

US Army Corps  
of Engineers®  
St. Louis District

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# NAVIGATION AND ECOSYSTEM RESTORATION PROGRAM

## MOORE'S TOWHEAD

### ILLINOIS RIVER RESTORATION

## CONSTRUCTION SPECIFICATIONS

SOLICITATION NUMBER: W912P9-22-X-XXX  
CONTRACT NUMBER: W912P9-22-X-XXX

AUGUST 2022

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SECTION 00 08 00  
SPECIAL CONTRACT REQUIREMENTS

PART 1 GENERAL

1.1 RIGHTS-OF-WAY

a. Rights-of-way and/or construction easements for construction purposes will be furnished by the Government without cost to the Contractor as indicated in subparagraph b. below.

b. Construction permits have been obtained by the Government covering the area where the work will be performed. The work area extends 350 feet downstream from dike centerline at a point on the ordinary high water line on the Illinois River; thence 100 feet landward, at right angles to the ordinary high water line; thence 500 feet upstream and parallel to the ordinary high water line; thence riverward at right angles to the last described course to a point on the ordinary high water line; thence 150 feet downstream along the ordinary high water line, to the point of the beginning. The right of entry permit will generally encompass a somewhat larger area that extends 150 feet downstream from the downstream end of the work location, as determined from aerial photos, at a point on the ordinary high water line on the Illinois River; thence 100 feet landward at right angles to the ordinary high water line; thence upstream parallel to the ordinary high water line, to a point 150 feet upstream of the dike centerline; thence riverward at right angles to a point on the ordinary high water line 150 feet upstream of the dike centerline. Right of entry permits for the revetment repair locations will be broad enough to encompass an area beginning on the ordinary high water line at least 150 feet downstream of the downstream end of the work area; thence 100 feet landward; thence upstream parallel to the ordinary high water line, to a point at least 150 feet upstream of the upper end of the repair area; thence at right angles to a point on the ordinary high water line.

1.2 PUBLIC UTILITIES AND PRIVATE IMPROVEMENTS

a. Unless otherwise specified, shown on the drawings, or stated in writing by the Contracting Officer, the Contractor shall not move or disturb any public utilities or private improvements. Such removals, alterations, and/or relocations, where necessary, will be made by others. The locations shown on the drawings for underground utilities are approximate only. The exact locations of such utilities shall be determined by the Contractor in the field prior to commencing construction operations in their vicinity.

b. The attention of the Contractor is directed to the possibility that public utilities or private improvements may be encountered within the construction limits, some of which may be buried, and the existence of which is presently not known. Should any such utilities or improvements be encountered, the Contractor shall immediately notify the Contracting Officer so that a determination may be made as to whether they shall be removed, relocated, or altered. After such determination is made, the Contractor shall, if so directed by the Contracting Officer, remove, relocate, or alter them as required and an equitable adjustment will be made. In the event the Contracting

Officer arranges for such removals, alterations, or relocations to be performed by others, the Contractor shall cooperate with such others during the latters' removal, alteration, or relocation operations.

### 1.3 DAMAGE TO WORK.

The responsibility for damage to any part of the permanent work shall be as set forth in the Contract Clause entitled "Permits and Responsibilities." However, if in the judgment of the Contracting Officer any part of the permanent work performed by the Contractor is damaged by flood or earthquake, 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 or job prices as fixed and established in the contract. If in the opinion of the Contracting Officer there are no contract unit or lump sum prices applicable to any part of such work, an equitable adjustment pursuant to the Contract Clause entitled, "Changes," of the contract will be made as full compensation for the repairs of that part of the permanent work for which there are no applicable contract unit or lump sum prices. 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.

### 1.4 QUANTITY SURVEYS

The Contractor shall have a Professional Land Surveyor registered in the state the work is being accomplished conduct original and final earthwork surveys. Surveys shall be performed in the presence of the Contracting Officer and all field survey notes be initialed by the Government Representative and furnished to the Government within 24 hours unless directed otherwise by the Contracting Officer.

### 1.5 PARTIAL PAYMENT

At the discretion of the Contracting Officer, partial payment will be made for equipment delivered and stored on site or off site providing such storage is in accordance with the provisions of these specifications and the Contractor furnishes satisfactory evidence that title to such equipment has been acquired and that it will be utilized on the work covered by these specifications. Partial payment is defined as the invoice amount plus shipping costs. If the equipment is stored off site, the Government shall have the right to inspect the equipment.

### 1.6 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall include the signature and title of an official authorized to certify in 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 responsibility for furnishing satisfactory material if, after tests are performed on selected samples, the material is found not

to meet the specific requirements.

#### 1.7 PURCHASE ORDERS

Purchase orders for other than stock materials showing the firm names and addresses and list of material shall be furnished to the Contracting Officer or an authorized representative as soon as issued.

#### 1.8 SAFETY AND HEALTH REQUIREMENTS MANUAL EM 385-1-1

The Safety and Health Requirements Manual EM 385-1-1 forms a part of these specifications. EM 385-1-1 and its changes are available at <http://www.publications.usace.army.mil/USACEPublications/Engineer-Manuals/>. Contractor shall be responsible for complying with the current edition and all changes posted on the web as of the effective date of this solicitation.

#### 1.9 ACCIDENT INVESTIGATIONS AND REPORTING

Refer to EM 385-1-1, Paragraph 01.D. Accidents, involving contractor and/or subcontractor employees performing any work or related work on a USACE project, shall be investigated and reported immediately to the Contracting Officer or authorized Contracting Officer's representative. This reporting requirement applies to on-site or off-site accidents. Upon receipt of the initial accident report notification, the Contracting Officer shall issue additional guidance concerning continuing project operations which may include a "cease work" directive. If a cease work directive is issued, the Contractor will not be allowed to resume work related to the accident until all conditions of the "cease work" directive are met. After the initial notification, the Contractor shall ensure a formal investigation is conducted and reports are completed by the immediate supervisor of the employee(s) involved and reported to the Contracting Officer or an authorized representative within one working day after the accident occurs. The accident Investigation report shall be made on ENG Form 3394.

#### 1.10 ACCIDENT PREVENTION PROGRAM

Refer to Contract Clause FAR 52.236-13 entitled, "Accident Prevention". Within 15 days after receipt of Notice of Award of the contract, and at least 7 days prior to the prework conference, the Accident Prevention Program shall be submitted in RMS to the Contracting Officer for review. See EM 385-1-1 Appendix A (2014 Edition) and checklist included at the end of this section for guidance in creating the Accident Prevention Plan.

