



IFB NO. W912P8-16-B-xxxx

US Army Corps  
of Engineers®  
New Orleans District

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## **HSDRRS – Lake Pontchartrain and Vicinity (LPV) Mitigation (65% ATR Review)**

### **Bayou Sauvage Flood Side Brackish Marsh Restoration**

**and**

### **Turtle Bayou Protected Side Intermediate Marsh Restoration**

Orleans Parish, Louisiana

Construction Solicitation  
and Specifications

Nov. 2016

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

REPLY TO  
ATTENTION OF

November 2016

SOLICITATION: W912P8-16-B-xxxx

FOR: HSDRRS – Lake Pontchartrain and Vicinity (LPV) Mitigation, Bayou Sauvage Flood Side Brackish Marsh Restoration, and Turtle Bayou Protected Side Intermediate Marsh Restoration, Orleans Parish, Louisiana (ED-14-036 and ED-13-050)

TO OPEN:

- I. NOTE THE AFFIRMATIVE ACTION PROGRAM REQUIREMENT OF THE EQUAL OPPORTUNITY CLAUSE WHICH MAY APPLY TO THE CONTRACT RESULTING FROM THIS SOLICITATION.
- II. NOTE THE CERTIFICATION OF NONSEGREGATED FACILITIES IN THIS SOLICITATION. *Bidders, offerors and applicants are cautioned to note the "Certification of Non-segregated Facilities" in the solicitation. Failure of a bidder or offeror to agree to the certification will render his bid or offer non-responsive to the terms of solicitations involving awards of contracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause.*
- III. Prospective contractors must register in the System for Award Management (SAM). See FAR Clause 52.204-99 for required information. The website for SAM is <https://www.sam.gov>. You will be required to provide your company's Dun and Bradstreet number. If you do not already have a D&B number, one can be obtained by calling Dun and Bradstreet at (800) 333-0505.

BIDDERS MUST PROVIDE FULL, ACCURATE AND COMPLETE INFORMATION AS REQUIRED BY THIS SOLICITATION AND ITS ATTACHMENTS. THE PENALTY FOR MAKING FALSE STATEMENTS IN BIDS IS PRESCRIBED IN 18 U.S.C. 1001. (FAR 52.214-4 APR 1984)

DESCRIPTION AND MAGNITUDE OF WORK: The work consists of marsh restoration in existing shallow open water areas via borrow dredging in a designated borrow pit within Lake Pontchartrain. The work requires retention dike construction along the perimeter of the proposed marsh creation areas. This construction effort is a mitigation effort for Hurricane Storm Damage Risk Reduction System (HSDRRS) works in the Lake Pontchartrain and Vicinity (LPV) project. Three (3) distinct and separate marsh creation footprints are required, resulting in extensive disposal material pipeline establishment. Multiple lifts of dredged material will be required in some sites. Construction of bulkheads will be required in some sites.

**CAUTION TO BIDDERS:** *In delivery of hand-carried bids, bidders are cautioned to allow sufficient time for delays which may be encountered as a result of frequent trains which are subject to block all access roads to place of bid opening for various lengths of time. Such delays DO NOT permit acceptance or consideration of late bids.*

NOTE: ALL WORK UNDER THESE SPECIFICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF EM 385-1-1 "CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL," DATED SEPTEMBER 2008.

ATTENTION:

ED-14-036 and ED-13-050

Contractors must complete, and submit with their bid, the provisions located in section 00600. A bidder may also submit, in lieu of the completed section 00600, a complete hard copy of their Online Representations and Certifications Applications (ORCA) registration with an expiration date on or after the date of award.

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### **Division 35 – WATERWAY AND MARINE CONSTRUCTION**

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**NOTICE TO REVIEWERS:**

**SECTION 00100 – INSTRUCTIONS TO BIDDERS**, will be inserted into specifications by Contracting Division prior to advertisement.

**SECTION 00600 – REPRESENTATIONS AND CERTIFICATIONS**, will be inserted into specifications by Contracting Division prior to advertisement.

**SECTION 00700 – CONTRACT CLAUSES**, will be inserted into specifications by Contracting Division prior to advertisement (In addition to the 00700 inserts provided here-in.).

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The following attachments as referenced by the specifications will be inserted upon completion of local review in preparation for advertisement:

Construction Control Manual

(Section 01 45 04.00)

**SECTION 00010 – BIDDING SCHEDULE**

HSDRRS – Lake Pontchartrain and Vicinity (LPV) Mitigation, Bayou Sauvage Flood Side Brackish Marsh Restoration, and Turtle Bayou Protected Side Intermediate Marsh Restoration, Orleans Parish, Louisiana

Item	DESCRIPTION	Estimated Quantity	Unit	Unit Price	Estimated Amount
0001	Mobilization and Demobilization	1	Job		
0002	Marsh Creation, Turtle Bayou				
0002AA	First 850,000 CY	850,000	CY		
0002AB	All Over 850,000 CY	350,000	CY		
0003	Marsh Creation, Bayou Sauvage North Cell				
0003AA	First 550,000 CY	550,000	CY		
0003AB	All Over 550,000 CY	250,000	CY		
0004	Marsh Creation, Bayou Sauvage South Cell				
0004AA	First 3,300,000 CY	3,300,000	CY		
0004AB	All Over 3,300,000 CY	1,200,000	CY		
0005	Turtle Bayou Retention Dike Construction	15,700	LF		
0006	Bayou Sauvage North Cell Retention Dike Construction	7,100	LF		
0007	Bayou Sauvage South Cell Retention Dike Construction	18,000	LF		
0008	Bayou Sauvage Interior Weir Construction	2,000	LF		
0009	Vinyl Sheet Pile Closures	200	LF		
0010	Turtle Bayou Staging Preparation	1	Job		
<b>TOTAL:</b>					<b>\$</b>

Award will be made as a whole to one bidder.

NOTE 1: Bidders shall furnish unit prices for each item listed in the Schedule requiring a

## SECTION 00010 – BIDDING SCHEDULE

### HSDRRS – Lake Pontchartrain and Vicinity (LPV) Mitigation, Bayou Sauvage Flood Side Brackish Marsh Restoration, and Turtle Bayou Protected Side Intermediate Marsh Restoration, Orleans Parish, Louisiana

unit price. If the bidder fails to insert a unit price in the appropriate blank for required item(s), but does furnish an extended total, or an estimated amount for such item(s), the Government shall deem the unit price to be the quotient obtained by dividing the extended amount for that line item by the quantity. IF A BIDDER OMITTS BOTH THE UNIT PRICE AND THE EXTENDED TOTAL OR ESTIMATED AMOUNT FOR ANY ITEM, ITS BID SHALL BE DECLARED NON-RESPONSIVE AND THEREFORE INELIGIBLE FOR AWARD.

NOTE 2: Any bid may be rejected if the Contracting Officer determines in writing that it is unreasonable as to price. Unreasonableness of price includes not only total price of bid, but the price for individual line items as well. Any bid may be rejected if the prices for any line items or subline items are materially unbalanced (See [FAR 14.404-2](#)).

NOTE 3: THE NOTICE TO PROCEED (NTP): The successful bidder is advised that performance and payment bonds shall be submitted in accordance with the time frame in block 12B of SF 1442 after Notice of Award. The NTP will be issued immediately after verification of acceptable performance and payment bonds. Within 7 days after issuance of the NTP, the Contractor shall initiate a meeting to discuss the submittal process with the Area or Resident Engineer or his authorized representative. Physical work cannot start until the Accident Prevention Program, Contractor Quality Control Plan, and other submittals which may be required, have been submitted and approved and all preliminary meetings called for under the contract, have been conducted.

NOTE 4: EVALUATION OF SUBDIVIDED ITEMS. Item Nos. 0002, 0003, and 0004 are subdivided into two (2) or more estimated quantities and is to be separately priced. The Government will evaluate each of these items on the basis of total price of its sub-items.

NOTE 5: VARIATIONS IN ESTIMATED QUANTITIES - SUBDIVIDED ITEMS. (UAI 52.211-5001 - MAR 95). The Variations in Estimated Quantities Subdivided Items clause is applicable only in Item Nos. 0002, 0003, and 0004.

a. Variations from the estimated quantity in the actual work performed under any second or subsequent sub-item or elimination of all work under such a second or subsequent sub-item will not be the basis for an adjustment in contract unit price.

b. Where the actual quantity of work performed for Item Nos. 0002, 0003, and 0004 are less than 85% of the quantity of the first sub-item listed under such items, the Contractor will be paid at the contract unit price for that sub-item for the actual quantity of work performed and, in addition, an equitable adjustment in contract price shall be made in accordance with the clause FAR 52.211-18, Variation in Estimated Quantity.

c. If the quantity of work performed under Item Nos. 0002, 0003, and 0004 exceed 115% or is less than 85% of the total estimated quantity of the sub-items under that item, and/or if the quantity of work performed under the second sub-item or any subsequent sub-item under Item No. **NONE** exceeds 115% or is less than 85% of the estimated quantity of any such sub-item, and if such variation causes an increase or a decrease in the time required for performance of this contract, the contract completion time will be

## SECTION 00010 – BIDDING SCHEDULE

HSDRRS – Lake Pontchartrain and Vicinity (LPV) Mitigation, Bayou Sauvage Flood Side Brackish Marsh Restoration, and Turtle Bayou Protected Side Intermediate Marsh Restoration, Orleans Parish, Louisiana

adjusted in accordance with the clause FAR 52.211-18, Variation in Estimated Quantity.

NOTE 6: RAPID VENDOR PAYMENT: Web based instructions for the submission of invoices; [http://www.mvn.usace.army.mil/ebs/rapid\\_vendor\\_payment.asp](http://www.mvn.usace.army.mil/ebs/rapid_vendor_payment.asp)

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## SECTION 00700 - CONTRACT CLAUSE INSERTS

### 1. COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (FAR 52.211-10 - 1984 APR)

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 400 calendar days after the date of receipt by him of notice to proceed. The time stated for completion shall include final cleanup of the premises.

(End of Clause)

NOTE 1: The term "work" includes tasks such as preparation and submission of submittals, performance of preliminary and BD surveys, initiation of retention dike construction, etc. "Work" does not have to be dredging.

NOTE 2: The Contractor is hereby informed that time allowed for completion of work has been established as the shortest reasonable duration and that it shall make any and all provisions necessary (multiple crews, overtime, concurrent operations, etc.) to accomplish the work within the available time period.

NOTE 3: In filling the required marsh creation cells, the Contractor shall adhere to the order of work as outlined in Section 35 20 23.00 12 "Dredging".

### 2. LIQUIDATED DAMAGES - CONSTRUCTION (FAR 52.211-12 – SEPT 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of \$xxx.xx for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of Clause)

xxx.xx – Liquidated Damages amount will be computed by Construction Division, provided upon completion of BCOE review, an inserted into these contract specifications upon receipt.

3. CONTRACT DRAWINGS AND SPECIFICATIONS (DFARS 252.236-7001 – AUG 2000)

(a) The Government will provide to the Contractor, without charge, one (1) set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall --

- (1) Check all drawings furnished immediately upon receipt;
- (2) Compare all drawings and verify the figures before laying out the work;
- (3) Promptly notify the Contracting Officer of any discrepancies;
- (4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and
- (5) Reproduce and print contract drawings and specifications as needed.

(c) In general --

(1) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

<u>Title</u>	<u>File</u>	<u>Drawing No.</u>
HSDRRS, LPV Mitigation	H-16-47848	G-01 thru G-04
Bayou Sauvage Flood Side Brackish Marsh and Turtle Bayou Protected Side Intermediate Brackish Restoration Orleans Parish, Louisiana		C-01 thru C-23 B-01 thru B-05

4. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (UAI 31.105-101 - MAR 95)

(a) This clause does not apply to terminations. See 52.249-5000, *Basis For Settlement of Proposals*, and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition, owned or controlled and furnished by a Contractor or Subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the Contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the Contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, "Construction Equipment Ownership and Operating Expense Schedule," Region III. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d) (ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the Contracting Officer shall request the Contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(End of Clause)

NOTE1: Costs for repairs or overhauling are not allowed.

NOTE 2: A copy of the "EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE" for Region III can be obtained from the following website:

<http://www.access.gpo.gov/>

5. PHYSICAL DATA (FAR 52.236-4 - 1984 APR)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys.

(b) Weather Conditions. Data on weather conditions may be obtained from the National Weather Service.

(c) Transportation Facilities.

(1) The Lake Pontchartrain borrow site and Bayou Sauvage Floodside Brackish Marsh restoration sites are only accessible by floating plant. Floating plant may access the site of work from Lake Pontchartrain via the Rigolet's and/or other surrounding navigable waterways.

(2) The Turtle Bayou Intermediate Marsh Restoration Worksite, located within the Bayou Sauvage National Wildlife Refuge, is accessible by U.S. Highway 90 (Chef Menteur Highway).

(d) Hydrographs available on the Corps' Internet site do not constitute a prediction. The worksite is located approximately midpoint between the "Lake Pontchartrain at Lakefront Airport" gage (85670) and the "Rigolets near Lake Pontchartrain" gage (85700). Hydrographs for Lake Pontchartrain Basin gages can be found at the following website:

<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>

(e) Estimates of quantities involved in certain items of work for which bids are being solicited on a lump sum or job basis have been made for the use of the Government. Copies of these quantity estimates may be viewed or obtained by contacting the Contracting Officer, Attn: CEMVN-CT. It is expressly understood that the accuracy of these estimates is in no way warranted and that the furnishing of this information to a bidder will not relieve him of his responsibility to estimate the quantities involved.

6. LAYOUT OF WORK (FAR 52.236-17 - APR 1984)

The Contractor shall lay out its work from Government established baselines and bench marks indicated on the drawings, and shall be responsible for all

measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of replacement from any amounts due or to become due to the Contractor.

(End of Clause)

NOTE: In lieu of the "baselines and benchmarks" mentioned in the paragraph entitled "LAYOUT OF WORK", the Contractor shall layout and monitor his work from the baseline(s), gages, benchmarks and reference points shown on the drawings.

7. QUANTITY SURVEYS (FAR 52.236-16 ALTERNATE 1 - 1984 APR)

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

(End of Clause)

Note: In paragraph (c), the word "Promptly" is defined as "within three (3) calendar days."

8. OBSTRUCTION OF NAVIGABLE WATERWAYS (DFARS 252.236-7002 - DEC 91)

(a) The Contractor shall:

- (1) Promptly recover and remove any material, plant, machinery, or appliance which the Contractor loses, dumps, throws overboard, sinks, or misplaces, and which, in the opinion of the Contracting Officer, may be dangerous to or obstruct navigation;
- (2) Give immediate notice, with description and locations of any such obstructions, to the Contracting Officer; and
- (3) When required by the Contracting Officer, mark or buoy such obstructions until the same are removed.

(b) The Contracting Officer may:

- (1) Remove the obstructions by contract or otherwise should the Contractor refuse, neglect, or delay compliance with paragraph (a) of this clause; and
- (2) Deduct the cost of removal from any monies due or to become due to the Contractor; or
- (3) Recover the cost of removal under the Contractor's bond.

(c) The Contractor's liability for the removal of a vessel wrecked or sunk without fault or negligence is limited to that provided in Sections 15, 19 and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C.410 et.seq.).

9. PAYMENT FOR MOBILIZATION AND DEMOBILIZATION (DFARS 252.236-7004 - 1991 DEC)

(a) The Government will pay all costs for the mobilization and demobilization of all of the Contractor's plant and equipment at the contract job price for this item.

- (1) Eighty percent (80%) of the job price upon completion of the Contractor's mobilization at the work site.
- (2) The remaining twenty percent (20%) upon completion of demobilization.

(b) The Contracting Officer may require the Contractor to furnish cost data to justify this portion of the bid if the Contracting Officer believes that the percentages in paragraphs (a) (1) and (a) (2) of this clause do not bear a reasonable relation to the cost of the work in this contract.

(1) Failure to justify such price to the satisfaction of the Contracting Officer will result in payment, as determined by the Contracting Officer, of-

- (i) Actual mobilization costs at completion of mobilization;
- (ii) Actual demobilization costs at completion of demobilization; and
- (iii) The remainder of this item in the final payment under this contract.

(2) The Contracting Officer's determination of the actual costs in paragraph (b) (1) of this clause is not subject to appeal.

#### 10. PERFORMANCE OF WORK BY CONTRACTOR (FAR 52.236-1 - 1984 APR)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty percent (20%) of the total amount of the work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract, if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

#### 11. SCHEDULES FOR CONSTRUCTION CONTRACTS (FAR 52.236-15 - APR 1984)

(a) The Contractor shall, within five (5) days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three (3) copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three (3) copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work,

and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

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## SECTION 01100 - GENERAL PROVISIONS

### 1. DAMAGE TO WORK

The responsibility for damage to any part of the permanent work shall be as set forth in the Contract Clause in Section 00700 entitled, "*Permits and Responsibilities (FAR 52.236-7)*". However, if, in the judgment of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood, earthquake, hurricane, or tornado which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor shall make the repairs as ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit price or lump sum prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, there is no contract unit or lump sum prices applicable to any part of such work, an equitable adjustment shall be made pursuant to the Contract Clause in Section 00700 entitled, "*Changes (FAR 52.243-4)*". Except as herein provided; damage to all work (including temporary construction), utilities, materials, equipment and plant shall be repaired to the satisfaction of the Contracting Officer at the Contractor's expense, regardless of the cause of such damage.

### 2. SAFETY PROVISIONS

The safety provisions as specified herein refer to the September 2008 edition of EM 385-1-1. This latest edition can be located on the following website:

[http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM\\_385-1-1\\_2008Sep\\_Consolidated\\_2011Aug.pdf](http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1_2008Sep_Consolidated_2011Aug.pdf)

(a) Accident Investigations and Reporting. Refer to EM 385-1-1, Section 01.D. Accidents shall be investigated and reports completed by the immediate supervisor of the employee(s) involved and reported to the Contracting Officer or his/her representative within one (1) working day after the accident occurs. All data reported must be complete, timely and accurate on ENG Form 3394. A follow-up report shall be submitted when the estimated lost time days differs from the actual lost time days.

(b) Accident Prevention Program. See the Contract Clause in Section 00700 entitled, "*Accident Prevention (FAR 52.236-13)*". Within 15 days after receipt of Notice of Award of the contract, and at least seven (7) days prior to the pre-work conference, four (4) copies of the Accident Prevention Program shall be submitted to the Contracting Officer for review and acceptance. The program shall be prepared in the following format.

- (1) Executed MVN Form 385-43 (Latest Edition), Accident Prevention Program Administrative Plan (available upon request).
- (2) Executed MVN 385-43/1 (Latest Edition), Accident Prevention Plan Checklist.
- (3) MVN Form 385-43/2 (Latest Edition), Activity Hazard Analysis (available upon request), see Figure 1-1 of EM 385-1-1.
- (3) A copy of company policy statement regarding accident prevention.
- (4) When marine plant and equipment are in use under a contract, the method of fuel oil transfer shall be included on MVN Form 385-10 (Latest Edition), Fuel Oil Transfer-Floating Plant, (available upon request). (Refer to 33 CFR 156).

The Contractor shall have on the construction site during working hours a trained Site Safety and Health Officer (SSHO) in accordance with paragraph 01.A.17 of EM 385-1-1. The Contractor shall not commence physical work at the site until the program has been accepted by the Contracting Officer, or his/her authorized representative. The Contractor may submit its Activity Hazard Analysis only for the first phase of construction provided that it is accompanied by an outline of the remaining phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. Also refer to Section 1 of EM 385-1-1.

(c) Comprehensive Hazard Communication Program. The Contractor shall develop, implement, and maintain at the workplace a written, Comprehensive Hazard Communication Program (see Section 01.B.01 of EM 385-1-1) that includes identification of potential hazards as prescribed in 29 CFR Part 1910.1200 and/or 1926.59, effects of exposure and control measures to be used for chemical products and physical agents that may be encountered during the performance of work on this contract, provisions for container labeling, Material Safety Data Sheets, an employee training program, and other criteria in accordance with 29 CFR Part 1910.1200 and/or 1926.59. Training shall include communication methods and systems to be used (i.e., voice, hand signals, radios or other means), and training in the use and understanding of material safety data sheets and chemical product hazard warning labels. Prior to bringing hazardous substances, as defined in 29 CFR 1910.1200 and/or 1926.59, onto the job site, a copy of the Hazard Communication Program and the Material Safety Data Sheets of each substance shall be submitted to the Contracting Officer and made available to the Contractor's employees as part of its Accident Prevention Program.

(d) Daily Inspections. The Contractor shall perform daily safety inspections and record them on the forms approved by the Contracting Officer. Reports of daily

inspections shall be maintained at the jobsite in accordance with Section 01 45 04.00 10, "CONTRACTOR QUALITY CONTROL". The reports shall be records of the daily inspections and resulting actions. 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 and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

(e) Safety Sign. The Contractor shall furnish, erect, and maintain a safety sign at the site where indicated by the Contracting Officer. The sign shall conform to the requirements of this paragraph and the drawing included at the end of these General Provisions. The lettering shall be black, the castle red, and the background white. Upon request, the Government will furnish two (2) decals of the engineer castle. When placed on a floating plant, the sign may be half size. The sign shall be erected as soon as practicable, but not later than 15 calendar days after the date established for commencement of work. The data required shall be current.

(f) Ground Fault Protection. Electrical equipment used on this contract shall be equipped with ground fault circuit interrupters in accordance with EM 385-1-1, Section 11.D.01.

(g) Means of Escape for Personnel Quartered, or Working on Floating Plant. Two (2) means of escape shall be provided for assembly, sleeping, and messing areas on floating plants. For areas involving 10 or more persons, both means of egress shall be through standard size doors opening to different exit routes. Where nine (9) or fewer persons are involved, one (1) of the means of escape may be a window (minimum dimensions 24 inches by 36 inches) which leads to a different exit route. Refer to Section 19 of EM 385-1-1.

(h) Emergency Alarms and Signals.

- (1) Alarms. Emergency alarms shall be installed and maintained on all floating plant requiring a crew where it is possible for either a passenger or crewman to be out of sight or hearing from any other person. The alarm system shall be operated from the primary electrical system with standby batteries on trickle charge that will automatically furnish the required energy during an electrical-system failure. A sufficient number of signaling devices shall be placed on each deck so that the sound can be heard distinctly at any point above the usual background noise. All signaling

devices shall be so interconnected that actuation can occur from at least one (1) strategic point on each deck.

(2) Signals.

(a) Fire Alarm Signals. The general fire alarm signal shall be in accordance with paragraph 46 CFR Ch. I; Subpart E.109.503 of the Coast Guard Rules and Regulations for Cargo and Miscellaneous Vessels, Sub-Chapter I & Ia.

(b) Abandon Ship Signals. The signal for abandon ship shall be in accordance with paragraph 109.503(b) of the reference cited in (a) above.

(c) Man-Overboard Signal. Hail and pass the word to the bridge. All personnel and vessels capable of rendering assistance shall respond.

(i) Hurricane Plan. A detailed plan for protection and evacuation of personnel and plant in the event of an impending hurricane or storm is required as an enclosure to the Contractor's Accident Prevention Program. This plan shall be submitted to the Contracting Officer, or his/her representative, for review and approval prior to the preconstruction conference. Work being performed to satisfy the Hurricane Plan will not be measured for payment. Payment for all work associated with the Hurricane Plan, and providing the equipment required for the duration specified, shall be distributed amongst the existing bid items. The plan shall include at least the following:

(1) The time each phase of the plan will be put in effect. The time shall be the number of hours remaining for the storm to reach the worksite if it continues at the predicted speed and direction.

(2) The safe harbor for personnel and plant specifically identified.

(3) The name of the boat which will be used to move the plant, its type, capacity, speed, and availability. If the boat to be used has not yet been identified, the Contractor shall indicate (a) if the vessel will come from his own resources or from an outside source, (b) the type of boat proposed, and (c) horsepower that would be needed. Upon verifying the boat to be used, the Contractor will amend the Hurricane Plan to document the boat name and the applicable information initially requested (type, capacity, speed, and availability). Finalization of this plan shall be completed prior to mobilization of the dredge to the availability.

(4) The estimated time necessary to move the plant to the safe harbor after movement is started.

(j) Hazardous Energy Protection. The Contractor shall develop, implement and maintain at the workplace, a written Control of Hazardous Energy (Lockout/Tagout) System. Refer to Section 12 of EM 385-1-1.

(k) Drills. The Contractor shall conduct its drills in accordance with EM 385-1-1, Section 19.A.04e.

(l) Equipment Operator Authorization. The Contractor shall submit a list of designated personnel qualified and authorized to operate machinery and mechanized equipment in accordance with Section 16 of EM 385-1-1.

(m) Dive Plan. The Contractor shall submit a dive plan in accordance with Section 30 of EM 385-1-1.

(n) Radiation. If a production meter that uses nuclear materials is being used aboard the dredge, the Contractor shall perform following requirements. The production meter nuclear device system designer and installer shall be qualified in these fields of expertise by the Nuclear Regulatory Commission (NRC). The Contractor shall obtain licensing and training as required by the NRC for this personnel aboard the dredge for the use of those components of the production meter containing or are affected by the nuclear source. The Contractor shall implement a nuclear device awareness program as required by the NRC for all personnel aboard the dredge not directly involved in the activities of the nuclear device. The Contractor shall submit a nuclear device safety plan to the Government within 24 hours after receipt of Notice to Proceed by the Contractor. While a nuclear device is present aboard the dredge, the Contractor shall strictly adhere to all applicable NRC rules and regulations.

(o) Crane/Derrick and Dragline Certification. The Contractor shall submit a copy of the certification and performance test in accordance with Section 16 of EM-385-1-1.

(p) Accident Prevention Plan Checklist. Attached at the end of this Section is an Accident Prevention Plan Checklist for submitting the required submittals to complete the Accident Prevention Program.

(q) Dredging Safety Management Program. If the Contractor is a currently accepted participant in the Dredging Contractors of America (DCA)/United States Army Corps of Engineers (USACE) Dredging Safety Management Program (DSMP), as determined by the DCA/USACE Joint Committee, and holds a current valid Certificate of Compliance for both the Contractor Program and the Dredge(s) to be used to perform the work required under this contract, the Contractor may, in lieu of the submission of an Accident Prevention Plan (APP):

- (1) make available for review, upon request, the Contractor's current Safety Management System (SMS) documentation,
- (2) submit to the Contracting Officer the current valid Company Certificate of Compliance for its SMS,
- (3) submit the current dredge(s) Certificate of Compliance based on third party audit, and
- (4) submit for review and acceptance, site-specific addenda to the SMS as specified in the solicitation.

(r) SSHO Staffing for USACE Dredging Contracts

- a. Dredging contracts may include several project sites; this contract will require a minimum of one (1) full time SSHO assigned per project site. SSHO may be collateral duty in specific conditions listed below.
- b. Example of one dredging project site is reflected in each of the following:
  - 1) a mechanical dredge, tug(s) and scow(s), scow route, and material placement site; or
  - 2) a hydraulic pipeline dredge, attendant plant, and material placement site; or,
  - 3) a hopper dredge (include land-base material placement site – if applicable.)
- c. Individual dredging project sites with work force less than eight (8) employees, the SSHO may be a collateral duty, with the same responsibilities of a full time SSHO.
- d. Hopper dredges with USCG – Documented crews may designate an officer as a collateral – duty SSHO instead of having a full-time SSHO if the officer meets the SSHO training and experience requirements.

(s) SSHO requirements for Dredging

- a. In addition to requirements stated elsewhere in this specification, the SSHO, or his alternate, shall be present at the project site at all times when work is being performed. The SSHO shall have full mobility and reasonable and timely access to all work operations. The SSHO shall be a full time, dedicated position. The SSHO shall report to senior project (or corporate) officials.

b. The SSHO shall inspect all work areas and operations during initial set-up and at least monthly observe and provide personal oversight on each shift during dredging operations for projects with many work sites, more often for those with less work sites.

c. For projects with multiple shifts or when SSHO is temporarily off-site, an Alternate SSHO will be assigned to insure SSHO coverage for the project at all times work activities are conducted. The Alternate SSHO must meet the same requirements and assume the responsibilities of the project SSHO. The Alternate SSH position may be a collateral duty.

(t) Designated Representative (DR) Requirements for Dredging

a. Designated Representatives (DR) are collateral duty safety personnel, with safety duties in addition to their full-time occupation, and support and supplement the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. DRs shall be individual (s) with work oversight responsibilities, such as masters, mates, fill foremen, and superintendants. DRs should not be positions requiring continuous mechanical or equipment operations, such as equipment operators.

b. A DR shall be appointed for all remote work locations more than 45 minutes travel time from the SSHO's duty location, typically including dredged material placement sites, towing and scow operations, and other operations.

c. The DRs will perform safety program tasks as designated by the SSHO and report safety findings to the SSHO/Alternate SSHO. The SSHO shall document results of safety findings and provide information for inclusion in the CQC reports to the Government Representative.

(u) Safety Personnel Training Requirements for Dredging

a. The SSHO, Alternate SSHO, and Designated Representatives for dredging contracts shall take either the OSHA 30-hour Construction Safety Course or an equivalent 30 hours of formal safety and health training covering the subjects of the OSHA 30-hour Course (see EM 385-1-1 Appendix A, paragraph 4.b) applicable to dredging work and given by qualified instructors.

b. The SSHOs shall also have taken 24 hours of formal classroom or online safety and health related coursework in the past four (4) years. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once [i.e. Instructing a 1-hour asbestos awareness course five (5) times in the past four (4) years provides one (1) hour credit for training].

c. The SSHO, Alternate SSHO, and Designated Representatives shall have a minimum of three (3) years continuous experience within the past five (5) years in supervising/managing dredging, marine or land-based construction, work managing safety programs or processes, or conducting hazard analyses and developing controls in activities or environments with similar hazards. This is in lieu of the construction experience required by paragraph 01.A1.b, EM 385-1-1.

d. In locations where equipment will be passing beneath overhead power lines, the contractor shall install at least two (2) signs on either side of the crossing warning of their presence. The signs shall have arrows pointing upward, and state "Overhead Electric". The contractor shall submit his proposed sign design to the Contracting Officer for approval.

### 3. SIGNAL LIGHTS

The Contractor shall display signal lights and conduct his/her operations in accordance with U. S. Coast Guard regulations governing lights and day signals to be displayed, as set forth in Commandant, U. S. Coast Guard Instruction M16672.2C, Navigation Rules, International - Inland (COMDTINST M16672); 33 CFR 81, Appendix A (International); and 33 CFR 84 through 33 CFR 90 (Inland) as applicable.

