hurricane and Severe Storm Plan does not constitute an endorsement on the part of the Owner or Engineer as to the adequacy of the plan.

SP-10 NAVIGATION

All marine vessels shall follow the Inland Navigation Rules which are contained in the following Federal Laws or Regulation: International Navigational Rules Act of 1977 (Public Law 95-75, 91 Stat. 308, or 33 U.S.C. 1601-1608), and, 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 www.navcen.uscg.gov/mwv/navrules/rotronline.htm. 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.

All operations in connection with the Work shall also be in accordance with Subsection 107.09, "Navigable Waters and Wetlands," of the Louisiana Standard Specification for Roads and Bridges, 2000. Failure of the Contractor to familiarize himself/herself with all terms, conditions, and provisions of the rules and regulations applicable to the work shall not relieve him/her of his/her responsibility under the Contract. Navigable depths shall not be impaired except as allowed by laws regulating navigation in the area.

SP-11 OBSTRUCTION TO NAVIGATION

The Contractor will be required to operate in compliance with pertinent USCG regulations and to conduct the Work in such a manner as to minimize any obstruction to navigation. If the Contractor's dredge or other floating equipment so obstructs any navigation channel as to make navigation difficult or endanger the passage of vessels, said dredge or Equipment shall be promptly moved on the approach of any vessel to such extent and may be necessary to afford a practicable passage. Upon completion of Work, the Contractor shall promptly remove the dredge and other floating Equipment, as well as ranges, buoys, piles, and other markers or objects that are not permanent project features placed in the navigable water or on shore.

SP-12 MARINE VESSELS AND MARINE ACTIVITIES

All vessels that are regulated by the USCG shall have current inspection and certifications issued by the USCG before commencing dredging operation. A copy of the certification shall be posted in a public area on board the vessel.

All dredges and quarter boats not subject to USCG inspection and certification or not having a current American Bureau of Shipping (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). The surveyor must have at least five years experience in commercial marine vessels and equipment. All other vessels shall be inspected before it is placed in use and at least annually by a qualified person. The inspection shall be documented. A copy of the most recent inspection report shall be posted in a public area on board the vessel. A copy of the inspection shall be furnished to the Engineer upon request. The inspection shall be appropriate for the intended use of the vessel. The inspection, as a minimum, shall evaluate the structural integrity of the vessel and comply with the National Fire Protection Association code 302- Pleasure and Commercial Motor Craft.

Officers and crew shall be in possession of a current valid USCG license which shall be posted in a public area on board the vessel, or correctly endorsed document as required by the USCG.

SP-13 COMMENCEMENT, EXECUTION AND COMPLETION

The Contractor will be required to commence Work at the Work Site under the Contract within thirty (30) calendar days after receipt of the Notice to Proceed from the Engineer. Work shall be conducted in such a manner and with sufficient Materials, Equipment and labor as is considered necessary to insure its completion within the time limit specified.

SP-14 TRANSPORTATION

During construction layout, construction, and until Final Inspection and Acceptance, the Contractor shall provide a safe and reasonable means of transportation to and from a dock site established at the Pre-Construction Conference, staging area and construction areas for the Owner, Engineer and/or Inspector. The schedule for dates, times, and pickup location for transportation shall be arranged by the Owner or Engineer with the Contractor prior to mobilization.

During construction layout, construction, and until Final Inspection and Acceptance, should the Contractor utilize a boat, quarter’s barge, or quarters and stay at the Work Area overnight, then the Contractor shall provide room and board for the Inspector.

The Contractor shall provide a boat for the exclusive use of the Engineer and/or Inspector around the Work Area for the duration of the project.

The boat shall have the following features:

1. an enclosed cabin space
2. capable of maintaining 25 knots (29 mph)
3. six (6) passengers capacity
4. Coast Guard certified
5. operable marine radio
6. all safety equipment required by the Coast Guard for the size and type of vessel
7. draft of two feet (2') or less

The Contractor shall also provide the Inspector daily access to an air boat with qualified operator, and or all-terrain vehicle, as necessary to properly inspect the marsh, beach, and dune fill areas for the duration of the dredging activity. The Contractor shall supply the fuel and any required maintenance for the boat and air boat for the duration of the project. All mechanical malfunctions of the boat or airboat shall be repaired or replaced within twelve (12) hours after the Contractor as directed by the Engineer or Inspector.

In the event that the Contractor refuses, neglects, or delays compliance with these requirements, the specific facilities may be furnished and maintained by the Owner, and the cost thereof will be deducted from any amounts due or to become due the Contractor.

The costs associated with providing transportation shall be included in the lump sum price for Bid Item No. 1 "Mobilization/ Demobilization".

SP-15 JOB OFFICE

The Contractor shall provide an office with telephone and internet access at the Work Site upon written request of the Engineer, acceptable to the Owner, for the Engineer and Inspector. The office shall be separate from the Contractor's office, work, and storage areas. The office shall be of a size suitable to the Owner and provided with lighting, heat, and air conditioning. Furnishings shall consist of or provide access to a plan table, work table, drafting table and stool, and two chairs. Adequate lighting and electrical services shall be provided to operate office equipment supplied by the Owner.

In the event that the Contractor refuses, neglects, or delays compliance with these requirements, the specific facilities may be furnished and maintained by the Owner, and the cost thereof will be deducted from any amounts due or to become due the Contractor. The cost for providing and furnishing a Job Office for the Owner shall be included in the Contract lump sum price for Bid Item No. 1 "Mobilization/ Demobilization".

SP-16 BOARDING FACILITIES

The Contractor shall provide boarding facilities for one full-time Inspector. Quarters and meals shall be included. Quarters shall be of a suitable size and provided with sleeping arrangements, access to bathroom facilities, lighting, heat, and air conditioning. The cost

for providing and furnishing boarding facilities for the Inspector shall be included in the Contract lump sum price for Bid Item No. 1 “Mobilization/ Demobilization”.

SP-17 DELIVERY OF NOTICES, ETC.

All written notices, demands, submittals and other papers or documents to be delivered to the Contractor, under this Contract, shall be delivered at the address indicated on the Bid, or at other locations as designated by written notice delivered to the Engineer.

All written notices, demands, submittals, and other papers, or documents to be delivered to the Owner or to the Engineer under this Contract shall be delivered to the Coastal Engineering Division of the Louisiana Department of Natural Resources at the following address: P.O. Box 44027, Baton Rouge, Louisiana 70804-4027, or at another location as the Engineer may designate by written notice delivered to the Contractor.

SP-18 COPIES OF PLANS FURNISHED

Five (5) sets of Contract Plans and Specifications will be furnished to the Contractor without charge except applicable publications incorporated into the Technical Specifications by reference. Additional sets will be furnished on request at the cost of reproduction. The Work shall conform to the Contract Plans all of which form a part of these Specifications and are available at the Coastal Engineering Division of the Louisiana Department of Natural Resources, 617 North 3rd Street, Baton Rouge, Louisiana 70802.

End of PART II SPECIAL PROVISIONS

PASS CHALAND TO GRAND BAYOU PASS
BARRIER SHORELINE RESTORATION PROJECT (BA-35)

PART III TECHNICAL SPECIFICATIONS

TS-1 SCOPE OF WORK

1.1 General Description

The Work to be performed under these Plans and Specifications consists of furnishing all plant, labor, materials, and equipment for performing all Work required for mobilizing; demobilizing; conducting surveys; dredging; constructing containment dikes; placing marsh fill material; placing beach and dune fill materials; constructing a water exchange channel; and installing settlement plates, warning signs, navigation aids, and marsh creation grade stakes in accordance with these Specifications and in conformity to lines, grades, and elevations shown on the Plans or as directed by the Engineer. Major tasks associated with this Work include, but may not necessarily be limited to, the following:

1. Mobilization and demobilization.
2. Dredging of channels for construction Equipment access.
3. Dredging of a water exchange channel to maintain flow and exchange between gulf and bay.
4. Preparation of the fill containment areas, including the placement of any containment dikes and discharge weirs as required for dewatering.
5. Hydraulic dredging and placement of marsh fill, beach fill, and dune fill materials.

1.2 Site Examination

Bidders are required to examine Work Area and make determinations of the character of the borrow materials to be dredged and the condition of the designated fill areas. Material such as logs, stumps, snags, tires, scrap, debris and other obstructions may be encountered within the specified borrow area dredging limits and fill areas. No separate payment for removal and disposal of these obstructions shall be made. No consideration shall be given to any claims for additional payments based on the failure of the Contractor to inspect the sites.

1.3 Placement of Dredged Material

The Contractor shall not deposit dredged material into areas other than those shown on the Plans or stated in Permits without approval of the Owner. Since the fill material is to be placed within relatively small containment areas, it may be necessary to operate the dredge at a low production rate and/or to allow for dredge down time to allow the fill material to settle out prior to dewatering and water discharge from the containment areas. It is the Contractor's responsibility to maintain the containment dikes throughout construction in accordance with these Specifications and the Permits.

1.4 Existing Features

The Contractor shall be responsible for investigating, locating and protecting all existing facilities, structures, services, flow lines, and pipelines on, above, or under the surface of the area where dredging and filling operations and Equipment transport are to be

performed. The Owner will not be held responsible for damage to the Contractor's Equipment, employees, Subcontractors, adjacent property owners, or anyone else connected with the project due to encountering objects above and below the water line.

Existing features, where indicated on the Plans, are shown only to the extent 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, he/she shall be responsible for the cost of the repair.

1.5 Basis for Award

Award of this Bid shall be to the lowest responsive, responsible bidder meeting the requirements of the Specifications set forth herein. The Basis for Award shall be the lowest total Bid cost. All unit costs must be entered on the Bid Form.

TS-2 SUBMITTALS

2.1 Work Plan and Schedule

The Contractor shall submit a Work Plan and an estimated Work Schedule, in writing to the Owner and Engineer, at least fourteen (14) days prior to the Pre-Construction Conference for review and approval. The Owner and Engineer shall have ten (10) days to review the Work Plan and estimated Work Schedule to determine its acceptability. The Work Plan shall include information regarding but not limited to following:

1. Source(s) of all construction Materials (company or producer name, mailing and physical address, phone number, and name of contact person).
2. Types of Equipment the Contractor proposes to use for construction and delivering construction Materials to the delivery site and from the delivery site to the construction site and on the construction site to transport Materials, personnel, etc.
3. Construction Access Plan and Construction Access Restoration Plan (TS-14.4 "Construction Access"), transport routes, access corridors from the dredge site to the fill areas, storm emergency plan, turbidity controls, and environmental protection.
4. Other information required in the Work Plan is listed throughout these Specifications and are summarized in the Schedule of Submittals and Notifications Table in TS-2.4.

The estimated Work schedule shall show the planned schedule of dates and time lines for the major elements of Work required to complete the Work described in these Specifications, including but not limited to the anticipated dates of the following:

1. The anticipated date(s) for site layout, surveying, and staking.
2. The anticipated initiation of delivery of Materials and Equipment and construction operations in the Work Area.
3. The estimated duration and beginning and ending dates of individual construction operations.

2.2 Pre-Construction Conference Submittals

A mandatory Pre-Construction Conference shall be held with the Contractor, any Subcontractors, Owner, Engineer, Local Stakeholders, and other appropriate personnel prior to the commencement of work or mobilization. This conference shall be held at a mutually agreeable time and place to discuss pertinent details of the Work Schedule, etc. At the Pre-Construction Conference, the Contractor shall provide the following to the Engineer:

1. Communication Plan specifying Contractor chain of command, Owner and Engineer, and Inspector(s) points of contact, corresponding contact information, and procedures for routine and emergency notifications.
2. Safety Plan and report format as specified in GP-29 SAFETY PROVISIONS.
3. Change Order and Field Order submittal format.
4. Hurricane Plan (SP-9 HURRICANE AND SEVERE STORM PLAN).