The program shall also include a copy of company policy statement of accident prevention and any other guidance statements normally provided new employees. Each company employee shall be required to sign the company policy statement of accident prevention to verify that all employees have been informed of the safety program, and such signed statements shall be maintained at the project site.

When marine plant and equipment are in use under this contract, the requirements of EM 385-1-1, Section 19 shall be met.

The Contractor shall not commence physical work at the site until the program has been reviewed and found acceptable by the Contracting Officer, or an authorized representative. The Contractor shall submit for approval the Activity Hazard Analysis for each phase of construction prior to the

beginning of work in each phase. Also refer to Section 1 of EM 385-1-1.

#### 1.11 DAILY INSPECTIONS

The Contractor shall perform daily safety inspections and record them in RMS. Reports of daily inspections shall be maintained at the job site. The reports shall be records of the daily inspections and resulting actions. Each report shall include, as a minimum, the following:

- a. Phase(s) of construction underway during the inspection.
- b. Locations of areas inspections were made.
- c. Results of inspection, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

#### 1.12 ENVIRONMENTAL LITIGATION

- a. If the performance of all or any part of the work is ordered by a court of competent jurisdiction to be suspended, delayed, or interrupted 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 not required by the terms of this contract. If it is determined that 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 the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Contracting Officer in the administration of this contract under the terms of the Contract Clause entitled "Suspension of Work".
- b. The term "environmental litigation", as used herein, means a lawsuit alleging that the work will have 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.

#### 1.13 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

- a. This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled, "Default (Fixed-Price Construction)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:
  - (1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.
  - (2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.
- b. Upon acknowledgement of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily CQC report, the occurrence of adverse weather and resultant impact to

normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The delay must be beyond the control and without the fault or negligence of the Contractor. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous day), be calculated chronologically from the first to the last day of each month, and be recorded as full days. The Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a time extension modification in accordance with the FAR Clause 52.249-10 entitled "Default (Fixed Price Construction)".

#### 1.14 RIVER STAGE LIMITATIONS

The Contractor should be aware that high river levels may cause work delays. The Contractor is responsible for becoming familiar with expected flow rates and river stages, and should monitor river forecasts and weather forecasts. If river levels are forecasted such that they are expected to impact work, the Government will direct the Contractor to stop work and/or remove floating plant from site and moor plant off site.

#### 1.15 SUBCONTRACTS

In accordance with the Contract Clause entitled "Subcontracts", the Contractor shall, within seven days after the award of any subcontract by the Contractor or a Subcontractor, deliver to the Contracting Officer an electronic copy of a completed Standard Form 1413 with the original signatures of both parties.

#### 1.16 REQUIRED INSURANCE - WORK ON A NON-GOVERNMENT INSTALLATION.

a. The Contractor shall, at its own expense, provide and maintain during the entire performance period of this contract at least the kinds and minimum amounts of insurance required in the following schedule:

(1) Workmen's Compensation. Amounts required by applicable jurisdictional statutes.

(2) Employer's Liability Insurance. \$100,000

(3) Comprehensive General Liability Insurance.

Bodily Injury - \$500,000 per occurrence

(4) Comprehensive Automobile Insurance.

Bodily Injury - \$200,000 each person  
\$500,000 each accident  
Property Damage - \$ 20,000 each accident

b. Within 15 days after receipt of Notice of Award and before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is



to be performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

c. The Contractor shall insert the substance of this clause, including this paragraph c, in subcontracts under this contract and shall require subcontractors to provide and maintain the insurance required in paragraph a above. The Contractor shall maintain a copy of all subcontractor's proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

d. Statements of required insurance should be submitted electronically or to the following address:

Department of the Army  
St. Louis District, Corps of Engineers  
Southern Area Office, CEMVS-EC-CS  
113 West Main Street, Suite 3  
Jackson, Missouri 63755

#### 1.17 PROTECTION OF MATERIAL AND WORK

The Contractor shall at all times protect and preserve all materials, supplies, and equipment of every description (including property which may be Government-furnished or owned) and all work performed. All reasonable requests of the Contracting Officer to enclose or specially protect such property shall be complied with. If, as determined by the Contracting Officer, material, equipment, supplies, and work performed are not adequately protected by the Contractor, such property may be protected by the Government and the cost thereof may be charged to the Contractor or deducted from any payments due to the Contractor.

#### 1.18 CONTAMINATION OF WATER

In addition to the requirements set forth in SECTION 01 11 30, paragraph Protection of Water Resources, the Contractor shall take positive protective measures to prevent spillage of potential pollutant materials such as fuel, emulsion materials, chemicals etc., from storage containers or equipment, into lakes or tributary waters. Such positive protective measures may include, but are not limited to, the following:

- (1) A berm enclosure of sufficient capacity to contain such materials.
- (2) Security measures to prevent acts of vandalism which could result in spillage of such materials (fences, guards, etc.).
- (3) Storage of such materials in an area where the terrain would preclude leakage into lake or tributary waters.
- (4) Utilization of secure Government storage areas if the Contracting Officer indicates such space is available. No storage past immediate needs (2 days) without the consent of the Contracting Officer.

The Contractor shall submit its proposals for implementing the above provisions in accordance with SECTION 01 11 30, paragraph Environmental Protection Plan.

#### 1.19 COMMERCIAL WARRANTY

The Contractor agrees that the standard commercial equipment furnished under this contract shall be covered by the most favorable commercial warranties the manufacturer gives to any customer for such equipment, and that the rights and remedies provided herein are in addition to and do not limit any rights afforded to the Government by any other clause of this contract. The Contractor shall furnish an electronic copy of the warranties to the Contracting Officer.

#### 1.20 ORDER AND COORDINATION OF WORK

The Contractor may start and complete the work in such order and sequence as desired subject to compliance with the following paragraphs:

a. No tree clearing is anticipated. No tree removal shall occur unless specifically authorized by the Contracting Officer. Should tree clearing be necessary, all tree clearing resulting from the USACE action will occur during the inactive season from November 1 to March 31 unless presence/probable absence survey results were obtained for the action area through appropriate bat surveys approved by the U.S. Fish and Wildlife Services to minimize effects to currently listed bats within the project area.

b. No bald eagle nests are currently known to exist in the vicinity of the construction area; however, if bald eagle nesting activity is observed during construction activities, contractor must report observations immediately to Contracting Officer to ensure no disturbance occurs within 660 feet.