### 4. PROJECT SIGN

Prior to commencement of work, the Contractor shall construct a project sign at the site of the work at a location directed by the Contracting Officer. The sign, which will identify the work with the Corps of Engineers shall be four (4) feet by six (6) feet in size and shall conform to the requirements of the PROJECT SIGN drawing and installation instructions attached at the end of this section. The lettering for the two (2) feet by four (4) feet section of the sign with the Corps logo shall be white; all other lettering shall be black. Lettering for the project name shall be Helvetica Bold, all other lettering shall be Helvetica Regular. The sign coordinator is Mary Pizzuto @ 504.862.2000. No separate payment will be made for construction and erection of the project sign and all costs in connection therewith will be considered an incidental obligation of the Contractor. Upon completion of the work, the sign shall become the property of the Contractor and shall be removed from the job site.

### 5. CONTINUITY OF WORK

No payment will be made for work done in any area designated for borrow by the Contracting Officer until the full depth required under the contract is secured in the whole of such area, nor will payment be made for excavation in any area not adjacent to and in prolongation of areas where full depth has been secured except by decision of the Contracting Officer. Should any such non-adjacent area be excavated to full depth during the operations carried on under the contract, payment for all work

therein may be deferred until the required depth has been made in the area intervening. It is the intent of this paragraph to minimize impacts to the Lake Pontchartrain borrow footprint by excavating a continuous pit to the maximum allowable depth, unless directed otherwise by the Contracting Officer due to obstructions and/or suitability of material. The Contractor may be required to suspend dredging at any time when for any reason the gages or ranges cannot be seen or properly followed.

## 6. INSPECTION

(a) The presence of the Inspector shall not relieve the Contractor of the responsibility for the proper execution of the work in accordance with the specifications. The Contractor shall furnish on the request of the Contracting Officer or any inspector:

(1) The use of such boats, boatmen, laborers and material forming a part of the ordinary and usual equipment and crew of the dredging plant as may be reasonably necessary in inspecting and supervising the work.

(2) Suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant, and to and from the disposal areas.

(3) Throughout the contract period, Inspector (Government Agent) transportation as specified in Section 35 20 23.00 12 DREDGING, paragraph 1.8.3.

(b) Should the Contractor refuse, neglect, or delay compliance with these requirements, the specific facilities may be furnished and maintained by the Contracting Officer, and the cost thereof will be deducted from any amounts due or to become due to the Contractor.

## 7. 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 official authorized to certify on behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and 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.

## 8. ACCOMMODATIONS AND MEALS FOR INSPECTORS

(a) The contractor shall furnish regularly to inspectors on board the dredge or other craft upon which they are employed a suitable separate room approximately 150 square feet in size for a Corps of Engineers field office. The room shall also be suitable for sleeping purposes, and the inspector(s) have the option to stay on the floating plant overnight. The room shall be fully equipped and maintained to the satisfaction of the Contracting Officer. It shall be properly heated, ventilated, air conditioned, and lighted, shall have sufficient electrical outlets with power surge protection to power a laptop computer and printer, shall have a desk with drawers which can be locked, and a drafting table measuring at least four (4) feet by six (6) feet, a comfortable chair for each inspector, washing conveniences and daily janitorial services. Should the Contractor have a photocopy machine on the jobsite, the Contractor may allow the use of his own in lieu of providing a separate machine for use by the Government inspector. The entire cost to the contractor for furnishing, equipping, and maintaining the foregoing accommodations, shall be distributed amongst the existing bid items. If the Contractor fails to meet these requirements, the facilities referred to above will be secured by the Contracting Officer, and the cost thereof will be deducted from payments to the Contractor.

(b) If the Contractor maintains on this work an establishment for the subsistence of his/her own employees, he/she shall, when required, furnish to inspectors employed on the work, and to all Government agents who may visit the work on official business, meals of quality satisfactory to the Contracting Officer. All meals shall be available for purchase, by the Government's inspectors and agents, at the cost not to exceed \$1.50 per person for each meal.

(c) The contractor shall provide the inspector's field office with a cellular wireless Broadband / WiFi 802.11n capable router that accepts cellular data signals through Express Card / Air Card or USB modems. This service must be capable of providing adequate connection speed (a minimum download speed of 10 Mbps, and a minimum upload speed of 1.5 Mbps) to allow the inspectors to import / export files through RMS." The contractor must field verify that the service provider chosen has adequate continuous coverage at the construction site. No separate measurement or payment will be made for providing the above described internet service. The contractor shall be responsible for the installation, maintenance of, and the monthly service fees necessary to provide continuous high speed internet service for the duration of the contract. All costs associated with providing this service shall be distributed amongst the existing bid items.

## 9. RADIO AND TELEPHONE COMMUNICATIONS

The Contractor shall furnish and maintain the following radio and telephone equipment throughout the period of the contract. Final approval of the plant will not be made until this equipment is installed and in good working order:

a. Maritime Radio Transceiver. The Contractor shall furnish and maintain throughout the contract, one FM ship's radio transceiver with power not in excess of 25 watts, and at least 15 watts output on the maritime frequencies of 156.800 (Channel 16) and 156.375 (Channel 67) MHz 16F3 emission, with a tolerance of plus or minus 5 kHz deviation at 100 percent modulation for communication concerning navigation in the vicinity of the floating plant. The radio shall be operated in accordance with FCC rules and regulations.

b. Radio Equipment for Additional Floating Plant. In the event that the Contractor should have two plants operating simultaneously under this contract, the above-specified radio equipment shall be furnished and maintained on both floating plants. The radio transceivers provided for hereinabove shall be continuously monitored by qualified Contractor persons operating the floating plants.

c. Facsimile and Cellular Telephone. The Contractor shall also furnish and maintain a cellular telephone and facsimile throughout the period of the contract. Final approval of the plant will not be made until this equipment is installed and in good working order. Facsimile and cellular phone service shall be available to Government personnel for conducting official Government business 24 hours per day, seven (7) days per week.

d. No separate measurement or payment will be made for furnishing and maintaining radio and telephone equipment as specified herein. All costs for furnishing and maintaining radio and telephone equipment shall be included in the applicable contract unit price per cubic yard for "Marsh Creation, Turtle Bayou", "Marsh Creation, Bayou Sauvage North Cell", or "Marsh Creation, Bayou Sauvage South Cell".

## 10. SEAWORTHINESS CERTIFICATION

EM 385-1-1, Section 19.A.01.b. 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 Society of Accredited Marine Surveyors (SAMS) and having at least five (5) years experience in commercial marine plant and equipment. All other plant shall be inspected annually by a qualified person. The inspection shall be documented, and a copy of the most recent inspection report shall be posted in a public area on board the vessel and a copy shall be furnished to the designated authority upon request. The

inspection shall be appropriate for the intended use of the plant and shall, as a minimum, evaluate structural integrity and compliance with NFPA 302, Fire Protection Standard for Pleasure and Commercial Motor Craft.

## 11. ENVIRONMENTAL LITIGATION

(a) If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier and required by the terms of this contract. If the order is not due in any part to acts or omissions of the Contractor (or a Subcontractor at any tier) other than as required by this contract, such suspension, delay, or interruption shall be as if ordered by the Contracting Officer under the Contract Clause in Section 00700 entitled, "*Suspension of Work (FAR 52.242-14)*". The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

(b) The term "environmental litigation", as used herein, means a lawsuit alleging that the work has an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

## 12. STATE TAXES

(a) The bid submitted in response to this Invitation shall not include any amount whatever for payment of any of the following taxes, fees or charges:

(1) The Louisiana "Severance Tax" imposed by LSA R.S. 47:631 and made applicable to the dredging of fill material from rivers and bodies of water within the State of Louisiana by the Severance Tax Regulations promulgated by the Collector of Revenue dated 31 March 1968.

(2) Any amounts claimed by the Louisiana Department of Wildlife and Fisheries for the privilege of removing fill from the water bottoms of the State of Louisiana.

(b) If the Contractor is required to pay or bear the burden of any tax, fee or charge described in paragraphs (a)(1) and/or (a)(2) above, the contract prices shall be increased by that amount which the Contractor is required to pay to the State of Louisiana; provided, however, that no increase in contract price shall be made for any liability the Contractor may incur as a result of his fault or negligence or his failure to follow the instructions of the Contracting Officer.

(c) The Contractor shall promptly notify the Contracting Officer of all matters pertaining to taxes, fees, or charges as described herein which reasonably may be expected to affect the contract price and shall at all times follow the directions and instructions of the Contracting Officer in regard to the payment of such taxes, fees, or charges.

(d) Before any increase in contract price becomes effective in accordance with the provisions of this clause, the Contractor shall warrant in writing that no amount of such taxes, fees or charges was included in the contract price as a contingency reserve or otherwise.

### 13. WEEKENDS, HOLIDAYS, AND NIGHTS

- a. Prior to initiation of dredging and filling of each specific marsh creation site, completion of earthen retention dike construction is required. When the Contractor elects to work on weekends, holidays, and/or nights to complete these construction efforts, a minimum 48-hour notice shall be given to the Contracting Officer, in writing, in advance of commencement of such operations to permit suitable arrangements for inspection to be made.
- b. It is anticipated that dredging efforts will proceed seven (7) days a week. When the Contractor elects not to dredge on weekends, holidays or nights, notice shall be given to the Contracting Officer at least 24 hours in advance thereof. Adequate lighting for safe operations and thorough inspection of night operations shall be provided by the Contractor at his/her expense.

### 14. FUEL CONSUMPTION REPORTING REQUIREMENTS

On the first day of each month, the Contractor shall furnish, to the Government Inspector, a report of the quantities of fuel consumed during the previous month in execution of the work covered by the contract. The quantities reported shall include fuel consumed by the Contractor and all of his/her subcontractors for the main plant and all support plant during the preceding month. This information may be consolidated and shall be included in the Report of Operations-Pipelines, Dipper or Bucket Dredges, ENG Form 4267; or in the Report of Operations-Hopper Dredges, ENG Form No. 27A (costs), as applicable.

### 15. RIGHTS-OF-WAY

- a. The rights of entry required for the work to be constructed under this contract, within the rights-of-way limits indicated on the drawings, have been obtained by the Government and are provided without cost to the Contractor. The Contractor shall make its own investigations to determine the conditions, restrictions, and difficulties which may be encountered in the transportation of equipment and material to and from the work site. The proposed work, including rights-of-way, as defined by these specifications and as shown on the drawings, is in

compliance with all applicable Federal and state environmental laws and regulations. Upon completion of the Contractor's work, rights-of-way furnished by the Government shall be returned to its original condition prior to construction unless otherwise noted.

b. If the Contractor proposes a deviation from the Government furnished rights-of-way for his convenience, the Contractor shall notify the Contracting Officer or its representative in writing. Contractor shall not provide any permanent rights-of-way for the project. The Contractor is cautioned that any deviation to the Government furnished rights-of-way is subject to all applicable Federal and state environmental laws and regulations. Compliance with these environmental laws and regulations may require additional National Environmental Policy Act (NEPA) documents, cultural resources surveys, coordination with the Louisiana State Historical Preservation Officer, water quality certification, modification of the Federal consistency determination, etc. The Government is ultimately responsible for environmental compliance; therefore, the Government will determine the additional environmental coordination and documentation necessary for a proposed deviation to the Government furnished rights-of-way. For any environmental investigations the Government is to perform on areas outside of Government furnished rights-of-way, the Contractor shall provide sufficient rights of entry to the Government. The Contracting Officer will advise the Contractor of the additional environmental coordination and documentation that must be completed. The Government shall be responsible for any additional environmental compliance; however, the Contractor may conduct specific tasks identified by the Government. The Government will offer advice and assistance to the Contractor in conducting these tasks. Depending on the environmental impact of the proposed deviation, obtaining the coordination and documentation may not be approved or could take as much as 180 calendar days for approval by the Government. The Government must review, approve and ensure distribution of all environmental compliance documentation and ensure all comments on the same have been resolved before any utilization of any areas outside of the Government furnished rights-of-way. The Contractor shall reimburse the Government for actual expenses incurred for assistance in completing or attempting to complete additional environmental coordination and documentation, which expenses will not exceed one hundred thousand (\$100,000.) dollars. There is no guarantee that environmental compliance will be obtained; therefore, the Contractor shall assume all risks and liabilities associated with pursuing a deviation. Any delays resulting from the deviation and/or the environmental coordination and documentation shall not be made the basis of any Contractor claim for increase in the contract cost and/or increase in contract time. Deviations will be at Contractor's sole risk and liability, including, but not limited to, such liabilities associated with items such as hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et. seq.), and at no cost to the Government. Government assistance in obtaining additional environmental

clearances does not relieve the Contractor of responsibility for complying with other Federal, state or local licenses and permits.

#### 16. CONTRACT COORDINATION

The Contractor shall assist the Government with available on site plant and manpower in monitoring the water quality and character of dredge material aspects of the dredging and disposal operations. This assistance shall consist of, but not be limited to, furnishing boat transportation, temporary storage of samples, etc.

#### 17. CONTRACTOR'S RESPONSIBILITY

The Contractor shall be responsible for ensuring that all its employees strictly comply with all laws that may apply to operations under this contract. The Contractor assumes full responsibility for the safety of its employees, plant, and materials and for any damage or injury done by or to them from any source or cause, except damage caused by acts of the Government, its officers, agents or employees. Such damages will be the responsibility of the Government in accordance with applicable Federal laws. The terms "officer", "agent", and "employee" of the Government do not include persons in the employment of the Contractor and whose services have been furnished to the Government.

#### 18. MOBILIZATION OF ATTENDANT PLANT

Pursuant to the Contract Clause in Section 00700 entitled, "*Commencement, Prosecution and Completion of Work (FAR 52.211-10)*", mobilization of all attendant plant, if required, shall be concurrent with dredge mobilization. Failure to timely mobilize such auxiliary/attendant plant may result in one or more of the following actions by the Contracting Officer: reasonable suspension (without Government cost) of work until required plant is provided; formulation of credit to offset deficient plant; imposition of liquidated damages for late overall completion of the contract after excusable delays, if any. The Government's rights under any other Contract Clause are preserved.

#### 19. ACCESS PLAN

The Contractor shall submit an access plan to be reviewed and approved by the Contracting Officer to include, as a minimum, the following:

- (a) Layout drawings showing the location of all equipment, office structures, toilets, and storage areas for materials.
- (b) Show mobilization and demobilization routing and locations of large equipment, such as draglines, cranes, and etc. while on the jobsite; and mobilization routing for required timber and vinyl piles.

(c) Show waterway channels or canals used to mobilize and demobilize equipment and materials and show access routes and docking areas of all marine equipment with respect to the jobsite.

(d) A staging area is allowed for handling of pipeline and equipment necessary for construction of the Turtle Bayou Marsh Creation site, which requires earthen pre-filling prior to usage. Show the extent and alignment of that portion of the staging area proposed to be used.

(e) Airboats and small outboards shall be used whenever practical to reduce the usage of marsh buggies. Existing trails and canals shall be utilized whenever possible. Marsh buggy use shall be limited to the construction limits of the project features.

## 20. SUPERVISION

At all times during performance of this contract and until the work is completed and accepted by the Government, the Contractor shall have on the worksite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor. Inspectors appointed by the Contracting Officer will enforce strict compliance with the terms of the contract. The inspectors will keep a record of the work done, but neither the presence nor absence of inspectors shall relieve the Contractor of responsibility for the proper execution of the work in accordance with the contract and directives issued by the Contracting Officer.

## 21. CONTRACTOR PERFORMANCE EVALUATIONS – CONSTRUCTION

In accordance with the provisions of Subpart 36.201 (Evaluation of Contractor Performance) of the Federal Acquisition Regulation (FAR), construction contractor's performance shall be evaluated throughout the performance of the contract. The United States Army Corps of Engineers (USACE) follows the procedures outlined in Engineering Regulation 415-1-17 to fulfill this FAR requirement. For construction contracts awarded at or above \$150,000.00, the USACE will evaluate contractor's performance and prepare a performance report using the Construction Contractor Appraisal Support System (CCASS), which is now a web-based system. After an evaluation (interim or final) is written up by the USACE, the Contractor will have the ability to access, review and comment on the evaluation for a period of 30 days. Accessing and using CCASS requires specific software, called PKI certification, which is installed on the user's computer. The certification is a Department of Defense requirement and was implemented to provide security in electronic transactions. The certification software could cost approximately \$110 - \$125 per certificate per year and is purchased from an External Certificate Authorities (ECA) vendor. Current information about the PKI certification process and for contacting vendors can be found on the web site: <http://www.cpars.gov>. If the Contractor wishes to participate in

the performance evaluation process, access to CCASS and PKI certification is the sole responsibility of the Contractor.

## 22. PROJECT BENCHMARKS

- a. Benchmark and Project Temporary Benchmarks (TBM). To ensure local/internal consistency, the Contractor shall verify all project benchmarks using differential leveling in accordance with Section D of the "USACE New Orleans District Minimum Survey Standards". The differential levels must be to Second Order Class II closure standards, as defined in Appendix 4 of the afore mentioned Survey Standards, and as follows: closure error (in feet) must be less than or equal to  $0.035 \times \sqrt{\text{distance in miles}}$ . Ties between the three "project controls" identified on the drawings and the Contractor utilized temporary benchmarks shall be performed at least every 6 months using differential leveling. Field notes showing all data and the closure error shall be provided to the Government. Field records of these survey verifications shall be submitted in a survey report, which shall be updated with each periodic verification. The benchmark verification survey shall be performed and report signed and sealed by a Licensed Surveyor.
- b. Records. Field records of these benchmark verifications shall be submitted to the Contracting Officer's Representative in electronic format via CD, DVD, or portable hard drive within 7 days of the completion of the benchmark verification. The Contracting Officer's representative shall be notified immediately if any errors or inconsistencies in the benchmark verifications are found. Field records of the first benchmark verification must be received within 14 days of notice to proceed.

## 23. UTILITIES AND IMPROVEMENTS

- (a) All known utilities within the limits of work, such as pipelines, communication lines, power lines, etc., have been noted on the drawings and/or these specifications and are not anticipated to interfere with construction activities. The Contractor, however, 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 notify each utility owner by certified mail 45 days, 15 days, and again 72 hours prior to the date field coordination is required and provides a copy of the written notifications to the Contracting Officer.
- (b) 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 unless and until approved by the Contracting Officer. Payment for ordered excavation, if any, will be made in accordance with the Contract Clause in Section 0700, entitled "Differing Site Conditions" (FAR 52.236.2).

- (c) Notices to Owners and Authorities. The Contractor shall notify owners of utilities when prosecution of the work may affect them. When it is necessary to temporarily disconnect or de-energize utility services, the Contractor shall give notices sufficiently in advance to enable the affected persons to provide for their needs. Notices shall conform to any applicable local ordinance and, whether delivered orally or in writing, shall include appropriate information concerning the interruptions and instructions on how to limit their inconvenience.
- (d) The contractor shall assume full responsibility for the protection of all structures and utilities, public or private including poles, signs, pipelines, electric and telephone cables, whether or not they are shown on the drawings. The contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the Contractor's negligence shall be repaired by him at his expense. The contractor shall bear full responsibility for locating all underground structures and utilities as indicated on the plan drawings.
- (e) Contractor shall be responsible for contacting Louisiana One Call prior to mobilization at 1-800-272-3020.
- (f) Electric Distribution Lines. While constructing the project, the Contractor will be working near, and under the overhead power lines. The Contractor shall contact the appropriate owner prior to the start of construction to coordinate all construction work with the utility owner in order to insure safety.
  - (1) The contractor shall maintain a minimum distance from all power lines as required by NEC, the utility owner, and EM 385-1-1. The Contractor shall be responsible for determining the maximum height and reach attainable by any part of any piece of equipment, and after coordinating with the utility owner to determine the height and location of the power line, shall determine if the required clearance will be violated. The Contractor shall not work within the required clearance of the lines unless the lines are de-energized. If the clearance will be violated, prior to beginning any operations in the area, the Contractor shall coordinate with utility owner to de-energize the lines. If the line is to be de-energized but is to remain in place, rather than being removed, the Contractor shall establish a procedure with the utility owner to ensure that the contractor will have sufficient notice to allow removal of all equipment which may violate the required clearance from the area prior to the line being re-energized. These procedures and requirements shall also apply to any buried power lines.

(2) It shall be the Contractor's sole duty and responsibility to provide for the safety of his men, equipment, subcontractors and the general public during operations in the vicinity of overhead and underground power lines, and to assure that all of his operations and those of his employees and subcontractors comply with OSHA, EM385-1-1, the National Electric Safety Code, and all applicable Parish, State, and Federal codes and regulations.

(g) Utility Points of Contact are found in Section 35 20 23.00 12 DREDGING.

Below are two samples of the construction project identification sign showing how this panel is adaptable for use to identify either military (top), or civil works projects (bottom). The graphic format for this 4' x 6' sign panel follows the legend guidelines and layout as specified below. The large

4' x 4' section of the panel on the right is to be white with black legend. The 2' x 4' section of the sign on the left with the full Corps signature (reverse version) is to be screen printed Communications Red on the white background.

This sign is to be placed with the Safety Performance Sign shown on the following

page. Mounting and fabrication details are provided on page 16.4.

Special applications or situations not covered in these guidelines should be referred to the District/Division sign coordinator.

Legend Group 1: One- to two-line description of Corps relationship to project.  
Color: White  
Typeface: 1.25" Helvetica Regular  
Maximum line length: 19"

Legend Group 2: Division or District Name (optional). Placed below 10.5" Reverse Signature (6" Castle).  
Color: White  
Typeface: 1.25" Helvetica Regular

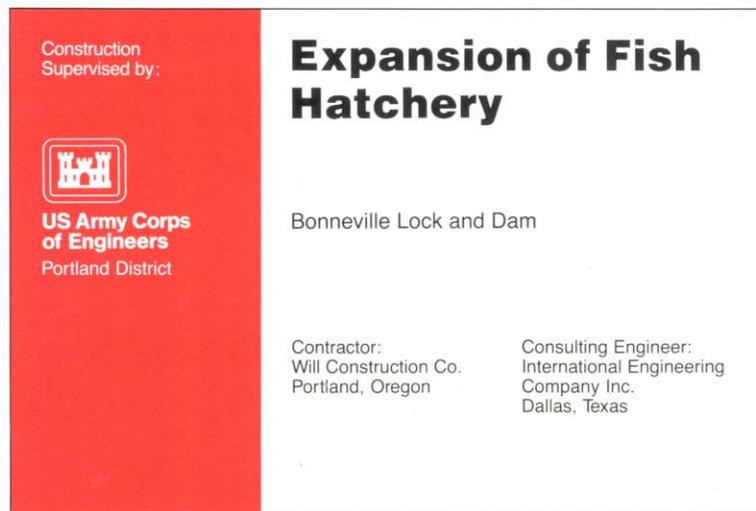
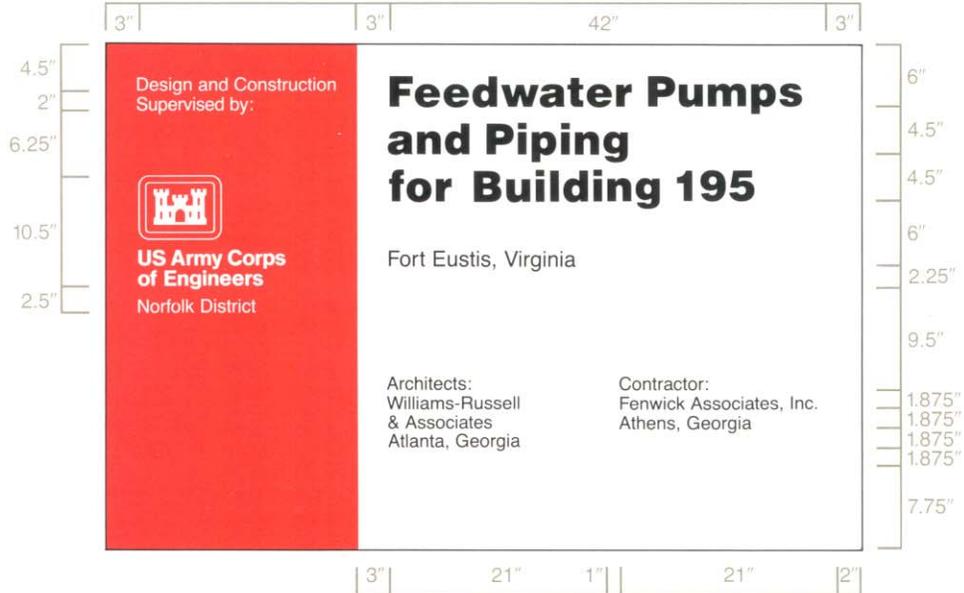
Legend Group 3: One- to three-line project title legend describes the work being done under this contract.  
Color: Black  
Typeface: 3" Helvetica Bold  
Maximum line length: 42"

Legend Group 4: One- to two-line identification of project or facility (civil works) or name of sponsoring department (military).  
Color: Black  
Typeface: 1.5" Helvetica Regular  
Maximum line length: 42"

Cross-align the first line of Legend Group 4 with the first line of the Corps Signature (US Army Corps) as shown.

Legend Groups 5a-b: One- to five-line identification of prime contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state. Use of Legend Group 5 is optional.  
Color: Black  
Typeface: 1.25" Helvetica Regular  
Maximum line length: 21"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.



Sign Type	Legend Size	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-01	various	4" x 6"	4" x 4"	HDO-3	48"	WH-RD/BK

Each contractor's safety record is to be posted on Corps managed or supervised construction projects and mounted with the construction project identification sign specified on page 16.2.

The graphic format, color, size and typefaces used on the sign are to be reproduced exactly as specified below. The title

with First Aid logo in the top section of the sign, and the performance record captions are standard for all signs of this type. Legend Groups 2 and 3 below identify the project and the contractor and are to be placed on the sign as shown.

Safety record numbers are mounted on individual metal plates and are screw-mounted to the background to allow for

daily revisions to posted safety performance record.

Special applications or situations not covered in these guidelines should be referred to the District/Division sign coordinator.

Legend Group 1: Standard two-line title "Safety is a Job Requirement", with (8" od.) Safety Green First Aid logo. Color: To match PMS 347 Typeface: 3" Helvetica Bold Color: Black

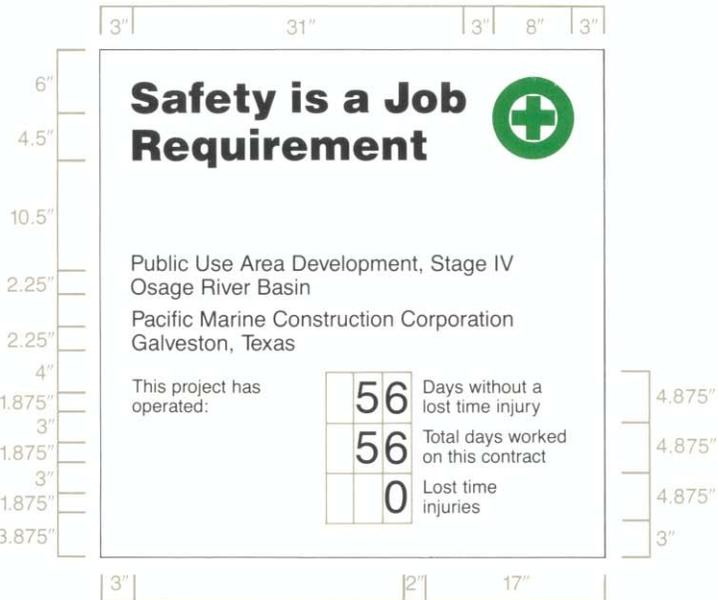
Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project. Color: Black Typeface: 1.5" Helvetica Regular Maximum line length: 42"

Legend Group 3: One- to two-line identification: name of prime contractor and city, state address. Color: Black Typeface: 1.5" Helvetica Regular Maximum line length: 42"

Legend Group 4: Standard safety record captions as shown. Color: Black Typeface: 1.25" Helvetica Regular

Replaceable numbers are to be mounted on white .060 aluminum plates and screw-mounted to background. Color: Black Typeface: 3" Helvetica Regular Plate size: 2.5" x .5"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.



Sign Type	Legend Size	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-02	various	4" x 4"	4" x 4"	HDO-3	48"	WH/BK-GR



All Construction Project Identification signs and Safety Performance signs are to be fabricated and installed as described below. The signs are to be erected at a location designated by the contracting officer and shall conform to the size, format, and typographic standards shown on

pages 16.2-3. Detailed specifications for HDO plywood panel preparation are provided in Appendix B.

For additional information on the proper method to prepare sign panel graphics, contact the District sign coordinator.

Shown below the mounting diagram is a panel layout grid with spaces provided for project information. Photocopy this page and use as a worksheet when preparing sign legend orders.

The sign panels are to be fabricated from .75" High Density Overlay Plywood. Panel preparation to follow HDO specifications provided in Appendix B.

Sign graphics to be prepared on a white non-reflective vinyl film with positionable adhesive backing.

All graphics except for the Communications Red background with Corps signature on the project sign are to be die-cut or computer-cut non-reflective vinyl, pre-spaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on pages 16.2-3.

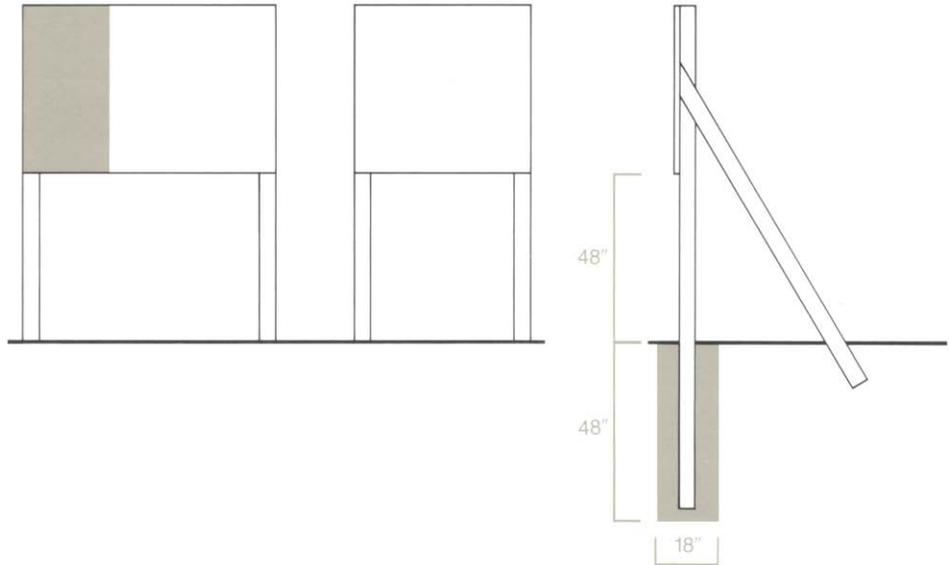
The 2' x 4' Communications Red panel (to match PMS-032) with full Corps signature (reverse version) is to be screen printed on the white background. Identification of the District or Division may be applied under the signature with white cut vinyl letters prepared to Corps standards. Large scale reproduction artwork for the signature is provided on page 4.8 (photographically enlarge from 6.875" to 10.5").