2.3 Administrative Records

2.3.1 Notice of Intent to Dredge

At least fourteen (14) days prior to commencement of Work on this Contract, the Contractor shall notify the U.S. Coast Guard (USCG) Eighth District, Waterways Management Division at the address below, of his/her intended operations to dredge and request that it be published in the Local Notice to Mariners. 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. A copy of the notification shall be provided to the Owner and Engineer.

USCG Division 8
Waterways Management Division
500 Poydras Avenue
New Orleans, LA 70112
(504) 565-5000
http://www.navcen.uscg.gov/LNM/default.htm
d8marineifo@d8.uscg.mil

2.3.2 Relocation of Navigational Aids

Temporary removal of any navigation aids located within or near the areas required to be dredged or filled and material stockpile areas shall be coordinated by Contractor with the USCG prior to removal. The Contractor shall not otherwise remove, change the location of, obstruct, willfully damage, make fast to, or interfere with any aid to navigation. The Contractor shall notify the USCG Eighth District, New Orleans, Louisiana, in writing, with a copy to the Owner and Engineer, seven (7) days in advance of the time he/she plans to dredge or Work adjacent to any aids which require relocation to facilitate the Work. The Contractor shall contact the USCG for information concerning the position to which the aids will be relocated.

2.3.3 Dredging Aids

The Contractor shall obtain approval for all dredging aids, including but not limited to temporary navigation aids, warning signs, buoys and lights the Contractor requires in conducting the Work specified in this Contract. All dredging aids, signs, buoys, and or lights must meet USCG regulations. The Contractor shall obtain a temporary permit from the USCG for all buoys or dredging aid markers to be placed in the water prior to installation. The permit application shall state the position, color, date to be installed and removed for all dredging aid markers and be submitted to the USCG. Dredging aid markers and lights shall not be colored or placed in a manner that they will obstruct or be confused with navigation aids. Copies of application and permit shall be submitted to the Owner and Engineer seven (7) days prior to commencement of dredging operations.

2.3.4 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/her 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.

2.3.5 Notice of Misplaced Material

The Contractor shall notify the USCG, Owner, and Engineer of any misplaced material as stated in the specification TS-18 MISPLACED MATERIAL.

2.4 Summary of Project Submittals and Notifications

The following table is a summary of all submittals required of the Contractor as part of this section and other sections of these Specifications:

SCHEDULE OF SUBMITTALS AND NOTIFICATIONS TABLE

Specification	Deliverable	Submittal
GP-20	Notice of Readiness of Work	30 Days Prior to Inspection
GP-27	Call Louisiana One Call	Within 7 Days after Notice to Proceed
GP-27	Notify Pipeline and Utility Operators	Within 7 Days after Notice to Proceed
GP-27	Notify Tennessee Gas (TGP)	Not less than 48 hours prior to any construction work within or adjacent to TGP right of way.
GP-27	Notify Enterprise Products (EP)	Within 48 hours of commencing Work
GP-31	Monthly Report of Operations	On or before the 7th of each month
GP-36	Request for Change in Contract Time	Within 15 Days after Unforeseen Event
GP-36	Change in Contract Time Justification	Within 45 Days after Unforeseen Event
GP-43	Claim of Adjustment or Dispute	Prior to Beginning Work on Claim
GP-46	Notice of Completion of Work	After Submittals of Post-Construction Surveys
SP-9	Hurricane and Severe Storm Plan	7 Days Prior to Pre-Construction Conference
SP-4	Notify Landowners	7 Days prior to initiation of access to or Work on lands owned.
TS-2.1	Work Plan and Schedule	14 Days Prior to Pre-Construction Conference
TS-2.2	Communication Plan	At Pre-Construction Conference
TS-2.2	Safety Plan	At Pre-Construction Conference
TS-2.2	Change Order and Field Order Format	At Pre Construction Conference
TS-2.3.1	Notice of Intent to Dredge	14 days prior to Commencement of Work
TS-2.3.4	Notification of Discovery of Historical or Cultural Sites	Immediately for Each Occurrence
TS-2.3.5	Notice of Misplaced Material	Immediately for Each Occurrence
TS-193.1	Construction Sequence	With Work Plan
TS-14.4	Construction Access/Restoration Plan	With Work Plan
TS-36.13	Survey Drawings	Prior to Final Acceptance
TS-36.14	Survey Deliverables	Prior to Final Acceptance
TS-18.3	Turbidity Control Plan	With Work Plan
TS-18.4	Borrow Area Cut Sequence	With Work Plan
TS-8.6.1	Dredge Location Method	With Work Plan
TS-8.6.2	Tide Measurements and Methods	With Work Plan
TS-11.1	Marsh Fill Containment Dike Change Requests	With Work Plan
TS-111.2	Beach Fill Containment Dike Change Requests	With Work Plan
TS-111.2	Proposed Containment Methods for Western end of Beach Fill Template	With Work Plan
TS-111.3	Optional Interior Containment Dike Change Requests	With Work Plan
TS-119.2	Description of Daily Nesting Bird Patrols	With Daily Quality Control Report
TS-119.5	Oil and Fuel Storage Locations	With Work Plan
TS-120.1	Daily Quality Control Report	Daily During Construction

TS-3 ORDER OF WORK

3.1 Construction Sequence

The Contractor shall adhere to the following construction sequence requirements:

1. USCG approved lighted aids to navigation shall be deployed prior to commencement of any dredging operations.
2. USCG approved warning signs shall be placed prior to sidecasting dredged material in locations designated on the Plans from access channels to prevent navigation hazards.
3. The pre-construction surveys must be submitted and approved by the Engineer prior to beginning Work.
4. The water exchange channel shall be constructed from Station 64+65 to 106+50 as shown on the Plans prior to the placement of beach, dune, or marsh fill.
5. Settlement plates must be placed and surveyed prior to placement of beach or marsh fill material.
6. Containment dikes must be constructed and accepted prior to the placement of any beach, dune, or marsh fill material for each fill segment subject to pay acceptance.
7. Dune fill segments must be accepted prior to the installation of sand fencing. Sand fencing must be installed within seven days of acceptance of a dune fill segment.
8. Access channel through Bay Joe Wise, Station 106+50 to 195+00, must be plugged as shown on the Plans during demobilization.
9. Sidecast disposal areas are to be restored by backfilling access channels during demobilization only after all other construction items are complete.

These construction sequence requirements are also reflected on the Plans. The schedule submitted in accordance with TS-2 SUBMITTALS shall reflect these requirements. The Owner and Engineer will entertain the Contractor's proposed sequence for all other construction items outside of these requirements within the confines of the Contract Time set forth in SP-3 TIME OF COMPLETION.

3.2 Environmental Window

Scheduling requirements regarding endangered species are set forth in TS-19 ENVIRONMENTAL PROTECTION.

TS-4 WORK AREA

4.1 Limits of Construction

The construction limits and dredge limits available to the Contractor for accomplishing the Work are documented herein and/or are shown on the Contract Plans. The Contractor may not store plant or Equipment including pipeline in excess of what is needed for this Contract within the Work Area.

4.2 No Work Zone

The Contractor shall not access or place personnel, Equipment, dredge pipeline, dredged material, spoil, stakes, fencing, signage, or any other materials required for construction of the project in the no work zone shown on the plans. The no work zone shall be clearly delineated by the Contractor in the field prior to construction. The boundary shall be marked every 200 feet.

4.3 Security

The Contractor is permitted to exclude the public from his/her Work Area as necessary to perform the Work and to operate in accordance with the General and Special Provisions. The Contractor shall exclude the public from access to the discharge end of his/her pipeline. Enforcement shall be the Contractor's responsibility at no additional cost to the Owner. The enforcement shall be coordinated with local enforcement agencies and will be subject to approval of the Owner.

4.4 Construction Access

The Contractor shall confine his/her plant, Equipment and operations of personnel to areas permitted by law, ordinances, permits and the requirements of the Contract Documents, and shall not unreasonably encumber the premises with plant or Equipment. The Contractor is responsible for preparation and restoration of the access areas. The Contractor is required to submit a construction access plan and construction access restoration plan with the Work Plan prior to accessing the Work Area. The costs for, but not limited to, earthwork, grading, and signage along with removal and installation of any other facilities in the vicinity of areas delineated as Access Channels on the Plans and in accordance with TS-12 ACCESS AND WATER EXCHANGE CHANNELS are to be included in the lump sum price for Bid Item No. 1 “Mobilization/Demobilization.” Similar such costs for access to other areas within the Work Area are to be included in the lump sum price for Bid Item No. 1 “Mobilization/Demobilization” in accordance with TS-5 MOBILIZATION AND DEMOBILIZATION. Disposal of any cleared vegetation, debris and rubbish shall be in a manner acceptable to the Owner and Engineer. All construction access areas shall be restored to pre-construction conditions as part of demobilization. Additionally, the Contractor shall adhere to any and all Equipment access restrictions set forth in these Specifications.

TS-5 MOBILIZATION AND DEMOBILIZATION

5.1 General Description

Mobilization consists of preparatory Work and operations, including those necessary for movement of personnel, Equipment, supplies and incidentals to and within the Work Area; the establishment of offices, buildings, and other facilities necessary for the Work on the project; the cost of bonds and any required insurance; and other pre-construction expenses necessary for start of the Work. All Equipment must be floating at all times during the transit to and from the Site of Work.

5.2 Arbitrary Mobilization by Contractor

The Owner will pay for mobilization and demobilization only once. Should the Contractor demobilize prior to completing the project, such demobilization and subsequent remobilization shall be at no cost to the Owner.

5.3 Ratio of Mobilization and Demobilization Effort

Sixty percent (60%) of the lump sum price will be paid to the Contractor upon completion of mobilization to the Work Area and after commencement of dredging access channels and constructing containment dikes. One hundred (100) feet of access channels and containment dikes must be constructed in a twenty-four (24) hour period before this payment will be made. The Contractor's survey records may be used for verification and the Owner and Engineer, at their discretion, may verify the survey results. The remaining forty percent (40%) will be paid to the Contractor upon completion of demobilization from the Work Area.

5.4 Justification of Mobilization Costs

In the event that the Owner considers the amount in this item, sixty percent (60%) and forty percent (40%) which represents mobilization and demobilization respectively does not bear a reasonable relation to the cost of the Work in this Contract, the Owner may require the Contractor to produce cost data to justify this portion of the Bid. Failure to justify such price to the satisfaction of the Owner will result in payment of actual mobilization costs, as determined by the Owner at the completion of mobilization, and actual demobilization costs at the completion of demobilization, and payment of the remainder of this item in the final payment under this Contract. The determination of the Owner is not subject to appeal.

5.5 Measurement and Payment

All costs associated with mobilization and demobilization of the entire Contractor's plant, Equipment, personnel, and those of his/her Subcontractors and such others costs as may be denoted in the Contract Documents shall be paid for at the Contract lump sum price for Bid Item No. 1 “Mobilization/ Demobilization”.

TS-6 SURVEYING

6.1 Scope

Transects to be surveyed are shown on the Plans. Benchmark "RONQUILLE 2" is located in the Work Area and was installed as part of LDNR's Secondary GPS Network. This benchmark shall be used for horizontal and vertical control. A data sheet for this benchmark is included in Appendix A. The survey baselines shown on the Plans were established for the engineering and design survey and shall be used to reference the surveys specified herein. **Pre-construction surveys** are those required to be conducted prior to the commencement of Work. Any required intermediate surveys are referred to as **progress surveys**. **Post-construction surveys** are those required to be conducted after project features are constructed. Post-construction surveys used to determine payment acceptance and quantities may be referred to as **payment surveys**. Accepted post-construction surveys shall be included on the **survey drawings**. All surveying work listed in this section shall be performed under the direct supervision of a professional surveyor licensed in the State of Louisiana. All survey drawings shall be signed and sealed by the surveyor.