#### 1.21 SUBMITTALS

Additional submittals for this contract that are not listed within individual technical provisions are listed below. 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

Accident Prevention Program; G  
Statements of Required Insurance; G

##### SD-06 Test Reports

Ledge Testing; G

#### 1.22 MEANS OF ESCAPE FOR PERSONNEL QUARTERED OR WORKING ON FLOATING PLANT

Two 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 9 or fewer persons are involved, one of the means of escape may be a window (minimum dimensions 24-inch by 36-inch) which leads to a different exit route. Refer to Section 19 of EM 385-1-1.

#### 1.23 EMERGENCY ALARMS AND SIGNALS

a. 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 strategic point on each deck.

b. Signals.

(1) Fire Alarm Signals. The general fire alarm signal shall be in accordance with para 97.13-15b of the Coast Guard Rules and Regulations for Cargo and Miscellaneous Vessels, Subchapter I, 1 Sep 77 (CG 257).

(2) Abandon Ship Signals. The signal for abandon ship shall be in accordance with paragraph 97.13-15c of reference cited in (1) above.

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

c. Mooring Lines. Eye loops on mooring lines will be equipped with becketts or handling ropes to protect the hands of deckhands.

#### 1.24 USE OF MECHANIZED EQUIPMENT ON FLOATING PLANT

When mechanized equipment is operated on floating plant the Contractor shall provide positive and acceptable means of preventing this equipment from moving or falling into the water. The type of equipment addressed by this clause includes front-end loaders, bulldozers, trucks (both on- and off-road), backhoes, track hoes, and similar equipment. If the Contractor plans to use such equipment on floating plant, an Activity Hazardous Analysis must be developed for this feature of work. The plan must include a detailed explanation of the type or types of physical barriers, curbs, structures, etc., which will be incorporated to protect the operator and prevent the equipment from entering the water. Nonstructural warning devices may be considered for situations where the use of structural barriers is determined to be impracticable. The Activity Hazard Analysis must thoroughly address the procedure and shall be submitted to the Contracting Officer for review and acceptance prior to start of this feature of work.

#### 1.25 OBSTRUCTION OF NAVIGABLE WATERWAYS (DEC 1991) DFARS 252.236-7002

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.).

#### 1.26 SIGNAL LIGHTS

The Contractor shall display signal lights and conduct its operations in accordance with the General Regulations of the Department of the Army and of the Coast Guard governing lights and day signals to be displayed by towing vessels with tows on which no signals can be displayed, vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe in submarine or bank protection operations, lights to be displayed on dredge pipe lines, and day signals to be displayed by vessels of more than 65 feet in length moored or anchored in a fairway or channel, and the passing by other vessels of floating plant working in navigable channels, as set forth in Commandant U.S. Coast Guard Instruction M16672.2, Navigation Rules: International-Inland (Comdtinst M16672.2) or 33 CFR 81 Appendix A (International) and 33 CFR 84 through 33 CFR 89 (Inland) as applicable.

#### 1.27 INSPECTION FACILITIES

a. In order to facilitate inspection, the Contractor will be required, without additional cost to the Government:

(1) To furnish, on the request of the Contracting Officer or any inspector, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the plant as may be reasonably necessary in inspecting the work.

(2) To furnish, on the request of the Contracting Officer or any inspector, suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant.

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 the Contractor.

#### 1.28 STONE SOURCES

a. On the basis of information and data available to the Contracting Officer, stone meeting the quality requirements of these specifications has been produced from the sources listed at the end of these Special Clauses.

b. Stone may be furnished from any of the currently listed sources or, at the option of the Contractor, may be furnished from any other source designated by the Contractor and accepted by the Contracting Officer, subject to the conditions hereinafter stated.

c. It is the Contractor's responsibility to determine that the stone source or combination of sources selected are capable of supplying the quantities and gradation needed and at the rate needed to maintain the scheduled progress of the work.

d. After the award of the contract, the Contractor shall designate in writing only one source or one combination of sources from which stone will be furnished. If the Contractor proposes to furnish stone from a source not currently listed, only a single additional source for stone may be designated. Samples for acceptance testing shall be provided as required by SECTION 32 22 73.22. If a source for stone so designated by the Contractor is not accepted for use by the Contracting Officer, the Contractor may not propose other sources but shall furnish the stone from a source listed at no additional cost to the Government.

e. Acceptance of a source of stone is not to be construed as acceptance of all material from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels when such materials are unsuitable for stone as determined by the Contracting Officer. Materials produced from a listed or unlisted source shall meet all the requirements of SECTION 32 22 73.22, of the Technical Provisions of these specifications.

f. If the Contractor proposes to furnish stone from a source or sources listed, he shall submit Department of transportation ledge testing information from within the past 12 months. Selected ledge or ledges for producing crushed stone shall meet the following MINIMUM requirements: Stone shall weigh more than 155 lbs/cubic foot. The stone shall also have an absorption less than 2 percent. The Contractor shall also schedule a site visit to the quarry to inspect the proposed ledge(s) that stone will be produced. The Government shall be included in the scheduling of the site visit and a minimum 72-hour notice shall be given.

#### 1.29 CONTRACTOR PERFORMANCE EVALUATIONS

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 \$100,000.00, the USACE will evaluate contractor's performance and prepare a performance report using the Contractor Performance Assessment Reporting System (CPARS), which is 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 CPARS 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.navy.mil/>. If the Contractor wishes to participate in the performance evaluation process, access to CPARS and PKI certification is the sole responsibility of the Contractor.