Drill and insert six (6) .375" T-nuts from the front face of the HDO sign panel. Position holes as shown. Flange of T-nut to be flush with sign face.

Apply graphic panel to prepared HDO plywood panel following manufacturers' instructions.

Sign uprights to be structural grade 4" x 4" treated Douglas Fir or Southern Yellow Pine, No.1 or better. Post to be 12' long. Drill six (6) .375" mounting holes in uprights to align with T-nuts in sign panel. Countersink (.5") back of hole to accept socket head cap screw (4" x .375").

Assemble sign panel and uprights. Imbed assembled sign panel and uprights in 4' hole. Local soil conditions and/or wind loading may require bolting additional 2" x 4" struts on inside face of uprights to reinforce installation as shown.



Construction Project Sign  
Legend Group 1: Corps Relationship

1. \_\_\_\_\_
2. \_\_\_\_\_

Legend Group 2: Division/District Name

1. \_\_\_\_\_
2. \_\_\_\_\_

Legend Group 3: Project Title

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Legend Group 4: Facility Name

1. \_\_\_\_\_
2. \_\_\_\_\_

Legend Group 5a: Contractor/A&E

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Legend Group 5b: Contractor/A&E

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Safety Performance Sign  
Legend Group 1: Project Title

1. \_\_\_\_\_
2. \_\_\_\_\_

Legend Group 2: Contractor/A&E

1. \_\_\_\_\_
2. \_\_\_\_\_

	3"	31"	3"	8"	3"														
6"	<h1>Safety is a Job Requirement</h1>  <p>Gap Closures at Pump Station #3, Interim Protection Plan, Phase 1</p> <p>U.D.H. Builders, Inc. Baton Rouge, Louisiana</p> <p>This project started <table border="1"><tr><td></td><td>3</td></tr></table> <table border="1"><tr><td></td><td>5</td></tr></table> <table border="1"><tr><td>0</td><td>4</td></tr></table></p> <p>Date since last Lost time accident <table border="1"><tr><td></td><td></td></tr></table> <table border="1"><tr><td></td><td></td></tr></table> <table border="1"><tr><td></td><td></td></tr></table></p> <p>Total lost time injuries <table border="1"><tr><td></td><td>0</td></tr></table></p>						3		5	0	4								0
						3													
						5													
0						4													
						0													
4.5"																			
10.5"																			
2.25"																			
3"																			
2.25"																			
3"																			
4.875"	4.875"																		
4.875"	4.875"																		
5"	4.5"																		
	3"																		
3"	21"	24"																	

Example

(NOT TO SCALE)

.75"	0	0	0
3"	5	0	4
.75"	0	0	0
2.5"	1.25"	2.5"	2.5"

# ACCIDENT PREVENTION PROGRAM

## ADMINISTRATIVE PLAN

(EM385-1-1 (Sept 08) Pages 3-5 & App A)

Accepted copy must be at work site!

1. Contractor	2. Contract Name & No.	3. Date
4. Project Superintendent	5. Shift/day	5a. Hours/shift
5b. Maximum employees/shift		
5c. Describe major scope of work and location (Ref. EM 385-1-, Page A-2, Item 2(b)).		
6a. Training - List subjects to be discussed with employees in safety indoctrination (Ref. EM 385-1-, Page A-4, Item 6(a)).		
6b. TRAINING - List mandatory training and certifications that are applicable to this project (e.g., confined space entry, explosive actuated tools, crane operator, diver's certification, vehicle operator, HAZWOPER training and certification, PPE, boat captains and any requirements for periodic retraining/recertification. List the Contractor's Designated SSHO (Site Safety and Health Officer) and attached a copy of his/her (OSHA 30 hours training certificate). (Ref. EM 385-1-1, page 11, paragraph 01.A.17)		
6c. List major equipment & Operators and training i.e. cranes, dozers, vessels, drill rig(s) etc.		
6d. List special equipment i.e. radioactive equipment (Moisture Density Gage), etc.		
7. Responsibility & Authority - Who is responsible for safety? Project: _____ Corporate: _____ Line of Authority?		
8. Who will conduct safety inspection?	8a. How?	8b. When?
9a. Is safety & health policy attached?	9b. Is safety program attached?	9c. Day & hour weekly safety meeting to be held:
10. How will subcontractor & supplies be controlled (Ref. EM 385-1-1, App A, Item 5)?	11. What are their safety responsibilities (EM 385-1-1, Appendix A, Item 5)?	



**ACCIDENT PREVENTION PROGRAM  
ADMINISTRATIVE PLAN**

(EM385-1-1 (Sept 08) Pages 3-5 & App A)

Accepted copy must be at work site!

Proposed layout of temporary buildings and facilities (including subcontractors) and traffic patterns including access roads, haul roads, R.R.s. utilities, etc (Ref. EM 385-1-1, Section 4).

The \_\_\_\_\_ will pursue a positive program of training, inspections  
(Company)  
and hazard control throughout the term of this contract. Mr./Ms. \_\_\_\_\_ has  
responsibility and authority for enforcing them.

\_\_\_\_\_  
Contractor's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
C.O.R. Signature and Date

**Contractor's Check List**  
**ACCIDENT PREVENTION PLAN CHECKLIST**  
**USACE New Orleans District**

CONTRACT NO. \_\_\_\_\_

- 1- MVN Form 385-43, Accident Prevention Program, Administrative Plan \_\_\_\_\_
- 2- MVN Form 385-43(1), Accident Prevention Plan Checklist \_\_\_\_\_
- 3- MVN Form 385-43(2), Accident Prevention Program, Hazard Analysis \_\_\_\_\_
- 4- Company's Safety Policy Letter \_\_\_\_\_
- 5- MVN Form 385-10R Fuel Oil Transfer \_\_\_\_\_
- 6- First Aid/CPR Card Holders \_\_\_\_\_
- 7- Seaworthiness Certificates \_\_\_\_\_
- 8- Hurricane Plan \_\_\_\_\_
- 9- Substance Abuse Policy Program \_\_\_\_\_
- 10- Lockout/Tagout Program \_\_\_\_\_
- 11- Plan of Operation \_\_\_\_\_
- 12-12-Hour Shift Waiver \_\_\_\_\_
- 13- Trained Personnel Authorized to Operate Equipment (Explain Training) \_\_\_\_\_
- 14- Crane Certification, Crane/Derrick and Dragline Operator's Certification Yearly \_\_\_\_\_
- 15- Physical Qualifications (Bi-Annual) for Crane/Derrick and Dragline Operators \_\_\_\_\_
- 16- Hazardous Chemical Communication Program \_\_\_\_\_
- 17- Confined Space \_\_\_\_\_
- 18- Dive Plan \_\_\_\_\_
- 19- Nuclear Density Meter Certification \_\_\_\_\_
- 21- Health Plan (reviewed by competent person), (Industrial Hygienist)  
for painting blasting, working with creosote timbers, etc \_\_\_\_\_
- 22- Safety Plan for loading and dumping of trucks \_\_\_\_\_
- 23- Has the Site Safety and Health Officer been designated in writing and  
has the OSHA 30 hr. training \_\_\_\_\_

Remarks: X= OMISSIONS FROM PLAN – SUBMIT

\_\_\_\_\_  
\_\_\_\_\_

Signature: \_\_\_\_\_  
Safety Specialist      Date

**ACCIDENT PREVENTION PLAN CHECKLIST**

**ADMINISTRATIVE SECTION**

(Forms must be submitted (7) days prior to start date for reviewing)

<b>LOCATION:</b>	<b>DATE:</b>		
<b>CONTRACT:</b>	<b>SIGNATURE:</b>		
<b>Please check and submit copies of the following items that are applicable.</b> (Ref. EM385-1-1 (Sep 08) Paragraph 01.A.11 and Appendix A)	<b>YES</b>	<b>NO</b>	<b>Location in Plan Page and Para.</b>
1. Statement of safety and health policy (Ref. EM 385-1-1, Appendix A, Item 3)			
2. Identification & accountability of personnel responsible for accident prevention			
3. Means for coordinating and controlling work activities of contractors, subcontractors, and suppliers. (Ref. EM 385-1-1, Appendix A, Item 5)			
4. Responsibilities of subcontractors in effecting the requirements of the accident prevention plan. (Ref. EM 385-1-1, Appendix A, Item 5)			
5. Plans for safety indoctrination and continued safety training. (Ref. EM 385-1-1, Appendix A, Item 6 and Section 01.B)			
6. Provisions for frequent safety inspections of work sites, material, & equipment to ensure compliance with accident prevention plan and safety manual. (Ref. EM 385-1-1, Appendix A, Item 7 and Paragraph 01.A.12)			
7. Means of recording (in inspection reports) identified safety and health deficiencies. (Ref. EM 385-1-1, Paragraph 01.A.12)			
8. Measures, timetable and individual responsible for correction of deficiencies listed above. (Ref. EM 385-1-1, Paragraph 01.A.12)			
9. Procedures for follow-up inspections to ensure correction of deficiencies. (Ref. EM 385-1-1, Paragraph 01.A.12)			
10. Responsibility for investigating and reporting accidents; reporting exposure (Ref. EM 385-1-1, Appendix A, Section 8 and Section 01.D)			
11. Responsibility for maintaining accident and exposure data, reports, and logs (Ref. EM 385-1-1, Appendix A, Section 8 and Section 01.D)			
12. Emergency response capabilities to minimize the consequences of accidents or natural disaster (Ref. EM 385-1-1, Appendix A, Section 9 and Section 01.E)			
13. Contingency plans for severe weather, e.g., windstorms, flooding, tornadoes, marine storms, etc. (Ref. EM 385-1-1, Appendix A, Section 9 and Section 01.E)			
14. Plans for maintaining job cleanup and safe access (Ref. EM 385-1-1, Section 02.B)			
15. Public safety requirements (e.g., fencing, signs) (Ref. EM 385-1-1, Paragraph 04.A.04)			
16. Local requirements which must be addressed (Ref. EM 385-1-1, General Requirements 4(i))			
17. Prevention of alcohol and drug abuse on the job (Ref. EM 385-1-1, Paragraph 01.C.02)			
18. Plans for a hazard communication program (Ref. EM 385-1-1, Section 06.B)			
19. Written program for the control of hazardous energy (Lockout/Tagout) (Ref. EM 385-1-1, Chapter 12)			
20. Dive plans submitted to safety. (Ref. EM 385-1-1, Chapter 30)			
21. List of trained/designated equipment operators. (Ref. EM 385-1-1, Chapter 16 and 18)			
22. Copy of annual crane/derrick certification and a list of licensed crane operators. (Ref. EM 385-1-1, Section 16.B)			
23. Written safety plans for the pit and dumping areas. (Ref. EM 385-1-1, Section 04.B)			
24. Health Submittals (must be reviewed and signed by contractor's Industrial Hygienist or Occupational Health Physician before submittal) (Ref. EM 385-1-1, Section 06.B)			

Note: Has the contractor designated a SSHO officer and provided proof that the site safety and health officer has completed the 30 hr OSHA 600 class or equivalent? See our new safety manual, EM385-1-1 revised 15 Sept. 08, page 11-12 paragraph 1.A.17. Yes ( ) No ( )

**ACCIDENT PREVENTION PROGRAM  
CONTRACTOR ACTIVITY HAZARD ANALYSIS**

<b>1. Contract No. &amp; Name of Contractor</b>	<b>2. Contract Name</b>	<b>3. Contract Administrator:</b>
<b>4. Date Prepared</b>	<b>5. Project Location</b>	<b>6. Estimated Start Date</b>
7. PRINCIPAL STEPS	8. POTENTIAL HAZARDS	9. RECOMMENDED CONTROLS
10. EQUIPMENT TO BE USED	11. INSPECTION REQUIREMENTS	12. TRAINING REQUIREMENTS
Contractor/Superintendent or Safety Officer (Signature & Date)	Contractor/Project Manager Or Representative (Signature & Date)	Name of Competent/Qualified Person(s)

**INSTRUCTIONS FOR COMPLETION OF CEMVN Form 385-43/2**

Item Number	Instructions
1.	Self-explanatory
2.	Self-explanatory
3.	The Area, Resident, Project, or Field Office administering the contract.
4.	Date Hazard Analysis is prepared.
5.	Location of contract or where activity is to be performed.
6.	Estimated start date of the activity being analyzed.
7.	The principal steps of the operation must be identified in sequential order.
8.	Analyze each principal step for potential hazards and identify here.
9.	Specify the controls to mitigate or minimize each potential hazard.
10.	All major pieces of equipment used in each step of the operation must be identified.
11.	List inspection requirements for the work activity and equipment.
12.	List specific training requirements, including hazard communication
13.	The Contract Superintendent or Safety Officer must sign and date analysis.
14.	Contractor/Project Manager must sign and date.

**Note: The names of the Competent/Qualified Person(s) required for a particular activity (for example, excavation, scaffolding, fall protection, other activities as specified by OSHA and this manual) shall be identified and included in the AHA. Proof of their competency/qualification shall be submitted to the GDA for acceptance prior to the start of that work activity.**

**ACCIDENT PREVENTION PROGRAM**  
**FUEL OIL TRANSFER -- FLOATING PLANT**  
 U.S. Army Engineer District, New Orleans  
 EM 385-1-1 (15 Sep 08) Section 19.A.06

1) Contractor		2) Contract Name & Number		3) Date	
4) Officer in Charge of Fuel Transfer		4a) Name of Vessel		4b) Fuel to be Transferred	
5) Name of Vessel		5a) Names of Qualified Tankermen		5b) Type of Certification and expiration date	
6) Name of Vessel	6a) Type of fill nozzle or connection on Vessel	6b) Location of fill pipes openings	6c) Location of vents openings		
7) Type, number, and size of fire fighting equipment to be available during fuel transfer operations.					
8) Sequential steps to be followed when taking on fuel.					
_____ Contractor's Signature		_____ Date		_____ C.O. or C.O.R. Signature	
				_____ Date	

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 33 00

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-- End of Section Table of Contents --

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for submittal requirements as specified herein. Payment for the work covered under this section shall be distributed throughout the existing bid items. Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by SD numbers and titles as follows.

SD-01 Preconstruction Submittals

- Certificates of insurance.
- Surety bonds.
- List of proposed subcontractors.
- List of proposed products.
- Construction Progress Schedule.
- Submittal register.
- Schedule of prices.
- Health and safety plan.
- Work plan.
- Quality control plan.
- Environmental protection plan.

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material

attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

#### SD-09 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must be signed by an authorized official of a testing laboratory or agency and must state the test results; and indicate whether the material, product, or system has passed or failed the test.

Factory test reports.

#### 1.2.2 Approving Authority

Office or designated person authorized to approve submittal.

#### 1.2.3 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

#### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

##### SD-01 Preconstruction Submittals

Submittal register; G

#### 1.4 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

##### 1.4.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause in section 00700 entitled, Specifications And Drawings For Construction (FAR 52.236-21), they are considered to be "shop drawings." Any reference to Government approval by

the Contracting Officer (CO) includes the approving authority of the CO, the Administrative Contracting Officer (ACO), or the Contracting Officer's representative (COR).

#### 1.4.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

#### 1.5 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

#### 1.6 DISAPPROVED SUBMITTALS

The Contractor shall respond to all concerns expressed by the Contracting Officer and promptly make any corrections necessary to address those concerns. The Contractor shall promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause in Section 00700 entitled, Changes (FAR 52.243-4), shall be given promptly to the Contracting Officer.

#### 1.7 GENERAL

The Contractor shall submit all items listed on the Submittal Register (ENG Form 4288) or specified in the other sections of these specifications. The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Submittals shall be made in the respective number of copies and to the respective Area Office address listed in the Contract Clause in Section 00100, entitled Site Visit (Construction) (FAR 52.236-27). Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Each submittal shall be submitted, with its complete backup materials, in paper and electronic (pdf) form. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals

requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

#### 1.8 SUBMITTAL REGISTER

At the end of the section is an example of ENG Form 4288, the Submittal Register. This form lists the items of equipment and materials which require submittals for approval by the Contracting Officer in accordance with the specifications. The example given may not be all-inclusive. The contractor is required to submit this register through QCS with columns "c" through "e", "g" through "k", and "r" completed, within 14 calendar days of the Notice to Proceed. The approved submittal register will become the scheduling document used to control submittals throughout the life of the contract. It shall be updated at a minimum every 30 days.

#### 1.9 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

#### 1.10 TRANSMITTAL FORM (ENG FORM 4025)

The transmittal form (ENG Form 4025-R) attached to this section shall be used for submitting both Government-approved and information-only submittals in accordance with the instructions on the reverse side of the form. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the contract specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

#### 1.11 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

##### 1.11.1 Procedures

Procedures for submittals will be stipulated by the Contracting Officer at the preconstruction conference.

##### 1.11.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025-R shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

#### 1.12 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

#### 1.13 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Five (5) copies of the submittal will be retained by the Contracting Officer and two (2) copies of the submittal will be returned to the Contractor.

#### 1.14 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

#### 1.15 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR  (Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s).
SIGNATURE: _____
TITLE: _____
DATE: _____

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

# SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION  
HSDRRS Mitigation, Bayou Sauvage Floodside Marsh Restoration

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	GOVT CLASSIFICATION REVIEW	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				REMARKS			
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE		DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
		01 33 00	SD-01 Preconstruction Submittals Submittal register	1.7	G													
		01 45 04.00 10	SD-01 Preconstruction Submittals Contractor Quality Control Plan		G CD													
		01 57 20.01 12	SD-01 Preconstruction Submittals Environment Pollution Control Plan		G CD													
		01 78 02.00 10	SD-02 Shop Drawings As-Built Drawings	1.3.1	G DO	E												
		02 21 10.00 12	SD-01 Preconstruction Submittals Verification of Survey Equipment															
			SD-02 Shop Drawings Before and After Dredging Cross Sections		G CD													
			After Dredging Profiles		G CD													
			Dredge Completion Survey		G CD													
			Post Construction Marsh Surveys		G CD													
			Retention Dike Surveys		G CD													
			SD-05 Design Data Compiled Survey Data CD Disk															
			Before and After Dredging Cross Sections		G CD													
			After Dredging Profiles		G CD													
			Dredge Completion Survey		G CD													
			Post Construction Marsh Surveys		G CD													
			Retention Dike Surveys		G CD													

# SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION						CONTRACTOR											
HSDRRS Mitigation, Bayou Sauvage Floodside Marsh Restoration																	
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	GOVT CLASSIFICATION REVIEW	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		02 21 10.00 12	SD-09 Manufacturer's Field Reports														
			Verification of Survey Equipment														
		35 20 23.00 12	SD-01 Preconstruction Submittals														
			Dredge Plant Data		G												
			Dredge Plan		G CD	ED											
			Marsh Creation Material Placement Plan		G CD	ED											
			Containment Dike and Waste Weirs		G												
			SD-02 Shop Drawings														
			Sheet Pile Description														
			Staging Preparation Plan	3.3.6.3	G CD	ED											
			SD-07 Certificates														
			Copy of Certified Letters to Pipelines and Utilities Owners														
			Materials test certificates shall be submitted for each shipment and identified with specific lots prior to installing piling.														



## INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

**THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED**

A --	Approved as submitted.	E --	Disapproved (See attached).
B --	Approved, except as noted on drawings.	F --	Receipt acknowledged.
C --	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX --	Receipt acknowledged, does not comply as noted with contract requirements.
D --	Will be returned by separate correspondence.	G --	Other (Specify)
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 45 02.00 10

QUALITY CONTROL SYSTEM (QCS)

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- 1.2 CONTRACT ADMINISTRATION
  - 1.2.1 Correspondence and Electronic Communications
  - 1.2.2 Other Factors
- 1.3 Quality Control System (QCS) SOFTWARE
- 1.4 SYSTEM REQUIREMENTS
- 1.5 RELATED INFORMATION
  - 1.5.1 QCS User Guide
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  - 1.7.6 Import/Export of Data
- 1.8 IMPLEMENTATION
- 1.9 FILE NAMES
- 1.10 MONTHLY COORDINATION MEETING
- 1.11 NOTIFICATION OF NONCOMPLIANCE

PART 2 PRODUCTS

PART 3 EXECUTION

-- End of Section Table of Contents --

SECTION 01 45 02.00 10

QUALITY CONTROL SYSTEM (QCS)

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement and payment will be made for providing and maintaining an effective Quality Control System, and all costs associated therewith shall be included in the applicable unit prices or lump sum prices contained in the Bidding Schedule.

1.2 CONTRACT ADMINISTRATION

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. The Contractor module, user manuals, updates, and training information can be downloaded from the RMS web site. This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

- Administration
- Finances
- Quality Control
- Submittal Monitoring
- Scheduling
- Import/Export of Data

1.2.1 Correspondence and Electronic Communications

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format. Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

1.2.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments" (FAR 52.236-15 and FAR 52.232-1 respectively), Section 01 33 00, SUBMITTAL PROCEDURES, and Section 01 45 04.00 10, CONTRACTOR QUALITY CONTROL which have a direct relationship to the reporting to be accomplished through QCS. There is no separate payment for establishing and maintaining the QCS database; all costs associated therewith shall be included in the contract pricing for the work.

### 1.3 Quality Control System (QCS) SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the QCS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the QCS software from the Government's RMS Internet Website. Upon specific justification and request by the Contractor, the Government can provide QCS on CD-ROM. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available.

### 1.4 SYSTEM REQUIREMENTS

The following is the minimum system requirements to run QCS:

#### **Hardware**

IBM-compatible PC with 1000 MHz Pentium or higher processor  
256+ MB RAM for workstation / 512+ MB RAM for server  
1 GB hard drive disk space for sole use by the QCS system  
Compact Disk (CD) Reader 8x speed or higher  
SVGA or higher resolution monitor (1024x768, 256 colors)  
Mouse or other pointing device  
Windows compatible printer. (Laser printer must have 4 MB+ of RAM)  
Connection to the Internet, minimum 56k BPS

#### **Software**

MS Windows 2000 or higher  
Word Processing software: MS Word 2000 or newer  
Latest version of: Microsoft Internet Explorer, or other browser that supports HTML 4.0 or higher  
Electronic mail (E-mail) MAPI compatible  
Virus protection software that is regularly upgraded with all issued manufacturer's updates

### 1.5 RELATED INFORMATION

#### 1.5.1 QCS User Guide

After contract award, the Contractor shall download instructions for the installation and use of QCS from the Government RMS Internet Website. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

### 1.5.2 Contractor Quality Control (CQC) Training

The use of QCS will be discussed with the Contractor's QC System Manager during the mandatory CQC Training class.

## 1.6 CONTRACT DATABASE

Prior to the pre-construction conference, the Government will provide the Contractor with basic contract award data to use for QCS. The Government will provide data updates to the Contractor as needed, generally by using the Government's Secure File Transfer Protocol (SFTP) repository built into QCS import/export function. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

## 1.7 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the QCS database throughout the duration of the contract. The Contractor shall establish and maintain the QCS database at the Contractor's site office. Submit data updates to the Government (e.g., daily reports, submittals, RFI's, schedule updates, payment requests, etc.) using the Government's SFTP repository built into QCS export function. The QCS database typically shall include current data on the following items:

### 1.7.1 Administration

#### 1.7.1.1 Contractor Information

The database shall contain the Contractor's name, address, telephone numbers, management staff, and other required items. Within 14 calendar days of receipt of QCS software from the Government, deliver Contractor administrative data in electronic format.

#### 1.7.1.2 Subcontractor Information

The database shall contain the name, trade, address, phone numbers, and other required information for all subContractors. A subcontractor must be listed separately for each trade to be performed. Assign each subcontractor/trade a unique Responsibility Code, provided in QCS. Within 14 calendar days of receipt of QCS software from the Government, deliver subcontractor administrative data in electronic format.

#### 1.7.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office with "S". Prefix letters initiated by the Contractor's home (main) office with "H". Letters shall be numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C".

#### 1.7.1.4 Equipment

The Contractor's QCS database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

#### 1.7.1.5 Management Reporting

QCS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three (3)-Phase Inspection checklists.

#### 1.7.1.6 Request For Information (RFI)

Exchange all Requests For Information (RFI) using the Built-in RFI generator and tracker in QCS.

### 1.7.2 Finances

#### 1.7.2.1 Pay Activity Data

The QCS database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Group pay activities Contract Line Item Number (CLIN); the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

#### 1.7.2.2 Payment Requests

Prepare all progress payment requests using QCS. Complete the payment request worksheet, prompt payment certification, and payment invoice in QCS. Update the work completed under the contract, measured as percent or as specific quantities, at least monthly. After the update, generate a payment request report using QCS. Submit the payment request, prompt payment certification, and payment invoice with supporting data using the Government's SFTP repository built into QCS export function. A signed paper copy of the approved payment request is also required, which will govern in the event of discrepancy with the electronic version.

### 1.7.3 Quality Control (QC)

QCS provides a means to track implementation of the three(3)-phase QC Control System, prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements. Maintain this data on a daily basis. Entered data will automatically output to the QCS generated daily report. Provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01 45 04.00 10, CONTRACTOR QUALITY CONTROL. Within seven (7) calendar days of Government acceptance, submit a QCS update reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

#### 1.7.3.1 Daily Contractor Quality Control (CQC) Reports.

QCS includes the means to produce the Daily CQC Report. The Contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by QCS shall be the Contractor's official report. Summarize data from any supplemental reports by the Contractor and consolidate onto the QCS-generated Daily CQC Report. Submit daily CQC Reports as required by Section 01 45 04.00 10, CONTRACTOR QUALITY CONTROL. Electronically submit reports to the Government within 24 hours after the date covered by the report. Also provide the Government a signed, printed copy of the daily

CQC report.

#### 1.7.3.2 Deficiency Tracking.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using QC punch list items. The Contractor shall maintain a current log of its QC punch list items in the QCS database. The Government will log the deficiencies it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA punch list items.

#### 1.7.3.3 QC Requirements

Develop and maintain a complete list of QC testing and required structural and life safety special inspections required by the International Code Council (ICC), transferred and installed property, and user training requirements in QCS. Update all data on these QC requirements as work progresses, and promptly provide this information to the Government via QCS.

#### 1.7.3.4 Three-Phase Control Meetings

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

#### 1.7.3.5 Labor and Equipment Hours

Log labor and equipment exposure hours on a daily basis. This data will be rolled up into a monthly exposure report.

#### 1.7.3.6 Accident/Safety Reporting

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. Regularly update the correction status of the safety comments. In addition, utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 300.

#### 1.7.3.7 Features of Work

The Contractor shall include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

#### 1.7.3.8 Hazard Analysis

Use QCS to develop a hazard analysis for each feature of work included in the CQC Plan. The hazard analysis shall address any hazards, or potential hazards, that may be associated with the work.

#### 1.7.4 Submittal Management

The Government will provide the initial submittal register in electronic format. Thereafter, the Contractor shall maintain a complete list of all

submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use QCS to track and transmit all submittals. ENG Form 4025, submittal transmittal form, and the submittal register update shall be produced using QCS. QCS and RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

#### 1.7.5 Schedule

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Contract Clause "Schedules for Construction Contracts". This schedule shall be input and maintained in the QCS database either manually or by using the Standard Data Exchange Format (SDEF) if applicable. The updated schedule data shall be included with each pay request submitted by the Contractor.

#### 1.7.6 Import/Export of Data

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data from RMS, and schedule data using SDEF.

### 1.8 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

#### 1.9 FILE NAMES

The files will be automatically named by the QCS software. The naming convention established by the QCS software shall not be altered in any way by the Contractor.

#### 1.10 MONTHLY COORDINATION MEETING

Update the QCS database each workday. At least monthly, generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause "Payments", at least one (1) week prior to submittal, meet with the Government representative to review the planned progress payment data submission for errors and omissions.

Make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an acceptable QCS export file is received.

#### 1.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

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- 1.2 ELECTRONIC TEST REPORT DATA
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SECTION 01 45 04.00 10

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

1.2 ELECTRONIC TEST REPORT DATA

As part of the contractor's quality control program, the QC laboratory shall provide electronic transmission of test report data in the prescribed formats in addition to the original test report data shall be furnished to the Government. The New Orleans District Construction Control Manual (NODCC Manual) specifies the minimum number of tests to be made and includes forms which shall be used to report test data. The Technical Specification sections may include testing and/or frequency requirements other than those listed in the NODCC Manual. The more comprehensive requirements shall govern in case of conflict. Two (2) copies of the NODCC Manual will be furnished to the Contractor by the Government.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control Plan; G,CD

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause in Section 00700, entitled "Inspection Of Construction" (FAR 52.246-12). The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The site project superintendent and Quality Control Manager will be held responsible for the quality of work on

the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

### 3.2 QUALITY CONTROL PLAN

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of notice of award, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause in Section 00700, entitled "Inspection Of Construction" (FAR 52.246-12). The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started. A sample CQC Plan is attached at the end of the section.

#### 3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three (3) phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and

person responsible for each test. (Laboratory facilities approved by the Contracting Officer shall be used.)

- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one (1) definable features under a particular section. This list will be agreed upon during the coordination meeting.

### 3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his/her CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

### 3.2.3 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

### 3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 14 calendar days prior to the Coordination Meeting. During the Coordination Meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

### 3.4 QUALITY CONTROL ORGANIZATION

#### 3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Manager shall serve as a member of the CQC staff. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

#### 3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a construction person with a minimum of three (3) years in related work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

#### 3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: civil, environmental, submittals clerk. These individuals may be employees of the prime or subcontractor; be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan. A single person may cover more than one (1) area provided that they are qualified to perform QC activities in each designated and that workload allows.

#### Experience Matrix

Area	Qualifications
a. Civil	Graduate Civil Engineer or

## Experience Matrix

Area	Qualifications
b.	Submittals
c.	Environmental

Construction Manager with two (2) years experience in the type of work being performed on this project or technician with five (5) years related experience

Submittal Clerk with one (1) year experience

A construction manager or Technician with three (3) years experience

### 3.4.4 Additional Requirement

In addition to the above experience and education requirements the CQC System Manager, and his alternate, shall have completed the course entitled 'Construction Quality Management for Contractors' within the past three (3) years. This course is periodically offered at the New Orleans District and other Corps of Engineers districts.