6.2 Temporary Bench Marks (TBM):

Temporary Benchmarks shall be installed at locations necessary to stakeout the project baselines as well as other project features. Horizontal and vertical coordinates shall be determined for all TBMs installed. All TBM's shall reference Benchmark "RONQUILLE 2". The Contractor shall maintain the TBMs for the duration of construction at the Contractor's expense. In the event that a single TBM is disturbed and/or destroyed, the TBM may be reinstalled by a qualified Contractor employee approved by the Owner. If multiple TBMs are destroyed, the Owner may require the TBMs to be reinstalled by a professional surveyor licensed in the State of Louisiana.

6.3 Accuracy and Methodology

Surveys shall be conducted in accordance with NOAA Technical Memorandum NOS NGS-58, "GUIDELINES FOR ESTABLISHING GPS-DERIVED ELLIPSOID HEIGHTS" which can be found at http://www.ngs.noaa.gov/PUBS_LIB/NGS-58.pdf. All horizontal positions shall be in the Louisiana Coordinate System South Zone North America Datum of 1983 (NAD 83) and elevations in the North American Vertical Datum of 1988 (NAVD88 Geoid 99). All surveys shall be conducted using the 5 cm accuracy standard. All onshore points shall be within ±1 foot horizontally of the established profile line. The Contractor shall use Digital Leveling Instruments, Real Time Kinematic (RTK) and Global Positioning System (GPS) receivers, and software necessary to achieve the required survey accuracy. A 6 inch diameter metal plate shall be attached to the bottom of the survey rod to prevent the rod from sinking past the bottom.

For offshore bathymetric surveys, fathometer and positional data shall be collected along the survey lines with data points collected every 1 second. All offshore points shall be within ±30 feet horizontally of the established profile line. Calibration of the fathometer shall be performed for verification of accuracy at the beginning and end of each survey day through the use of a bar check plate or survey level rod based on the water depth of

the survey area. Latency checks shall be conducted periodically throughout each day. The latency corrections shall be calculated and adjustments shall be made to the data. If bathymetry data is not collected using RTK equipment, the data shall be corrected for tidal variations. If topographic and bathymetric methods are combined for fill area surveys, onshore and offshore profiles must overlap by a minimum of fifty (50) feet.

6.4 Fill Area Surveys and Volume Calculations

A pre-construction survey of the natural ground elevations of the beach, dune and marsh fill areas shall be made in order to calculate a fill volume. It shall consist of transects spaced 250 feet apart and oriented perpendicular to the survey baseline as shown on the Plans. The transects shall extend 50 feet beyond the Marsh Fill Containment Dike (Containment Dike North) towards the north and shall extend 1000 feet beyond the survey base line to the south. Elevations shall be recorded at points every 50 feet minimum along each transect line in the marsh fill and 25 feet minimum along each transect line in the beach and dune fill. Elevations shall also be recorded at abrupt changes and where beach and dune fill areas meet marsh fill areas. This point shall be denoted on all transects. The pre-construction surveys must be submitted and approved by the Engineer prior to the placement of beach, dune, and marsh fill.

The exact same transects shall be surveyed again when the Contractor requests payment for filling operations. If marsh fill areas are deemed inaccessible, as determined by the Engineer, the Contractor shall determine marsh fill elevations from visual inspections of the marsh fill grade stakes under direct supervision of the Inspector. The area contained in each transect shall then be calculated if the post-construction elevations are accepted by the Engineer. Conditions for acceptance are outlined in TS-9 MARSH FILL and TS-10 BEACH AND DUNE FILL. The volume for each fill section shall be calculated by multiplying the average transect cross sectional area by the length of the fill segment (average end area method) or other method approved by the Engineer. Volume calculations shall be submitted to the Engineer for verification.

6.5 Borrow Area Surveys

The borrow area shall be surveyed both before and after dredging. Progress surveys shall also be conducted as directed by the Engineer after the overburden is removed, prior to dredging the marsh cut, and after the marsh cut is removed, prior to dredging the beach/dune cut. Survey transects shall be spaced 200 feet apart, perpendicular to the borrow area center line, and extend 200 feet past the limit of the overburden cut unless otherwise shown on the Contract Plans. The pre-construction surveys must be submitted to and approved by the Engineer prior to beginning borrow area excavation to ensure that borrow area elevations have not significantly changed. All bathymetric surveys must be corrected for tidal fluctuations and wave action to the referenced datums.

6.6 Overburden Disposal Area Surveys

If the overburden disposal area is used by the Contractor, the area shall be surveyed both before and after construction. Survey transects shall be spaced 500 feet apart, North – South in direction, and extend 200 feet past the limit of overburden disposal as shown on the Plans. The drawings for pre-construction surveys must be submitted to and approved

by the Engineer prior to beginning excavation to ensure that overburden disposal area elevations have not significantly changed. All bathymetric surveys must be corrected for tidal fluctuations and wave action to the referenced datums.

6.7 Access Channel Surveys

Access channels shall be surveyed as shown on the Plans both before and after construction. Transects shall be surveyed perpendicular to the access channel centerline every 500 feet and shall include any side cast disposal areas and containment dikes. Points to be surveyed include top and bottom of cut for both sides of the channel and the channel bottom mid point. Transects shall extend 50 feet beyond the channel. If the adjacent side cast disposal areas and containment dikes are present, transects shall extend 50 feet past these features. Surveys of containment dikes adjacent to the access channel shall include the toe and crown elevations on each side of the dike. Additionally, the centerline of each post-construction access channel plug located at stations 120+00, 140+00, 160+00, and 180+00 shall be surveyed. These surveys will be checked by the Owner and Engineer for permit compliance and restoration of side cast disposal areas to original conditions.

6.8 Water Exchange Channel Surveys

A survey of the water exchange channel shall be conducted immediately after its construction is complete and again at the completion of overall project construction. Transects shall be surveyed perpendicular to the water exchange channel centerline every 200 feet. Points to be surveyed include top and bottom of cut for both sides of the channel and the channel bottom mid point. Transects shall extend 50 feet beyond the channel. Where the adjacent side cast disposal areas and containment dikes are present, transects shall extend 50 feet past these features. These surveys will be checked by the Owner and Engineer to ensure that the design channel width, side slopes, and elevation have been achieved to maintain water exchange. Construction of beach, dune, and marsh fill sites will not be authorized to begin until the water exchange channel width, elevations, and slopes are approved.

6.9 Sand Fencing Surveys

Horizontal locations of approved sections of installed sand fencing shall be recorded at fencing end points and at locations every 1000 feet in between.

6.10 Settlement Plate Surveys

The elevation of the top of each settlement plate shall be recorded and reported to the nearest tenth of a foot (0.1') NAVD88 (Geoid99) as well as its Northing and Easting coordinates in Louisiana State Plane South NAD 83 US. FT. Elevation and horizontal position shall be recorded upon installation and again weekly throughout the duration of construction. An excel spreadsheet of the elevation and position data shall be provided to the Owner and Engineer monthly and upon completion of the project. The initial and final elevation and position shall be listed on the post-construction survey drawings.

6.11 Marsh Fill Grade Stakes Surveys

The Contractor must provide the Engineer with an electronic file containing the following information:

1. Grade Stake Number
2. Northing and Easting (Louisiana State Plane South NAD 83 US. FT.)
3. Elevation of the top of the stake to the nearest tenth of a foot (0.1') NAVD88 (Geoid99) FT
4. Distance from the top of the stake to the top of the gauge sign to the nearest tenth of a foot (0.1') NAVD88 (Geoid 99) FT.
5. Distance from the top of the stake to the existing ground (tape-down distance)

6.12 Magnetometer Surveys

A magnetometer survey shall be performed in preparation for this project in an effort to verify locations of pipelines and other underwater obstructions in all areas of excavation. Prior survey results are presented in Appendix B. This does not relieve the Contractor of responsibilities set forth in GP-26 COOPERATION WITH PUBLIC UTILITIES or GP-27 UTILITIES AND IMPROVEMENTS.

6.13 Survey Drawings

Survey drawings required by these Specifications shall be submitted to the Engineer in digital AutoCAD format and 11" X 17" hard copy. A total of 5 hard copies of the survey drawings shall be submitted within thirty (30) days of completing the pre-construction, progress, and post-construction surveys. Drawings shall be based on the original drawings using the original scales and datums. The drawings shall be signed and sealed by a professional surveyor licensed in the State of Louisiana and submitted to the Owner and Engineer for approval prior to final acceptance.

6.14 Survey Deliverables

Survey deliverables shall be submitted to the Engineer within thirty (30) days of completing the pre-construction, progress, and post-construction surveys. The survey deliverables shall contain the following information:

1. Point Files containing point number, Northing and Easting (Louisiana State Plane South NAD 83 US. FT.), Elevation (reported to the nearest 0.1' NAVD88 (Geoid99) FT.), and point description in electronic format.
2. Survey drawings as described in TS-6.13 "Survey Drawings".
3. 3D quality files in electronic format.
4. RINEX files in electronic format.
5. Hard copy of survey field notebook.

6.15 Ratio of Pre- and Post-Construction Surveying Effort

Sixty percent (60%) of the lump sum price will be paid to the Contractor upon completion of pre-construction surveys and the remaining forty percent (40%) will be paid to the Contractor upon approval of post-construction survey drawings and electronic submittals.

6.16 Justification of Surveying Costs

In the event that the Owner considers the amount in this item, sixty percent (60%) and forty percent (40%) which represents pre- and post-construction surveys, respectively as defined in TS-6.15 "Ratio of Pre- and Post-Construction Surveying Effort" does not bear a reasonable relation to the cost of the Work in this Contract, the Owner may require the Contractor to produce cost data to justify this portion of the Bid. Failure to justify such price to the satisfaction of the Owner will result in payment of actual surveying costs, as determined by the Owner at the completion of each survey, and payment of the remainder of this item in the final payment under this Contract. The determination of the Owner is not subject to appeal.

6.17 Measurement and Payment

All costs associated with pre- and post-construction surveys as may be denoted in the Contract Documents shall be paid for at the Contract lump sum price for Bid Item No. 2 "Surveying". All surveying required in this section shall be performed under the direct supervision of a professional surveyor licensed in the State of Louisiana.

TS-7 CHARACTER OF BORROW MATERIALS

7.1 General Description

The borrow area materials for the project are documented by vibracore samples and classified by the laboratory tests. Three different layers of sedimentary materials have been identified from these analyses.

7.2 Inspection of Materials

The dredge site contains substantial quantities of fine grained sediments. The Contractor should note that the fine grained portion of the material may remain in suspension generating turbidity. The Contractor may have to adjust his/her production rate to control turbidity and water quality as required by the Engineer. The Contractor is required to examine the geophysical and geotechnical data included in Appendix C. The Contractor is also encouraged to make his/her own investigations pursuant to specification TS-1.2 "Site Examination".