#### 1.30 SECURITY REQUIREMENTS

The security requirements described below apply to all contract personnel (including employees of the prime Contractor ("Contractor") and all subcontractor employees) supporting the performance requirements of this contract. The Contractor is responsible for compliance with these security requirements. Questions regarding security matters shall be addressed to the designated Government representative (e.g.o Contracting Officer Representative (COR). Requiring Activity (RA) representative. or Contracting Officer (if a COR or other RA representative is not appointed)). Contract personnel are critical to the overall security and safety of US Army Corps of Engineers (USAGE) installations. facilities and activities. and security awareness training contributes to those efforts. The Department of Defense (DoD) and Army security training requirements specified below, if applicable, are performance requirements; all applicable contract personnel shall complete initial training within 30 days of contract award or the date new contract personnel begin performance on the contract. Within five business days from the completion of training, the Contractor shall provide written documentation (e.g.o email or memorandum) to the Government representative. The documentation shall include the names of contract personnel trained and which training they completed; the Contractor shall maintain training records as part of their contract files and be prepared to provide copies of training certificates to the Government representative. Contractor personnel and vehicles are subject to search when entering federal installations. Additionally, all contract personnel shall comply with Force Protection Condition (FPCON) measures, Random Antiterrorism Measures (commonly referred to as "RAMs"), and Health Protection Condition (HPCON) measures. The Contractor is responsible for meeting performance requirements during elevated FPCON and/or HPCON levels in accordance with applicable RA plans and procedures --this includes identifying mission essential and non-mission essential personnel. In addition to the changes otherwise authorized by the changes clause of this contract. should the FPCON or HPCON levels at any individual facility or installation change, the Government may implement security changes that affect contract personnel. The Contractor shall ensure all contract personnel are aware of their security responsibilities. including any site-specific requirements identified in local policies or procedures.

All contract personnel shall receive initial and annual refresher training from the RA representative on the local suspicious activity reporting program. This locally developed training provides contract personnel with general information on suspicious behavior, and guidance on reporting suspicious activity to the project manager, security representative or law enforcement entity.

Contractors shall comply with the requirements set forth in FAR clause

52.222-54 Employment Eligibility Verification and FAR Subpart 22.18 in using the E-Verify Program at (<https://www.e-verify.gov/>) (website subject to change) to meet the contract employment eligibility requirements. Contractors are encouraged to cooperate with Federal and State agencies responsible for enforcing labor requirements to include eligibility for employment under United States immigration laws in accordance with FAR 22.102-1(i). An initial list of verified/ eligible candidates shall be provided to the COR no later than three business days after the initial contract award. When contracts are with individuals, the individuals will be required to complete a Form 1-9, Employment Eligibility Verification, and submit it to the Contracting Officer to become part of the official contract file.

## PART 2 PRODUCTS

Not used.

## PART 3 EXECUTION

Not used.

-- End of Section --

|   |  |  |                     |                    |     |                              |
|---|--|--|---------------------|--------------------|-----|------------------------------|
| <b>U.S.Army Corps of Engineers</b><br><b>Safety Inspection Checklist</b><br><b>Abbreviated Accident Prevention Plan</b>   |  |  |                     | Date of Inspection |     |                              |
| Location (Plant or Facility)  |  |  | Contract Number     |                    |     |                              |
| Contractor Name   |  |  | Project Name        |                    |     |                              |
| Inspector Name (Print)  |  |  | Inspector Signature |                    |     |                              |
| <b><i>This checklist serves as a guide only. It does not replace or eliminate the need to comply with the requirements set forth in Engineering Manual 385-1-1, Safety and Health Requirements Manual, dated XX September 2014. The references included in this checklist correspond to the applicable sections of EM 385-1-1.</i></b>            |  |  |                     |                    |     |                              |
| <b><i>If service, supply and R&amp;D contracts with limited scopes are awarded, the contractor may submit an abbreviated Accident Prevention Plan. This APP shall address the following areas at a minimum. If other areas of the EM 385-1-1 are pertinent to the contract, the contractor must assure these areas are addressed as well.</i></b> |  |  |                     |                    |     |                              |
| Item Description  |  |  | Yes                 | No                 | N/A | Remarks (Any NO or N/A Item) |
| 1. Signature sheet  |  |  |                     |                    |     |                              |
| a. Includes the name, signature, and title of the Plan Preparer (Qualmed person, i.e. corporate safety staff person, QC)  |  |  |                     |                    |     |                              |
| b. Includes the name, signature, and title of the Plan Approver (e.g. owner, company president, regional vice president)  |  |  |                     |                    |     |                              |
| c. Includes the name(s), signature(s), and title(s) for Plan Concurrence (provide concurrence of other applicable corporate and project personnel (contractor))   |  |  |                     |                    |     |                              |
| 2. Background information   |  |  |                     |                    |     |                              |
| a. Includes the Contractor Name.  |  |  |                     |                    |     |                              |
| b. Includes the Contract Number.  |  |  |                     |                    |     |                              |
| c. Includes the Project Name.   |  |  |                     |                    |     |                              |
| d. Includes the Brief Project Description.  |  |  |                     |                    |     |                              |
| e. Includes the Location of the Project (map).  |  |  |                     |                    |     |                              |
| f. Includes a means to evaluate the work being done (see AHA requirements in 01.A.13) and associated hazards involved.  |  |  |                     |                    |     |                              |
| g. Addresses the identified hazards involved and the control measures to be taken.  |  |  |                     |                    |     |                              |
| 3. Statement of Safety and Health Policy detailing their commitment to providing a safe and healthful workplace for all employees.  |  |  |                     |                    |     |                              |
| 4. Responsibilities and Lines of Authorities  |  |  |                     |                    |     |                              |
| a. Includes the identification and job responsibilities of personnel responsible for safety - at both corporate and project level - including their resumes.  |  |  |                     |                    |     |                              |
| b. Includes the lines of authority.   |  |  |                     |                    |     |                              |
| 5. Training- new hire SOH orientation training at the time of initial hire of each new employee and any periodic retraining/recertification requirements  |  |  |                     |                    |     |                              |
| 6. Procedures for job site inspections - assignment of responsibilities and frequency   |  |  |                     |                    |     |                              |