### 3.4.5 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

### 3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

### 3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three (3) phases of control shall be conducted by the CQC System Manager for each definable feature of the construction work as follows:

#### 3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications

- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government Quality Assurance personnel shall be notified at least 48 hours in advance of beginning the preparatory control phase. The Contractor shall submit a written agenda of the topics to be discussed at the preparatory meeting on the day prior to the meeting date. This phase shall include a meeting conducted by the CQC System Manager and shall be attended by the superintendent, other CQC personnel (as applicable), Government Quality Assurance personnel, and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

### 3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.

- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

### 3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

### 3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

## 3.7 COMPLETION INSPECTION

### 3.7.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Contract Clause in Section 00700, entitled "Commencement, Prosecution, and Completion of Work (FAR 52.211-10)" or stated elsewhere in the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

### 3.7.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the work is complete. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely

manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

### 3.7.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at this inspection. Additional Government personnel including, but not limited to, those from the New Orleans District, Mississippi Valley Division, and local interest may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the Contract Clause in Section 00700 entitled, "Inspection Of Construction" (FAR 52.246-12).

### 3.8 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- g. Offsite surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one (1) copy of these records in report form shall be furnished to the Government daily within 12 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one (1) report shall be prepared and submitted for every seven (7) days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

### 3.9 SAMPLE FORMS

Sample forms for guidance in preparing the CQC Plan are enclosed at the end of this section.

### 3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

# *Contractor Quality Control*

*attachments*

*...follow this page....*

# CONTRACTOR QUALITY CONTROL PLAN

Contract No. W912P8-\_\_-\_\_-\_\_

Project Name: \_\_\_\_\_

Contractor: \_\_\_\_\_

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## 8.0 Quality Control Program

## 9.0 Forms

## 1.0 COMPANY POLICY

\_\_\_\_\_ Construction, Corp. considers quality control to be an inherent safeguard to ensure quality work and to guarantee that all work is done according to the contract documents in a professional manner. Noncompliance with plans and specifications must be detected promptly, and proper action taken to assure that this policy is a viable tool in monitoring the work.

## 2.0 PLAN PURPOSE

It is the intent of this Quality Control Plan (QCP) to establish and explain how this construction corporation plans to organize, control, and review all activities according to the plans and specifications provided by the U. S. Army Corps of Engineers with regard to quality for the above reference project. The plans primary purposes are to provide for the level of construction quality required by strict accordance with the plans and specifications.

## 3.0 QUALITY CONTROL ORGANIZATION

### 3.1 CQC System Manager

The CQC System Manager (CQCM) has front line responsibility for quality control. He will become thoroughly familiar with all aspects of the project and ultimately inspect all work to ensure quality is being maintained by all craftsmen, vendors and subcontractors. The CQCM is ultimately responsible for inspecting, documenting, and reporting to the contracting officer all aspects of the work described and detailed in the plans and specifications. He is responsible for implementing and enforcing the Quality Control Plan. His duties include, but are not limited to:

- a. Implementation of the 3-phase control system for all definable features of work.
- b. Day-to-day inspection of the work.
- c. Daily on site documentation
- d. Ensure that all in-place work meets or exceeds all minimum standards set forth in the plans and specifications.
- e. Detect discrepancies or problems on site and immediately bring the same to

the attention of the Contracting Officer's Representative, as should be necessary.

f. Preparation and review of submittals and certification of submittals prior to submission.

g. Maintain document control.

h. Maintain As-built conditions.

i. Interface with the owner and outside agencies as required.

The CQCM proposed for this project is \_\_\_\_\_. See section 4.0 for a copy of his resume'.

### 3.2 CQC System Manager Alternate

The CQC system manager alternate will assume responsibilities for all aspects of quality control as required by our Quality Control Plan and the Contract Documents should the CQCM not be able to perform his duties. The CQC system manager alternate for this project is \_\_\_\_\_.

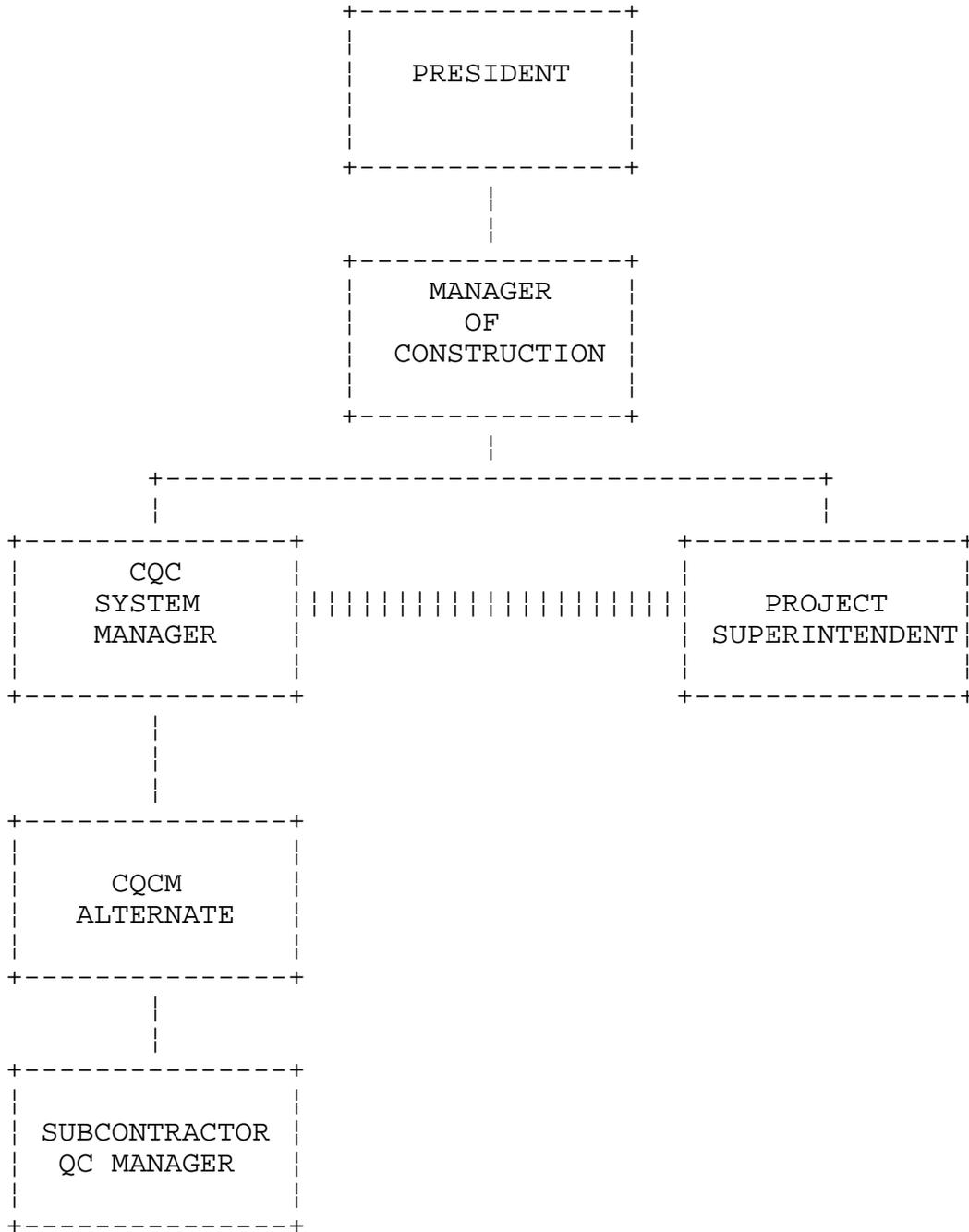
### 3.3 Manager of Construction

The Manager of Construction for this corporation is based in the home office in \_\_\_\_\_ and has a major responsibility for quality control through a supervisory role of the CQCM. The Manager of Construction will at all times keep the field forces focused on the company's commitment to quality in all phases of the work. The Manager of Construction will make routine visits to the site of work. The Manager of Construction for this company is \_\_\_\_\_.

## 4.0 RESUME OF PERSONNEL

Attached are resumes of all personnel in the above described organization. The Contracting Officer's approval will be requested before any staff changes occur, if they should become necessary.

**QUALITY CONTROL  
ORGANIZATIONAL CHART  
CONTRACT NO. W912P8-\_\_-\_\_-\_\_\_\_\_**



4.1 Resume' of \_\_\_\_\_, CQC System Manager

Personal Data and Education

Date of Birth:  
Residence:  
Graduate of:  
Completed courses in:

Professional Experience

4.2 Resume' of \_\_\_\_\_, CQCM Alternate

Personal Data and Education

Date of Birth:  
Residence:  
Graduate of:  
Completed courses in:

Professional Experience

4.3 Resume' of \_\_\_\_\_, Manager of Construction

Personal Data and Education

Date of Birth:  
Residence:  
Graduate of:  
Completed courses in:

Professional Experience

5.0 DESIGNATION OF CQC SYSTEMS MANAGER

(Contractor)

Date

Mr. \_\_\_\_\_

(Mailing Address)

SUBJECT: Contract No. W912P8-\_\_-\_\_-\_\_\_\_  
(Project Name)

Mr. \_\_\_\_\_:

This letter is to designate you as the Contract Quality Control Systems Manager for the subject project. In this capacity, you will be responsible for all aspects of quality control as required by our Quality Control Plan and the Contract Documents. You have complete authority to implement these programs including authorization to stop work which fails to comply with the requirements of the Contract Documents.

Sincerely,

\_\_\_\_\_, President

## 6.0 DESIGNATION OF CQC SYSTEM MANAGER ATERNATE

(Contractor)

Date

Mr. \_\_\_\_\_

(Mailing Address)

SUBJECT: Contract No. W912P8-\_\_-\_\_-\_\_\_\_\_  
(Project Name)

Mr. \_\_\_\_\_

This letter is to designate you as the Quality Control System Manager Alternate for the subject project. Should for any reason Mr. \_\_\_\_\_ not be able to perform his duties as CQCM, you will assume responsibility for all aspects of quality control as required by our Quality Control Plan and Contract Documents. To enable you to fulfill this responsibility, you have complete authority to implement these programs including authorization to stop work which fails to comply with the requirements of the Contract Documents.

Sincerely,

\_\_\_\_\_, President

## 7.0 PROCEDURES

### 7.1 Scheduling and Managing Submittals.

The CQCM will be the submittal manager. The CQCM has full authority to act for the firm in all submittal matters. His responsibilities include scheduling, review, updating and any submittals required from subcontractors.

Within 7 days of the Notice to Proceed, the CQCM will complete the submittal register contained in Section 01300 and submit to the Contracting Officer 4 copies for approval. Contractor schedule dates will be coordinated with the progress schedule and shall reflect 30-day minimum period for review and approval.

The CQCM will review the submittal register a minimum of every 10 days. The submittal register will be utilized to plan and monitor submittal progress so as to ensure timely approval of methods/materials prior to their scheduled need times. The submittal register will be available for inspection by the Contracting Officer at all times. An updated submittal register will be forwarded to the CO at 60-day intervals or as requested.

The CQCM will review the submittal register during preparatory phase of quality control to ensure that all submittals for the ensuing feature of work are approved and will take action to correct any deficiencies in submittal requirements.

All submittals required by the specifications or as needed for approval of deviation will be submitted by the CQCM in original and 4 copies utilizing ENG form 4025 in accordance with submittal register schedule dates or sooner. Prior to submittal, all shop drawings, data, samples, certifications, and test reports will be reviewed by the CQCM to ensure compliance with the contract requirements. Corrections and revisions will be requested where necessary.

## 7.2 Control Testing

7.2.1 Test List - A listing of all tests indicated in the contract specifications and additional tests as needed to establish quality control will be incorporated in the Contractor Quality Control Program found in section 8.0 of this plan. This listing will include the name of the test, specification para. number, feature of work tested, responsible person, and frequency.

7.2.2 Testing Facilities - The proposed testing lab for use on this project is:

\_\_\_\_\_ Testing Laboratories  
PO Box \_\_\_\_\_  
\_\_\_\_\_, LA \_\_\_\_\_

If required, a resume' of \_\_\_\_\_ facilities and personnel qualifications will be furnished to the Contracting Officer.

7.2.3 Test Records - All testing activities will be recorded on the CQC report, indicating the name of the test performed, specification paragraph reference, and

location performed. Results of the tests will be recorded on the daily CQC report or attachments. Actual test reports will be furnished promptly to the Contracting Officer as directed by the specifications.

### 7.3 Inspection

7.3.1 Materials - The CQCM will inspect all material/equipment deliveries for: (1) compliance with approved submittals, (2) damage, (3) correct dimensions and quantities, and (4) required labeling and documentation. The Contracting Officer will be notified of any materials/equipment failing to meet requirements. A record of inspection will be noted in the CQC report and any necessary corrective action will be initiated. Proper storage will be checked.

7.3.2 Off-Site Inspection - The CQCM will inspect manufacturing facilities and material sources as specifically directed by the specifications. Additional inspections will be conducted as necessary to ensure compliance with the specifications. The CQCM will record off-site surveillance activities in the CQC report. Where instances of noncompliance are observed, corrective action will be initiated.

7.3.3 On-Site Inspection - Each craftsman will be charged with the responsibility of performing his or her work in a workman like manner and continually striving for the highest degree of quality. Only craftsman who exhibit an ability to perform and desire to achieve quality will be employed.

The CQCM will routinely and continually inspect the work for compliance with contract documents. His duties, as outlined in 3.1 above, are for the purpose of maintaining and documenting the work as required to achieve a high degree of quality.

The Contract Quality Control Program outlined in paragraph 8.0 of this plan will provide an outline for the CQCM with regard to all definable features of the work. The CQCM's inspection of these work features will be accomplished through implementation of the 3-phase control procedure outline in para 7.4.

7.3.4 Completion Inspection - After completion of all work, the CQCM will conduct a completion inspection of all work features. A punchlist will be developed to identify all items which are not in compliance with the specifications and drawings. The CQCM will establish a date by which each deficiency will be corrected and note such date on the punchlist. A follow-up inspection will be conducted to verify completion of all punchlist items. The completion inspection and any resulting corrective action will be accomplished within the contract performance period. The Contracting Officer will be notified upon completion of the punchlist and corrective work. The punchlist will be made part of the Quality Control documentation by attachment to the CQC report.

## 7.4 Control Procedures

A 3-phase control system shall be implemented by the Quality Control staff to ensure that construction, including subcontractors and suppliers, complies with the requirements of the contract documents. This system of management will address each definable feature of work beginning with early planning stage requirements and ending with the finished work. Each phase will allow the opportunity to prevent problems and deficiencies and ensure that the accident prevention program is implemented. The 3 control phases are outlined in para 7.4.1 thru 7.4.3.

7.4.1 Preparatory Phase - This phase will be performed prior to beginning work on each definable feature of work. This phase will be conducted at a meeting involving the CQCM/Project Superintendent, QA personnel, and the foreman involved in the particular work feature. The Contracting Officer will be notified 48 hours in advance of the preparatory phase. This phase will include:

- a. A review of the applicable section of the specifications and contract drawings. (review specs)
- b. A review of the submittal register to ensure that all required submittals are submitted and approved. Take corrective action when necessary. Submittal data will be discussed to acquaint all team members with technical aspects and points particular to the work feature. (review submittals)
- c. A check to ensure that materials and equipment are in compliance with approved submittals and specifications. Verify that required materials/equipment are on hand and properly stored. (check material)
- d. Verify that preliminary work is completed.
- e. Review control testing requirements and verify that testing facilities are approved. Verify that necessary provisions are made for testing. (review testing)
- f. A consensus will be reached on planned construction procedures and the required level of quality expected from the CQCM in order to meet contract specifications. (set standards)
- g. Review appropriate Activity Hazard Analysis to assure safety requirements are met. The CQCM will inspect all equipment to ensure that minimum requirements for safety provisions in accordance with EM 385-1-1 and applicable regulations are met. (safety check)
- h. The above described activities will be documented on the COE form

"Preparatory Phase Checklist". This form will be attached to the CQC report and furnished to the Contracting Officer. Problems and deficiencies apparent during the preparatory phase and corrective action initiated will be noted in this report.

7.4.2 Initial Phase - This phase is performed once a representative portion of work has taken place for each definable feature of work and will be conducted at a meeting involving the CQCM/Project Superintendent and foreman involved in the particular work feature. The Contracting Officer will be notified 48 hours in advance of this phase. Initial phase will include:

- a. A check to ensure that preliminary work is completed.
- b. Verify that materials/equipment and construction procedures are in compliance with the contract documents.
- c. Review control testing requirements.
- d. Set standards of quality required to meet contract specifications.
- e. Review the Activity Hazard Analysis to ensure safety requirements are met. Check equipment for safety provisions.

f. The above described activities will be documented on the COE form "Initial Phase Checklist". This form will be attached to the CQC report and furnished to the Contracting Officer. Problems and deficiencies apparent during the initial phase and corrective actions initiated will be noted in this report. The initial phase will be repeated any time the CQCM feels that quality standards and safety requirements must be reinforced.

7.4.3 Follow-Up Phase - This phase is accomplished through the daily inspections by the CQCM, also through performance of the required control testing. Follow-up phase efforts will ensure a continuation of quality and safety standards established during preparatory and initial phases until completion of the work feature. The CQCM's follow-up phase activities, including deficiencies noted, corrective action taken, and control testing results will be recorded in the daily CQC report.

## 7.5 Reporting and Documentation

The CQCM will maintain records of all quality control activities including documentation of control testing and inspection, and maintain integrity of the contract documents through use of the following described forms and procedures. Additional reports will be formulated or added as needed.

7.5.1 Daily Record - The CQCM will utilize the COE furnished forms titled "*Contractor Quality Control CQC Form*" to record daily control activities and resources used, work performed, and other data indicated on this form. The original and two copies will be furnished to the Contracting Officer within 12 hours of the reporting date. The CQCM will maintain copies for his files. Test reports will be included in the CQC report.

7.5.2 Control Phase Checklists - The CQCM will utilize the COE furnished forms entitled "*Preparatory Phase Checklist*" and "*Initial Phase Checklist*" to document these control phase activities. Original and two copies will be attached to the CQC report for the date on which the control phase is completed. A log will be posted at the jobsite office in chart form to record the dates on which preparatory and initial phases were completed for each definable feature of work so as to allow easy verification of control activities.

7.5.3 Tracking Construction Deficiencies - The form for tracking construction deficiencies is the Deficiency Report (DR). A DR can be issued by the CQCM/Project Superintendent or Manager of Construction. All DR's shall be kept and updated by the CQCM. The DR log will be available for inspection by the Contracting Officer. See attached forms for the example of a DR.

The DR tracking log will be in chart form and bound in a log book maintained on site. See attached example of the deficiency report tracking log. The DR log book is available for inspection by the Contracting Officer at all times.

A construction deficiency for the purposes of this plan is defined as:

1. An occurrence in which defective work or work lacking some essential part has been covered or is otherwise left as complete.
2. Products are furnished to the site or incorporated into the work which do not meet the conditions of the contract documents.
3. Inspection points or contract requirements affecting quality of the work that have not been met. Minor defects in work on which construction is underway is not to be considered a Construction Deficiency.

7.5.4 Contract Document Control - The CQCM will maintain a record in log form of the most up-to-date documents issued for construction and adjustments. No contract documents will be replaced or revised without receipt of a modification or direction from the Contracting Officer. The CQCM will maintain As-Built contract drawings.

7.6 Changes to the CQC Plan - Periodically, and at least once weekly, the CQCM

will review the CQC plan with the possible need for changes in mind. During the course of work on this contract, it is reasonable to expect the need for some changes to arise. When they do, the QC Manager will incorporate these changes in the form of written amendments and copies will be furnished to the Contracting Officer.

## ***8.0 QUALITY CONTROL PROGRAM***

(Sample only, this is done for each definable feature of work)

**Q. C. ACTIVITIES & TESTING REQUIREMENTS  
FOR DEFINABLE FEATURES OF WORK**

**CONTRACT W912P8- - - -**

**Definable Feature: Cast In-Place Structural Concrete  
Section 03301**

Description	Spec. Para.	Submittal	Quality Control Activities		
			Req'd	Description of Observation Procedure or Test Required	Freq. Remarks
Concrete - Grout, Water	03301-15.1.4.1 03301-15.5.1.6	Submittal Register		Grout certificate, equipment & method used, & source of mixing & curing water	Once prior to placement
Concrete - Finishing Formed Surfaces	03301-12.2	QC Report		Visually inspect all finishing is started within 24 hours of form removal, tie rod holes & defective concrete voids and honeycombs are filled properly, smooth surface	After each placement
Concrete - Fine Aggregate	03301-15.2.1.1	QC Report		Sieve analysis and fineness modulus determination	At least once each delivery
Concrete - Coarse Aggregate	03301-15.2.2	QC Report		Sieve Analysis	At least once each delivery
Concrete - Moisture Test	03301-15.2.2.2	QC Report		Test for moisture content for each size coarse aggregate	At least once each delivery
Concrete - Mixer Uniformity	C03301-15.2.12	QC Report		Uniformity of concrete determined in accordance with ASTM C 94.	Prior to concrete placement & 1/ 6 mo

**Q. C. ACTIVITIES & TESTING REQUIREMENTS  
FOR DEFINABLE FEATURES OF WORK**

**CONTRACT W912P8- - - -**

Definable Feature: Cast In-Place Structural Concrete  
Section 03301

Definable Feature		Submittal	Quality Control Activities		
Description	Spec. Para.	Req'd	Description of Observation Procedure or Test Required	Freq.	Remarks
Concrete	03301-5.3	Submittal Register	Submit batch plant details, mixer details, conveying methods and equipment, placing, joint clean-up, curing, and weather requirements	once 14 days prior to placement	
Concrete	03301-3.1.1	Submittal Register	Submit 500 lb sample of aggregate to Waterway Experiment Station for testing if an approved supplier is not used	Once prior to concrete placement	
Concrete	03301-5.1.1	Submittal Register	Submit concrete mixture proportion	Once	
Concrete - Materials	03301-5.1.2	Submittal Register	Submit cement cert. of compliance	Once	Testing by supplier or Lab
	03301-5.1.5		Submit sieve analysis for aggregates		
	03301-5.2.3		Submit air-entraining agent cert. of compliance		
	03301-5.2.5		Submit curing compound cert. of compliance		

**Q. C. ACTIVITIES & TESTING REQUIREMENTS  
FOR DEFINABLE FEATURES OF WORK  
CONTRACT W912P8- - - -**

**Definable Feature:** Cast In-Place Structural Concrete  
Section 03301

Definable Feature		Submittal	Quality Control Activities		
Description	Spec. Para.	Req'd	Description of Observation Procedure or Test Required	Freq.	Remarks
Concrete - Placement Preparations	03301-15.2.7	QC Report & LMV Form 1246	Visually & Measure as needed, prior to placement, foundations, const. joints, forms, embedded items, etc., to verify that concrete placement OK	Prior to placement	
Concrete - Air Content	03301-15.2.6.1	QC Report	Test Concrete for air content	Twice per day	Use Laboratory
Concrete - Slump	03301-15.2.5.2	QC Report	Test Concrete slump	Twice per day	Use Laboratory
Concrete - Placement	03301-15.2.8	QC Report	Visually inspect placement operations to verify proper equipment, methods, time interval, temp., yardage placed, & placement method	Each Placement	
Concrete - Curing	03301-13.2.4	QC Report	Inspect all surfaces subject to moist curing & impervious sheet curing	At least once/day	Including weekend/hol.
Concrete - Curing	03301-13.3	QC Report	Assure that curing compound is mixed properly, & meets minimum pressure and coverage requirements	After removal of forms	Measure & visual
Concrete - Vibration	03301-15.2.9	QC Report	Test frequency and amplitude of vibrator	Prior to 1st use & 1/month	

## **9.0 FORMS**

# CONTRACTOR QUALITY CONTROL (CQC) FORM

Contractor's Name

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Daily Report No: \_\_\_\_\_ Date: \_\_\_\_\_

Contract No: W912P8-\_\_-\_\_-\_\_\_\_\_

Project Title and Location: \_\_\_\_\_

Weather: \_\_\_\_\_ Rain: \_\_\_\_in. Temp: \_\_\_\_Min. \_\_\_\_ Max.

## 1. Contractor/Subcontractors and Area of Responsibility:

NUMBER	TRADE	HOURS	EMPLOYER	LOCATION/DESCRIPTION

## 2. Operating Plant of Equipment. (Not hand tools)

PLANT/ EQUIPMENT	DATE OF ARRIVAL/ DEPARTURE	LEASED/ OWNED L OR O	DATE OF SAFETY CHECK	HOURS USED	HOURS IDLE	HOURS REPAIR



**CQC REPORT FORM (CONT'D)**

7. Submittals Reviewed:

(a) Submittal No.	(b) Spec/Plan Reference	(c) By Whom	(d) Action

8. Off-site surveillance activities, including action taken:

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9. Job Safety: (Report violations; Corrective instructions given, taken.)

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10. Environmental Protection: (Report violations; Corrective instructions given, taken.)

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11. Remarks: (Instructions received or given. Conflicts in Plans and/or Specifications.)

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Contractor's Verification: On behalf of the contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the plans and specifications, to the best of my knowledge, except as noted above.

\_\_\_\_\_  
Authorized CQC System Manager

\_\_\_\_\_  
Date

# PREPARATORY PHASE CHECKLIST FORM

Contract No.: W912P8-\_\_-\_\_\_\_

Date: \_\_\_\_\_

Definable Feature:  
\_\_\_\_\_

Government Representative Notified 48 Hours in Advance

Yes\_\_\_\_ No \_\_\_\_

## I. Personnel Present:

Name	Position	Company/Government

(List Additional Personnel on reverse side)

## II. Submittals

1. Review Submittals and/or submittal log 4288. Have all submittals been approved? Yes\_\_\_\_ No\_\_\_\_

If No, what items have not been submitted?

a.

\_\_\_\_\_

b.

\_\_\_\_\_

c.

\_\_\_\_\_

2. Are all materials on hand? Yes\_\_\_\_ No\_\_\_\_

If No, what items are missing?

a.

\_\_\_\_\_

b.

\_\_\_\_\_

c.

\_\_\_\_\_

**PREPARATORY PHASE CHECKLIST FORM (CONT'D)**

3. Check approved submittals against delivered material. (This should be done as material arrives.) Comments:

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III. Material storage

Are materials stored properly? Yes\_\_\_ No\_\_\_  
If No, what action will be taken?

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IV. Specifications:

1. Review each paragraph of specifications.

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2. Discuss procedure for accomplishing the work. (Include labor and equipment to be used)

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3. Clarify any differences from specifications.

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V. Preliminary Work - Ensure preliminary work is correct.

If not, what action will be taken?

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# PREPARATORY PHASE CHECKLIST FORM (CONT'D)

## VI. Testing

1. Identify test to be performed, frequency and by whom.

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2. When required?

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3. Where required?

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4. Review Testing Plan.

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## VII. Safety

1. Review applicable portion of COE EM 385-1-1.

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2. Activity Hazard Analysis Approved? Yes\_\_\_ No\_\_\_

3. All equipment checked and checklists recorded? Yes\_\_\_ No\_\_\_  
If not, what action will be taken?

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## VIII. Corps of Engineers comments during meeting.

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CQC Representative

# INITIAL PHASE CHECKLIST FORM

Contract No.: W912P8-\_\_-\_\_-\_\_\_\_

Date: \_\_\_\_\_

Definable Feature:

\_\_\_\_\_

Government Representative Notified 48 Hours in advance Yes\_\_\_ No\_\_\_

## I. Personnel Present:

Name	Position	Company/Government

(List Additional Personnel on Reverse Side)

II. Is work in full compliance with plans, specifications and submittals. Are procedures and quality control measures being used acceptable.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

**INITIAL PHASE CHECKLIST FORM (CONT'D)**

III. Preliminary work. Ensure preliminary work is complete and correct. If not, what action will be taken?

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IV. Establish Level of Workmanship.

1. Where is work located?

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2. Quantity of work performed?

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3. Is a sample panel required? Yes\_\_\_ No\_\_\_

4. Will the initial work be considered as a sample? Yes\_\_\_ No\_\_\_

V. Are standards of acceptance mutually agreed upon? Resolve any differences.

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VI. Check Safety.