TS-8 DREDGING

8.1 General Description

All dredging for dredge sites including the borrow area and access and water exchange channels shall be performed within the permitted dredge limits as depicted on the Plans and in the Permits. All dredging shall be performed in a uniform and continuous manner

so as to avoid creating multiple holes, valleys, or ridges within the section of the area to be dredged. The Contractor shall change the location and depth of dredging within the dredge limits when necessary to avoid non-specification material. Materials such as logs, stumps, snags, scrap and other debris may be encountered within the dredge limits and shall be removed and disposed of by the Contractor. The Contractor shall immediately change the location of the dredging in order to avoid placement of the non-specification materials in the fill areas. The Contractor shall also notify the Engineer and Owner immediately of these changes. The location of unsuitable material encountered within the borrow area dredge site shall be noted on the Contractor's Daily Quality Control Report. The Contractor shall set marker buoys which have been approved by the Engineer and will meet USCG standards to delineate the borrow area dredge site as it is being dredged. The location and limits of unsuitable material placement within the fill area shall also be noted to allow removal or remediation by the Contractor.

8.2 Hydraulic Dredging and Transport

The method of transporting materials from the borrow area to the beach, dune, and marsh fills, and overburden disposal area shall be done by hydraulic dredge and pipeline. A DREDGE DATA SHEET is included in GENERAL PROVISIONS and must be completed and submitted with the Bid. The dredge equipment and attendant plant shall be in satisfactory operating condition, capable of efficiently performing the Work as set forth in the Plans and Specifications, and shall be subject to inspection by the Owner or Engineer prior to beginning the Work, and at all times during construction. All vessels shall meet the requirements in SP-12 MARINE VESSELS AND MARINE ACTIVITIES.

The proposed location of the submerged pipeline must be approved by the Owner and Engineer prior to installation. Pipelines shall be routed around natural resource areas including emergent shoals and oyster beds, and the construction Equipment shall avoid the natural resource areas. The Contractor will be allowed a maximum of **three (3)** pipeline corridors to the fill sites. The pipeline corridors shall be no wider than 100 feet and the Contractor shall specify their locations in the Work Plan. When the submerged line is placed in shallow water, outside the navigable channel, where the possibility exists for small outboard powered skiffs to cross over the submerged pipeline, the pipeline shall be marked with fluorescent orange buoys and signs stating “DANGER SUBMERGED PIPELINE” every 150 feet throughout the length of the submerged pipeline. The Contractor shall be required to conduct the Work in such a manner as to maintain vessel traffic.

The Contractor shall maintain a tight discharge pipeline at all times. The joints shall be so constructed as to preclude spillage and leakage. The development of a leak shall be promptly repaired and the dredge shall be shut down until completed repair has been made to the satisfaction of the Owner and Engineer. Failure to repair leaks or change the method of operations in a timely manner will result in suspension of dredging operations. If a technique is used for this project that requires anchoring of barges within the Work Area, only barges using spud-type anchoring or anchoring to driven piles shall be allowed. No use of spud-type anchors or driving of piles shall be allowed within fifty (50) feet of pipelines. Conventional anchoring may only be used in the dredge site. No

anchoring shall be allowed outside of the approved Work Area unless approved by the Owner. If pilings are used for anchorage, the pilings shall be well marked and removed in their entirety upon completion of the Contractor's operations. The Contractor shall provide and maintain lights and warning signals to insure safety in the vicinity of all disposal operations including marsh, beach, and dune fills and the overburden disposal area. Any damages to private or public property resulting from the Contractor's operations shall be repaired by the Contractor at his/her expense. Costs incurred by the Contractor for compliance with this section should be included in the mobilization and demobilization cost in the Bid Price.

8.3 Dewatering and Turbidity Control

The Contractor shall conduct his/her work in a manner that will not cause damaging siltation or pollution of any water bodies. All applicable Federal and State regulations of agencies and statutes relating to the prevention and abatement of pollution shall be complied with in the performance of the Contract. Dredging and filling operations shall be done in a manner that will minimize turbidity of the water at each dredge site and at the discharge sites from the beach, dune and marsh fills. Discharge water from the fill sites shall be directed towards the Gulf. **No discharge will be allowed towards Bay Joe Wise to the north of the Work Area.**

The Contractor shall keep construction activities under continued surveillance, management, and control to minimize interference with, disturbance to, and damage of water, fish and wildlife resources. If excess turbidity occurs, the Contractor shall report such to the Engineer and change the operating procedure to reduce the degree of turbidity.

If necessary, the Contractor shall use turbidity control measures for dewatering. The Contractor shall submit a Turbidity Control Plan with the Work Plan including descriptions and drawings of all turbidity control measures used and locations of all proposed discharges for approval by the Engineer. All turbidity control structures must be removed prior to demobilization.

8.4 Borrow Area Cut Sequence

The borrow area delineated on the Plans contains three sedimentological units. The top unit is composed of soft clay overburden of varying thickness which the Contractor must dispose of as specified in TS-8.5 “Overburden Disposal”. Immediately underlying the overburden is a layer of interbedded clay, silt, and sand averaging 10 feet in thickness to be used for marsh fill construction. The bottom-most unit delineated in the borrow area is composed of mostly beach compatible sand averaging 12 feet in thickness and shall be used for beach and dune fill. Signatures in the seismic data indicate the presence of beach compatible sand below coring depths. The Contractor is allowed to over-dredge this unit by no more than 5 feet at his/her own risk, provided that beach compatible sand is encountered. If material is dredged below this allowable depth, the Contractor may be subject to deductions set forth in TS-8.7 “Deductions for Non-Conforming Work”. The Contractor must submit a proposed borrow area cut sequence with the Initial Work Plan for approval by the Owner and Engineer prior to dredging operations.

8.5 Overburden Disposal

The Contractor shall dispose of overburden materials at no direct pay. The Contractor may place overburden materials in the marsh fill area or the approved disposal area shown on the Plans. All overburden material pumped to the fill templates shall be dewatered to the Gulf of Mexico in accordance with TS-8.3 "Dewatering and Turbidity Control". Any overburden material placed outside of these specified areas shall be removed and re-deposited into the approved areas or as directed by the Owner and Engineer at the Contractor's expense in accordance with TS-18 MISPLACED MATERIAL.

8.6 Dredge Location Control

8.6.1 Horizontal Location

The Contractor is required to have electronic positioning Equipment that will locate the dredge when operating in the borrow area. The Contractor shall keep this Equipment functioning on the dredge at all times during construction and when the dredge is within one (1) mile of the borrow area or the fill areas. The Contractor is required to calibrate the Equipment as required by the manufacturer. Proof of calibration shall be submitted to the Owner and Engineer. Continuous locations of the dredge shall be made at all times during dredging operations. The location is to be by computed coordinates in the Louisiana State Plane South Coordinate System, NAD 1983 (Lambert Conformal Conic) with a probable range error not to exceed 15 feet. Positions shall be recorded at least every ten (10) minutes and furnished daily as part of the Contractor's Daily Quality Control Reports, along with a drawing of the track of the dredge in relation to the dredge site. The Contractor's method of location of the dredge shall be submitted to the Owner and Engineer for review and approval with the Contractor's Work Plan.

8.6.2 Dredging Elevations

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 may be a graph type paper or electronic recorder. The paper or depth record produced by this instrument shall be submitted daily with the Daily Quality Control Report. Flagging or marking the winch cables is not an acceptable option to fulfill this instrument requirement. The indicators shall be in plain view of Operators and Inspector(s) and be adjusted to the reference datum, NAVD 1988 (Geoid99). The Contractor shall use surveying Equipment and methodology specified in TS-6.3 "Accuracy and Methodology" to achieve this vertical datum if possible. If the borrow area is out of the range of the specified Equipment, the Contractor shall use measured tides to adjust dredging depth to the reference datum. Proposed tide correction methods and measurements must be submitted in the Contractor's Work Plan for review and approval by the Owner and Engineer.

8.7 Deduction for Non-Conforming Work

No excavation shall occur below the permitted dredging depth or outside the permitted dredging limits defined in the Contract and Permits. This provision does not apply to the slopes of the dredge cut; that is, the Contractor will not be held responsible for material running from outside the dredging limits when excavating at an edge of a dredge site. Material that is obtained from un-permitted areas will not be paid for under this Contract. Excavation in any area not depicted on the Plans is a violation of Permits for this Work. If pre- and post-construction surveys in the dredge site and construction observations determine that dredging has been performed outside or below the permitted limits resulting in placement of non-compatible beach, dune, or marsh fill, the quantity of material dredged from these areas will be computed and subtracted from the pay quantity. Locations outside and below the permitted limits of the borrow area dredge site may contain material deposits that are undesirable for beach, dune, or marsh fill. Further, the Contractor shall remediate the beach, dune, or marsh fills to remove non-compatible materials excavated from un-permitted areas as required by the permitting agencies and at no additional cost to the Owner.

TS-9 MARSH FILL

9.1 General Description

Marsh fill operations shall consist of removing and satisfactorily placing specified materials in accordance with these Specifications and in conformity to the lines, grades, and elevations shown on the Plans or as directed by the Owner and Engineer.

9.2 Suitable Fill Materials

Suitable materials for marsh fill include clay, silts, and fine sand. Analysis of vibracores included in Appendix C indicates the presence of a layer of interbedded clay, silt, and sand immediately underlying a clay overburden layer in the borrow area as shown on the Plans. The Contractor shall target this layer of material for marsh fill. Overburden materials shall be disposed of as specified in TS-8.5 “Overburden Disposal”. Dredge discharge shall be monitored for suitable fill materials. If non-suitable materials are encountered, the Contractor shall take actions specified in TS-8 DREDGING.

9.3 Material Handling

The Contractor shall, prior to placement of fill, remove all snags, trees, stumps, driftwood, sharp objects, and similar debris lying within the limits of the marsh fill segment. All materials removed shall be disposed of in areas provided by and at the expense of the Contractor and approved by the Owner and Engineer. Grading and other construction Equipment shall not be permitted outside the Contractor's Work Area as shown on the Plans except for designated ingress and egress to and from the Work Area as provided by the construction access locations.

The marsh fill material shall be placed and allowed to dewater/decant in the template to the lines, grades and cross sections indicated on the Plans unless otherwise provided for herein or directed by the Owner or Engineer. The Contractor shall not stockpile pipe or any other Equipment or debris outside of the Contractor’s Work Area as shown on the

Plans and as required by TS-18 MISPLACED MATERIAL. Additionally, the Contractor will be responsible for restoring unauthorized disposal areas to pre-construction conditions at his/her own expense as specified in TS-19 ENVIRONMENTAL PROTECTION.

The Owner and Engineer reserve the right to vary the width and grade of the marsh fill template from the lines and grades shown on the Plans. The cross sections shown on the Plans were used for the purpose of calculating Bid quantities of marsh fill. Pay quantities will be based on pre- and post-construction surveys in accordance with TS-6 SURVEYING. The marsh is subject to changes and the elevations in the marsh at the time the Work is done may vary from the elevations shown on the Plans.

9.4 Marsh Fill Elevation Tolerance

Placement of hydraulic fill material in the marsh fill area shall be to the elevations and areas shown on the Plans. The **target marsh fill elevation = 2.6 ft NAVD88 (Geoid99)** with a tolerance of ±0.5 ft. The **minimum marsh fill elevation = 2.1 ft NAVD88 (Geoid99)** and the **maximum marsh fill elevation = 3.1 ft NAVD88 (Geoid99)**.

9.5 Measurement, Payment and Acceptance

9.5.1 Payment for Marsh Fill

Price and payment shall constitute full compensation for furnishing all plant, labor, Materials and Equipment for dredging, satisfactory placement of specified material into the designated marsh fill, and performing all Work as specified herein. Payment for marsh fill will be made at the Contract unit price per cubic yard for Bid Item No. 4 "Marsh Fill". The price per cubic yard for marsh fill segments will be paid to the Contractor upon acceptance of payment surveys and volume calculations as specified in TS-6 SURVEYING.