| <b>U.S.Army Corps of Engineers</b><br><b>Safety Inspection Checklist</b><br><b>Abbreviated Accident Prevention Plan</b>   |     |    |     | Date of Inspection           |
|---|-----|----|-----|------------------------------|
| Item Description  | Yes | No | N/A | Remarks (Any NO or N/A item) |
| 7.Procedures for reporting man-hours worked and reporting and investigating any accidents as soon as possible but not more than 24 hours afterwards to the Contracting Officer/Representative (CO/COR)  |     |    |     |                              |
| 8.Emergency Planning. Employees working alone shall be provided an effective means of emergency communication. This may be cellular phone, two-way radio or other acceptable means. The selected means of communication must be readily available and must be in working condition.   |     |    |     |                              |
| 9.Drinking Water provisions, toilet and washing facilities.   |     |    |     |                              |
| 10.First Aid and CPR training (at least two employees on each shift shall be qualified/certified to administer first aid and CPR) and provision of first aid kit (types/size).  |     |    |     |                              |
| 11.Personal Protective Equipment  |     |    |     |                              |
| a. Work Clothing - Minimum Requirements. Employees to wear clothing suitable for the weather; minimum requirements for work shall be short-sleeve shirt, long pants (excessively long or baggy pants are prohibited) and leather work shoes. If AHA determines safety-toed (or other protective) footwear is necessary (i.e., mowing, weed eating, chain saw use, etc), they shall be worn. |     |    |     |                              |
| b.Eye and Face Protection. Eye and face protection shall be worn as determined by an analysis of the operations being performed HOWEVER, all involved in chain saw use, chipping,stump grinding, pruning operations, grass mowing, weed eating and blowing operations shall be provided safety eyewear (Z87.1) as a minimum.  |     |    |     |                              |
| c. Hearing Protection. Hearing protection must be worn by all exposed to high noise activities {includes grass mowing/trimming, chainsaw operations, tree chipping, stump grinding and pruning)   |     |    |     |                              |
| d.Head Protection. Hard hats shall comply with ANSI Z89.1 and shall be worn by all workers when a head hazard exists. At a minimum, hard hats shall be worn when performing activities identified in {b) above  |     |    |     |                              |
| e.High Visibility Apparel shall comply with ANSI/ISEA 107, Class 2 requirements at a minimum and shall be worn by all workers exposed to vehicular or equipment traffic.  |     |    |     |                              |
| f.Protective Leg chaps shall be worn by all chainsaw operators.   |     |    |     |                              |
| g. Gloves of the proper type shall be worn by persons involved in activities that expose the hands to cuts,abrasions, punctures, burns and chemicalirritants.   |     |    |     |                              |
| h. If work is being performed around water and drowning is a hazard, PFD's must be provided and worn as appropriate.  |     |    |     |                              |
| 12.Machine Guards and safety devices. Lawn maintenance equipment must have appropriate guards and safety devices in place and operational.  |     |    |     |                              |

|   |  |  |  |                    |
|---|--|--|--|--------------------|
| <b>U.S.Army Corps of Engineers</b><br><b>Safety Inspection Checklist</b><br><b>Abbreviated Accident Prevention Plan</b> |  |  |  | Date of Inspection |
|---|--|--|--|--------------------|

| Item Description  | Yes | No | N/A | Remarks (Any NO or N/A Item) |
|---|-----|----|-----|------------------------------|
| 13. Hazardous Substances. When any hazardous substances are procured, used, stored or disposed, a hazard communication program must be in effect and MSDSs shall be available at the worksite. Employees shall have received training in hazardous substances being used. When the eyes or body of any person may be exposed to corrosives, irritants or toxic chemicals, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within 10 seconds of the worksite. |     |    |     |                              |
| 14. Traffic control shall be accomplished in accordance with DORs MUTCD.  |     |    |     |                              |
| 15. Control of Hazardous Energy (Lockout/Tagout). Before an employee performs any servicing or maintenance on any equipment where the unexpected energizing or startup of the equipment could occur, procedures must be in place to ensure adequate control of  |     |    |     |                              |
| 16. Driving, working on (i.e., working with equipment/mowers) while on slopes, working from/in boats/skiffs, etc shall also be considered and dealt with accordingly.   |     |    |     |                              |

Other Remarks

**Form A-02**  
**U.S. Army Corps of Engineers**  
**Accident Prevention Plan Checklist**

Date of Inspection

|                              |                     |
|------------------------------|---------------------|
| Location (Plant or Facility) | Contract Number     |
| Contractor Name              | Project Name        |
| Inspector Name (Print)       | Inspector Signature |

***This checklist serves as a guide only, it does not replace or eliminate the need to comply with the requirements set forth in Engineering Manual 385-1-1, Safety and Health Requirements Manual, dated XX Sept 2014. The references included in this checklist correspond to the applicable sections of EM 385-1-1.***

| Item Description   | Yes | No | N/A | Remarks (Any NO or N/A item) |
|--|-----|----|-----|------------------------------|
| <b>1. Signature sheet</b>  |     |    |     |                              |
| a. Includes the name, signature, and title of the Plan Preparer ( <i>Qualified person, i.e. corporate safety staff person, QC</i> )  |     |    |     |                              |
| b. Includes the name, signature, and title of the Plan Approver ( <i>e.g. owner, company president, regional vice president</i> ) (HTRW activities require approval of a Certified Industrial Hygienist, a Certified Safety Professional may approve the plan for operations involving UST removal where contaminants are known to be petroleum, oils, or lubricants). |     |    |     |                              |
| c. Includes the name(s), signature(s), and title(s) for Plan Concurrence (provide concurrence of other applicable corporate and project personnel (contractor)) ( <i>e.g. Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC.</i> )                            |     |    |     |                              |
| <b>2. Background information</b>   |     |    |     |                              |
| a. Includes the Contractor Name.   |     |    |     |                              |
| b. Includes the Contract Number.   |     |    |     |                              |
| c. Includes the Project Name.  |     |    |     |                              |
| d. Includes the Brief Project Description.   |     |    |     |                              |
| e. Includes the Location of the Project (map).   |     |    |     |                              |
| f. Includes the Contractor Accident Experience ( <i>Copy of OSHA 300</i> )   |     |    |     |                              |
| g. Includes the Listing of Phases of Work and Hazardous Activities Requiring an Activity Hazard Analyses (AHA).  |     |    |     |                              |
| 3. Statement of Safety and Health Policy. Includes a copy of the corporate safety policy. ( <i>In addition to the corporate policy statement, a copy of the corporate safety program may provide a portion of the information required by the accident prevention</i> )  |     |    |     |                              |
| <b>4. Responsibilities and Lines of Authorities</b>  |     |    |     |                              |
| a. Includes the identification and job responsibilities of personnel responsible for safety - at both corporate and project level – including their resumes.   |     |    |     |                              |
| b. Includes the lines of authority.  |     |    |     |                              |