Review job condition using COE EM 385-1-1 and job hazard analysis. Comments:

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CQC Representative

**DEFICIENCY REPORT**

Contract No.: W912P8-\_\_-\_\_-\_\_

DCR NO.: \_\_\_\_\_

Project Name: \_\_\_\_\_

Contractor: \_\_\_\_\_

Description of Deficiency:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Sketch Attached: Yes \_\_\_ No \_\_\_

Issued By: \_\_\_\_\_ Date: \_\_\_\_\_

Approved and Logged By: \_\_\_\_\_ Date: \_\_\_\_\_  
CQCM

~~~~~  
Planned Corrective Action:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CO or Representative: \_\_\_\_\_ Date: \_\_\_\_\_

CQCM: \_\_\_\_\_ Date: \_\_\_\_\_

Corrective Action Implemented: \_\_\_\_\_ Date: \_\_\_\_\_  
Project Super.

Corrective Action Inspected: \_\_\_\_\_ Date: \_\_\_\_\_  
CQCM



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-- End of Section Table of Contents --

SECTION 01 57 20.01 12

ENVIRONMENTAL PROTECTION - DREDGING

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all labor, materials and equipment, and performing all work required for the prevention of environmental pollution during and as the result of construction operations under this contract except for those measures set forth in other provisions of these specifications. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to man; or degrade the utility of the environment for esthetic and recreational purposes. The control of environmental pollution requires consideration of air, water, and land, and involves noise, solid waste-management and management of radiant energy and radioactive materials, as well as other pollutants.

1.2 APPLICABLE REGULATIONS

In order to prevent, and to provide for abatement and control of any environmental pollution arising from 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.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environment Pollution Control Plan; G,CD

1.4 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for environmental protection, including protection of fish and wildlife. Payment for the work covered under this section shall be distributed throughout the existing bid items.

1.4.1 Non-Regulated Waste

No separate measurement or payment will be made for work associated with, and the disposal of, non-regulated debris not specifically covered elsewhere. Payment for the work associated with the disposal of non-regulated debris not specifically covered elsewhere shall be distributed throughout the existing bid items.

#### 1.4.2 Regulated Waste

If the Contractor generates regulated solid wastes through his/her actions, no separate measurement or payment will be made for handling, removal, transportation, and disposal of regulated solid wastes. Payment for the work associated with the disposal of regulated solid waste generated by the Contractor shall be distributed throughout the existing bid items.

NOTE: If the Contractor uncovers an existing hazardous/regulated waste not Contractor generated, not shown on the drawings, and not specified herein, the Contractor shall notify the Contracting Officer's Representative immediately. Payment for handling, removal, transportation, and disposal of hazardous and/or regulated solid wastes not Contractor generated, not shown on the drawings, and not specified herein will be made as an equitable adjustment in contract price under the Contract Clause in Section 00700 entitled "CHANGES (FAR 52.243-4)."

#### 1.5 QUALITY CONTROL

##### 1.5.1 General

The Contractor shall establish and maintain quality control for environmental protection to assure compliance with contract specifications and maintain records of his quality control for all construction operations including but not limited to the following:

- (1) Submit plan of Environment Pollution Control/Environmental Protection Plan. For Contractor on-site activities that pose a risk of an oil spill, include in the plan a Spill reporting and Response plan.
- (2) Procure applicable Federal, State, and Local regulations on pollution control.
- (3) Air Pollution - Checks made on dust, smoke, noise.
- (4) Water Pollution - Checks made on disposal of water, oil, etc.
- (5) Land Pollution - Checks made on disposal of materials, restoration of temporary construction sites, etc.
- (6) Training course for employees.

##### 1.5.2 Reporting

The original and two (2) copies of these records, as well as the records of corrective action taken, shall be furnished the Government daily. Format of report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

#### 1.6 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any non-compliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his/her authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part

of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess cost of damages by the Contractor.

#### 1.7 SUBCONTRACTORS

Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor.

#### 1.8 IMPLEMENTATION

Within 10 days after receipt of Notice of Award, the Contractor shall:

- (1) Submit, in writing, proposals for environmental pollution control, disposal of debris, and an Environmental Protection plan.
- (2) Submit two (2) copies to the Contracting Officer for review prior to approval of the document(s) by the Contracting Officer.
- (3) Upon review and approval of requirements above, the Contractor shall meet with representatives of the Contracting Officer to develop mutual understandings relative to compliance with these provisions and administration of the environmental pollution control program and Environmental Protection Plan.

#### 1.9 REFERENCES

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 153.203

Procedure for the Notice of Discharge

#### 1.10 Environmental Assessment of Contract Deviations

The Contractor is advised that deviations from the drawings or specifications (e.g., proposed alternate borrow areas, disposal areas, staging areas, alternate access routes, etc.) could result in the requirement for the Government to reanalyze the project from an environmental standpoint. Deviations from the construction methods and procedures indicated by the plans and specifications, which may have an environmental impact will require an extended review, processing, and approval time by the Government. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

#### PART 2 PRODUCTS

Not used.

#### PART 3 EXECUTION

##### 3.1 PROTECTION OF LAND RESOURCES

###### 3.1.1 General

The land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the

appearance of the project. The Contractor shall confine his/her construction activities to areas defined by the plans and/or specifications. The following additional requirements are intended to supplement and clarify the requirements of the Contract Clauses in Section 00700, entitled "Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements (FAR 52.236-9)", "Operations and Storage Areas (FAR 52.236-10)", and "Cleaning Up (FAR 52.236-12)."

### 3.1.2 Prevention Of Landscape Defacement

The Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without the approval of the Contracting Officer. Felling of trees shall be performed in such a manner as to avoid damage to trees to be left standing. Where trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's operations or equipment; he/she shall protect adequately such trees. All monuments and markers shall be protected before beginning operations near them. Any trees or other landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense. Trees that are scarred shall be immediately painted with an acceptable tree wound paint. Any trees which are damaged beyond restoration shall be removed and disposed of as directed by the Contracting Officer.

### 3.1.3 Temporary Excavation And Embankments

If the Contractor proposes to construct temporary roads or embankments and excavation for plant and/or work areas, he shall obtain approval of the Contracting Officer prior to start of such temporary work.

### 3.1.4 Post-Construction Cleanup Or Obliteration

The Contractor shall obliterate all signs of temporary construction facilities such as work areas, structures, foundations of temporary structures, and stockpiles of excess or waste materials upon completion of construction. The Contractor will be required to restore the construction area to near natural conditions which will permit the growth of vegetation.

### 3.1.5 Recording And Preserving Historical And Archeological Finds

All items having any apparent historical or archeological interests which are discovered in the course of any construction activities shall be carefully preserved. The Contractor shall leave the archeological find undisturbed and shall immediately report the find to the Contracting Officer so that the proper authorities may be notified.

### 3.1.6 Submerged Vessel

During environmental investigations, a submerged vessel was found in Lake Pontchartrain in the vicinity of the borrow pit access corridor. The location of this underwater obstruction is depicted on the contract drawings. The Contractor shall note the location of this obstruction, and exercise caution in traversing this area.

## 3.2 PROTECTION OF WATER RESOURCES

### 3.2.1 Contamination Of Water

The Contractor shall not pollute lakes, ditches, rivers, bayous, canals,

groundwater, waterways, or reservoirs with fuels, oils, bitumen, calcium chloride, insecticides, herbicides, or other similar materials harmful to fish, shellfish, or wildlife, or materials which may be a detriment to outdoor recreation.

### 3.2.2 Disposal Of Materials

The methods and locations of handling, transfer, and disposal of materials, wastes, effluent, trash, garbage, oil, grease, chemicals, etc., within the right-of-way limits shall be such that harmful debris will not enter lakes, ditches, rivers, bayous, canals, groundwater, waterways, or reservoirs by erosion, and thus prevent the use of the area for recreation or present a hazard to wildlife. All trash is to be removed from the jobsite with disposal in accordance with applicable Federal, State, and Local regulations, and shall be performed in a manner approved by the Contracting Officer.

### 3.3 PROTECTION OF FISH AND WILDLIFE

The Contractor shall at all times perform all work and take such steps required to prevent any interference or disturbance to fish and wildlife. The Contractor will not be permitted to alter water flows or otherwise disturb native habitat adjacent to the project area which are critical to fish or wildlife. The species of fish and wildlife described in the following subparagraphs are of special interest, and shall be reported. Presence of nesting wading birds and/or seabirds/waterbirds and sightings of the remaining species shall be immediately reported to Mr. Pierre Hingle, New Orleans Area Office at (504) 862-2738.

#### 3.3.1 Nesting Birds

Colonial nesting wading birds (including, but not limited to herons, egrets, and ibis) and seabirds/waterbirds (including, but not limited to, terns, gulls, black skimmers, and brown pelicans) should be avoided to reduce the risk of injuring birds. The nesting activity period generally extends from February 15 through September 15. If nests of these birds are present on the work area, a "no-work" distance restriction of 2000 feet for nesting brown pelicans and 650 feet for all other colonial nesting birds shall be implemented. Coordination by New Orleans District personnel with the U.S. Fish and Wildlife Service may result in a reduction of "no-work" distance restrictions depending on the species of birds found nesting at the work site.

#### 3.3.2 Manatees

The West Indian manatee may be present in the project vicinity. The Contractor shall instruct all personnel associated with the project of the potential presence of manatees in the area, and the need to avoid collisions with these animals. All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. The Contractor will be responsible for any manatee harmed, harassed, or killed as a result of construction activities not conducted in accordance with these specifications.

### 3.3.2.1 Special Operating Conditions If Manatees Are Present in the Project Area

(1) If a manatee(s) is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee is closer than 50 feet to moving equipment or the project area, the equipment shall be shut down and all construction activities shall cease to ensure protection of the manatee. Construction activities shall not resume until the manatee has departed and the 50-foot buffer has been re-established.

(2) If a manatee(s) is sighted in the project area, all vessels associated with the project shall operate at "no wake/idle" speeds at all times and vessels will follow routes of deep water whenever possible, until the manatee has departed the project area. Boats used to transport personnel shall be shallow-draft vessels, preferably of the light-displacement category, where navigational safety permits.

(3) If siltation barriers are used, they shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment.

(4) Manatee Signs. Prior to commencement of construction, each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8-1/2-inch x 11-inch reading, "CAUTION: MANATEE HABITAT/IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA." In the absence of a vessel, a temporary 3-foot x 4-foot sign reading "CAUTION: MANATEE AREA" shall be posted adjacent to the issued construction permit. A second temporary sign measuring 8-1/2-inch x 11-inch reading "CAUTION: MANATEE HABITAT. EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION" shall be posted at the dredge operator control station and at a location prominently adjacent to the issued construction permit. The Contractor shall remove the signs upon completion of construction.

### 3.3.2.2 Manatee Sighting Reports

Any sightings of manatees, or collisions with a manatee, shall be reported immediately to the Corps of Engineers. The point of contact within the Corps of Engineers will be Edward Creef, (504) 862-2521, FAX (504) 862-2317.

### 3.3.3 Gulf Sturgeon

All proposed work is located east of the Causeway Bridge and within the area designated as critical habitat for the Gulf Sturgeon, therefore the potential exists for the Gulf Sturgeon to be found in the project area. In preparation for dredging, the following actions shall be initiated:

#### 3.3.3.1 Bucket Dredging

If bucket dredging is performed, the Contractor should induce Gulf Sturgeon to leave the immediate work area prior to any bucket dredging work regardless of water depth. The bucket will be dropped into the water and retrieved empty one (1) time. After the bucket has been dropped and retrieved, a one (1)-minute no work period must be observed. During this no dredging period, personnel should carefully observe the work area in an

effort to visually detect Gulf Sturgeon. If Gulf Sturgeon are sighted, no work should be initiated until the sturgeon have left the work area. If the water turbidity makes such visual sighting impossible, work may proceed after the one (1)-minute no work period has elapsed. If more than fifteen minutes elapses with no work, then the empty bucket drop/retrieval process shall be performed again prior to re-initiating work efforts. In the event a Gulf Sturgeon is incidentally taken or injured/killed by construction activities, it shall be immediately reported to CEMVN. The point of contact within CEMVN will be Edward Creef, (504) 862-2521.

#### 3.3.3.2 Cutterhead Dredging

The Contractor should minimize potential impacts to gulf sturgeon associated with cutterhead dredging by:

- (1) the cutterhead should remain completely buried in the bottom material during dredging operations. If pumping water through the cutterhead is necessary to dislodge material or to clean the pumps or cutterhead, etc., the pumping rate should be reduced to the lowest rate possible until the cutterhead is at mid-depth, where the pumping rate can then be increased.
- (2) during dredging, the pumping rates should be reduced to the slowest speed feasible while the cutterhead is descending to the channel bottom.

#### 3.3.4 Sea Turtle(s) and Smalltooth Sawfish

Sea turtle(s) and/or smalltooth sawfish may be present in the project vicinity. The Contractor shall instruct all personnel associated with the project of the potential presence of sea turtle(s) and/or smalltooth sawfish in the area, and the need to avoid collisions with them. All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing sea turtle(s) or smalltooth sawfish, which are protected under the the Endangered Species Act of 1973. The Contractor will be responsible for any sea turtle(s) and/or smalltooth sawfish harmed, harassed, or killed as a result of construction activities not conducted in accordance with these specifications.

##### 3.3.4.1 Special Operating Conditions If Sea Turtle(s) and/or Smalltooth Sawfish Are Present in the Project Area

- (1) If a sea turtle or smalltooth sawfish is sighted within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented by the Contractor to ensure protection of the sea turtle(s) and/or smalltooth sawfish. These precautions shall include the operation of all moving equipment no closer than 50 feet of sea turtle(s) or smalltooth sawfish. If a sea turtle(s) or smalltooth sawfish is closer than 50 feet to moving equipment or the project area, the equipment shall be shut down and all construction activities shall cease to ensure protection of the sea turtle(s) or smalltooth sawfish. Construction activities shall not resume until the sea turtle(s) and/or smalltooth sawfish has departed the area of its own volition and the 50-foot buffer has been re-established.
- (2) If a sea turtle and/or smalltooth sawfish is sighted in the project area, all vessels associated with the project shall operate at "no wake/idle" speeds, and vessels shall follow routes of deep water

whenever possible. Boats used to transport personnel shall be shallow-draft vessels, preferably of the light-displacement category, where navigational safety permits.

(3) If siltation barriers (eg. floating turbidity curtains) are proposed by the Contractor, the design must be approved by the Contracting Officer prior to placement. The barriers shall be made of material in which sea turtle and/or smalltooth sawfish cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg Florida.

#### 3.3.4.2 Sea Turtle(s) and/or Smalltooth Sawfish Collision/Injury Reports

Any collisions with and/or injury to a sea turtle and/or smalltooth sawfish, shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division at (727) 824-5312 and the local authorized sea turtle stranding/rescue organization listed below.

Louisiana Sea Turtle Stranding Network  
Audubon Aquarium of the Americas  
Attn: Michelle Kelley  
1 Canal Street  
New Orleans, LA 70130  
(504) 378-2515  
mkelley@auduboninstitute.org

#### 3.4 JANITOR SERVICES

The Contractor shall furnish daily janitorial services for all the offices, shops, or other facilities being used by the Contractor or Government employees, whether existing or Contractor furnished, and perform any required maintenance of the facilities and grounds during the life of the contract. Toilet facilities shall be kept clean and sanitary at all times. Services shall be performed at such a time and in such a manner to least interfere with the operations but will be accomplished only when the buildings are in daily use. Services shall be accomplished to the satisfaction of the Contracting Officer. The Contractor shall also provide daily trash collection and cleanup of the buildings and adjacent outside areas, and shall dispose of all discarded debris in a manner approved by the Contracting Officer.

#### 3.5 DISPOSAL OF NON-REGULATED DEBRIS AND OTHER WASTE

All debris and other wastes resulting from construction operations on this contract shall be disposed of by removal from the site.

#### 3.6 DISPOSAL OF REGULATED SOLID WASTES

If any hazardous or regulated solid wastes will be generated as a result of the Contractor's operations, the Contractor shall submit a plan that details the proper handling, removal, transportation and disposal of such wastes. The plan shall identify what types of hazardous and/or regulated solid wastes will be generated and shall list the hazards involved with each waste. All waste generated on-site by the Contractor must be properly identified within 30 days of generation. No regulated wastes shall be allowed to accumulate on-site for more than 90 days. If the Contractor

discovers or comes into contact with any hazardous chemicals or other materials other than those addressed in this specification, the Contractor shall immediately notify the Contracting Officer (CO) who will make a determination as to the course of action.

### 3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES

During the life of this contract the Contractor shall maintain all facilities constructed for pollution control under this contract as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created. Early in the construction period the Contractor shall conduct a training course that will emphasize all phases of environmental protection.

### 3.8 REPORTING OF POLLUTION SPILLS

In the event that an oil spill or chemical release occurs during the performance of this contract, the Contractor is required to contact the National Response Center, telephone number 1-800-424-8802 as soon as possible, or if telephone communication is not possible, the nearest U.S. Coast Guard office may be contacted by radio to report the spill, ( 33 CFR 153.203). The Contractor shall comply with any instructions from the responding agency concerning containment and/or cleanup of the spill.

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CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 MEASUREMENT AND PAYMENT

No separate measurement and payment will be made for providing Closeout Submittals, including as-built drawings required under this section. All costs associated therewith shall be included in the applicable unit prices or lump sum prices contained in the Bidding Schedule.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

As-Built Drawings; G,DO, ED-L

Drawings showing final as-built conditions of the project. The final CADD as-built drawings shall consist of CADD electronic drawing files in the specified format supplied on compact disc, read-only memory (CD-ROM), three (3) copies; three (3) sets of half-scale hard copy prints, and one (1) set of the approved working as-built drawings.

1.3 PROJECT RECORD DOCUMENTS

1.3.1 As-Built Drawings

This paragraph covers as-built drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working as-built drawings" and "final as-built drawings" refer to contract drawings which are revised to be used for final as-built drawings.

1.3.1.1 Government Furnished Materials

One (1) set of electronic CADD drawing files in the specified software and format revised to reflect all bid amendments will be provided by the Government at the preconstruction conference for projects requiring CADD file as-built drawings.

1.3.1.2 Working As-Built and Final As-Built Drawings

The Contractor shall revise two (2) sets of paper drawings by red-line process, or one (1) set of electronic CADD red-line drawings to show the as-built conditions during the prosecution of the project. These working as-built marked drawings shall be kept current on a weekly basis and at least one (1) set shall be available on the jobsite at all times. Changes

from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. The working as-built marked prints and final as-built drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the working and final as-built drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount representing the estimated cost of maintaining the as-built drawings. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of updated drawings. The working and final as-built drawings shall show, but shall not be limited to, the following information:

a. All information shown on the contract drawings and a record of all completed work, deviations, modifications, or changes from those drawings, however minor, which may have been incorporated into the work.

b. Plan Plot of dredge borrow area, including daily gross and net yards dredged distinguished by dates of dredging and reach of channel dredged.

c. Effluent discharge locations used, including gross yardage placed by site. Period of effluent placement for each discharge site utilized.

d. Access corridors utilized, including notation of flotation dredging and disposal if constructed.

e. Perimeter retention dikes constructed/maintained.

f. Any interior weirs constructed.

g. Vertical control utilized including any applicable conversions.

h. Plan plot of all marsh creation areas surveys. Post Construction cross section and profile survey data shall be portrayed on the required plan plots.

i. Utility locations as verified by owners, including station, C/L XY-coordinate, and minimum elevation, and POC information for each utility.

j. Utilities, buoys, daymarkers, etc. surveyed during required preliminary survey efforts.

k. Changes or modifications which result from the final inspection.

l. Modifications will be shown in accordance with the following procedures.

(1) Directions in the modification for posting descriptive changes shall be followed.

(2) A Modification Triangle shall be placed at the location of each deletion.

(3) For new details or sections which are added to a drawing, a Modification Triangle shall be placed by the detail or section title.

(4) For minor changes, a Modification Triangle shall be placed by the area changed on the drawing (each location).

(5) For major changes to a drawing, a Modification Triangle shall be placed by the title of the affected plan, section, or detail at each location.

(6) For changes to schedules or drawings, a Modification Triangle shall be placed either by the schedule heading or by the change in the schedule.

(7) The Modification Triangle size shall be 1/2 inch on a side unless the area where the circle is to be placed is crowded. Smaller size circle shall be used for crowded areas.

#### 1.3.1.3 Drawing Preparation

a. Each various feature of work performed shall be distinguishable by color coding and/or symbology. The as-built drawings shall be modified as may be necessary to correctly show the features of the project as it has been constructed by bringing the contract set into agreement with approved working as-built prints, and adding such additional drawings as may be necessary. These working as-built marked prints shall be neat, legible and accurate. These drawings are part of the permanent records of this project and shall be returned to the Contracting Officer after approval by the Government. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at no expense to the Government.

b. Additions and corrections to the contract drawings shall be equal in quality and detail to that of the originals. Line colors, line weights, lettering, layering conventions, and symbols shall be the same as the original line colors, line weights, lettering, layering conventions, and symbols. If additional drawings are required, they shall be prepared using the specified electronic file format applying the same graphic standards specified for original drawings. The title block and drawing border to be used for any new final as-built drawings shall be identical to that used on the contract drawings. Additions and corrections to the contract drawings shall be accomplished using CADD files. The Contractor shall be responsible for providing all program files and hardware necessary to prepare final as-built drawings. The Contracting Officer will review final as-built drawings for accuracy and the Contractor shall make required corrections, changes, additions, and deletions.

#### 1.3.1.4 Qualifications of CADD personnel

Only personnel proficient in the preparation of CADD drawings shall be employed to modify the contract drawings or prepare additional new drawings.

#### 1.3.1.5 Computer Aided Design and Drafting (CADD) Drawings

a. CADD colors shall be the "base" colors of red, green, and blue. Color code for changes shall be as follows.

(1) Deletions (red) - Deleted graphic items (lines) shall be colored red with red lettering in notes and leaders.

(2) Additions (Green) - Added items shall be drawn in green with green lettering in notes and leaders.

(3) Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes shall be in blue.

b. The Contract Drawing files shall be renamed in a manner related to the contract number (i.e., 011-C-10.DGN) as instructed in the Pre-Construction conference. Marked-up changes shall be made only to those renamed files. All changes shall be made on the layer/level as the original item. There shall be no deletions of existing lines; existing lines shall be over struck in red. Additions shall be in green with line weights the same as the drawing. Special notes shall be in blue on layer "?-ANNO-NOTE" where "?" represents the discipline designator (for example; "C" for Civil, "E" for electrical, "S" for Structural, etc.).

c. Within twenty (20) days after Government approval of all of the working as-built drawings, the Contractor shall prepare the final CADD as-built drawings and submit two (2) sets of hard-copy prints of these drawings for Government review and approval. The Government will promptly return one (1) set of prints annotated with any necessary corrections. Within ten days the Contractor shall revise the CADD files accordingly at no additional cost and submit the final as-built drawing package for the entire project. The submittal shall consist of electronic files on compact disc - three (3) copies, read-only memory (CD-ROM), three (3) sets of hard-copy prints and one (1) set of the approved working as-built drawings. They shall be complete in all details and identical in form and function to the contract drawing files supplied by the Government. Any transactions or an adjustment necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with the customer's CADD system.

#### 1.3.1.6 Final As-Built Drawings

a. When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the Contractor in letters at least 3/16 inch high. All other contract drawings shall be marked either "AS-Built" drawing denoting no revisions on the sheet or "Revised As-Built" denoting one or more revisions. Original contract drawings shall be dated in the revision block.

b. In lieu of revising contract borrow dredging cross section drawings to depict before and after conditions, the Contractor is required to submit a file of electronically plotted cross sections depicting before and after dredging cross sections overlaid with the allowable dredge template. The submission/file shall be in pdf format, such that each individual cross section is paged and scaled to 8.5" x 11" paper.

c. The Contractor is required to submit a file of electronically plotted cross sections depicting the completed retention dike cross sections overlaid with the required dike template. The submission/file shall be in pdf format, such that each individual cross section is paged and scaled to 8.5" x 11" paper. The retention dike profile survey shall be incorporated into the final marsh creation as-built drawing(s).

d. Paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit final as-built drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract.

Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

PART 2 PRODUCTS (NOT USED)

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SURVEYS

PART 1 GENERAL

1.1 SCOPE

The work provided for herein consists of furnishing all plant, labor, equipment, and materials, and performing all operations necessary for surveying as specified herein and as indicated on the contract drawings.

1.2 MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for surveys. The cost of the work covered under this section shall be included in the applicable contract unit price per cubic yard for "Marsh Creation, Turtle Bayou", "Marsh Creation, Bayou Sauvage North Cell", or "Marsh Creation, Bayou Sauvage South Cell".

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Verification of Survey Equipment

SD-02 Shop Drawings

Before and After Dredging Cross Sections; G,CD

After Dredging Profiles; G,CD

Dredge Completion Survey; G,CD

Post Construction Marsh Surveys; G,CD

Retention Dike Surveys; G,CD

SD-05 Design Data

Compiled Survey Data CD Disk

Before and After Dredging Cross Sections; G,CD

After Dredging Profiles; G,CD

Dredge Completion Survey; G,CD

Post Construction Marsh Surveys; G,CD

Retention Dike Surveys; G,CD

SD-09 Manufacturer's Field Reports

Verification of Survey Equipment

#### 1.4 QUALITY CONTROL

The Contractor shall establish and maintain quality control for the work specified in this section to assure compliance with the contract requirements and maintain records of his quality control for all surveying including but not limited to the following:

(1) Layouts and Surveys. Daily log of layout and surveys consisting of type and location using Contractor furnished control system as stated in the Contract Clause in Section 00700, entitled "Layout of Work (FAR 52.236-17)."

(2) Reporting. The original and two (2) copies of these reports and tests as well as the records of corrective action taken shall be furnished the Government daily. The report shall include a record of times and dates surveys were run, the horizontal control stations used and their coordinates, the vertical control points used and their elevations, and weather conditions. Format of report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

#### 1.5 PROFESSIONAL CERTIFICATION

All surveys, taken of the borrow area, retention dikes, and marsh creation areas before, during, and after dredging and disposal; shall be performed in the presence of the Contracting Officer's Representative. All surveys shall be performed under the direction of and certified by a Professional Land Surveyor currently licensed by a state of the United States. In addition, the surveyor shall document at least three (3) years of experience in hydrographic surveying of similar type open water work.

#### 1.6 SURVEY EQUIPMENT

##### 1.6.1 Survey Boat

The Contractor shall furnish a launch or tender capable of providing a stable platform for the effective operation of the sounding equipment described below. The boat shall be of suitable length needed for quality surveys, fully operated, and Coast Guard certified. In addition, it shall have an enclosed cabin, space for four (4) passengers, air conditioner, radar equipment, and operable radio (same frequency as dredge plant) for each plant in operation. The survey boat shall be equipped with electronic positioning equipment capable of maneuvering to permit surveying within the tolerance specified in paragraphs "Positioning Surveys", "Borrow Pit Surveys" and "Marsh Creation Surveys", and a recording depth-sounder as described in the herein paragraph entitled "Fathometer". The survey vessel shall be used solely for surveying and shall not be used for providing the inspector's (Government Agent's) transportation, unless in the case of mechanical malfunction of Government transportation. No smoking shall be allowed inside the cabin and operator's space while occupied by Government personnel. NO SMOKING signs shall be posted.

Due to shallow depths within the marsh creation area, surveys may have to be performed with shallow draft equipment such as airboats, skiffs, marsh buggies, ATV's, etc.

## 1.6.2 Fathometer

### 1.6.2.1 General

All survey soundings shall be taken with a precision, high-resolution (0.1-foot) fathometer. The acoustic ping rate shall be, at a minimum, 10-soundings per second. To limit signal attenuation in areas of unconsolidated bottom sediments, the acoustic frequency utilized shall be within the range of 24-28 kHz. If a dual frequency fathometer is utilized, the low frequency shall be within the 24-28 kHz range. At a minimum, the equipment shall be capable of recording depths of water ranging from 3-feet under the transducer face(s) to a maximum of 50-feet. At this maximum depth the sounding accuracy must be 0.5-foot (28 kHz transducer) and 0.1-foot (200 kHz transducer). Acoustic returns shall be recorded on thermal chart paper by a fixed, high-resolution printing element (no stylus). The paper chart scaling shall be in English units, with chart division annotations at the 0, 10, 20, 30, 40, and 50-foot chart levels. The instrument shall, at a minimum, be capable of adjusting transmit power receiver sensitivity and time-varied gain settings and of inputting the correct speed-of-sound, vessel draft and tide values. Additionally, the fathometer shall automatically print these control parameter settings on the chart paper at start-up and when any control setting is changed. During the surveying of runlines, the fathometer shall be capable of annotating periodic event marks on the paper chart as directed by other surveying system components (positioning, controlling software) and shall be capable of transmitting each event sounding back to these system components for horizontal position tagging and data storage.

### 1.6.2.2 Calibration

Hydrographic fathometer calibrations shall be performed at the survey site by methods described in EM 1110-2-1003, Chapters 9-7 thru 9-10 and at a frequency listed in Table 9-6 for navigation and dredging support surveys with soft bottom materials. The acoustic traces of the bar and ball check calibrations shall be captured on the fathometer paper chart (at the 5, 10, and 15-foot depths) along with a notation indicating the site location (i.e., station lat/long, x/y), the date and time. Additionally, if a velocity meter probe is utilized, the average speed of sound reading for the entire water column and the location, date, and time of the probe sounding shall also be noted on the fathometer paper chart. All calibrations and soundings shall be made in the presence of and to the satisfaction of the Contracting Officer's Representative at the job site.

### 1.6.3 Lead Line/Level Rod

Marsh creation area surveys and retention dike surveys may require the use of convention survey means to obtain required data. Lead lines used for soundings shall consist of a seven (7)-pound lead having a six (6)-inch mushroom shaped bottom attached to a low stretch line graduated in 0.1-foot increments. Level rods, if used for soundings, shall have a six (6)-inch diameter plate attached to the bottom. Methodology to obtain additional conventional survey requirements shall be approved by the Contracting Officer's Representative. If a total station instrument is used to perform the survey, the Contractor shall submit a copy of the survey data on magnetic media, a printout of the survey data, and computer-plotted

profiles and cross sections from the original data. Plotted cross sections and profiles plus duplicate notes shall be kept at the jobsite at all times and made available to the Government.

#### 1.6.4 Positioning Equipment

##### 1.6.4.1 Electronic Surveys

Positioning equipment for electronic surveys shall be capable of achieving the required accuracy stated in paragraph "Positioning Surveys." Initial calibration and subsequent checks shall be in accordance with the manufacturer's instructions as required in paragraph "General."

##### 1.6.4.2 Data

All survey data, irregardless of methodology obtained, shall be collected, recorded and processed. Soundings and/or rod readings shall be taken to the nearest 0.1-foot and X & Y coordinates of the location should be to the nearest foot. The applicable gage shall be read to the nearest 0.1 foot prior to and after each day's survey. More frequent readings will be required when directed by the Government Inspector. From the processed data, the Contractor shall provide certain survey information taken for the purpose of computing the total amount of work to be paid for. The Contractor shall furnish the required data on compact disk (CD) containing ASCII character set. The information received should be free of errors and in the following format: (a) The X-coordinate in feet of a recognized Louisiana Lambert grid system, (b) the Y-coordinate in feet of same recognized Louisiana grid system, (c) the sounding, and (d) remarks such as the station number (i.e. 1+00), CL (for centerline), ES (for end of station), EJ (for end of file), and direction of survey (either "L" for + or "R" for -, followed by Station No., i.e. L 30+00). The time and date the cross section was taken and the gage reading applicable to the section shall also be included. The electronically recorded data files, along with a hard copy of the track plotter surveys, plotted on the chart to show compliance with alignment, shall be presented to the Government Representative on site no later than two (2) days after the survey is taken. Under no circumstances shall the information be edited for the purpose of eliminating incorrect soundings. The Contractor shall provide a separate file listing all incorrect soundings to be eliminated. Additional format requirements for these files will be discussed, and sample formatted files will be made available, at the pre-work coordination meeting. The beginning station for each file shall be the repeated ending station from the previous file (i.e., Sta. 820+00 to 840+00, Sta. 840+00 to 860+00, etc.). The format for survey file(s) to be submitted to the Government will be discussed and sample sheets will be given at the Prework Coordination Meeting.

## PART 2 PRODUCTS

### 2.1 STAFF GAGES

Staff gages required within the marsh creation area shall consist of 3-inch white PVC pipe, 4x4 treated wooden posts, or other material as approved by the Contracting Officer's Representative.

## PART 3 EXECUTION

### 3.1 COMMENCEMENT, PROSECUTION, AND COMPLETION

#### 3.1.1 General

Surveys for all fixed stations shall be performed in accordance with Class 1 Third Order accuracy as defined by the National Oceanic and Atmospheric Administration (NOAA) in "Classification, Standards of Accuracy, and General Specifications of Geodetic control Surveys." Prior to initiating positioning surveys using electronic survey equipment, a calibration test of the electronic measuring device shall be performed according to the manufacturer's instructions in the presence of the Contracting Officer's Representative. Calibration checks shall be run at the beginning and completion of each day's survey or portion thereof. Results shall be furnished daily to the Contracting Officer's Representative. All electronic surveys shall be tied to a fixed station. The station may be a Government furnished point or a temporary point established by the Contractor and approved by the Contracting Officer's Representative. Should the electronic measuring device fail to indicate the known distance within the factory defined error range for the device, the device shall not be used for determining survey positions. All surveys shall be witnessed by a Government Representative.

#### 3.1.2 Positioning Surveys

These surveys shall be controlled using electronic surveying equipment. One (1) copy of the layout chart (commonly known as a Track Plotter Chart) shall be made available to the Government prior to the start of work. Information and data to establish the relationship between the electronic control system and the physical project control points used will be furnished to the Government upon request. The electronic positioning fixed stations (antenna locations) shall be located at points that will give the greatest amount of accuracy to the dredge and survey vessels using the equipment. A positional tolerance of +/-5-feet will be permitted for surveys performed using electronic positioning equipment installed on the dredge and/or survey boats. Surveys of the disposal areas shall also be performed using electronic surveying positioning equipment or conventional survey methods.

#### 3.1.3 Borrow Area Surveys

##### 3.1.3.1 General

Required before and after borrow area surveys shall be based on the Contractor's dredging plan. The Contractor shall specify the proposed dredge swing width at the preconstruction meeting. The alignments for dredging shall be within the overall borrow limits provided on the drawings. The Contractor shall dredge the full length of the agreed upon acceptance reach(s) over the swing width provided by the Contractor. Subsequent dredge polygons shall be adjacent to the last reach dredged. Surveys shall extend over the full width of the borrow pit excavated. The Contractor shall allow five (5) calendar days for determination and verification of the final dredge alignment by the Contracting Officer. The Contractor shall not proceed with initial dredging work until the Contracting Officer verifies and approves the final dredge alignment and furnishes this information to the Contractor.