Payment for dredging per cubic yard placed within the marsh fill template shall be subject to the tolerances specified in TS-9.4 "Marsh Fill Elevation Tolerance". The marsh fill quantity will be the volume between the natural ground and the fill elevation as calculated under TS-6 SURVEYING. Marsh fill segments under consideration for payment must undergo a waiting period for **30 days** without any additional placement of fill material before payment surveys will be made.

9.5.2 Acceptance of Marsh Fill

Segments of marsh fill with elevations below the **minimum elevation of 2.1 ft NAVD88 (Geoid99)** will not be accepted. Additional marsh fill must be pumped into these areas after the **30 day** waiting period and re-surveyed before acceptance will be considered. Once payment surveys are accepted they will be considered post-construction surveys for inclusion in the final survey drawings. Although the Contractor will be allowed to overfill marsh fill areas not to exceed the **maximum elevation of 3.1 ft NAVD88 (Geoid99)**, no payment will be made for material above the **target elevation of 2.6 ft NAVD88 (Geoid99)**. Any material placed above the maximum elevation of **3.1 ft NAVD88 (Geoid99)** may be subject to removal by the Contractor if required by the Owner or Engineer at no additional cost to the Owner.

9.5.3 Payment Requests for Marsh Fill

The Contractor may request payment for marsh fill placement on a monthly basis. Payments shall be based on completed and approved adjacent fill segments. The Contractor will be eligible for initial payment when a minimum of three (3) adjacent fill segments (750 feet) have been surveyed and accepted. Subsequent payment requests must also include a minimum of three (3) adjacent fill segments.

9.6 Settlement Plates

Settlement plates shall be placed at locations shown on the Plans within the marsh fill template for the purpose of long term settlement monitoring. For Materials and installation specifications, the Contractor shall refer to TS-14 SETTLEMENT PLATES. Settlement plate locations and elevations shall be recorded in accordance with TS-6 SURVEYING.

9.7 Marsh Fill Grade Stakes

For Materials, installation specifications, and placement locations the Contractor shall refer to TS-15 MARSH FILL GRADE STAKES. Grade stake locations and elevations shall be recorded in accordance with TS-6 SURVEYING.

TS-10 BEACH AND DUNE FILL

10.1 General Description

Beach and dune fill operations shall consist of removing and satisfactorily placing specified materials in accordance with these Specifications and in conformity to the lines, grades, and elevations shown on the Plans or as directed by the Owner and Engineer.

10.2 Suitable Fill Materials

Analysis of vibracores included in Appendix C indicates the presence of a layer comprised primarily of fine sand of suitable grain size in the borrow area as shown on the Plans. The Contractor shall excavate from this layer for beach and dune fill. This layer underlies a layer of clay overburden and a layer of interbedded clay, silt, and sand. These upper layers shall be excluded from the beach and dune fill sites. The interbedded materials shall be used for marsh fill and the overburden materials shall be disposed of as specified in TS-8 DREDGING. Dredge discharge shall be monitored for suitable fill materials by the Inspector. If non-specification materials are encountered, the Contractor shall take actions specified in TS-8 DREDGING.

10.3 Material Handling

The Contractor shall, prior to placement of fill, remove all snags, trees, stumps, driftwood, sharp objects, and similar debris lying within the limits of the beach and dune fill template. All Materials removed shall be disposed of in areas provided by and at the expense of the Contractor and approved by the Owner and Engineer. Grading and other construction Equipment shall not be permitted outside of the beach and dune fill areas shown on the Plans, except for designated ingress and egress to and from the Work Area as provided by the construction access locations.

The beach and dune fill material shall be placed and allowed to dewater/decant in the templates to the lines, grades and cross sections indicated on the Plans unless otherwise provided for herein or directed by the Owner and Engineer. Tapers with minimum lengths indicated on the Plans shall be constructed at the ends of the fills wherein construction grades shall be transitioned to meet existing grades. The Contractor shall not stockpile pipe or any other Equipment or debris outside of the Contractor's Work Area as shown on the Plans and as required by TS-18 MISPLACED MATERIAL. Additionally, the Contractor will be responsible for restoring unauthorized disposal areas to pre-construction conditions at his/her own expense as specified in TS-19 ENVIRONMENTAL PROTECTION.

The Owner and Engineer reserve the right to vary the width and grade of the beach and/or dune template from the lines and grades shown on the Plans in order to establish a uniform beach and/or dune for the entire length of the project. The cross sections shown on the Plans were used for the purpose of calculating Bid quantities of beach and dune fill. Pay quantities will be based on pre- and post-construction surveys in accordance with TS-6 SURVEYING. Existing beach and dune elevations are subject to changes and may vary from the elevations shown on the Plans.

10.4 Beach and Dune Fill Elevation Tolerance

Placement of hydraulic fill material in the beach and dune fill templates shall be to the elevations and areas shown on the Plans. The **target beach fill elevation = 4.5 ft NAVD88 (Geoid99)** with a tolerance of ±0.5 ft. The **target dune fill elevation = 7.0 ft NAVD88 (Geoid99)** with a tolerance of ±0.5 ft. The Owner or Engineer may require the Contractor to remove material placed above this tolerance at no expense to the Owner. The Contractor may use stakes to monitor these elevations. No materials are specified for these optional stakes; however they must be entirely removed prior to acceptance of beach and dune fill.

10.5 Final Grading

Upon completion of construction operations, the beach from the seaward toe of the dune to the Mean High Water Line shall be graded and dressed throughout the beach fill to remove ruts, humps and depressions in the beach surface resulting from construction operations. All optional monitoring stakes shall be removed entirely prior to acceptance. Any excavation required to remove the stakes shall be backfilled.

10.6 Measurement, Payment and Acceptance

10.6.1 Payment for Beach and Dune Fill

Payment shall be made for materials and Work specified for furnishing all plant, labor, Materials and Equipment for dredge site hydraulic excavation, signs, pipeline crossings, transportation and placement of beach and dune fill; debris removal and disposal as specified in TS-10.3 "Material Handling"; beach and dune profile construction and final grading; turbidity monitoring; environmental protection measures; and, all other appropriate costs in connection therewith or incidental thereto this Work, shall be included in the applicable Contract unit

price per cubic yard for Bid Item No. 6 “Beach and Dune Fill”. Any material dredged from unauthorized areas will be subtracted from the net amount used for payment, as specified in TS-8.7 “Deduction for Nonconforming Work”. The price per cubic yard for beach and dune fill segments will be paid to the Contractor upon acceptance of surveys and volume calculations as specified in TS-6 SURVEYING.

10.6.2 Acceptance of Beach and Dune Fill

Segments of beach fill with elevations below the **minimum elevation of 4.0 ft NAVD88 (Geoid99)** and segments of dune fill with elevations below the **minimum elevation of 6.5 ft NAVD88 (Geoid99)** will not be accepted. Additional beach or dune fill must be placed into these areas and re-surveyed before acceptance will be considered. Once payment surveys are accepted by the Engineer they will be considered post-construction surveys for inclusion in the final survey drawings. No payment will be made for material above the beach fill **target elevation of 4.5 ft NAVD88 (Geoid99) and the** dune fill **target elevation of 7.0 ft NAVD88 (Geoid99)**. Any material placed above the beach fill maximum elevation of 5.0 **ft NAVD88 (Geoid99) and dune fill maximum elevation of 7.5ft NAVD88 (Geoid99)** may be subject to removal by the Contractor if required by the Owner or Engineer at no additional cost to the Owner.

10.6.3 Payment Requests for Beach and Dune Fill

The Contractor may request payment for beach and dune fill placement on a monthly basis. Payments shall be based on completed and approved adjacent fill sections. The Contractor will be eligible for initial payment when a minimum of three (3) adjacent fill sections (750 feet) have been surveyed and accepted. Subsequent payment requests must also include a minimum of three (3) adjacent fill sections.

10.7 Sand Fencing

Sand fencing shall be installed on accepted segments of dune fill as shown on the Plans to aid in the stabilization of sand and in the retention of wind blown sand within the Work Area. For Materials and installation Specifications, the Contractor shall refer to TS-13 SAND FENCING.

TS-11 CONTAINMENT DIKES

11.1 Marsh Fill Containment Dike (Containment Dike North)

The Containment Dike North (CDN) shall be constructed such that the discharge from the marsh fill shall not be allowed to flow back into the Access and Water Exchange Channel or other areas to the North of the Work Area. Discharge will only be allowed to the South towards the gulf. A description of dewatering and turbidity control measures shall be submitted with the Contractor’s Work Plan in accordance with TS-8 DREDGING for review and approval by the Owner and Engineer prior to commencement of dredging operations. The boundaries of the containment dikes are depicted on the Plans. The CDN shall be erected within the lines, grades, and elevations specified in the drawings as necessary to prevent discharge into said areas. Dike material

shall be taken from either the access and water exchange channels or in-situ material within the hydraulic fill placement areas and re-filled during hydraulic dredge and fill operations. All associated costs with placing hydraulic fill to fill in-situ borrow channels used for containment dike construction shall be at no direct pay.

The boundaries of the containment dikes are based on the field conditions present at the time of the survey. The Contractor may request a change of alignment or an addition of linear footage if field conditions have changed significantly from those represented on the Plans. All requests must be submitted in writing in the Contractor's Work Plan for review and approval by the Owner and Engineer. Any revision resulting in a change of length will be accomplished by a Change Order. Otherwise, the revision will be accomplished by a Field Order. A permit modification may be required if the length, width, or elevation of the proposed dikes is greater than shown in the Plans. No additional construction time will be granted to obtain permit modifications.

The containment dikes shall be accessed through existing open water to the extent possible. Any access route that requires travel across existing marsh must first be approved by the Owner, Engineer, or Inspector(s) and be allowed by the Permits. Travel across existing marsh will be allowed only within the designated Work Area.

The Contractor will be required to control and or reduce the outflow production rate in the marsh fill area to prevent damage to the marsh containment dike or the marsh edge, which would result in a loss of dredged material in the marsh fill area. The Contractor shall submit a method for controlling the production rate in the marsh fill area in the contractor's work plan. The Contractor shall maintain the integrity of the CDN during construction. After the final acceptance of the marsh fill, and prior to demobilization, the Contractor shall be required to gap or degrade the CDN at locations designated by the Engineer.

11.2 Beach Fill Containment Dike (Containment Dike South)

The containment dike separating marsh fill from beach fill is depicted on the Plans as Containment Dike South (CDS). The containment must be centered along the marsh fill/beach fill boundary. For the western end of the beach fill template, the Contractor shall submit proposed beach fill containment methods with the Work Plan for approval by the Engineer. The Contractor may construct the containment of in-situ material or sand delivered to the fill site via dredging operations. **There are EP and TGP gas pipelines depicted on the Plans near the beach fill containment dike alignment. No excavation will be allowed within 50 feet of the alignment of these pipelines.** The Contractor must coordinate construction of the beach fill containment dike with EP and TGP whose contact information is included in GP-27 UTILITIES AND IMPROVEMENTS.

If in-situ material within the fill areas is used, borrow channels must be re-filled during hydraulic dredge and fill operations. All associated costs with placing hydraulic fill to fill in-situ borrow channels used for the beach fill containment dike construction shall be at no direct pay.

The CDS elevation must be modified prior to demobilization such that there is a smooth transition from beach fill to marsh fill at the boundary to prevent ponding of water, which shall meet the tolerances specified in TS-9.4 “Marsh Fill Elevation Tolerance”.

The Contractor may request a minor change of alignment if field conditions have changed significantly from those represented on the Plans and limit constructability. All requests must be submitted in writing and be included in the Contractor’s Work Plan, which should also include the beach fill containment method the Contractor proposes to use. Any revision resulting in a change of length will be accomplished by a Change Order. Otherwise, the revision will be accomplished by a Field Order.