| <b>Form A-02</b><br><b>U.S. Army Corps of Engineers</b><br><b>Accident Prevention Plan Checklist (cont'd)</b>   |     |    |     | Date of Inspection           |
|---|-----|----|-----|------------------------------|
| Item Description  | Yes | No | N/A | Remarks (Any NO or N/A item) |
| <b>5. Training</b>  |     |    |     |                              |
| a. Includes the list of subjects to be discussed with employees at safety indoctrination.   |     |    |     |                              |
| b. Includes the list of mandatory training and certifications applicable to this project ( <i>e.g., explosive actuated tools, confined space entry, crane operator, diver, vehicle operator, HAZWOPER training and certification, PPE</i> ) and any requirements for periodic retraining / recertification. |     |    |     |                              |
| c. Includes the identity requirements for emergency response training.  |     |    |     |                              |
| d. Includes the outline requirements ( <i>who attends, when given, who will conduct, etc.</i> ) for supervisory and employee safety   |     |    |     |                              |
| <b>6. Safety and Health Inspections</b>   |     |    |     |                              |
| a. Includes the name(s) of individual(s) responsible for conducting safety inspections. ( <i>e.g., PM, safety professional, QC, supervisors, employees</i> )  |     |    |     |                              |
| b. Includes proof of inspector's training / qualifications.   |     |    |     |                              |
| c. Indicates when inspections will be conducted.  |     |    |     |                              |
| d. Furnished sample forms upon which inspections will be recorded.  |     |    |     |                              |
| e. Indicates deficiency tracking system and follow-up procedures.   |     |    |     |                              |
| f. Includes the names of competent and / or qualified person(s) and proof of competency / qualification to meet specific OSHA competent / qualified person(s) requirements.   |     |    |     |                              |
| g. Includes any external inspections / certifications which may be required. ( <i>e.g., US Coast Guard</i> )  |     |    |     |                              |
| <b>7. Safety and Health Expectations, Incentive Programs, and Compliance</b>  |     |    |     |                              |
| a. Includes the company's written safety program goals, objectives, and accident experience goals.  |     |    |     |                              |
| b. Includes a brief description of the company's safety incentive programs ( <i>if any</i> ).   |     |    |     |                              |
| c. Includes the policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements).  |     |    |     |                              |
| d. Includes the written company procedures for holding managers and supervisors accountable for safety.   |     |    |     |                              |
| <b>8. Mishap Reporting</b>  |     |    |     |                              |
| a. The plan identifies how, when, and who shall complete the Exposure data (man-hours worked).  |     |    |     |                              |
| b. The plan identifies how, when, and who shall complete mishap investigations, reports, and logs.  |     |    |     |                              |
| c. The plan identifies how, when, and who shall make immediate notification of major mishaps.   |     |    |     |                              |

| <b>Form A-02</b><br><b>U.S. Army Corps of Engineers</b><br><b>Accident Prevention Plan Checklist (cont'd)</b>  |     |    |     | Date of Inspection           |
|--|-----|----|-----|------------------------------|
| <i>Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks and compliance plans. Using the EM 385-1-1 as a guide, plans may include but not be limited to:</i>   |     |    |     |                              |
| Item Description   | Yes | No | N/A | Remarks (Any NO or N/A item) |
| 9. Plans (Programs, Procedures) required by the Safety Manual  |     |    |     |                              |
| a. Fatigue Management Plan (01.A.20)   |     |    |     |                              |
| b. Emergency response plans:   |     |    |     |                              |
| (1) Procedures & Test (01.E.01)  |     |    |     |                              |
| (2) Spill Plans (01.E.01, 06.A.02)   |     |    |     |                              |
| (3) Fire Fighting Plan (01.E.01; 19.A)   |     |    |     |                              |
| (4) Posting of Emergency Telephone Numbers (01.E.05)   |     |    |     |                              |
| (5) Man overboard/abandon ship (19.A.04)   |     |    |     |                              |
| (6) Medical Support. Outline on-site medical support and off-site medical arrangements including rescue and medical duties for those employees who are to perform them, and the name(s) of on-site Contractor personnel trained in first aid and CPR. A minimum of two employees shall be certified in CPR and first-aid per shift/site (Section 03.A; 03.D) |     |    |     |                              |
| c. Plan for prevention of alcohol and drug abuse (01.C.02)   |     |    |     |                              |
| d. Site Sanitation Plan (Section 02.B)   |     |    |     |                              |
| e. Medical Support Plan, (03.A.01; <u>03.A.06</u> ; 03.D)  |     |    |     |                              |
| f. Bloodborne Pathogen Plan (03.A.05)  |     |    |     |                              |
| g. Exposure Control Plan (03.A.05)   |     |    |     |                              |
| h. Site Layout Plan (04.A)   |     |    |     |                              |
| i. Access/Haul road Plan (04.B)  |     |    |     |                              |
| j. Hearing Conservation Program (05.C)   |     |    |     |                              |
| k. Respiratory Protection Plan (05.G)  |     |    |     |                              |
| l. Health Hazard Control Program (06.A)  |     |    |     |                              |
| m. Process Safety Management Plan (06.B.04)  |     |    |     |                              |
| n. Lead Abatement Plan (06.C & Specs)  |     |    |     |                              |
| o. Asbestos Abatement Plan (06.C & Specs)  |     |    |     |                              |
| p. Radiation Safety Program (06.F)   |     |    |     |                              |
| q. Abrasive Blasting Plan (06.I)   |     |    |     |                              |
| r. Heat/Cold Stress Monitoring Plan (06.J)   |     |    |     |                              |
| s. Indoor Air Quality Management Plan (06.L)   |     |    |     |                              |
| t. Mole Remediation Plan (06.L.04)   |     |    |     |                              |
| u. Chromium (VI) Exposure Evaluation (06.M)  |     |    |     |                              |
| v. Crystalline Silica Assessment (06.N)  |     |    |     |                              |
| w. Lighting Evaluation (07.A)  |     |    |     |                              |
| x. Lighting Plan for Night Operations (07.A.09)  |     |    |     |                              |