### 3.1.3.2 Before and After Dredging Cross Sections

Before and after dredging cross sections of the borrow sites shall be taken for each borrow cut proposed. Cross sections shall be taken at 200 foot intervals, extending a minimum 50 feet outside the proposed cut width on both sides. Each dredge alignment shall be parallel to the next consecutive alignment. The number of consecutive dredge alignments shall be determined by the contractor based on the swing width of the dredge proposed by the Contractor. The soundings shall be made with a depth-sounding instrument described in paragraph "Fathometer." Distances between soundings on each cross section shall be a maximum 5 feet on an azimuth normal to the centerline of the cut. A tolerance of +/- 20 feet normal to the actual survey line will be permitted. Any cross section sounding(s) exceeding the above specified tolerance shall invalidate the entire cross section. Soundings obtained from the depth sounder rolls shall be picked from the top of the true bottom line. Reflected lines (fluff lines) from lighter sedimentary materials shall be disregarded. Soundings shall be chosen to the nearest 0.1-foot. The depth sounder rolls shall be furnished to the Government. Data shall also be furnished to the Government in a structured ASCII format on magnetic media. The before and after dredging cross sections shall be referenced and parallel to the borrow baseline shown in the Contract drawings. A layout of the before dredging cross sections shall be prepared and approved by the Contracting Officer. This layout shall also be used in performing the required after dredging surveys.

### 3.1.3.3 After Dredging Profiles

Upon completion of dredging in an acceptance reach, as specified in Section 35 20 23.00 12 DREDGING, paragraph "Acceptance Reach," profiles shall be taken over the same acceptance reach. The depth sounding instrument used to make the before and after dredging cross sections shall be used to make the after dredging profiles. No substitutions will be permitted unless approved by the Contracting Officer. Distances between soundings on each profile shall not exceed 5 feet. Controlled profiles of the borrow areas shall be made along the borrow cut centerline and one (1) at each outside bottom edge of the cut. The Government reserves the right to direct additional soundings to be taken along ranges normal to the above defined acceptance profiles.

### 3.1.3.4 Dredge Completion Survey

Upon completion of all proposed dredging, a final borrow pit survey shall be taken for insertion into the As-Built Drawings. The final borrow pit survey shall be south cross sections perpendicular to and referenced from the borrow pit baseline, taken at approximate 500 foot intervals. The initial and final cross section shall be outside the limit of dredging performed. Shots shall be taken on 20 foot intervals for all borrow surveys. Each cross section shall extend approximately 500 feet both inshore and offshore of the borrow area footprint.

### 3.1.3.5 Data

The actual location of each sounding taken for borrow pit surveys shall be provided. This information shall be in the form of printout tabulation. Soundings shall be to the nearest 0.1-foot referred to the water surface. This information shall also be plotted on a printout sheet, along with a section showing the allowable dredging dimensions. The time and date taken shall be shown and the gage reading applicable to the survey shall be

shown. The gage, if established by the Contractor, shall be read to the nearest 0.1-foot prior to and after each day's survey. More frequent readings may be required when directed by the Contracting Officer's Representative. In addition, plan views shall also be plotted on a printout sheet showing the actual location of each sounding taken on each "before" and "after" dredging cross section range. The time and date shall also be shown.

#### 3.1.4 Marsh Creation Surveys

##### 3.1.4.1 Grade Stakes

Prior to dredge material placement in each respective marsh creation area, the Contractor shall place grade stakes at the approximate locations shown on the contract drawings in order to monitor the elevation of the material for compliance with the plans and specifications. Deviations from these proposed locations shall be approved by the Contracting Officer's Representative. The grade stakes shall be marked at one-half foot intervals, beginning at one (1) foot above the maximum allowable slurry elevation. Grade stakes shall be Contractor furnished and the Contractor shall maintain the grade stakes until the material placement is approved by obtaining the required minimum elevation.

##### 3.1.4.2 Post Construction Marsh Surveys

A survey of the marsh creation site shall be taken after completion of construction. These after construction surveys shall be taken via soundings and/or rod readings, along the survey ranges and profiles indicated on the contract drawings. Survey data of the marsh creation site shall be submitted in the electronic format defined in the above paragraph entitled "Data". Soundings and/or rod readings shall be recorded to the nearest tenth of a foot and the distance between soundings and/or rod readings shall not exceed 25-feet. The survey shall encompass the earthen retention dike(s), and extend beyond the exterior toe of these features 50 feet in all directions. The cross sections shall be referenced to the construction baseline provided at each respective fill site. The profile alignments shall be based on the XY coordinate endpoints provided on the drawings. Specific data shots shall be obtained (and labeled) at each staff gage location.

##### 3.1.4.3 Data

The actual location of each sounding taken on each before and after dredging cross section range shall be provided. This information shall be in the form of printout tabulation giving the actual distance of the soundings from the baseline on an azimuth normal to the bottom edge of cut. Soundings shall be to the nearest 0.1-foot referred to the water surface. This information shall also be plotted on a printout sheet, 1-inch=100-feet horizontal and 1-inch=10-feet vertical scale, along with a template showing the required dredging dimensions. The time and date taken shall be shown and the gage reading applicable to the survey shall be shown. The applicable gage shall be read to the nearest 0.1-foot prior to and after each day's survey. More frequent readings may be required when directed by the Contracting Officer's Representative.

### 3.1.5 Retention Dike Surveys

#### 3.1.5.1 Cross Sections

Upon completion of retention dike construction, and prior to placement of dredged material, cross sections of the completed perimeter dike(s) shall be taken at approximately 500 foot intervals. The cross sections shall be adequate length to encompass the outer dike toe through the inner limit of the excavation required to complete the dike section. Retention dike surveys shall reference the centerline of the completed retention dike. Centerline stationing shall begin at 0+00 at a corner selected by the Contractor and proceed around the perimeter of the marsh creation area. Shot intervals shall be adequate to capture all breaks in grade along the dike section and within the internal excavation pit.

#### 3.1.5.2 Profile

In conjunction with the perimeter dike cross sections, a centerline profile of the completed dike shall be obtained, referencing the retention dike centerline stationing established in the above paragraph. Shots shall be taken at 50 foot intervals or obvious grade differentials.

#### 3.1.5.3 Data

The actual location of each shot taken on retention dike cross sections and profile shall be provided. This information shall be in the form of printout tabulation giving the actual distance of the soundings from the baseline on an azimuth normal to the bottom edge of cut. Soundings shall be to the nearest 0.1-foot referred to the water surface. This information shall also be plotted on a printout sheet, 1-inch=100-feet horizontal and 1-inch=10-feet vertical scale, along with a template showing the required dredging dimensions. The time and date taken shall be shown and the gage reading applicable to the survey shall be shown. The applicable gage shall be read to the nearest 0.1-foot prior to and after each day's survey. More frequent readings may be required when directed by the Contracting Officer's Representative.

#### 3.1.6 Field Books

Each field book shall be given an identification number, which shall be noted on each page of the book. The information shown in the field notes shall meet the requirements of the Contracting Officer's Representative. The Contractor shall promptly plot the before and after dredging cross sections to the scale specified in paragraph 3.1.4, and the profiles on a scale of 1-inch = 400-feet horizontally and 1-inch = 5-feet vertically. One (1) copy of all plotted before and after cross-sections shall be kept in the lever-room at all times. Survey data of retention dikes and post construction cross sections of the marsh creation areas shall be submitted within three (3) days of completion of survey. The original field book and notes shall be submitted to the Contracting Officer's Representative within three (3) days of the completion of surveys. Plotted cross sections, layout charts, profiles, and duplicate notes shall be kept at the jobsite at all times and made available to the Contracting Officer's Representative as required. The contractor shall furnish to the Contracting Officer's Representative the plotted original cross sections for a minimum distance of 1000-feet ahead of dredging.

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DREDGING

PART 1 GENERAL

1.1 SCOPE

The work provided for herein consists of furnishing all plant, labor, materials, and equipment; and performing all operations necessary for the construction and maintenance of earthen containment dikes, excavation from borrow areas in Lake Pontchartrain, placement of dredged material in the marsh creation areas, and all operations incidental thereto. The Contractor must fill marsh creation sites to minimum elevations in order to obtain desired marsh elevations. The Contractor shall move discharge point to allow freshly pumped areas time to drain, throttle down to maximize filling, shut down dredging to allow areas to drain, or combination of all these actions in order to obtain desired elevations. Due to anticipated soil foundation issues at the two (2) Bayou Sauvage marsh creation sites and as noted in Paragraph 3.1.2 "Order of Work", two (2) separate and distinct fill cycles will be required at these sites. No additional mobilization or demobilization will be paid for this secondary fill operation.

1.2 MEASUREMENT

1.2.1 Quantity Surveys

A survey of the Lake Pontchartrain Borrow Site shall be made in accordance with the provisions of Section 02 21 10.00 12 SURVEYS and all measurements to determine dredging quantities will be based on the "before and after dredging" cross sections as described therein. The Lake Pontchartrain survey soundings and contours shown on the contract drawings are representative of conditions that existed July 2012 and do not necessarily represent existing conditions. The elevations shown thereon shall be verified or corrected by the "before dredging" surveys. Determinations of quantities to be paid for in the area specified, after having once been made, will not be reopened.

1.2.2 Quantity Computations

Dredged material removed and to be paid for will be measured by the cubic yard. Quantities will be determined by computing the volume along the dredge cut between the "before-dredging" cross sections and the "after-dredging" cross sections using the average end area method. Any dredging below the maximum allowable dredge depth, as defined in paragraph 3.1.2 will not be measured for payment. In order for the Government to make dredging volume computations, the Contractor shall furnish the "before and after dredging" data described in Section 02 21 10.00 12 SURVEYS, paragraph "Before and After Dredging Cross Sections."

1.2.3 Acceptance Reach

Acceptance reaches will be determined according to the contractor's dredging plan. For the purpose of acceptance, completed work will be

defined as the areas of cut established by the dredges swing width, and the length of each cut (1000 feet as indicated on the drawings). The contractor shall exhaust each defined acceptance reach prior to advancing to the next cut. All "after dredging" cross-section data for each acceptance reach shall be submitted as one (1) file.

#### 1.2.4 Progress Payments

Monthly progress payments will be made based on quantities determined using "before dredging" surveys taken in accordance with Section 00700 Contract Clause entitled "Quantity Surveys (FAR 52.236-16)" and Section 02 21 10.00 12, "SURVEYS".

#### 1.2.5 Retention Dikes

A retention dike system is required around the entire perimeter of each respective marsh creation site. In addition, an interior weir separating the Bayou Sauvage South Cell into sub-units is also required. Anticipated approximate limits and proposed alignments of retention dike requirements are shown on the contract drawings. Measurement for earthen retention dike construction will be by the linear foot satisfactorily constructed.

Maintenance of retention dikes to the required elevation, once constructed/rehabilitated, is the responsibility of the Contractor for the remainder of the contract duration.

#### 1.2.6 Vinyl Sheet Pile Closures

In the Bayou Sauvage South Marsh Creation Cell, the proposed earthen retention dike alignment traverses existing canals, where sheet pile closures are required to fully enclose the proposed marsh creation area. Measurement for the sheet pile closures will be per linear foot of wall successfully placed.

#### 1.2.7 Turtle Bayou Staging Preparation

As the proposed Turtle Bayou Marsh Creation site is isolated from the Lake Pontchartrain borrow source by the levee protection system, additional access requirements are necessary to provide equipment access to this site. No measurement will be made for Turtle Bayou Staging Preparation.

### 1.3 PAYMENT

#### 1.3.1 Mobilization And Demobilization

An item to cover the cost of initial mobilization and final demobilization of the Contractor's plant and equipment under this contract is included and will be paid for as stipulated in the Contract Clause in Section 00700, entitled "PAYMENT FOR MOBILIZATION AND DEMOBILIZATION (DFARS 252.236-7004)."

#### 1.3.2 Dredging

Payment for dredging (and resulting placement of dredged material to the required elevation) will be made at the applicable contract unit price per cubic yard for "Marsh Creation, Turtle Bayou", "Marsh Creation, Bayou Sauvage North Cell", or "Marsh Creation, Bayou Sauvage South Cell". Price and payment shall constitute full compensation for furnishing all plant, labor and materials and performing all work for surveying (including surveys of borrow site, retention dikes, and marsh creation areas),

excavation, placement of materials, backfilling of access corridors upon completion of dredging, placement and monitoring of staff gages, furnishing inspectors transportation fully operated, pollution control, furnishing and maintaining radio and telephone communications equipment, and all operations incidental thereto.

#### 1.3.3 Retention Dike Construction

Payment for the retention dike construction will be made at the applicable contract unit price per linear foot for "Turtle Bayou Retention Dike Construction", "Bayou Sauvage North Cell Retention Dike Construction", "Bayou Sauvage South Cell Retention Dike Construction", or "Bayou Sauvage Interior Weir Construction". Price and payment shall constitute full compensation for furnishing all plant, labor, equipment, staking, material, construction, maintenance; and all other costs incidental thereto.

#### 1.3.4 Vinyl Sheet Pile Closures

Payment for the sheet pile closures will be made at the contract unit price per linear foot for "Vinyl Sheet Pile Closures". Price and payment shall constitute full compensation for furnishing all plant, labor and materials, driving piles (vinyl and timber) as required, installing whalers, and performing all other incidental work as specified for the vinyl sheet pile closure.

#### 1.3.5 Turtle Bayou Staging Preparation

Payment for staging area preparation will be made per job satisfactorily constructed. Price and payment shall constitute full compensation for furnishing all plant, labor, equipment, earthen fill and placement, timber mat materials and placement, vehicular ramp crossing dredge pipeline on levee materials and construction, and all other costs incidental thereto.

#### 1.4 TIMELY PERFORMANCE OF QUANTITY SURVEYS

"Before-dredging" quantity surveys shall be made not more than two (2) weeks prior to commencement of work in the acceptance reach to be covered by the survey unless an exception is granted by the Contracting Officer. Acceptance profiles shall be made within 2,000-feet behind the dredge but not more than two (2) weeks after completion of work in any acceptance reach. Deviations from this limiting time element may be necessary because of unusual job conditions or adverse weather, but shall be subject to approval by the Contracting Officer. Before and after dredging surveys shall be plotted and submitted to the Government within three (3) calendar days after the surveys are taken.

#### 1.5 PROGRESS PAYMENTS

Monthly progress payments will be made based upon the actual borrow quantity removed as approved by the Contracting Officer.

#### 1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

### Dredge Plant Data; G

(a) Plant Data Sheets. The Contractor shall complete the plant data sheets attached at the end of this section for the dredge and attendant plant the contractor intends to use to perform the work under this contract. Dredge physical data is required for submittal in the data sheets. If any of the data submitted in the plant data sheets changes during the execution of the contract the Contractor shall submit new data to the Government within 48 hours thereafter, showing the changes made to the equipment, along with the date(s) the changes were made. The completed data sheets shall be submitted within five (5) calendar days after Contractor receipt of Government Notice to Proceed.

### Dredge Plan; G,CD,ED

Submit a plan for borrow of material from the borrow area provided no later than seven (7) days prior to commencement of the work. The plan shall include proposed cut widths, length of cut, direction, and methodology to exhaust borrow to the maximum allowable depth.

### Marsh Creation Material Placement Plan; G,CD,ED

Submit a dredged material placement plan for material placed in the project marsh creation areas no later than seven (7) days prior to commencement of the work. The plan shall include proposed discharge locations and direction, and methodology to achieve target fill elevation.

### Containment Dike and Waste Weirs; G

The Contractor shall submit drawing of all required retention dikes (Template with proposed borrow), and Waste Weirs/spill boxes (description, location, number) for approval. Government approval of these dike features only reflects meeting minimal requirements contained herein. The Contractor is responsible for the integrity of the retention structures.

## SD-02 Shop Drawings

### Sheet Pile Description

The Contractor shall submit descriptions of sheet piling driving equipment, shop drawings, test procedures, test reports and certificates, sheet piling driving records and other submittals to the Contracting Officer for approval as required. Submittals and associated work not satisfactory to the Contracting Officer will be rejected.

### Staging Preparation Plan; G,CD,ED

The Contractor shall submit drawings of proposed board road sections, levee crossing ramp, and extent of staging area earthen fill, depicting location, extent, and design of the various features necessary to mobilize pipeline and equipment to the protected side marsh creation site.

## SD-07 Certificates

### Copy of Certified Letters to Pipelines and Utilities Owners

Materials test certificates shall be submitted for each shipment and identified with specific lots prior to installing piling.

## 1.7 QUALITY CONTROL

The Contractor shall establish and maintain quality control for dredging operations to assure compliance with contract requirements and maintain records of his/her quality control for all dredging operations including but not limited to the following:

- (1) Dredging. Visual classification of material; limits of dredging as to location, bottom grades and widths; and side slopes.
- (2) Access Corridors. The location and adherence to usage of allowable access corridors.
- (3) Dredged Material Placement. Limits and height of dredged material as placed in marsh creation areas. Surveillance and location of the dredge discharge outlet and surveillance of elevation of the material placed within the marsh creation areas.
- (4) Integrity of Retention Dikes. Failure of any retention dikes shall be cause for the Contractor to cease pumping at the site until the retaining dikes have been adequately restored.
- (5) Discharge Effluent. Any shoaling or leak in pipeline, and operation of waste weirs where constructed.
- (6) Pile Driving Operations. The Contractor shall establish and maintain quality control for pile driving operations to assure compliance with contract specifications and maintain records of his quality control for all construction operations including, but not limited to, the following:
  - (a) Accurate location, alignment and plumbness of piling.
  - (b) Full and proper engagement of interlocks.
  - (c) Equipment to be used and Access Plan
  - (d) Stockpiling and storage. Sheet piling shall be stored and handled in the manner recommended by the manufacturer to prevent permanent deflection, distortion or damage to the interlocks.

### 1.7.1 Quality Control Reports

The original and two (2) copies of these reports and tests, as well as the records of corrective action taken, shall be furnished the Government daily. Format of this report shall be as prescribed in Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL.

### 1.7.2 Report Of Operations

- (1) The Contractor shall prepare and submit a Report of Operations

(ENG Form 4267) for the dredge. This report shall be submitted on a daily basis and not in groups, e.g. several daily reports packaged together at one time. A sample of ENG Form 4267 is included at the end of this section.

(2) The Contractor shall prepare a Daily Dredge Location Report. Information in this report and reporting requirements will be outlined by the Contracting Officer's Representative at the CQC Coordination meeting held prior to the start of construction.

(3) The Contractor shall also prepare a report of operations for each month or partial month's work on MVN Form 322 (Work Sheet for Preparing Consolidated Form 4267). The monthly report shall be submitted on or before the 7th of each month, consolidating the previous month's work. MVN Form 322 can be computer generated and shall be approved by the Contracting Officer's Representative on site. A sample of MVN Form 322 is attached at the end of this section.

(4) The contractor shall submit the leverman's log (cutters), mate's log (hoppers), or similar, or any other documentation as requested by the COR pertaining to dredging activities, both electronically and hard copy on a daily basis.

(5) All required reports shall be made available in electronic format. The Contractor shall distribute one (1) copy of each report to each of the following:

(a) U.S. Army Engineer District, New Orleans  
ATTN: Glenn M. Gremillion, CEMVN-CD-NO  
P.O. Box 60267  
New Orleans, LA 70160-0267

(b) Government Inspector

(6) One (1) copy of each Report of Operations shall be maintained by the Contractor on the dredge(s).

(7) Further instructions on the preparation of the reports will be furnished at the Preconstruction Conference.

(8) Upon completion of construction, two (2) complete sets of all aforementioned reports shall be compiled and furnished on compact disk, read only memory (CD-ROM) to New Orleans District Engineering Division, Attn:CEMVN-ED-L. Summittals shall include one (1) PDF file of all form 4267 in chronological order with the form 322(s) combined into one (1) file.

## 1.8 PLANT

### 1.8.1 General Requirements

The Contractor shall keep on the job the necessary dredge equipment and attendant plant to meet the requirements of the work. The dredge equipment and attendant plant shall be in satisfactory operating condition and capable of safely and efficiently performing the work as set forth in specifications and shall be subject to inspection by the Contracting Officer's representative at all times.

### 1.8.2 Capacity

No reduction in the capacity of the dredge equipment and attendant plant employed to execute the work shall be made except by written permission of the Contracting Officer. The measure of the "Capacity of the Dredge and Attendant Plant" shall be its actual performance on the work to which these specifications apply.

### 1.8.3 Marsh Creation Area Equipment

Adequate plant for constructing and maintaining retention dikes, as well as moving discharge pipeline as required, shall be maintained on-site for the duration of the dredging operations. A minimum of one (1) piece of dike construction/maintenance equipment, fully maintained and operated, with a minimum boom length of 50-feet shall, be maintained by the Contractor on the worksite throughout the duration of the work, unless release of such equipment is approved by the Contracting Officer.

### 1.8.4 Inspectors (Government Agents) Transportation

The Contractor shall furnish, throughout the contract period, for the exclusive use of the government, the following modes of Inspector Transportation with operator(s). The vessels shall be equipped with safety equipment as required by EM 385-1-1. The Contractor shall also furnish fuel, oil, and maintenance of the vessels throughout the contract period. No separate measurement or payment will be made; the cost of the Inspector Transportation shall be included in the contract unit price per cubic yard for "Dredging for Marsh Creation". The Contractor shall assume full responsibility for the storage and security of the vessels when not in use by the Government employees. Equipment which fails to perform because of insufficient power or other mechanical deficiencies or due to inexperienced operators shall be replaced or the operator replaced, as the case may be, within 12 hours after the Contractor is directed to do so by the Contracting Officer's Representative.

(1) Crewboats. A diesel powered crew boat, twin engine, capable of traveling and maintaining a minimum speed of 25 miles per hour/22 knots, over, enclosed cabin with space for six (6) passengers, meeting all applicable U.S. Coast Guard regulations for vessels 65-feet or less in length, and certified by the U.S. Coast Guard. The crew boat shall be operated and available 24-hours per day. The crew boat shall be equipped with the following:

- Air conditioning/heating;
- VHF radio for ship-to-ship communications, as described in paragraph 1.6, above;
- Navigation radar for travel at night and in inclement weather; and
- Global Positioning System (GPS) Navigation system which constantly provides latitude and longitude position, compass heading and speed.

The minimum full time crew for each crew boat shall be one (1) operator. Refer to EM 385-1-1, Section 19.C, for additional crew and equipment requirements. No smoking shall be allowed inside the cabin and operator's space while occupied by Government personnel. "NO SMOKING" signs shall be posted.

(2) Airboat. An airboat, fully operational, w/operator and fuel. Airboat shall be capable of transporting 3 passengers and one (1) operator. Airboat shall be equipped with noise protection for the passengers.

## PART 2 PRODUCTS

### 2.1 Vinyl Sheet Pile

Poly (vinyl chloride) sheet piling shall have a cell Class 12454 B or C as defined in ASTM D 1784. Vinyl sheet piling material shall be manufactured by the extrusion process using heavy-duty, exterior grade, rigid PVC polymer compound and shall meet the following minimum requirements:

| Characteristic                              | Units                    | Value  |
|---------------------------------------------|--------------------------|--------|
| Interlocking Connection                     | N/A                      | Yes    |
| Long Term Allowable Moment Rating           | Foot-Pounds/Linear Ft    | 5,200  |
| Nomimal Sheet Pile Thickness                | Inches                   | 0.385  |
| Depth of Section                            | Inches                   | 8      |
| Section Modulus                             | Cubic Inches/Linear Foot | 19.5   |
| Tensil Strength by ASTM D 638               | Pounds per Square Inch   | 3,200  |
|                                             |                          |        |
| Impact Strength by ASTM D 4226, Procedure B | Inch-Pounds/Square Inch  | 13,750 |

Poly (vinyl Chloride) sheeting shall be manufactured with an interlocking feature that ensures adjacent panels maintain alignment over the full length of the panel. The Poly (vinyl Chloride) sheeting shall have a corrugated profile and be homogeneous throughout and free from visible cracks, flaws, foreign inclusions or other injurious defects. The sheeting shall be uniform in physical properties and shall be neutral in color. All sheet pile shall be provided in full lengths. The vinyl sheet pile shall be rigid, impact modified, UV inhibited and have a weatherable virgin capstock to insure long-term color consistency.

### 2.2 Timber Piles

Timber Piles shall be clean peeled, single length Class B Southern Yellow Pine in accordance with ASTM D 25. Piles shall be treated with chromated copper arsenic (CCA) with a minimum net retention of 2.5 pounds per cubic foot in accordance with AWPA standards C3 and C18. Piles shall have a minimum tip diameter of 6.0 inches with a natural taper to the butt. Piles shall be 35 feet long and have a minimum circumference 3 feet from the butt of 25 inches.

Piles shall be driven such that they achieve a top elevation of +5.0 NAVD88 after a cutoff of 1 foot or less, or to refusal (20 blows /foot).

### 2.3 Pile Capping Material

Piles shall be capped after cut. Capping material shall consist of a homogeneous mixture of volatile solvents, mineral fillers and fibers in a processed coal tar or asphalt base and copper naphthenate. The material shall be suitable for cold application with trowel or knife and meet the

requirements of ASTM D 4586 or ASTM D 5643. The capping material shall not contain asbestos fibers. Capping material shall be suitable for application on wet surfaces and shall dry to a flexible, waterproof coating.

#### 2.4 Bulkhead Hardware

All hardware for connecting the timber piles and vinyl sheet piles shall be sized as shown on the contract drawings, or as required to accommodate the vinyl sheet piles. All nuts, bolts, and washers shall be galvanized steel.

### PART 3 EXECUTION

#### 3.1 DREDGING

##### 3.1.1 General

Dredging shall consist of the excavation of earthen borrow from the Lake Pontchartrain borrow site identified on the drawings and satisfactory placement of the borrow material to achieve the minimum marsh creation elevation.

##### 3.1.2 Order of Work

To allow maximum time for settlement and dewatering of fill material between subsequent pumping operations, a specific order of cell fill operations is required. The contractor shall initiate marsh creation at the Bayou Sauvage South Cell, proceed to the Bayou Sauvage North Cell, and complete initial pumping efforts at the Turtle Bayou Site. Upon completion of these three (3) fill operations to the required initial fill elevations, as approved by the Contracting Officer's Representative, the Contractor is required to return to the Bayou Sauvage South Cell for a second lift operation. Construction shall then be completed with a second lift at the Bayou Sauvage North Cell; no additional fill efforts shall be required at the Turtle Bayou Site. Prior to initial pumping of dredge material into any of the three (3) sites, the Contractor shall have completed construction and required surveys of the perimeter retention dike at each site.

##### 3.1.3 Borrow Dimensions

The borrow areas shall be dredged within the dimensions shown on the contract drawings. Dimensions shown are the maximum dimensions allowed. Coordinates shown on the drawings are top edge of cut locations. An allowable tolerance of one (1) foot below the dredge bottom cut elevation of -18.0' NAVD88 shall be allowed and included in the applicable cubic yardage paid for under the various "Marsh Creation" line items. Dredging shall not exceed the allowable template shown on the drawings. Material beyond the allowable template is not to be impacted. Dredging shall be accomplished within each payment acceptance reach to fully exhaust available borrow materials.

##### 3.1.4 Excessive Dredging

Excessive dredging is defined to be any dredging which is in excess of the allowable dimensions and tolerance, as shown on the contract drawings. Any material removed in excess of the allowable dimensions will not be measured for payment. Repair of any damage resulting from excessive or improper excavation in the bottom or on the side slopes of the borrow pit shall be the responsibility of the Contractor.

### 3.1.5 Character Of Materials

Borings to determine the character of material to be removed have been made by the Government, and the results are shown on the contract drawings. Although the results of the above mentioned explorations are representative of sub-surface conditions at their respective locations and for their respective vertical reaches, local minor variation in the subsurface materials such as logs, stumps, snags, and other debris are to be expected, and, if encountered, shall be removed at no increase in cost.

### 3.2 WORKING IN THE VICINITY OF STRUCTURES AND UTILITY CROSSINGS

#### 3.2.1 General

The Contractor shall exercise caution when working in the vicinity of any structures or utilities adjacent to the borrow sites, access corridors, or marsh creation areas. Additional guidance regarding work in the vicinity of existing structures or utilities is found in paragraph "UTILITIES AND IMPROVEMENTS" of Section 01100 "GENERAL PROVISIONS".

#### 3.2.2 Existing Pipelines, Structures, Or Utilities

No pipelines, structures, or utilities are known to exist within the borrow pit or marsh creation areas. There are however two (2) utilities located parallel to the Hwy 11 access corridor for the Turtle Bayou Marsh Creation Site, which will have to be crossed by Contractor discharge pipeline and equipment to access the site. The Contractor shall provide the utility owner a minimum of six (6) weeks lead time prior to accessing the utility crossings. The two(2) referenced utilities along Hwy 11 are as follows:

| Utility Or Structure          | Elevation<br>NAVD88                | Name and Address<br>of Owner                                                                                                                                                 |
|-------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fiber Optic Cables<br>two (2) | 3 feet to 5 feet<br>below ground   | AT&T<br>POC: IKe Butler<br>840 Poydras St/Rm 1419<br>New Orleans, LA 70112<br>Office: (504) 299-6621<br>Cell: (504) 202-6605<br>ib9705@att.com                               |
| Overhead Power Line           | Sag Elev Varies<br>+27.5' to +34.4 | Entergy Louisiana<br>639 Loyola Ave<br>New Orleans, LA 70113<br>POC: Jimmy Sholar<br>1000 Harimaw Court West<br>Metairie, LA 70001<br>504-390-9414<br>jimmysolar@entergy.com |

The Contractor shall contact "LA One Call" at either 811 or 800-272-3020 prior to dredging operations. Finally, prior to initiating dredging operations, the Contractor shall investigate the NOAA Chart OnLineViewer to verify any utility updates in the project vicinity. The specific chart relating to this project can be found at:

<http://www.charts.noaa.gov/OnLineViewer/11369.shtml>

### 3.2.3 Disposal

No dredged material shall be discharged directly within 300 feet of any structure or utility.

## 3.3 PLACEMENT OF DREDGED MATERIAL

### 3.3.1 Marsh Creation Areas

The dredged material shall be transported and deposited in the marsh creation areas as shown on the contract drawings and as specified herein. Fill heights and effluent heights shall be monitored using the staff gages as required in Section 02 21 10.00 12 "SURVEYS". Prior to commencement of placement of dredged material, these staff gages (approximate layouts shown on the drawings) shall be established and maintained by the contractor in order to monitor the elevation of the material deposited within the area(s), until completion and acceptance. The installation and locations of these gages shall be coordinated with the COR. Tolerance for marsh creation fill elevation is +/- 3 inches. The Contractor shall submit to the Contracting Officer for review and approval a plan for placement of dredged material in marsh creation sites a minimum of seven (7) days prior to commencement of the work. This is to insure that the retention of material is maximized. This plan shall include dredge discharge locations and the methods for protecting the integrity of the retaining dikes and disposal effluent structures. Discharge points shall be noted on the As-Built Drawings. During discharge operations, a constant reliable source of communications (24 hours a day/7 days per week) shall be maintained between the dredge and the Contractor's personnel working within the marsh creation sites for reporting of dike failures and/or excessive flows or buildup of dredged materials. Should a dike failure or leakage result from disposal operations (aside from any approved gapping or degrading of retention dikes as discussed in the following paragraphs), the dredge shall be immediately notified and shut down (operations cease) until proper repairs to the dike have been performed. Any buildup of sediment beyond the limits of the marsh creation sites, excluding material allowed to overflow an approved gap or weir, caused by the Contractor's disposal operations will be considered and subject to the conditions of the paragraph entitled "Deposition in Non-approved Areas". The Contractor shall furnish an airboat to transport the CO and/or his representative(s) within the marsh creation sites to observe the required staff gages as well as the development of the marsh creation site.

### 3.3.2 Maximizing Earthen Fill

It is imperative to the success of this contract, that retention of earthen fill is maximized to the templates shown on the Contract drawings. The Contractor shall, if necessary; throttle down to reduce discharge velocity, and/or reduce the discharge velocity using "Y" valves, and/or move the discharge point to control the flow of material, and/or temporarily shut down pumping operations to allow dewatering of the fill site for verification of fill elevations. As material builds up within the marsh creation site, the contractor may be required to move the discharge pipeline, as necessary, in order to assure that the material is deposited uniformly throughout the entire marsh creation site.

### 3.3.3 Prevention Of Damage

The dredged material shall be transported and deposited in such a manner as

to insure that no damage will occur to utility lines, roadways, levees, structures, or other significant topographic features to be marked by the Contractor with conspicuous buoys or stakes. Establishment of the pipeline access corridor and perimeter retention dike construction shall be exercised to minimize loss or damage to existing trees. Special care shall be taken in the layout and construction of all marsh creation features.

### 3.3.4 Bayou Sauvage North Cell (BSFS Area #4)

#### 3.3.4.1 Placement of Dredge Material

The Contractor shall note that two (2) fill events (two lift construction) are anticipated at this marsh creation site. The Contractor shall pump the initial dredge fill to an elevation of +3.5 NAVD88, excluding effluent waters. Upon completing a cycle of pumping efforts in the remaining marsh creation sites (Turtle Bayou and Bayou Sauvage South), the Contractor shall return to this site, and construct an additional vertical lift of material placement; achieving a final elevation of +3.5 NAVD88 prior to demobilizing from the site. The dredge pipeline access corridor is aligned through an open water area between the Lake Pontchartrain shoreline and the marsh creation site. Upon completion of fill operations, during demobilization from this site, the Contractor shall make viable efforts to break discharge pipeline and fill this open water access area to the greatest extent practicable.

#### 3.3.4.2 Retention Dikes

Prior to placing material in the Bayou Sauvage North marsh creation area (BSFS Area #4), retention dikes shall be constructed, strengthened and/or maintained by the Contractor as required, so that dredged material shall be confined to marsh creation area. This perimeter retention dike and associated stability berms shall be constructed to the template shown on the drawing, to a minimum elevation of +4.5 feet NAVD88. The Contractor is responsible for maintaining the dike to safely retain the dredged material. Materials necessary for dike construction or maintenance shall be obtained from within the marsh creation area. Location of borrow material for dike construction shall meet the minimum offset distance shown on the drawings. The Contractor shall submit to the Contracting Officer for review and approval prior to construction, a typical sketch of dike/weir construction showing all slopes, distances, and elevations. The Contractor shall stake the proposed center alignment of the retaining dike at each PI (minimum) shown on the drawings prior to initiation of construction.

#### 3.3.4.3 Access

Specific access corridors are made available for use by the Contractor for each marsh creation area. Dredge pipeline access to the disposal site shall be through the 200-foot wide access corridor shown on the drawings. Excavation within this access corridor is not allowed. Equipment access through this corridor shall be limited as practical to achieve this work while minimizing damage to the existing land bridge. Boat, equipment and personnel access is also allowed through the use of the protected side corridor(s) via the existing navigable interior bayou. The access corridor(s) shall remain in within the banks of the existing canals shown on the drawings. The existing navigable interior bayou shall remain open for recreational vessels during the construction operation.

#### 3.3.4.4 Dredge Effluent Disposal

Controlled waste weirs and/or spill boxes shall be located and constructed as necessary to control the pool level within the marsh creation site, and to return all dredge effluent to the adjacent existing marsh. Locations of waste weirs and/or spill boxes shall be determined by the Contractor, but it is desired to nourish exterior broken marsh to the maximum extent possible. The pool level shall be controlled by spill box weir(s) of a height sufficient to maintain water flow over the weir and maximize retention of solids. Pool elevation shall not exceed elevation +4.0 feet NAVD88. Spill boxes shall include adequate number and size of pipes/culverts with sufficient boards to efficiently retain the material and drain the area. All spill box weirs shall remain in place upon completion of construction; set to a final elevation as directed by the COR. Undisturbed plugs or natural crossings at least every 500 feet are required in any borrow pits for the perimeter retaining dikes to prevent erosive channeling by the effluent waters along the dikes and to increase retention time. The discharge line into the area shall have manifolds or baffles on the point discharge. The point discharge shall be at least 500 feet from the effluent outlet structure(s). During the period between the first and second lift pumping operations, the Contractor shall diligently monitor drainage of the site; and adjust spill box elevations and drainage weirs to maximize water flow and settlement of freshly placed fill material. Gapping of the exterior retention dike, upon approval of the Contracting Officer, shall be allowed during the second fill operations if deemed beneficial in fill/drainage operation. No separate payment will be made for work required by this paragraph, and the cost thereof shall be included in the applicable contract unit prices for marsh creation.