11.3 Optional Interior Containment Dikes (ICD’s)

If necessary, the Contractor may use optional Interior Containment Dikes (ICD’s) to achieve marsh fill elevations. ICD’s will be allowed within the marsh fill area and must be aligned perpendicular to the CDN and CDS. Locations of ICDs are left to the discretion of the Contractor to facilitate the placement of marsh fill material. Proposed locations of any and all ICDs must be specified in the Contractors Work Plan and subject to the approval of the Engineer. ICD’s shall be erected within the lines, grades, and elevations specified in the drawings with a maximum elevation of 3.1 ft NAVD88 (Geoid99). Any material placed above the maximum elevation may be subject to removal by the Contractor if required by the Owner or Engineer at no additional cost to the Owner. Dike material shall be taken from either the access and water exchange channels or in-situ material within the hydraulic fill placement areas and re-filled during hydraulic dredge and fill operations. All associated costs with placing hydraulic fill to fill in-situ borrow channels used for ICD construction shall be at no direct pay.

The Contractor may request a minor change of alignment if field conditions have changed significantly from those represented on the Plans and limit constructability. All requests must be submitted in writing and be included in the Contractor’s Work Plan, which should also include the containment method the Contractor proposes to use. Any revision resulting in a change of length will be accomplished by a Change Order. Otherwise, the revision will be accomplished by a Field Order.

11.4 Payment for Containment Dikes

Payment for containment dikes (CDN and CDS) will be made at the Contract unit price per linear foot for Bid Item No. 5 “Containment Dike”. All required maintenance of the dikes shall be performed by the Contractor at no direct pay. Price and payment shall constitute full compensation for furnishing all labor, Materials and Equipment for construction and maintenance of all required marsh fill containment dikes and performing all Work as specified herein. If used, optional ICD’s shall be constructed at no direct pay.

11.5 Ratio of Containment Dike Construction Effort

Sixty percent (60%) of the Contract unit price per linear foot will be paid to the Contractor upon acceptance of initially constructed segments of containment dikes (CDN and CDS), prior to placement of beach and dune fill and marsh fill to be contained by said segments. The remaining forty percent (40%) of the Contract unit price per linear

foot for all constructed and properly maintained containment dike segments (CDN and CDS) will be paid to the Contractor upon completion of demobilization from the Work Area.

TS-12 ACCESS AND WATER EXCHANGE CHANNELS

12.1 General Description

Channels shall be constructed to provide access for Equipment and Materials, a source of borrow material for containment dikes, and an avenue for sufficient water exchange between the gulf and back-bay area. Dredging shall consist of removing and satisfactorily placing all material required to construct the access and water exchange channels.

12.2 Method

No method of dredging will be specified. The Contractor may use any environmentally acceptable method that will complete the Work in accordance to that shown on the Plans. However, the Contractor shall submit to the Engineer the method and Equipment intended to be used to complete dredging of the channels as part of the Contractor's Work Plan. The Equipment to be used shall also be listed on the PLANT AND EQUIPMENT SCHEDULE FORM included in the GENERAL PROVISIONS.

12.3 Material Handling

Dredged material shall be deposited in the approved sidecast disposal areas as shown on the Plans and Permits, within the marsh fill template, used for constructing and maintaining containment dikes, or used to create post-construction access channel plugs. Some of these options may require double handling of material. Material placed in the sidecast disposal areas in the vicinity of Pass Chaland must conform to the elevations, grades, and lines specified in the Plans and shall be marked using warning signs as specified in TS-16 WARNING SIGNS. Material remaining in the sidecast disposal areas shall be reworked to ±0.5 ft of the pre-construction elevations prior to demobilization. Excess material from these areas shall be used to backfill the access channels upon demobilization by the Contractor. Elevations in the access channels resulting from backfilling operations shall also be no higher than + 0.5 ft of the original bottom depth.

Dredged material from access channels used to construct and maintain containment dikes shall conform to the elevations, grades, and lines specified in the Plans. Spoil material deposited within the marsh template shall conform to elevation tolerances specified in TS-9 MARSH FILL.

Material shall not be deposited anywhere other than as indicated on the Plans or as authorized by the Owner and Engineer. Any unauthorized dredge material placement shall be required to be removed and deposited in approved areas at the Contractor's expense as specified in TS-18 MISPLACED MATERIAL. Additionally, the Contractor will be responsible for restoring unauthorized disposal areas to pre-project conditions at his/her own expense as specified in TS-19 ENVIRONMENTAL PROTECTION.

12.4 Post-Construction Access Channel Plugs

The access channels shall be plugged as shown on the Plans at stations 120+00, 140+00, 160+00, and 180+00 prior to demobilization. Plugs shall be 50 feet long and shall be filled to within ± 0.5 ft of pre-construction grade. The Contractor may temporarily stockpile material within the Work Area approved by the Engineer for filling post-construction access channel plugs.

12.5 Tolerances

The limits of dredge work for access and water exchange channels shall conform to the lines and grades shown on the Plans. Tolerances outside these requirements must be approved by the Owner and Engineer.

12.5.1 Access Channel Tolerances

The access channels shall be maintained in a useable configuration dredged as deep and wide as needed for Equipment access and containment dike construction but no deeper than the maximum depth of -7.5 ft NAVD88 (Geoid 99) or wider than the maximum width as shown on the Plans for the duration of the project. If the access channel is dredged below -7.5 ft NAVD88 (Geoid 99), the Contractor may be required to backfill the channel at no direct pay and/or subject to deductions.

12.5.2 Water Exchange Channel Tolerances

In the area designated for the water exchange channel, the Contractor must achieve a depth of -5.5 ft NAVD88 (Geoid 99) with a vertical tolerance of ± 0.5 ft. If the water exchange channel is dredged below -6.0 ft NAVD88 (Geoid 99), the Contractor may be required to backfill the channel at no direct pay and/or subject to deductions. Water exchange channel width and side slopes shall be excavated to the template as shown on the Plans.

12.6 Navigation

The Contractor shall mark the channels in the vicinity of Pass Chaland and Grand Bayou Pass in accordance with TS-16 WARNING SIGNS and TS-17 LIGHTED AIDS TO NAVIGATION.

12.7 Measurement, Payment, and Acceptance

Access and water exchange channels shall be constructed to the lines and grades shown on the Plans and as specified herein. Price and payment shall constitute full compensation for all Materials, labor, supplies and Equipment required for dredging the channels and maintaining the dredged channels to the required depth for the duration of construction.

12.7.1 Payment for Access Channels

Access channels shall be paid for at the Contract lump sum price for Bid Item No. 3, “Access Channels”. Sixty percent (60%) of the lump sum price will be paid to the Contractor upon initial completion of the access channel. The remaining forty percent (40%) of the lump sum price will be paid upon completion of construction

and acceptance of post-construction surveys as specified in TS-6 SURVEYING and acceptance of the post-construction access channel plugs as specified in TS-12.4 "Post-Construction Access Channel Plugs".

12.7.2 Payment for Water Exchange Channels

Water exchange channels shall be paid for at the Contract price per linear foot for Bid Item No. 7, "Water Exchange Channel". Sixty percent (60%) of the price per linear foot will be paid to the Contractor upon initial completion of the water exchange channel and acceptance of the initial surveys as specified in TS-6 SURVEYING. The remaining forty percent (40%) of the price per linear foot will be paid upon completion of construction and acceptance of post-construction surveys as specified in TS-6 SURVEYING.

TS-13 SAND FENCING

13.1 General Description

Sand fencing shall be installed on accepted segments of dune fill in accordance with the Plans to aid in the stabilization of sand and in the retention of wind blown sand within the project area. Sand fencing must be installed within seven (7) days following payment acceptance of a dune fill segment. Section lengths and configurations may vary. Gaps, as shown on the Plans will separate the beginning and end of each fence section to facilitate movement through the fencing. Sand fencing shall be fastened to wooden fence posts at the top, middle and bottom. The wire shall be corrosion resistant and affixed with no less than three (3) tie clips around the posts. At the end of fence sections, two (2) wraps of wiring shall be used at each fence wire and at the top and bottom. Additional rows of fencing, or parts thereof, may be installed at various locations should site conditions warrant it. Tie clips or wire must be approved by the Owner or Engineer prior to construction. Three (3) wraps of the wire shall be used at all tie locations on the fence.

13.2 Materials

13.2.1 Posts

Fence posts shall be 4 inch x 4 inch untreated #2 grade lumber posts ten (10) feet long driven six (6) feet into the ground and placed ten (10) feet on center. The posts shall be vertically plumb and the alignment shall be in straight lines.

13.2.2 Fencing

Sand fencing shall be standard, weather resistant snow fencing. Sand fence shall be furnished in rolls of 50 feet or 100 feet. The sand fence is to be composed of the following elements:

1. Slats: Slats shall be made of No. 1 aspen or spruce measuring 3/8 inch thick, 1-1/2 inch wide by 4 feet long. The distance between slats shall be 3 inches on center (50% porosity). The slat shall be painted with a high quality red iron oxide stain.

2. Fence Wire: Wire for securing slats shall be good commercial quality steel that has been hot-dipped galvanized with a minimum gauge rating of 13. The wire shall be twisted around the slats sufficiently to penetrate the slat to hold it in place. Wire strands shall not exceed ten (10) inches and shall not be closer than four (4) inches from slat ends.

3. Tie Wire: The wire that is used to tie the fence to the post shall be galvanized and shall be at least one gauge larger than the individual wires used for the fencing.

4. Overlaps: Where sections of sand fence are joined, a minimum of six (6) inches of each section shall overlap. The overlaps shall be secured using three (3) wraps of wiring at four (4) places: top, bottom, middle top and middle bottom as specified.

13.3 Installation

13.3.1 Alignment

Sand fence location and alignment shall be in conformance with the Plans unless otherwise required or approved by the Owner or Engineer in order to accommodate site conditions that exist at the time of installation. Such location and alignment changes should not reduce the Contract quantity of fencing materials. The sand fence shall be installed facing the Gulf of Mexico on the southern side of the post.

13.3.2 Equipment

Equipment used for the installation of fence posts, the transportation of fencing Materials, and movement of personnel shall be appropriate for the Work, listed on the PLANT AND EQUIPMENT SCHEDULE form included in the GENERAL PROVISIONS, and approved by the Owner and Engineer. To be appropriate, Contractor's Equipment shall be of the type that shall not cause non-repairable damage to surface area of the beach and dune when properly used. All Equipment proposed for use on the beach and dune shall be acceptable to the Owner and Engineer prior to mobilization. Equipment operators shall be fully instructed with regards to avoiding damage to the beach and dune surfaces and vegetation. At the discretion of Owner and Engineer, the Contractor may be required to restore beach surface elevations changed by ±0.5 feet or more by the Contractor during mobilization, construction or demobilization.

13.3.3 Vegetated Areas

Fence installations shall be on the dune platform only. Fence installation may be in both vegetated and non-vegetated areas. In vegetated areas, ingress and egress of Equipment and personnel and the movement and placement of fence Materials shall be restricted and must be closely supervised by the Contractor. In non-vegetated areas, these factors shall be less restrictive but must be controlled; access to and from any non-vegetated area shall not be through vegetated areas. Unwarranted damage to the beach and dune environment shall be justification for the immediate removal of those responsible from the Work Area.

13.3.4 Storage

Fencing materials stored within the Work Area shall be placed in an easily accessible location that has been approved by the Owner or Engineer. Stored Materials shall be placed and maintained in a neat, orderly, and safe manner.