| <b>Form A-02</b><br><b>U.S. Army Corps of Engineers</b><br><b>Accident Prevention Plan Checklist (cont'd)</b>  |     |    |     | Date of Inspection           |
|--|-----|----|-----|------------------------------|
| <i>Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks and compliance plans. Using the EM 385-1-1 as a guide, plans may include but not be limited to:</i> |     |    |     |                              |
| Item Description   | Yes | No | N/A | Remarks (Any NO or N/A item) |
| 9. Plans (Programs, Procedures) continued.   |     |    |     |                              |
| y. Traffic Control Plan (08.C.05)  |     |    |     |                              |
| z. Fire Prevention Plan (09.A.01)  |     |    |     |                              |
| aa. Wild Land Fire Management Plan (09.L)  |     |    |     |                              |
| bb. Arc Flash Hazard Analysis (11.B)   |     |    |     |                              |
| cc. Assured Equipment Grounding Control Program (AEGCP), (11.D.05, App D)  |     |    |     |                              |
| dd. Hazardous Energy Control Plan, (12.A.01)   |     |    |     |                              |
| ee. Standard Pre-Lift Plan (LHE) (16.A.03, 16.L.15)  |     |    |     |                              |
| ff. Critical Lift Plan – LHE (16.H)  |     |    |     |                              |
| gg. Naval Architectural Analysis (16.L)  |     |    |     |                              |
| hh. Contingency Plan for Severe Weather (19.A.03)  |     |    |     |                              |
| ii. Man Overboard/Abandon Ship (19.A.04)   |     |    |     |                              |
| jj. Float Plan (19.F.04)   |     |    |     |                              |
| kk. Fall Protection Program, (21.D);   |     |    |     |                              |
| ll. Demolition/Renovation Plan (to include engineering survey), (23.A.02)  |     |    |     |                              |
| mm. Rope Access Program, (24.H.02)   |     |    |     |                              |
| nn. Excavation/Trenching Plan, (25.A.01)   |     |    |     |                              |
| oo. Underground construction fire prevention and protection Plan, (26.D.01)  |     |    |     |                              |
| pp. Compressed Air Plan, (26.I.01)   |     |    |     |                              |
| qq. Formwork and Shoring Erection and Removal plan, (27.C)   |     |    |     |                              |
| rr. PreCast Concrete Plan, (27.D)  |     |    |     |                              |
| ss Lift. slab plans, (27.E)  |     |    |     |                              |
| tt. Masonry Bracing Plan, (27.F.01)  |     |    |     |                              |
| uu. Steel Erection Plan, (28.B)  |     |    |     |                              |
| vv. Explosives Safety Site Plan (ESSP) (29.A)  |     |    |     |                              |
| ww. Blasting Plan, (29.A; 26.J)  |     |    |     |                              |
| xx. Underwater Dive Operations Plan, (30.A.14, 16, )   |     |    |     |                              |
| yy. Tree Felling/Maintenance Program, (31.A)   |     |    |     |                              |
| zz. Aircraft/Airfield Construction Safety & Phasing Plan, (32.A.02)  |     |    |     |                              |
| aaa. Site Safety and Health Plan (HTRW), (33.B)  |     |    |     |                              |
| bbb. Confined Space Entry Program, (34.A.06, 07)   |     |    |     |                              |
| 10. Risk Management Processes. Detailed project-specific hazards shall be identified and controls provided via Activity Hazard   |     |    |     |                              |

Other Remarks:

FIGURE 1-2

Activity Hazard Analysis (AHA)

|  |   |                         |        |              |                         |          |
|--|---|-------------------------|--------|--------------|-------------------------|----------|
| Activity/Work Task:<br>_____   | Overall Risk Assessment Code (RAC) (Use highest code)   |                         |        |              |                         |          |
| Project Location:<br>_____   | Risk Assessment Code (RAC) Matrix   |                         |        |              |                         |          |
| Contract Number:<br>_____  | Severity  | Probability             |        |              |                         |          |
| Date Prepared:<br>__/__/____   |   | Frequent                | Likely | Occasional   | Seldom                  | Unlikely |
| Prepared by (Name/Title):<br>_____   | Catastrophic  | E                       | E      | H            | H                       | M        |
|  | Critical  | E                       | H      | H            | M                       | L        |
| Reviewed by (Name/Title):<br>_____   | Marginal  | H                       | M      | M            | L                       | L        |
|  | Negligible  | M                       | L      | L            | L                       | L        |
| Notes: (Field Notes,<br>Review Comments, etc.)   | Step 1: Review each "Hazard" with identified safety "Controls". Determine RAC (See above)   |                         |        |              |                         |          |
|  | Probability: likelihood the activity will cause a Mishap (near miss, incident or accident). Identify as Frequent, Likely, Occasional, Seldom or Unlikely. |                         |        |              | RAC Chart               |          |
|  | Severity: the outcome if a mishap occurred. Identify as Catastrophic, Critical, Marginal, or Negligible   |                         |        |              | E = Extremely High Risk |          |
|  |   |                         |        |              | H = High Risk           |          |
|  |   |                         |        |              | M = Moderate Risk       |          |
| Step 2: Identify the RAC (probability vs. severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA. |   |                         |        | L = Low Risk |                         |          |
| Job Steps  | Hazards   | Controls                |        |              |                         | RAC      |
| 1.<br>2.   | 1.<br>2.  | 1.<br>2.                |        |              |                         | 1.<br>2. |
| Equipment to be Used   | Training Requirements & Competent or Qualified Personnel name(s)  | Inspection Requirements |        |              |                         |          |



## STONE SOURCES

## ST. LOUIS DISTRICT

| Source |  |       |      |       |
|--------|--|-------|------|-------|
| No.    | Producer   | MRM*  | Lat. | Long. |
| 1.     | Tower Rock Stone Co., Ste Genevieve MO.          | 127.6 | 38N  | 90W   |
| 2.     | Plattin Quarry, Ste. Genevieve, MO.              | 139.0 | 38N  | 90W   |
| 3.     | Mississippi Lime Quarry, Ste. Genevieve, MO.     | 155.0 | 38N  | 90W   |
| 4.     | Barnhart Limestone Inc., Barnhart, MO.           | 156.0 | 38N  | 90W   |
| 5.     | Bussen Quarry, St. Louis County, MO.             | 168.0 | 38N  | 90W   |
| 6.     | Bellefontaine Quarry,<br>Fort Bellefontaine, MO. | 8.0** | 38N  | 90W   |
| 7.     | Fort Belle Quarry, Ft. Bellefontaine, MO.        | 7.0** | 38N  | 90W   |
| 8.     | Calhoun Quarry, Batchtown, IL.                   | 241.0 | 38N  | 90W   |
| 9.     | Wayne Smith Quarry, Louisiana, MO.               | 281.0 | 39N  | 91W   |
| 10.    | Anna Quarry, Anna, IL.                           |       | 37N  | 89W   |
| 11.    | Bussen Quarry, Eureka, MO.                       |       | 38N  | 90W   |
| 12.    | Callender Quarry, Pittsfield, IL.                |       | 39N  | 90W   |
| 13.    | Central Stone Quarry #1, Huntington, MO.         |       | 39N  | 91W   |
| 14.    | Central Stone Quarry #9, Perry, MO.              |       | 39N  | 91W   |
| 15.    | Central Stone Quarry #33, Florence, IL.          |       | 39N  | 91W   |
| 16.    | Columbia Quarry Co. #15, Cypress, IL.            |       | 37N  | 89E   |
| 17.    | Charleston Stone Co., Charleston, IL.            |       | 39N  | 88W   |
| 18.    | Columbia Quarry #1, Columbia, IL.                |       | 38N  | 90W   |
| 19.    | Columbia Quarry #9, Dupo, IL.                    |       | 38N  | 90W   |
| 20.    | Falling Spring Quarry Co., Falling Springs, IL.  |       | 38N  | 90W   |