#### 3.3.5 Bayou Sauvage South Cell (BSFS Area #5)

##### 3.3.5.1 Placement of Dredge Material

The Contractor shall note that two (2) fill events (two lift construction) are anticipated at this marsh creation site. The Contractor shall pump the initial dredge fill to an elevation of +4.0 NAVD88, excluding effluent waters. The proposed marsh creation/nourishment footprint is divided into two (2) lobes by an interior weir. The eastern lobe shall be filled first. Each lobe contains significant percentages of open water areas. Dredge material discharge points shall be located to maximize fill of these open water sites. Discharge direction and distances from existing marsh shall be determined to maximize into the existing marsh platforms. Upon completing a cycle of pumping efforts in the remaining marsh creation sites (Bayou Sauvage North and Turtle Bayou), the Contractor shall return to this site, and construct an additional vertical lift of material placement; achieving a final elevation of +4.0 NAVD88 prior to demobilizing from the site. The dredge pipeline access corridor is aligned through an existing marsh area between the Lake Pontchartrain and the marsh creation site. Upon completion of fill operations, during demobilization from this site, the Contractor shall make viable efforts to break discharge pipeline and repair damages resulting from pipeline access within this existing marsh reach to the greatest extent practicable.

##### 3.3.5.2 Retention Dikes

Prior to placing material in the Bayou Sauvage South marsh creation area (BSFS Area #5), retention dikes shall be constructed, strengthened and/or maintained by the Contractor as required, so that dredged material shall be confined to marsh creation area. This perimeter retention dike and

associated stability berms shall be constructed to the template shown on the drawing, to a minimum elevation of +5.0 feet NAVD88. An approximate 2000 foot length of interior weir is required to divide the fill site into two separate lobes. The interior weir shall be constructed to elevation +3.5 feet NAVD88. The Contractor is responsible for maintaining the dike to safely retain the dredged material. Materials necessary for dike construction or maintenance shall be obtained from within the marsh creation area. Location of borrow material for dike construction shall meet the minimum offset distance shown on the drawings. The Contractor shall submit to the Contracting Officer for review and approval prior to construction, a typical sketch of dike/weir construction showing all slopes, distances, and elevations. The Contractor shall stake the proposed center alignment of the retaining dike at each PI (minimum) shown on the drawings prior to initiation of construction.

#### 3.3.5.3 Access

Specific access corridors are made available for use by the Contractor for each marsh creation area. Dredge pipeline access to the disposal site shall be through the the 200-foot wide access corridor shown on the drawings. Excavation within this access corridor is not allowed. Equipment access through this corridor shall be limited as practical to achieve this work while minimizing damage to the existing land bridge. Boat, equipment and personnel access is also allowed through the the use of the protected side corridor via the existing navigable interior bayou. The access corridor(s) shall remain in within the banks of the existing canal shown on the drawings. The existing navigable interior bayou shall remain open for recreational vessels during the construction operation.

#### 3.3.5.4 Dredge Effluent Disposal

Controlled waste weirs and/or spill boxes shall be located and constructed as necessary to control the pool level within the marsh creation site, and to return all dredge effluent to the adjacent existing marsh. Locations of waste weirs and/or spill boxes shall be determined by the Contractor, but it is desired to nourish exterior broken marsh to the maximum extent possible. The pool level shall be controlled by spill box weir(s) of a height sufficient to maintain water flow over the weir and maximize retention of solids. Pool elevation shall not exceed elevation +4.5 feet NAVD88. Spill boxes shall include adequate number and size of pipes/culverts with sufficient boards to efficiently retain the material and drain the area. All spill box weirs shall remain in place upon completion of construction; set to a final elevation as directed by the COR. Undisturbed plugs or natural crossings at least every 500 feet are required in any borrow pits for the perimeter retaining dikes to prevent erosive channeling by the effluent waters along the dikes and to increase retention time. The discharge line into the area shall have manifolds or baffles on the point discharge. The point discharge shall be at least 500 feet from the effluent outlet structure(s). During the period between the first and second lift pumping operations, the Contractor shall diligently monitor drainage of the site; and adjust spill box elevations and drainage weirs to maximize water flow and settlement of freshly placed fill material. Maintenance of the interior weir for second lift construction is not required. Gapping of the exterior retention dike, upon approval of the Contracting Officer, shall be allowed during the second fill operations if deemed beneficial in fill/drainage operation. No separate payment will be made for work required by this paragraph, and the cost thereof shall be included in the applicable contract unit prices for marsh creation.

### 3.3.6 Turtle Bayou

#### 3.3.6.1 Placement of Dredge Material

The Contractor shall place dredge material within the Turtle Bayou marsh creation site to an elevation of +0.5' NAVD88 (2009.55), excluding effluent waters. A tolerance of +/-0.25' will be allowed and at no time shall the dredged material exceed +0.75' NAVD88.

No dredged material shall be discharged upon existing wetlands or emergent vegetative marsh. The discharge shall begin at the east side of the marsh creation site, just west of La Hwy 11, and proceed towards the northwest. At the direction of the CO or his/her representative, the Contractor may be required to operate marsh equipment in order to permit the effluent to flow through the area and prevent excessive build-up of the dredged material. This could entail gapping or degrading of the earthen closure dikes along the north side of the area, between dike C/L points 1 and 2, and between dike C/L points 4 and 5.

#### 3.3.6.2 Retention Dikes

Prior to placing material within the Turtle Bayou marsh creation area, retention dikes shall be constructed, strengthened and/or maintained by the Contractor as required, so that dredged material shall be confined to marsh creation area. All retention dikes shall consist of side slopes no steeper than 1V on 3H, a minimum crown width of five (5) feet, and a minimum elevation of +3.5 feet NAVD88. These dike parameters are given as minimum requirements and are not to be interpreted as Government designed. The Contractor is responsible for designing, building and maintaining the dikes to safely retain the dredged material. The Contractor is fully responsible for the stability of any dike(s) that the Contractor places/placed dredged material behind. Materials necessary for dike construction and/or maintenance shall be obtained from within the marsh creation area, except that for the closure dikes between dike C/L points 1 and 2, and C/L points 4 and 5. Borrow for these specific reaches may come from either inside or outside of the restoration area. For all dike construction, the top of cut for borrow shall be taken at least 40 feet from the inside toe of the dikes. Interior weirs may be constructed if desired by the contractor, and shall be included in the disposal plan for review and approval by the COR. Interior weirs, if constructed by the contractor shall not exceed elevation 0.0' NAVD88. The Contractor shall submit to the Contracting Officer for review and approval prior to construction, a typical sketch of dike and/or weir construction showing all slopes, distances, and elevations.

#### 3.3.6.3 Highway 11 Considerations

The dredge material shall be obtained from the designated borrow site in east Lake Pontchartrain with access from the lake to the Turtle Bayou marsh creation site to follow the access route depicted on the contract drawings. In order to minimize impacts to wetlands, the pipeline and equipment will follow existing open water areas, sloughs, and canals to the maximum extent possible. The pipeline shall cross under La Hwy 11 via one (1) of two (2) existing 36 inch CMP (corrugated metal pipes) culverts which may be used for the dredge pipeline to access the restoration site. For offloading pipeline and equipment to the restoration site, a 150 foot access corridor, commencing west of the centerline of LA Hwy 11, shall be

utilized. This access corridor, depicted on drawing C-11, shall be filled prior to construction with approximately one (1) foot of earthen fill material and mats in order to prevent permanent damage to the wetlands. The actual footprint of required fill and mats shall be determined by the Contractor. Excavation within all designated access corridors/ routes is not allowed.

Prior to crossing the HSDRRS hurricane protection levee, the Contractor shall submit, for review and approval, a detailed plan for preventing damage to the existing levee section/surfacing and providing continued vehicular access along the levee roadway. The plan shall include a cross section of his/hers proposed ramp to run over/across the discharge pipeline and along the levee. While installing this ramp, as well as any mats along the slopes and toes of the levee, caution shall be taken to prevent damage to the levee. While in place, the ramp shall also be monitored and maintained daily by the contractor in order to assure safe and unimpeded access along the levee for Corps and other personnel who may need to traverse the levee. Work on the levee, including access, shall be restricted to work associated with the installation and removal of the dredge pipeline. Upon completion of work, the ramp shall be removed/graded and the levee restored to pre-construction conditions. These access and staging area requirements shall be detailed in the required Staging Preparation Plan submittal.

#### 3.3.6.4 Dredge Effluent Disposal

Controlled waste weirs and/or spill boxes shall be located and constructed as necessary to control the pool level within the marsh creation site, and to return all dredge effluent to the adjacent open waters north of the marsh creation site. Locations of waste weirs and/or spill boxes shall be limited to the northern boundary of the marsh creation area. The pool level shall be controlled by a spill box weir(s) of a height sufficient to maintain water flow over the weir and maximize retention of solids. Pool elevation shall not exceed elevation +2.0 feet NAVD88 (Turtle Bayou) and +3.5' NAVD88 (Bayou Sauvage Sites). Spill boxes shall include adequate number and size of pipes/culverts with sufficient boards to efficiently retain the material and drain the area. All spill box weirs shall remain in place upon completion of construction; set to a final elevation as directed by the COR. Undisturbed plugs or natural crossings at least every 500 feet are required in any borrow pits for the perimeter retaining dikes to prevent erosive channeling by the effluent waters along the dikes and to increase retention time. The discharge line into the area shall have manifolds or baffles on the point discharge. The point discharge shall be at least 1,000-feet from the effluent outlet structure(s). No separate payment will be made for work required by this paragraph, and the cost thereof shall be included in the applicable contract unit prices for marsh creation.

#### 3.3.7 Vegetative Debris Disposal

All vegetative debris resulting from clearing operations for containment dike construction/rehabilitation shall be disposed of within the marsh creation areas. Any unsuitable material such as tires, concrete, metal, etc. shall be disposed of in accordance with current regulations. The Contractor shall make a reasonable effort to channel merchantable material into the commercial market to make beneficial use of materials resulting from clearing operations.

### 3.3.8 Dredge Effluent Disposal

Controlled waste weirs and/or spill boxes shall be located and constructed as necessary to return all dredge effluent to the adjacent marsh, and to control the pool level in diked disposal areas. Locations of waste weirs and/or spill boxes shall be limited to the north and west boundaries of the marsh creation area. The pool level in the disposal area shall be controlled by a spill box weir(s) of a height sufficient to maintain water flow over the weir and maximize retention of solids. Pool elevation shall not exceed elevation +3.5 NAVD88. Spill boxes shall include adequate number and size of pipes/culverts with sufficient boards to efficiently retain the material and drain the disposal areas. The spill box weirs shall be removed from the disposal areas upon completion of construction. Undisturbed plugs or natural crossings at least every 500-feet are required in any borrow pits for the perimeter retaining dikes to prevent erosive channeling by the effluent waters along the dikes and to increase retention time. The discharge line into a disposal area shall have manifolds or baffles on the point discharge. The point discharge shall be at least 1,000-feet from the effluent outlet structure. No separate payment will be made for work required by this paragraph, and the cost thereof shall be included in the applicable contract unit price for "Dredging for Marsh Creation."

### 3.3.9 Excessive Discharge Pipe Leakage

Excessive leakage of the discharge pipe shall be sufficient cause for the Contracting Officer to require the Contractor to cease pumping until corrective measures can be taken at no additional cost to the Government.

### 3.3.10 Failure of Retaining Dikes/Weir

If the retention dikes fail for any reason during hydraulic dredging operations, whether constructed by the Contractor or maintained by others, the Contractor shall do the following:

- a. Immediately cease pumping at the site until the retaining dikes have been adequately restored or raised and the dikes can successfully fulfill the purpose for which they were intended.
- b. Notify the Government's Contracting Officer Representative immediately, but in no case later than within 24 hours of the incident.

### 3.3.11 Deposition In Non-Approved Areas

Any material that is deposited elsewhere than in disposal areas shown on the contract drawings or approved Contractor furnished disposal areas may be required to be removed and deposited in approved areas at no additional expense to the Government. Should the Contractor refuse, or delay compliance with the above requirement, such material may be removed by the Contracting Officer, and the cost of such removal may be deducted from any money due or to become due the Contractor.

### 3.3.12 Protection Of Government Monuments, Markers, Or Towers

No dredged material shall be deposited on or near any Government monuments, markers, or towers such that they may become covered or destroyed. At no time shall dredging plant be anchored, moored, or attached to any Government pilings or towers along the route of work.

### 3.3.13 Submerged Discharge Lines

When the submerged pipeline is placed in shallow water and where the possibility exists for motor boats to cross the pipeline, the pipeline shall be marked at 150 foot intervals for the entire length of the pipeline with Coast Guard approved fluorescent orange buoys and signs stating "DANGER SUBMERGED PIPELINE." There shall be no flotation excavation allowed to access the marsh creation sites.

## 3.4 PILE INSTALLATION

### 3.4.1 General

Combination timber/vinyl sheet pile closure structures are required at certain existing locations where deeper water canals cross the retention dike alignment of the Bayou Sauvage North Cell marsh creation site (BSFS #5). The sheet pile closures shall be constructed on the earthen retention dike alignment and shall be embedded a minimum distance into the retention dike as shown on the drawings. Two (2) required sheet pile closures are depicted on the drawings. If deemed necessary by the Contractor, and approved by the COR; additional closures for remaining canal crossings will be paid for by the linear foot of successful placement for "Vinyl Sheet Pile Closures".

### 3.4.2 Placing

Prior to placement of pilings, contractor shall inspect the area of pile closure(s) to assure no obstructions to driving are present, and that proposed alignment ties into centerline of earthen retention dike on both ends. Pilings shall be placed as true to line as possible. Suitable temporary whales, templates, or guide structures shall be provided to insure that the piles are placed and driven to the correct alignment. Sheet pilings properly placed and driven shall be interlocked throughout their length with adjacent pilings to form a continuous diaphragm throughout the length or run of the closure.

### 3.4.3 Driving

The Contractor is advised that buried stumps, roots and similar debris may be encountered, and that the Contractor shall be responsible for providing the proper size impact hammer so as not to subject the pilings to damage and to ensure proper interlocking throughout their lengths. If the Contractor elects to use a steel mandrel, he/she must submit the type/manufacturer for approval by the Contracting Officer, prior to driving operations. All piles shall be driven to the depths shown on the drawings and shall extend to the cut-off elevation indicated. A tolerance of 1.5 inches above or below the indicated cut-off elevation will be permitted. Pile hammers shall be maintained in proper alignment during driving operations by use of leads or guides attached to the hammer. A protecting cap shall be employed in driving, when required, to prevent damage to the tops of pilings. Pilings damaged during driving or driven out of interlock shall be removed and replaced at the Contractor's expense. All piles shall be driven without the aid of a water jet, unless otherwise authorized. Adequate precautions shall be taken to insure that piles are driven plumb. Sheet piling shall not be driven more than 1/4 inch per foot out of plumb in the plane of the wall nor more than 1/8-inch per foot out of plumb perpendicular to the plane of the wall. If at any time the forward or leading edge of the piling wall is found to be out-of-plumb more than 1/4 inch per foot in the plane of the wall or 1/8-inch per foot perpendicular

to the plane of the wall, the assembled piling shall be driven to the required depth and tapered pilings shall be provided and driven to interlock with the out-of-plumb leading edge or other approved corrective measures shall be taken to insure the plumbness of succeeding pilings. The maximum permissible taper for any tapered piling shall be 1-1/4 inch per foot of length. Each run of piling shall be driven to grade progressively from the start and pilings in each run shall be driven alternately in increments of depth to the required depth or elevation. On each day of sheet pile driving, the Contractor shall stab only the number of piles that can be driven to grade by the end of the day, and all piling stabbed shall be driven to grade by the end of each working day except that the last two piles may remain tapered up to receive the next days piles. If the piling next to the one being driven tends to follow below final grade, it shall be pinned to the next adjacent piling. No pile shall be driven to a lower elevation than those behind it in the same run except when the piles behind it cannot be driven deeper due to an obstruction that is encountered. In case of an obstruction, piling/pilings will be allowed to remain above final grade until the obstruction is identified by the Contracting Officer and a remedy is provided to the Contractor. If it is determined by the Contracting Officer that an obstruction restricts driving operations and that the obstruction cannot be removed, the Contractor will be directed by the Contracting Officer to either cut the piling/pilings to design grade or provide the Contractor an alignment change that by-passes the obstruction. Payment for the additional labor and materials necessitated by such changes will be made at the applicable contract prices. The Contractor shall inspect the interlocked joints of driven pilings extending above ground. Pilings found to be damaged or driven out of interlock shall be removed and replaced.

-- End of Section --

| REPORT OF OPERATIONS -- PIPELINE, DIPPER OR BUCKET DREDGES |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     |                                                                               |           |  |
|------------------------------------------------------------|----------------------------------------------------------------------------|-----------------|-------------|------------------------|------------------------------------------|-------------------------------------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------------------------------------------------|-----------|--|
| THRU:                                                      |                                                                            |                 | TO:         |                        |                                          | FROM:                                                             |                                       |                                     | REPORT NO.                                                                    |           |  |
| <b>CHARACTER OF REPORT</b>                                 |                                                                            |                 |             |                        |                                          |                                                                   | COMPLETION                            | ANNUAL                              | DATE OR PERIOD                                                                |           |  |
| <b>DREDGE</b>                                              | NAME AND TYPE                                                              |                 |             |                        | SIZE                                     | PIPELINE                                                          |                                       |                                     | DIPPER OR BUCKET                                                              |           |  |
|                                                            | HORSEPOWER OF                                                              | DREDGE PUMP     |             |                        | SUCTION PIPE JET                         |                                                                   | CUTTER OR BUCKET                      |                                     | PROPULSION                                                                    |           |  |
|                                                            | NUMBER OF CREW MEMBERS                                                     | DREDGE SHORE    |             | OTHER PLANT            | 0                                        | TOTAL                                                             | WORK SCHEDULE                         | SHIFTS PER DAY                      | DAYS PER WEEK                                                                 |           |  |
| <b>PROJECT AND BAR</b>                                     | Name:                                                                      |                 |             |                        | AUTHORIZED DIMENSIONS                    | WIDTH                                                             |                                       | DEPTH                               |                                                                               | OVERDEPTH |  |
|                                                            | LOCATION (include station numbers)                                         |                 |             |                        |                                          |                                                                   |                                       |                                     |                                                                               |           |  |
| <b>CHARACTER OF MATERIAL</b>                               | ABSOLUTE DENSITY                                                           |                 |             | IN PLACE DENSITY       |                                          |                                                                   | VOIDS RATIO                           |                                     |                                                                               |           |  |
|                                                            | GMS/liter                                                                  |                 |             | GMS/liter              |                                          |                                                                   | GEOLOGICAL CLASSIFICATION             |                                     |                                                                               |           |  |
| <b>CONTRACT OR DREDGING ORDER</b>                          | NUMBER                                                                     | DREDGE          | SHORE       | OTHER PLANT            | 0                                        | TOTAL                                                             | WORK SCHEDULE                         | SHIFTS PER DAY                      | DAYS PER WEEK                                                                 |           |  |
|                                                            | GRAIN SIZE                                                                 | D20             | MM          | D50                    | MM                                       |                                                                   |                                       |                                     |                                                                               |           |  |
| <b>CHANNEL CONDITION</b>                                   | AVERAGE DEPTH                                                              | BEFORE DREDGING |             | AFTER DREDGING         |                                          | MINIMUM SOUNDING                                                  | BEFORE DREDGING                       |                                     | AFTER DREDGING                                                                |           |  |
| <b>RIVER STAGE</b>                                         | MINIMUM                                                                    |                 | TIME        | MAXIMUM                |                                          | TIME                                                              |                                       | GAGE LOCATION                       |                                                                               |           |  |
| <b>WEATHER CONDITION</b>                                   | (clear, cloudy, rain, snow, and fog)                                       |                 |             |                        |                                          | VISIBILITY                                                        |                                       | WIND (maximum velocity & direction) |                                                                               |           |  |
|                                                            |                                                                            |                 |             |                        |                                          | miles                                                             |                                       |                                     |                                                                               |           |  |
| <b>WORK PERFORMED</b>                                      |                                                                            |                 |             |                        | <b>DISTRIBUTION OF TIME</b>              |                                                                   |                                       |                                     |                                                                               |           |  |
| ITEM                                                       |                                                                            |                 | UNIT        | QUANTITY               |                                          | EFFECTIVE WORKING TIME<br>(chargeable to cost of work)            |                                       |                                     |                                                                               | AMOUNT    |  |
| AVERAGE WIDTH OF CUT                                       |                                                                            |                 | FEET        |                        |                                          | PUMPING OR DREDGING                                               |                                       |                                     |                                                                               |           |  |
| TOTAL ADVANCE THIS PERIOD                                  |                                                                            |                 | FEET        |                        |                                          | PCT. OF EFFECTIVE RENTAL TIME                                     |                                       |                                     |                                                                               |           |  |
| TOTAL ADV. PREVIOUS TO THIS PERIOD                         |                                                                            |                 | FEET        |                        |                                          | BOOSTER (in line) HRS. MINS.                                      |                                       |                                     |                                                                               |           |  |
| TOTAL ADVANCE TO DATE                                      |                                                                            |                 | FEET        |                        |                                          | <b>NON-EFFECTIVE WORKING TIME</b><br>(chargeable to cost of work) |                                       |                                     |                                                                               |           |  |
| SUMBERGE PIPE:                                             |                                                                            |                 | SHORE PIPE: | FEET                   |                                          |                                                                   |                                       |                                     |                                                                               |           |  |
| TOTAL LENGTH OF DISCHARGE PIPE                             |                                                                            |                 | FEET        |                        |                                          | HANDLING PIPE LINES                                               |                                       |                                     |                                                                               |           |  |
| AVERAGE LIFT                                               |                                                                            |                 | FEET        |                        |                                          | HANDLING ANCHOR LINES                                             |                                       |                                     |                                                                               |           |  |
| AVERAGE PUMP SPEED                                         |                                                                            |                 | R.P.M.      |                        |                                          | CLEARING PUMP AND PIPE LINE                                       |                                       |                                     |                                                                               |           |  |
| AVG. DREDGED PER PUMP HR. GROSS                            |                                                                            |                 | CU. YDS.    |                        |                                          | CLEARING CUTTER OR SUCTION HEAD                                   |                                       |                                     |                                                                               |           |  |
| SCOWS LOADED                                               |                                                                            |                 | NUMBER      |                        |                                          | WAITING FOR SCOWS                                                 |                                       |                                     |                                                                               |           |  |
| AVERAGE LOAD PER SCOW                                      |                                                                            |                 | CU. YDS.    |                        |                                          | TO AND FROM WHARF OR ANCHORAGE                                    |                                       |                                     |                                                                               |           |  |
| <b>CUBIC YARDS REMOVED</b>                                 |                                                                            |                 |             |                        | CHANGING LOCATION OF PLANT ON JOB        |                                                                   |                                       |                                     |                                                                               |           |  |
| AMOUNT DREDGED THIS PERIOD:                                |                                                                            |                 |             |                        | LOSS DUE TO OPPOSING NATURAL ELEMENTS    |                                                                   |                                       |                                     |                                                                               |           |  |
| (1) GROSS (computed amount)                                |                                                                            |                 |             |                        | LOSS DUE TO PASSING VESSELS              |                                                                   |                                       |                                     |                                                                               |           |  |
| (2) CREDITED (pay place)                                   |                                                                            |                 |             |                        | SHORE LINE AND SHORE WORK                |                                                                   |                                       |                                     |                                                                               |           |  |
| AMOUNT PREVIOUSLY REPORTED:                                |                                                                            |                 |             |                        | WAITING FOR BOOSTER                      |                                                                   |                                       |                                     |                                                                               |           |  |
| (1) GROSS (computed amount)                                |                                                                            |                 |             |                        | MINOR OPER. REPAIRS (explain in remarks) |                                                                   |                                       |                                     |                                                                               |           |  |
| (2) CREDITED (pay place)                                   |                                                                            |                 |             |                        | WAITING FOR ATTENDANT PLANT              |                                                                   |                                       |                                     |                                                                               |           |  |
| TOTAL AMOUNT DREDGED TO DATE:                              |                                                                            |                 |             |                        | PREPARATION AND MAKING UP TOW            |                                                                   |                                       |                                     |                                                                               |           |  |
| (1) GROSS (computed amount)                                |                                                                            |                 |             |                        | TRANSFERRING PLANT BETWEEN WORKS         |                                                                   |                                       |                                     |                                                                               |           |  |
| (2) CREDITED (pay place)                                   |                                                                            |                 |             |                        | LAY TIME OFF SHIFT AND SATURDAYS         |                                                                   |                                       |                                     |                                                                               |           |  |
| <b>ATTENDANT PLANT</b>                                     |                                                                            |                 |             |                        | SUNDAYS AND HOLIDAYS                     |                                                                   |                                       |                                     |                                                                               |           |  |
| ITEM                                                       |                                                                            |                 |             |                        | NAME OR NUMBER                           |                                                                   | HOURS                                 |                                     | FIRE DRILL                                                                    |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | MISCELLANEOUS (explain in remarks)                                            |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | TOTAL STOPS and NON-EFFECTIVE WORKING TIME                                    |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | PCT. OF NON-EFFECTIVE RENTAL TIME                                             |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | <b>TOTAL EFFECTIVE AND NON-EFFECTIVE TIME</b><br>(chargeable to cost of work) |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | PCT OF TOTAL TIME IN PERIOD                                                   |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | <b>LOST TIME</b><br>(not chargeable to cost of work)                          |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | MAJOR REPAIRS AND ALTERATIONS                                                 |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | CESSATION                                                                     |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | COLLISIONS                                                                    |           |  |
|                                                            |                                                                            |                 |             |                        |                                          |                                                                   |                                       |                                     | MISCELLANEOUS (explain in remarks) <b>MOBILIZE</b>                            |           |  |
| <b>NUMBER OF INSPECTIONS</b>                               | BY DISTRICT PERSONNEL                                                      |                 |             | BY DIV & OCE PERSONNEL |                                          |                                                                   | TOTAL STOPS and LOST TIME             |                                     |                                                                               |           |  |
| <b>CONTRACT USE ONLY</b>                                   | HAS ANYTHING DEVELOPED WHICH MIGHT LEAD TO A CHANGE ORDER OR CLAIM? NO YES |                 |             |                        |                                          |                                                                   | PERCENTAGE OF TOTAL TIME              |                                     |                                                                               |           |  |
|                                                            | (if "YES", explain under remarks on back)                                  |                 |             |                        |                                          |                                                                   | <b>TOTAL STOPS and TIME IN PERIOD</b> |                                     |                                                                               |           |  |

## SUMMARY OF COSTS

| ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COSTS    |                                             |                  |                                                                       |                                                                  |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------|------------------|-----------------------------------------------------------------------|------------------------------------------------------------------|-----------|
| <b>DIRECT PLANT OPERATING COSTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                                             |                  |                                                                       |                                                                  |           |