13.4 Measurement and Payment

Sand fencing shall be measured for payment by the linear foot completely installed in accordance with the Plans and Specifications and such approved changes as made thereto. Splice overlaps mentioned shall not be measured for payment. Sand fencing shall be paid for at the Contract price per linear foot for Bid Item No. 8, "Sand Fencing". Sand fencing location shall also be surveyed and recorded as specified in TS-6 SURVEYING.

TS-14 SETTLEMENT PLATES

14.1 General Description

This Work consists of furnishing and assembling the Materials needed to construct and install settlement plates in accordance with these Specifications and the Plans or as directed by the Owner and Engineer. Settlement plates will be used to monitor elevations of the marsh fill at locations where soil borings were sampled during project design. The soil borings are included as part of the geotechnical report included in Appendix D. Settlement plates shall be placed at locations shown on the Plans.

14.2 Materials

Settlement plates shall be fabricated with a four foot (4') x four foot (4') x one fourth inch (¼") plate with a three inch (3") diameter riser pipe connected to the center of the plate with a 3/16 inch continuous fillet weld. The pipe length shall be the length specified on the Plans, and the top shall be closed with a welded cap. All Materials shall be made of ASTM A36 steel and after fabrication the settlement plate shall be hot dipped galvanized.

14.3 Zinc Coating

Zinc coating shall be applied in a manner and thickness quality conforming to ASTM A-123. In all cases where zinc coating is destroyed by cutting or other causes, the affected areas shall be re-galvanized with a suitable low-melting zinc base alloy similar to the recommendations of the American Hot-Dip Galvanizers Association to the thickness and quality specified for the original zinc coating. Coating less than 2 ounces shall be re-galvanized by a repair compound.

14.4 Installation

The settlement plates shall be installed within the marsh fill template on natural ground at locations shown on the Plans or as directed by the Owner and Engineer. Settlement plates must be placed such that the vertical pipe conforms to a vertical plumb standard of no more than 10.5º from true vertical. Settlement plates shall also be marked with bright colored flagging or reflector tape.

The Contractor shall exercise care when placing any construction Materials in the vicinity of the settlement plates. Any damaged settlement plates shall be replaced by the Contractor at no expense to the Owner. Damaged settlement plates are defined as plates which would not accurately represent elevation of the project feature in question as determined by the Owner and Engineer. Leveling of the plate bed shall be accomplished by removing the minimum amount of earth or debris necessary to produce an even foundation and in such manner that the density of the plate bed will remain at the same density as the undisturbed adjacent ground. Leveling of the plate bed by the addition of fill will not be permitted.

14.5 Measurement, Payment and Acceptance

Acceptance of settlement plates will be made after associated segments of marsh fill are accepted. Settlement plates shall be surveyed as specified in TS-6 SURVEYING. Settlement plates will be measured per each, complete and installed. Payment will be made at the Contract unit price for Bid Item No. 9, “Settlement Plates”.

TS-15 MARSH FILL GRADE STAKES

15.1 General Description

This Work consists of furnishing, assembling, and installing the required Materials for marsh fill grade stakes in accordance with these Specifications. The marsh fill grade stakes shall be used by the Contractor to monitor elevations of the marsh fill within the fill area. If marsh fill areas are deemed **inaccessible by the Engineer** for payment surveys after placement of fill, the Contractor shall use marsh fill grade stakes to determine payment elevations and volumes. In such case, the Contractor shall determine marsh fill elevations from visual inspections of the marsh fill grade stakes under direct supervision of the Inspector. The Contractor shall submit the marsh fill grade stake layout in the Work Plan.

15.2 Materials

Grade stakes shall be composed of a gauge sign attached to a 2 inch x 4 inch x 12 foot (minimum length) untreated pine or fir timber. The gauge sign shall be composed of reflective sheeting applied to a fiberglass reinforced plastic (FRP) of 0.120 inch minimum thickness and a minimum of 4 inches wide by 24 inches in height. The FRP shall be UV stabilized for outdoor weatherability, white or gray in color, and totally dielectric and non-conductive. The FRP material strength and impact resistance should not be appreciably affected over a temperature range of -665 to +212 degrees Fahrenheit. The sheeting shall be engineer grade Avery Dennison T1500 that is white in color and reflective. The elevations shall be represented on the sheeting using background colors, borderlines, and elevation numbers. Background colors shall span between the marsh fill elevation tolerance ranges and border lines shall be placed at each marsh fill elevation tolerance defined in TS-9 MARSH FILL using Avery 7TS black ink. Additional ranges may be included below the minimum marsh elevation if the Contractor deems necessary. Elevation numbers shall be 2.5 inches high and placed immediately above each border line using Avery 7TS black ink.

15.3 Installation

Grade stakes shall be installed at intervals not to exceed 100 feet along survey lines in the marsh fill area. A minimum of three (3) feet of the stake shall be above the mean high water in the project area which is 1.53 ft NAVD88 (Geoid99). Stakes should be embedded sufficiently to be stable through the fill process and to be vertically stable and not subject to settlement. Grade stakes must be placed such that the vertical mount conforms to a vertical plumb standard of no more than 10.5º from true vertical. The stakes shall be surveyed in accordance with TS-6 SURVEYING.

If more than one month's time elapses between the survey of the marsh fill grade stakes and initiation of marsh fill placement within a marsh fill segment, a minimum of 10% of the stakes shall be inspected and/or re-surveyed by the Contractor and witnessed by the Inspector to determine if the stakes have been disturbed. Inspections shall be conducted with a hand-held level and the tape-down distance shall be measured. If the tape-down distance is not within one half of an inch (1/2", 0.04') of the original reported distance, the top of the stakes shall be surveyed to determine if the stakes have settled or if dredge material has flowed in to the area. If any stakes are not plumb or have settled, the Engineer or his/her Inspector may require that all the stakes within the marsh fill segment to be pumped be resurveyed. The Contractor has the option of relocating any damaged stakes by no more than ten (10) feet along the survey profile line.

15.4 Removal

Upon full acceptance by the Engineer of construction in an area, the Contractor shall conduct a search to find each and every grade stake placed by the Contractor in the area. Sections of the area upon which the search for, and removal of grade stakes shall be documented in the DAILY QUALITY CONTROL REPORT form. Any grade stakes left in the fill area will be the sole responsibility and liability of the Contractor. Any injuries to people or damage to property which may occur because grades stakes were left in the fill area by the Contractor will be the responsibility and the liability of the Contractor. If the Contractor fails to remove grade stakes in a timely manner, the Owner may have the stakes removed and deduct the cost associated with such removal from the Contractor's final payment.

15.5 Measurement, Payment and Acceptance

The grade stakes shall be inspected and monitored in accordance with TS-15.3 "Installation". Marsh fill grade stakes shall be accepted upon submittal and approval of the electronic file as described in TS-6 SURVEYING and after acceptance of corresponding marsh fill segments in accordance with TS-9.5.2 "Acceptance of Marsh Fill". The Engineer reserves the right to halt dredging operations if grade stakes are not properly maintained by the Contractor. Marsh fill grade stakes shall be installed and maintained at no direct pay. The Contractor shall account for all costs associated with providing grade stake Materials, installation, and maintenance in Bid Item No. 2, "Surveying".

TS-16 WARNING SIGNS

16.1 General Description

This Work consists of furnishing and assembling the Materials needed to construct and install shoal signs near sidecast disposal areas and red and green day markers near Pass Chaland as shown on the Plans and in accordance with the USCG standards. The warning signs shall also be removed prior to demobilization in accordance with these Specifications and the Plans or as directed by the Owner or Engineer.

16.2 Materials

16.2.1 Signs

Each of the warning signs shall be fabricated from 125 gauge 61TS Aluminum or approved equal, covered with white, engineer grade, reflecting sheeting; black screened lettering and design; and orange, engineer grade reflective border. Signs shall meet all USCG Standards.

16.2.2 Piling

Piling shall be 12 inches diameter (nominal end) x 40 feet long timber piling and driven to the proper depth, as shown on the Plans. All timber pilling shall conform to LA DOTD 2000 Stand Specification Sections 812 and 1014. The Contractor may use temporary buoys in lieu of pilings for warning sign installation. Buoys must approved by the Owner and Engineer and meet all USCG Standards.

16.2.3 Hardware and Connections

All nuts, bolts and washers shall be hot galvanized. Nylon washers shall be provided at both ends of all bolts. Connection angles shall be 2 inch x 2 ¼ inch and hot dip galvanized and shall extend within 6 inches of sign edges on the top and bottom. Timber blocking shall be pressure treated pine or fir with a minimum length of 18 inches.

16.3 Installation

The warning signs shall be installed at locations shown on the Plans or as directed by the Owner or Engineer. The top of the pile shall be 12 feet above mean high water (1.53 ft NAVD88 (Geoid99)).

16.4 Removal

All pilings or pipes shall be removed to depth at least 5 ft below existing ground. All material removed shall become property of the Contractor and shall be removed and disposed of in a manner approved by the Owner and Engineer from the Work Area prior to demobilization. Materials being disposed shall be in accordance with title 33, part VII, sub-part 1 (Solid Waste) of the Louisiana Environmental Regulatory Code, latest revision. The Contractor is responsible for any and all costs associated with the disposal of removed materials.

16.5 Measurement, Payment and Acceptance

Warning signs will be paid per each installed, maintained, and removed. Payment will be made at the contract unit price for Bid Item No. 10, “Warning Signs”.

TS-17 LIGHTED AIDS TO NAVIGATION

17.1 General Description

Lighted aids to navigation are required to maintain safe working conditions for construction in navigable waters. The Contractor shall provide, install, maintain, and remove lighted aids as specified herein at no direct pay. Any damage to existing USCG or private navigation aids caused by the Contractor shall be repaired by the Contractor to USCG standards at no expense to the Owner.

17.2 Installation

Lighted dredging aids to navigation shall be installed prior to any dredging Equipment entering the borrow area or laying any pipeline from the borrow area to the fill areas. The aids to navigation shall be lighted for 24-hour operation. Light characteristics for the aids shall be flashing yellow. If buoys are used they shall be yellow with reflective international orange square patches or stripes. If pile structures are used, they shall display yellow dayboards with reflective international orange borders. The aids may be lettered. The Contractor shall notify the USCG in accordance with subparagraph "Notice of Intent to Dredge" as specified in TS-2 SUBMITTALS. The notification shall contain maps and descriptions of lighted aids for inclusion in the Notice to Mariners.

17.3 Operation and Maintenance

The Contractor shall operate and maintain all the lighted aids. Should lighted dredging aids to navigation leave positioned locations, the Contractor shall reposition within 24 hours.

17.4 Removal

The Contractor shall remove all lighted dredging aids to navigation, piles, chains, anchors, etc. from the Work Area upon completion of this project.

17.5 Location for Installation

Lighted dredging aids to navigation shall be installed at the tabulated points-of-intersection and at 500 feet minimum spacings that define Work limits in the borrow area, access corridors, and at the gulf side of the beach fill for any Equipment including submerged dredge pipes with top elevations above -10.0 feet NAVD88 (Geoid99). The appropriate type, whether buoys or piles, shall be installed with the above marking and lighting scheme.

17.6 Signs for Navigation Warnings

Additional signage shall be used to delineate sidecast disposal areas and navigation through Pass Chaland as specified in TS-16 WARNING SIGNS.

TS-18 MISPLACED MATERIAL

18.1 In Water

Should the Contractor, during the progress of the Work, lose, dump, throw overboard, sink, or misplace any Material, plant, or Equipment, which in the opinion of the Owner and Engineer may be dangerous to, or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch at no expense to the Owner. The Contractor shall give immediate notice, with description and location of such obstructions, to the USCG, Owner and Engineer and when required, mark or buoy such obstructions until the same are removed.

This includes placement of dredged overburden materials in the approved disposal area shown on the Plans and as required by TS-8.5 “Overburden Disposal”. Any overburden material placed outside of specified areas shall be removed and re-deposited into the approved area or as directed by the Owner or Engineer at the Contractor’s expense.

In the event of refusal, neglect, or delay in compliance with the above requirements, such obstructions may be removed by the Owner, and the cost of such removal may be deducted from any money due or to become due to the Contractor or may be recovered under his/her bond.

18.2 On Land

Should the Contractor, during the progress of the Work misplace any dredge material, plant, Equipment, or other Materials outside of what is authorized within the Work Area without the approval of the Owner or Engineer, the Contractor shall recover and remove the same with the utmost dispatch. The Contractor shall give immediate notice, with description and location of such misplaced Materials to the Owner and Engineer. Misplaced Materials shall be removed at the Contractor’s expense. This may require redeposit of misplaced dredge Materials as directed by the Owner or Engineer. Additionally, the Contractor will be responsible for restoring unauthorized disposal areas to pre-construction conditions at his/her own expense as specified in TS-19 ENVIRONMENTAL PROTECTION.

TS-19 ENVIRONMENTAL PROTECTION

19.1 General Description

For the purpose of this Specification, environmental protection is defined as the retention of the environment in its natural state to the greatest possible extent during project construction and to enhance the natural appearance in its final condition. Environmental protection requires consideration of air, water, and land, and involves solid waste-management as well as other pollutants. In order to prevent any environmental pollution arising from the construction activities in the performance of this Contract, the Contractor and his/her Subcontractors shall comply with all applicable Federal, State and local laws and regulations concerning environmental pollution control and abatement.

19.2 Endangered Species

Requirements outlined in this Specification regarding protection of migratory and other species of birds is valid only if the Contractor conducts the Work after April 15, 2008. If the Contractor plans to conduct the Work prior to April 15 2008, the Owner or Engineer shall be contacted for additional requirements.

Certain bird species are protected by the U.S. Fish and Wildlife Service and the Louisiana Department of Wildlife and Fisheries. Protected bird species most likely to be encountered include, but are not limited to, plovers, least terns, black skimmers, and brown pelicans. The Contractor is invited to employ personnel familiar with protected birds to allow for easy identification of birds encountered during the execution of Work under this Contract. Throughout the period of construction, the Contractor shall patrol, twice daily, gulf-side beaches, associated sand flats and overwash areas, and island fill areas to identify any nesting birds.

This effort includes not only existing beaches, dunes and sand flats, but dunes, dune slopes, beach berms, and other areas of island fill created during the execution of Work. The Contractor shall especially patrol/traverse unvegetated or sparsely vegetated sand flats and overwash areas, and island fill areas such as the created dune, which are prime nesting habitat. Such patrols shall continue throughout the period of construction, or until all Work (including grading and shaping, sand fence installation, and access activities) is completed for acceptance segments. In the event that the Contractor discovers any evidence of nests or eggs of any protected bird species, the Contractor shall immediately cease Work in the immediate vicinity of the nest and shall immediately notify the Owner and Engineer.

The Contractor shall include a description of daily patrols (personnel, locations, time), the patrol results (any bird observations, species observed, location, behavior, nests found), and any actions taken as a result of such patrols or observations, in the DAILY QUALITY CONTROL REPORT included in TS-20 QUALITY CONTROL.

19.3 Water Quality

The Contractor shall adhere to all water quality regulations set for by the Permits and these Specifications. The Contractor shall also employ measures set forth in TS-8.3 “Dewatering and Turbidity Control” and TS-19.5 “Pollution Control” to protect water quality in the vicinity of the project.

19.4 Vegetation and Landscaping

19.4.1 Prevention of Landscape Defacement

The Contractor shall not deface, injure, or destroy trees, shrubs or marsh vegetation, nor remove or cut them without the approval of the Owner or Engineer. Exceptions can be made within the fill template if approved by the Owner and Engineer. Ropes, cables, or guys shall not be fastened to or attached to any existing nearby trees. Where the possibility exists that trees may be defaced, bruised, injured, or otherwise damaged by the Contractor's Equipment or operations, the Contractor shall adequately protect such trees. Monuments and markers shall be protected before construction operations commence and

throughout the duration of construction.

19.4.2 Restoration of Landscape Damage

Any trees, shrubs, beach or marsh vegetation, or other landscape features scarred or damaged by the Contractor's Equipment or operations shall be restored to a condition satisfactory to the Owner and Engineer. Restoration of scarred and damaged trees, shrubs or vegetation shall be performed in an approved manner by experienced workmen. Trees, shrubs, or vegetation damaged beyond restoration shall be removed and disposed of by Contractor in a manner approved by Owner and Engineer. Trees, shrubs, or vegetation that are to be removed because of damage shall be replaced at the Contractor's expense by nursery-grown trees, shrubs, or vegetation of the same species or a species approved by the Owner and Engineer. The size and quality of nursery-grown trees, shrubs, or vegetation shall also be approved by the Owner and Engineer. Final payment shall be withheld until the restoration activities are made and approved by the Owner.

19.5 Pollution Control

19.5.1 Location of Storage Facilities

The Contractor's storage, which is required in the performance of the Work, shall be located upon existing cleared portions of the Work Area or areas to be cleared, and shall require written approval of the Owner and Engineer. The Contractor shall not store oil or fuel on the beach, dune, or marsh, or Equipment that is not required for the daily construction activities. The Contractor shall specify where oil and fuels will be stored in his/her Work Plan. A metal pan with sides a minimum of four (4) inches high shall be placed under the Equipment on the beach or adjacent area during refueling. The pan shall have a capacity equal to the capacity of the fuel cans used and catch any spills or leaks during the refueling activity. Fuel caught in the pan shall be contained and either transported off-site or used in the Equipment. Under no condition shall the Material be discharged on the beach, dune, marsh, adjacent lands or Gulf waters. If the Contractor's fuel cells exceed the thresholds set forth in 40 CFR 112, the Contractor shall provide a spill plan and containment Equipment accordingly.

19.5.2 Post-Construction Cleanup or Obliteration

The Contractor shall obliterate all signs of construction Work Area, waste Materials, or any other vestiges of construction as directed by Owner and Engineer. Any damages caused by the Contractor outside of the constructed features shall be restored to pre-construction conditions.

19.5.3 Spillage

Special measures shall be taken to prevent bilge pumpage or effluent, chemicals, fuels, oils, greases, bituminous materials, waste washing, herbicides and insecticides, and concrete drainage from entering State waters.

19.5.4 Disposal

Disposal of any Materials, wastes, effluent, trash, garbage, oil, grease, chemicals, etc., in areas adjacent to streams or other waters of the State shall not be permitted. If any waste Material is dumped in unauthorized areas, the Contractor

shall remove the Material and restore the area to its pre-construction condition before being disturbed. If necessary, contaminated ground shall be excavated, disposed of as directed by the Owner and replaced with suitable fill material, compacted and finished with topsoil and planted as required to re-establish vegetation.

19.6 Existing Oil Pipelines, Structures, and Wells

The Contractor shall be responsible for locating and avoiding all oil pipelines and facilities in accordance with GP-26 COOPERATION WITH PUBLIC UTILITIES and GP-27 UTILITIES AND IMPROVEMENTS. In the event that an oil spill occurs as a result of construction activities the Contractor shall call the Louisiana Emergency Hazardous Materials Hotline at (877) 925-6595 and the National Response Center at (800) 424-8802. The Contractor shall also respond in accordance with section 2463 of the Louisiana Oil Spill Prevention and Response Act of 1991 and the Oil Pollution Act of 1990. These documents can be downloaded at:

http://www.losco.state.la.us/regulations.htm.

TS-20 QUALITY CONTROL

20.1 General Description

The Contractor shall establish and maintain quality control for operations under this section to assure compliance with the Contract Documents and maintain records of this quality control for Materials, Equipment and construction operations including, but not limited to, the items included herein. A DAILY QUALITY CONTROL REPORT Form has been included in this section which the Contractor shall use for keeping quality control records. These reports shall be submitted to the Owner and Engineer at weekly progress meetings.

20.2 Pre-Construction Conference

Within 30 days of the Effective Date of the Contract, a pre-construction conference shall be held as specified in GP-7 PRE-CONSTRUCTION CONFERENCE.

20.3 Preparatory Review

(To be conducted prior to commencing WORK)

1. Check location of dredge areas and conditions of fill areas to be filled.

2. Present construction Plan of action for filling the marsh, beach and dune and excavating access channels and water exchange channels.

3. See that all Plant and Equipment is approved and is in satisfactory working condition.

4. Check safety requirements and, particularly, public safety.

5. Check the Work Area for structures that could be susceptible to damage or which would have further damage caused by the Contractor's activity.

6. Gain permission from USCG and other agencies for marking and placement of Aids to Navigation and Warning to Mariners.

20.4 Initial Review

(To be conducted after a representative sample of WORK is complete)

1. Check for proper lines, grades, and elevations.
2. Check finished area for proper dressing and elimination of ruts, humps and depressions.
3. Check any structures at the Work Area for damage by Contractor's equipment.

20.5 Follow-Up Reviews

(To be conducted daily to assure compliance with results of initial review)

1. Check items mentioned in preparatory and initial review.
2. Damage or defects.

A copy of these records, as well as results of corrective action taken, shall be furnished to the Owner and Engineer.

End of PART III TECHNICAL SPECIFICATIONS

PASS CHALAND TO GRAND BAYOU PASS
BARRIER SHORELINE RESTORATION PROJECT (BA-35)

DAILY QUALITY CONTROL REPORT

DATE: _____

TIME: _____

REPORT NO. _____

CONTRACTOR:_____

Weather: (clear) (partially cloudy) (cloudy)

Wind: _____mph Wind Direction: _____

Seas: _____ft Wave Direction: _____

Location of Cutterhead: STA_____(+/-15 ft.)

Pre-Dredge Depth of Water: _____ft. Width of Cut: _____ft.

After Dredge Depth of Water: _____ft.

Location(s) of Booster Pumps: X = _____ Y = _____

Length of Floating Pipe: _____ft. Location of Sub-Line Landing: = STA_____

Length of Submerged Pipe: _____ft. Location of Discharge: = STA_____

Length of Shore Pipe: _____ft. Fill to Grade: = STA_____

	Today	To Date
WORK Hours	_____	_____
Downtime (Explain Below)	_____	_____
Length Advance on Fill	_____	_____
Length of Advance in Borrow	_____	_____
Volume Pumped (Borrow)	_____	_____
Volume Placed (Fill)	_____	_____

Downtime (Hours):

Clean Pump:	_____	Spuds:	_____	Dump:	_____
Clean Suction:	_____	Floating Pipe:	_____	Booster:	_____
Clean Cutter:	_____	Shore Pipe:	_____	Turbidity:	_____
Shift Anchors:	_____	Repairs:	_____	Other:	_____
Engine Room:	_____	Weather:	_____		

Remarks:_____

_____

Dressing Operations:

Complete to Station = _____

In Progress from = _____ to = _____

PASS CHALAND TO GRAND BAYOU PASS
BARRIER SHORELINE RESTORATION PROJECT (BA-35)

Daily Quality Control Report
Page 2

Verbal Instructions Received (list any instruction from OWNER or ENGINEER and action taken):

General Remarks (e.g. shorebird nesting observations, safety inspection results):

Contractor's Certification

I hereby certify that the above report is complete and correct and that all material and equipment used and WORK performed during this report period were in strict compliance with the CONTRACT Plans and Specifications, exceptions noted above.

Contractor's Approved
Authorized Representative

Date