| <b>UNIFORM DAILY RATES BASIS</b> <span style="float: right;">(To be completed when submitting Status and Completion reports.)</span><br>CHARGES: _____ DAYS AT \$ _____ PER DAY <span style="float: right;">(Item 19, ENG Form 22 (Costs)-<br/>adjusted to exclude plant increment cost.)</span><br><p style="text-align: center;"><b>► OR ◄</b></p> <b>ACTUAL PLANT COSTS</b> <span style="float: right;">(To be completed when submitting Annual report.)</span> |          |                                             |                  |                                                                       |                                                                  |           |
| PAYROLLS (gross).....                                                                                                                                                                                                                                                                                                                                                                                                                                              | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| SUBSISTENCE & QUARTERS OR PER DIEM & MILEAGE.....                                                                                                                                                                                                                                                                                                                                                                                                                  | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| FUEL _____ BARRELS AT \$ _____ PER BARREL.....                                                                                                                                                                                                                                                                                                                                                                                                                     | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| WATER.....                                                                                                                                                                                                                                                                                                                                                                                                                                                         | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| LUBRICANTS.....                                                                                                                                                                                                                                                                                                                                                                                                                                                    | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| PLANT OWNERSHIP COSTS <span style="float: right;">(as computed below)</span> .....                                                                                                                                                                                                                                                                                                                                                                                 | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| INSURANCE.....                                                                                                                                                                                                                                                                                                                                                                                                                                                     | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| ATTENDANT PLANT.....                                                                                                                                                                                                                                                                                                                                                                                                                                               | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| MISCELLANEOUS.....                                                                                                                                                                                                                                                                                                                                                                                                                                                 | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| SUBTOTAL - UNIFORM DAILY RATE OR ACTUAL COSTS.....                                                                                                                                                                                                                                                                                                                                                                                                                 | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| SUBTOTAL - PLANT UNIT COST \$ _____ PER CUBIC YARD.                                                                                                                                                                                                                                                                                                                                                                                                                | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| <b>SHORE WORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |                                             |                  |                                                                       |                                                                  |           |
| SUBTOTAL - SHORE WORK COSTS.....                                                                                                                                                                                                                                                                                                                                                                                                                                   | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| SUBTOTAL - SHORE WORK UNIT COSTS \$ _____ PER CUBIC YARD.                                                                                                                                                                                                                                                                                                                                                                                                          | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| <b>OTHER COSTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |                                             |                  |                                                                       |                                                                  |           |
| SURVEYS.....                                                                                                                                                                                                                                                                                                                                                                                                                                                       | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| INSPECTIONS AND SUPERVISION.....                                                                                                                                                                                                                                                                                                                                                                                                                                   | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| OVERHEAD.....                                                                                                                                                                                                                                                                                                                                                                                                                                                      | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| OTHER INDIRECT COSTS.....                                                                                                                                                                                                                                                                                                                                                                                                                                          | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| SUBTOTAL - OTHER COSTS.....                                                                                                                                                                                                                                                                                                                                                                                                                                        | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| SUBTOTAL - OTHER UNIT COSTS \$ _____ PER CUBIC YARD.                                                                                                                                                                                                                                                                                                                                                                                                               | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| GRAND TOTAL - ALL COSTS..... <span style="border: 1px solid black; padding: 2px;">QUANTITY</span>                                                                                                                                                                                                                                                                                                                                                                  | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| GRAND TOTAL - ALL UNIT COST \$ _____ PER CUBIC YARD.                                                                                                                                                                                                                                                                                                                                                                                                               | \$ _____ |                                             |                  |                                                                       |                                                                  |           |
| <b>OPERATING SUPPLIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |                                             |                  | <b>ANNUAL REPORT DATA</b><br>(complete when submitting Annual report) |                                                                  |           |
| COMMODITIES                                                                                                                                                                                                                                                                                                                                                                                                                                                        | UNIT     | DAILY QUANTITY                              | MONTHLY QUANTITY | TO DATE QUANTITY                                                      | COSTS PER RENTAL MINUTE<br>(Based on total operating costs)..... | \$        |
| FUEL (oil)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | GAL.     |                                             |                  |                                                                       | TOTAL COST OF PLANT<br>(End of F.Y. reporting period).....       | \$        |
| LUBRICANT (oil)                                                                                                                                                                                                                                                                                                                                                                                                                                                    | GAL.     |                                             |                  |                                                                       | BOOK VALUE<br>(End of F.Y. reporting period).....                | \$        |
| LUBRICANT (grease)                                                                                                                                                                                                                                                                                                                                                                                                                                                 | LBS.     |                                             |                  |                                                                       | BALANCE IN PLANT ACCOUNT<br>(End of F.Y. reporting period).....  | \$        |
| WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                              | GAL.     | N/A                                         | N/A              | N/A                                                                   | PLANT OWNERSHIP COSTS<br>(Actual for F.Y. reporting period):     |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                                             |                  |                                                                       | DEPRECIATION.....                                                | \$        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                                             |                  |                                                                       | REPAIRS (Adjusted).....                                          | \$        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                                             |                  |                                                                       | CESSATION OF WORK.....                                           | \$        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                                             |                  |                                                                       | SMALL TOOLS, ETC.....                                            | \$        |
| SUBSISTENCE SUPPLIES .....                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                             |                  |                                                                       |                                                                  |           |
| MISCELLANEOUS SUPPLIES.....                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |                                             |                  |                                                                       |                                                                  |           |
| <b>TOTAL</b> .....                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |                                             |                  |                                                                       | <b>\$</b>                                                        | <b>\$</b> |
| <b>REMARKS:</b><br>Commenced Dredging Operations @ 1400 hrs. after completion of mobilization and placement of discharge line.<br>Due to excessive amount of aggregate, primarily 3" to 5" stone, throughout cut upon startup.                                                                                                                                                                                                                                     |          |                                             |                  |                                                                       |                                                                  |           |
| SUBMITTED BY (Name, title, and signature)                                                                                                                                                                                                                                                                                                                                                                                                                          |          | RECOMMENDED BY (Name, title, and signature) |                  | APPROVED BY (Name, title, and signature)                              |                                                                  |           |



| DAILY REPORT OF OPERATIONS—HOPPER DREDGES                                                           |               |                          |                                                |                                                                           | REPORTS CONTROL SYMBOL<br>ENG-CWO-13 |                            |
|-----------------------------------------------------------------------------------------------------|---------------|--------------------------|------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------|----------------------------|
| DISTRICT                                                                                            |               |                          |                                                | DREDGE                                                                    |                                      |                            |
| EXACT LOCATION OF WORK                                                                              |               |                          |                                                | <input type="checkbox"/> MAINTENANCE<br><input type="checkbox"/> NEW WORK |                                      | DATE                       |
|                                                                                                     |               |                          |                                                |                                                                           |                                      | NUMBER OF PERSONS IN CREW  |
| AV. LENGTH OF CUT                                                                                   | FT.           | CHARACTER OF MATERIAL    |                                                | HOPPER CAPACITY                                                           |                                      | CU. YDS.                   |
| AV. WIDTH OF CUT                                                                                    | FT.           | DENSITY OF MAT. IN PLACE | GMS./LITER                                     | AV. VOL. OF BIN WATER                                                     |                                      | CU. YDS.                   |
| AV. DIST. TO DUMP                                                                                   | MILES         | DENSITY OF WATER         | GMS./LITER AT                                  | AV. UNFILLED CAPACITY                                                     |                                      | CU. YDS.                   |
| NAVIGATION AND OTHER DREDGING AIDS (Describe and include statement on adequacy and recommendations) |               |                          |                                                |                                                                           |                                      |                            |
| WORK PERFORMED                                                                                      |               |                          |                                                | DRAFT FOR LOAD NO. <span style="float: right;">(for one load only)</span> |                                      |                            |
| DREDGING AND HAULING                                                                                |               |                          | AGITATING                                      | LIGHT                                                                     |                                      | LOADED                     |
| NO. OF LOADS                                                                                        | TOT. CU. YDS. | DISPOSAL AREA            | TOT. CU. YDS.                                  | FORWARD                                                                   |                                      |                            |
|                                                                                                     |               |                          |                                                | AFT                                                                       |                                      |                            |
|                                                                                                     |               |                          |                                                | DRAG DEPTH                                                                |                                      | MAX. MIN.                  |
|                                                                                                     |               |                          |                                                | INDICATORS LAST CHECKED ON                                                |                                      |                            |
|                                                                                                     |               |                          |                                                | GAS EJECTORS USED                                                         |                                      | % OF PUMPING TIME          |
| DISTRIBUTION OF TIME AND MILES RUN                                                                  |               |                          |                                                |                                                                           |                                      |                            |
| EFFECTIVE WORKING TIME                                                                              |               |                          | AGITATING<br>(Minutes)                         | DREDGING AND HAULING<br>(Minutes)                                         |                                      | MILES RUN<br>(Stat. Miles) |
| PUMPING                                                                                             |               |                          |                                                |                                                                           |                                      |                            |
| TURNING                                                                                             |               |                          |                                                |                                                                           |                                      |                            |
| TO DUMP                                                                                             |               |                          |                                                |                                                                           |                                      |                            |
| DUMPING                                                                                             |               |                          |                                                |                                                                           |                                      |                            |
| TO CUT                                                                                              |               |                          |                                                |                                                                           |                                      |                            |
| TOTALS                                                                                              |               |                          |                                                |                                                                           |                                      |                            |
| NON-EFFECTIVE WORKING TIME                                                                          |               |                          |                                                |                                                                           |                                      |                            |
| TAKING ON FUEL AND SUPPLIES                                                                         |               |                          |                                                |                                                                           |                                      |                            |
| TO AND FROM WHARF OR ANCHORAGE                                                                      |               |                          |                                                |                                                                           |                                      |                            |
| LOSS DUE TO NATURAL ELEMENTS                                                                        |               |                          |                                                |                                                                           |                                      |                            |
| LOSS DUE TO TRAFFIC AND BRIDGES                                                                     |               |                          |                                                |                                                                           |                                      |                            |
| MINOR OPERATING REPAIRS                                                                             |               |                          |                                                |                                                                           |                                      |                            |
| TRANSFERRING BETWEEN WORKS                                                                          |               |                          |                                                |                                                                           |                                      |                            |
| LAY TIME                                                                                            |               |                          |                                                |                                                                           |                                      |                            |
| FIRE AND BOAT DRILLS                                                                                |               |                          |                                                |                                                                           |                                      |                            |
| MISCELLANEOUS                                                                                       |               |                          |                                                |                                                                           |                                      |                            |
| TOTALS                                                                                              |               |                          |                                                |                                                                           |                                      |                            |
| LOST TIME                                                                                           |               |                          |                                                |                                                                           |                                      |                            |
| MAJOR REPAIRS AND ALTERATIONS                                                                       |               |                          |                                                |                                                                           |                                      |                            |
| CESSATION                                                                                           |               |                          |                                                |                                                                           |                                      |                            |
| COLLISIONS                                                                                          |               |                          |                                                |                                                                           |                                      |                            |
| TOTAL LOST TIME                                                                                     |               |                          |                                                |                                                                           |                                      |                            |
| TOTAL TIME IN PERIOD                                                                                |               |                          |                                                |                                                                           |                                      |                            |
| AVERAGE SPEED OF DREDGE                                                                             |               |                          | MINUTES RADAR IN USE                           |                                                                           |                                      |                            |
|                                                                                                     |               | FEET/MINUTE              | TIDE DATA WAS OBTAINED BY MEANS OF             |                                                                           |                                      |                            |
| LOADING                                                                                             |               |                          | WEATHER                                        |                                                                           |                                      |                            |
| AGITATING                                                                                           |               |                          | NUMBER OF INSPECTIONS BY SUPERVISORY PERSONNEL |                                                                           |                                      |                            |
| GALS. OF FUEL OIL CONSUMED                                                                          |               |                          | FIELD                                          |                                                                           | OFFICE                               |                            |
| GALS. OF WATER CONSUMED                                                                             |               |                          |                                                |                                                                           |                                      |                            |
| REMARKS                                                                                             |               |                          |                                                |                                                                           |                                      |                            |
| SUBMITTED BY                                                                                        |               |                          |                                                |                                                                           |                                      |                            |
| (SEE REVERSE SIDE)                                                                                  |               |                          |                                                |                                                                           |                                      |                            |



# DREDGE AND ATTENDANT PLANT DATA SHEET

Submittal Date: \_\_\_\_\_

In compliance with the contract requirements to submit plant data and subject to all conditions thereof, the undersigned \_\_\_\_\_ a corporation/joint venture/individual (indicate appropriate status) organized and existing under the laws of the City of \_\_\_\_\_ and the State of \_\_\_\_\_, hereby correctly describes the Contractor's plant to the Government, which is performing work under the following named contract \_\_\_\_\_ and Contract No.: \_\_\_\_\_.

Signed: \_\_\_\_\_  
Certifying Officer of the Contractor's Firm  
Title: \_\_\_\_\_

One cutterhead dredge and attendant plant with the following characteristics (in English units of measurement):

## 1. DREDGE INFORMATION:

- (a) Bid lot number: \_\_\_\_\_
- (b) Dredge name: \_\_\_\_\_ Dredge USCG official number: \_\_\_\_\_
- (c) Minimum width of channel in which dredge can successfully operate and make a 180 degree turn around: \_\_\_\_\_
- (d) Maximum draft of dredge: \_\_\_\_\_
- (e) Loaded freeboard: \_\_\_\_\_
- (f) Minimum depth of both freshwater and saltwater in which the dredge can successfully operate: \_\_\_\_\_
- (g) Depth range to which dredge will dig:  
Maximum: \_\_\_\_\_, Minimum: \_\_\_\_\_
- (h) Maximum effective dredge swing, in degrees: \_\_\_\_\_
- (i) Length of dredge spuds: \_\_\_\_\_
- (j) Length and beam of dredge hull: \_\_\_\_\_
- (k) Length of dredge ladder: \_\_\_\_\_
- (l) Length of suction and boat lines: \_\_\_\_\_
- (m) Inside diameter of pump discharge: \_\_\_\_\_
- (n) Inside diameter of pump suction inlet: \_\_\_\_\_
- (o) Suction lift (Elevation of main dredge pump relative to the water surface level): \_\_\_\_\_
- (p) Diameter of main pump impeller eye: \_\_\_\_\_

- (q) Outside diameter of main pump impeller: \_\_\_\_\_
- (r) Brake horsepower and corresponding engine RPMs (during dredging operations) applied to main pump impeller at rated drive of the prime mover, during dredging operations: \_\_\_\_\_
- (s) Inside diameter of submerged pump discharge: \_\_\_\_\_
- (t) Inside diameter of submerged pump suction inlet: \_\_\_\_\_
- (u) Suction lift (Elevation of submerged dredge pump relative to the water surface level): \_\_\_\_\_
- (v) Diameter of submerged pump impeller eye: \_\_\_\_\_
- (w) Outside diameter of submerged pump impeller: \_\_\_\_\_
- (x) Brake horsepower and corresponding engine RPMs (during dredging operations) applied to submerged pump impeller at rated drive of the prime mover, during dredging operations: \_\_\_\_\_
- (y) Cutterhead type and diameter: \_\_\_\_\_
- (z) Brake horsepower applied to cutterhead during dredging operations: \_\_\_\_\_
- (aa) Pump engine(s) horsepower and corresponding RPM: \_\_\_\_\_
- (ab) Completion date of each dredge pump engine re-build: \_\_\_\_\_
- (ac) Type(s) of production rate monitoring equipment on-board the dredge (measuring cy/hr of material dredged): \_\_\_\_\_
- (ad) Indicate type of dredge advance mechanism (e.g. walking spuds, spud carriage or wires, etc.): \_\_\_\_\_

**2. BOOSTER PLANT INFORMATION:**

- (a) Length of suction and boat lines: \_\_\_\_\_
- (b) Inside diameter of pump discharge: \_\_\_\_\_ (This item must agree with the bid lot used.)
- (c) Inside diameter of pump suction inlet: \_\_\_\_\_
- (d) Suction lift (Elevation of booster pump relative to the water surface level): \_\_\_\_\_
- (e) Diameter of pump impeller eye: \_\_\_\_\_
- (f) Outside diameter of pump impeller: \_\_\_\_\_
- (g) Brake horsepower and corresponding engine RPMs (during dredging operations) applied to pump impeller at rated drive of the prime mover, during dredging operations: \_\_\_\_\_
- (h) Pump engine(s) horsepower and corresponding RPM: \_\_\_\_\_
- (i) Completion date of booster pump engine re-build: \_\_\_\_\_

**3. TENDER NO. 1:**

- (a) Name: \_\_\_\_\_
- (b) Length and beam: \_\_\_\_\_
- (c) Owner, name and address: \_\_\_\_\_

(d) Total propulsion horsepower: \_\_\_\_\_

(e) The tender may be inspected at the following location:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4. TENDER NO. 2:**

(a) Name: \_\_\_\_\_

(b) Length and beam: \_\_\_\_\_

(c) Owner, name and address: \_\_\_\_\_

(d) Total propulsion horsepower: \_\_\_\_\_

(e) The tender may be inspected at the following location:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**5. SURVEY BOAT:**

(a) Name: \_\_\_\_\_

(b) Length and beam: \_\_\_\_\_

(c) Owner, name and address: \_\_\_\_\_

(d) Total propulsion horsepower: \_\_\_\_\_

**6. SURVEY SKIFF:**

(a) Length and beam: \_\_\_\_\_

(b) Owner, name and address: \_\_\_\_\_

\_\_\_\_\_

**7. PICKET BOAT:**

(a) Name: \_\_\_\_\_

(b) Length and beam: \_\_\_\_\_

(c) Owner, name and address: \_\_\_\_\_

(d) Total propulsion horsepower: \_\_\_\_\_

**8. CREW BOAT:**

(a) Name: \_\_\_\_\_

(b) Length and beam: \_\_\_\_\_

(c) Owner, name and address: \_\_\_\_\_

\_\_\_\_\_

(d) Total propulsion horsepower: \_\_\_\_\_

9. ELECTRONIC POSITIONING EQUIPMENT: (Model And Type)

\_\_\_\_\_

10. DEPTHSOUNDER: (Model and Type) \_\_\_\_\_

11. DREDGE OWNER INFORMATION:

Firm name \_\_\_\_\_  
Point of contact \_\_\_\_\_

Title \_\_\_\_\_  
Business address:  
Street \_\_\_\_\_  
City \_\_\_\_\_  
Parish/County \_\_\_\_\_  
State \_\_\_\_\_ Zip + 4 \_\_\_\_\_  
Telephone no. ( \_\_\_\_\_ ) \_\_\_\_\_  
Facsimile no. ( \_\_\_\_\_ ) \_\_\_\_\_

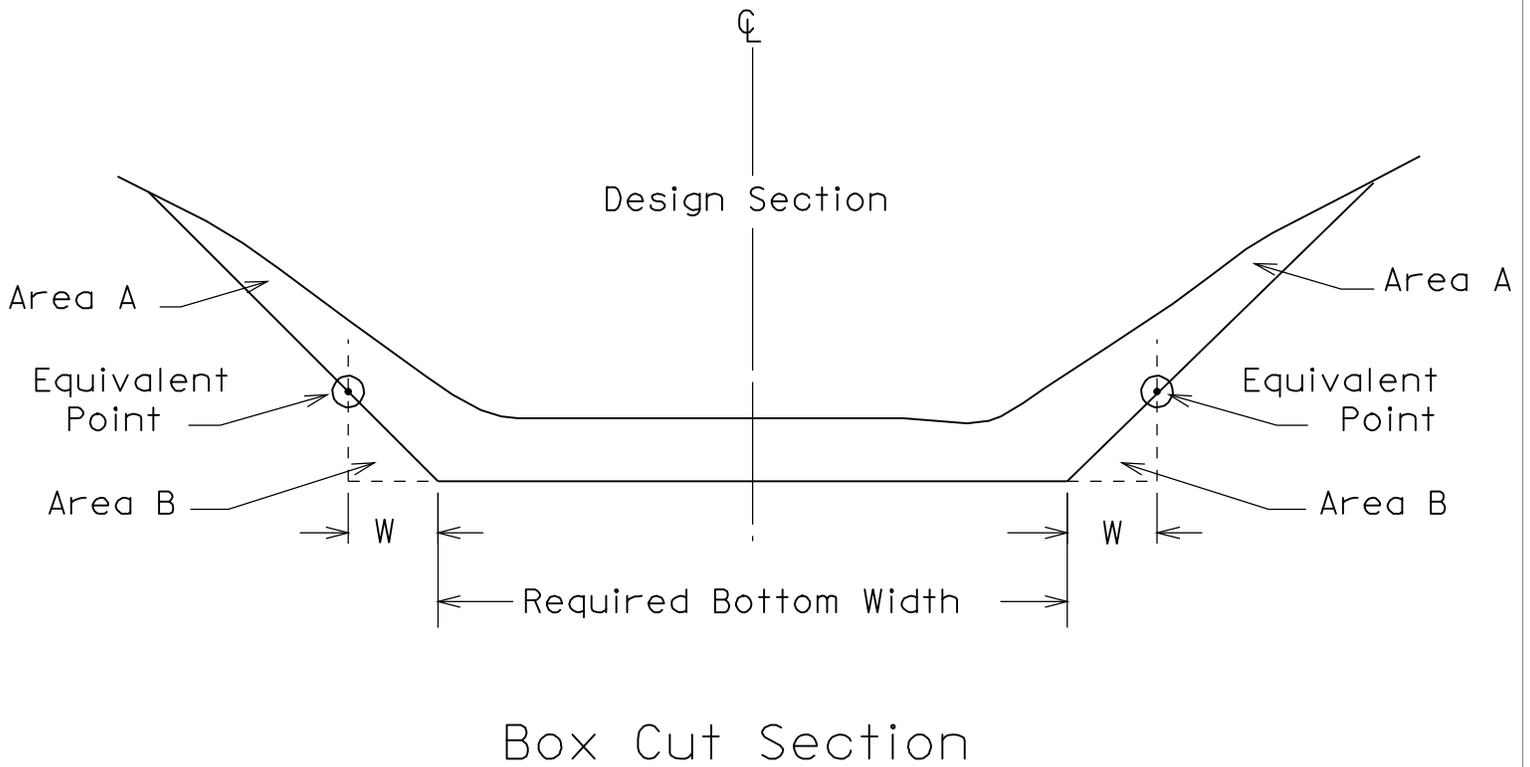
Additional signature blocks to be used for joint venture partner(s):

Firm name \_\_\_\_\_  
Point of contact \_\_\_\_\_

Title \_\_\_\_\_  
Business address:  
Street \_\_\_\_\_  
City \_\_\_\_\_  
Parish/County \_\_\_\_\_  
State \_\_\_\_\_ Zip + 4 \_\_\_\_\_  
Telephone no. ( \_\_\_\_\_ ) \_\_\_\_\_  
Facsimile no. ( \_\_\_\_\_ ) \_\_\_\_\_

Firm name \_\_\_\_\_  
Point of contact \_\_\_\_\_

Title \_\_\_\_\_  
Business address:  
Street \_\_\_\_\_  
City \_\_\_\_\_  
Parish/County \_\_\_\_\_  
State \_\_\_\_\_ Zip + 4 \_\_\_\_\_  
Telephone no. ( \_\_\_\_\_ ) \_\_\_\_\_  
Facsimile no. ( \_\_\_\_\_ ) \_\_\_\_\_



**Definitions:**

Equivalent Point - That point on each side slope where the area above the point (Area A) equals the area below the point (Area B)

W - That additional width on each side of the required bottom width, that is determined by the location of the equivalent point, necessary to make Area A = Area B

# CUTTERHEAD DREDGE AND ATTENDANT PLANT DATA SHEET

Submittal Date: \_\_\_\_\_

## CUTTERHEAD DREDGE AND ATTENDANT PLANT DATA SHEET

In compliance with the contract requirements to submit plant data and subject to all conditions thereof, the undersigned \_\_\_\_\_, a corporation/ joint venture/ individual (indicate appropriate status) organized and existing under the laws of the City of \_\_\_\_\_ and the State of \_\_\_\_\_, hereby correctly describes the Contractor's plant to the Government, which is performing work under the following named Contract \_\_\_\_\_ and Solicitation No. and Contract No. \_\_\_\_\_.

Signed: \_\_\_\_\_  
Certifying Officer of the Contractor's Firm

Title: \_\_\_\_\_

One cutterhead dredge and attendant plant with the following characteristics (in English units of measurement):

### 1. DREDGE INFORMATION:

- (a) Bid lot number: \_\_\_\_\_
- (b) Dredge name: \_\_\_\_\_ Dredge official number: \_\_\_\_\_
- (c) Minimum width of channel in which dredge can successfully operate and make a 180-degree turn around: \_\_\_\_\_
- (d) Maximum draft of dredge: \_\_\_\_\_
- (e) Vertical clearance necessary at minimum draft of dredge: \_\_\_\_\_
- (f) Loaded freeboard: \_\_\_\_\_
- (g) Minimum depth of both freshwater and saltwater in which the dredge can successfully operate: \_\_\_\_\_
- (h) Elevation range to which the dredge will dig: \_\_\_\_\_
- (i) Maximum effective dredge swing, in degrees: \_\_\_\_\_
- (j) Length of dredge spuds: \_\_\_\_\_
- (k) Length and beam of dredge hull: \_\_\_\_\_
- (l) Length of digging spud to trunnion: \_\_\_\_\_
- (m) Length of dredge ladder: \_\_\_\_\_

- (n) Length of suction and boat lines: \_\_\_\_\_
- (o) Inside diameter of pump discharge (this item must agree with the bid lot used): \_\_\_\_\_
- (p) Inside diameter of pump suction inlet: \_\_\_\_\_
- (q) Suction lift (elevation of main dredge pump relative to the water surface level): \_\_\_\_\_
- (r) Diameter of main pump impeller eye: \_\_\_\_\_
- (s) Outside diameter of main pump impeller: \_\_\_\_\_
- (t) Brake horsepower and corresponding engine RPM's (during dredging operations) applied to the main pump impeller at rated drive of the prime mover, during dredging operations: \_\_\_\_\_
- (u) Inside diameter of submerged pump discharge: \_\_\_\_\_
- (v) Inside diameter of submerged pump inlet: \_\_\_\_\_
- (w) Suction lift (elevation of submerged dredge pump relative to the water's surface): \_\_\_\_\_
- (x) Diameter of submerged pump impeller eye: \_\_\_\_\_
- (y) Outside diameter of submerged pump impeller: \_\_\_\_\_
- (z) Brake horsepower and corresponding engine RPM's (during dredging operations) applied to submerged pump impeller at rated drive of the prime mover, during dredging operations: \_\_\_\_\_
- (aa) Cutterhead type and diameter: \_\_\_\_\_
- (bb) Brake horsepower applied to cutterhead during dredging operations: \_\_\_\_\_
- (cc) Pump engine(s) horsepower and corresponding RPM's:  
\_\_\_\_\_
- (dd) Completion date of each dredge pump engine re-rebuild:  
\_\_\_\_\_
- (ee) Total installed engine (s) horsepower on the dredge (including the engine(s), generator engine(s), etc.): \_\_\_\_\_
- (ff) Type(s) of production rate monitoring equipment on-board the dredge (measuring CY/HR of material dredged): \_\_\_\_\_  
\_\_\_\_\_

(gg) Indicate type of dredge advance mechanism (e.g. walking spuds, spud carriage or wires, etc.): \_\_\_\_\_

2. BOOSTER PLANT INFORMATION:

(a) Length of suction and boat lines: \_\_\_\_\_

(b) Inside diameter of pump discharge (this must agree with the bid lot used): \_\_\_\_\_

(c) Inside diameter of pump suction inlet: \_\_\_\_\_

(d)