| Source |   |       |      |       |
|--------|---|-------|------|-------|
| No.    | Producer  | MRM*  | Lat. | Long. |
| 21.    | Magruder Quarry, Troy, MO.                        |       | 38N  | 90W   |
| 22.    | Magruder Quarry, Foley, MO.                       |       | 39N  | 90W   |
| 23.    | Fred Weber Inc., Winfield MO.                     |       | 38N  | 90W   |
| 24.    | Bluff City Mineral, E. Alton, IL.                 |       | 38N  | 90W   |
| 25.    | Columbia Quarry Co. #7, Waterloo, IL.             |       | 38N  | 90W   |
| 26.    | Seminole Ag. Lime Co., Dexter, MO.                |       | 37N  | 90W   |
| 27.    | S-S-S Inc., New London, MO.                       |       | 39N  | 91W   |
| 28.    | Southeast Missouri Stone Co., Cape Girardeau, MO. |       | 37N  | 89W   |
| 29.    | Base Rock Mineral, Bonne Terre, MO.               |       | 37N  | 90W   |
| 30.    | Williamsville Stone Co., Poplar Bluff, MO.        |       | 36N  | 90W   |
| 31.    | Nokomis Quarry, Nokomis, IL.                      |       | 39N  | 89W   |
| 32.    | Brickeys Quarry, Bloomsdale, MO.                  | 135.8 | 38N  | 90W   |
| 33.    | Martin Marietta Aggregate, Perryville, MO.        |       | 37N  | 89W   |
| 34.    | Ashley Quarry, Magruder Limestone, Troy, MO       |       | 39N  | 91W   |
| 35.    | Buncombe Quarry, Marion, IL                       |       | 37N  | 88W   |
| 36.    | Cave-In-Rock Quarry, Cave in Rock, IL             |       | 37N  | 88W   |
| 37.    | Shawnee Stone, LLC, Cypress, IL                   |       | 37N  | 89W   |
| 38.    | Heartland Materials, Jackson, MO                  |       | 37N  | 89W   |
| 39.    | Cane Creek Stone LLC, Butler County, MO           |       | 36N  | 90W   |
| 40.    | Fruitland Quarry, Cape Girardeau County, MO       |       | 37N  | 89W   |
| 41.    | Arab Aggregates, LLC, Zalma, MO                   |       | 37N  | 90W   |
| 42.    | Shook Quarry, Shook, MO                           |       | 37N  | 89W   |
| 43.    | Lodi Quarry, Lodi, MO                             |       | 37N  | 90W   |
| 44.    | Bussen Quarry, St. Genevieve, MO                  |       | 38N  | 90W   |

\* Mississippi River Mile

\*\* Missouri River Mile

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SECTION 01 11 30  
ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements Manual

ER 385-1-80 (2010) Ionizing Radiation Protection

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

40 CFR 261 Identification and Listing of Hazardous Waste

1.2 DEFINITIONS

Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of plant or animal communities; or degrade the environment from an aesthetic, cultural or historic perspective. Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants.

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

Environmental Protection Plan; G

Submit plan detailing Contractor's procedures for complying with all applicable environmental protection regulations and the special requirements of this contract.

Commercial Borrow; G

The Contractor shall submit requirements as stated in paragraph Commercial

Borrow.

#### 1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall comply with all applicable Federal, State, and local laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction.

##### 1.4.1 Protection of Features

This section supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. The Contractor shall prepare a list of features requiring protection under the provisions of the contract clause, which are not specially identified on the drawings as environmental features requiring protection. The Contractor shall protect those environmental features shown specially on the drawings, even if such preservation interferes with the Contractor's work under this contract.

##### 1.4.2 Permits and Special Environmental Requirements

This section supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES. The Contractor shall comply with the terms and conditions of any environmental permits or special environmental requirements which are an outgrowth of environmental commitments made by the Government during the project development. Any special environmental requirements, if applicable, can be found at the end of this section.

##### 1.4.3 Environmental Assessment of Contract Deviations

The Contract specifications have been prepared to comply with the special conditions and mitigation measures of an environmental nature which were established during the planning and development of this project. The Contractor is advised that deviations from the drawings or specifications (e.g., disposal areas, staging areas, alternate access routes, etc.) could result in the requirement for the Government to reanalyze the project from an environmental and cultural resources standpoint. The Contractor must obtain, at his expense, all necessary permits to use alternate sites including, but not limited to, Section 401 and Section 404 of the Clean Water Act, and coordination with the State Historic Preservation Officer regarding Section 106 of the National Historic Preservation Act. 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.

#### 1.5 ENVIRONMENTAL PROTECTION PLAN

Within 15 calendar days of Notice of Award, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Government will consider an interim plan for the first 15 days of operations. However, the Contractor shall furnish an acceptable final plan not later than 30 calendar days after receipt of Notice to

Proceed. The Contractor shall meet with representatives of the Contracting Officer to develop a mutual understanding relative to compliance with this section and administration of the environmental pollution control program. Acceptance is conditional and is predicated upon satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes in the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. The plan shall detail the actions that the Contractor shall take to comply with all applicable Federal, State, and local laws and regulations concerning environmental protection and pollution control and abatement, as well as the additional specific requirements of this contract. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. The environmental protection plan shall include, but not be limited to, the following:

#### 1.5.1 List of State and Local Laws and Regulations

The Contractor shall provide as part of the Environmental Protection Plan a list of all State and local environmental laws and regulations, which apply to the construction operations under the Contract.

#### 1.5.2 Spill Control Plan

The Contractor shall include as part of the environmental protection plan, a Spill Control Plan. The plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by the Emergency Response and Community Right to Know Act or regulated under State or local laws or regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

- a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.
- b. Training requirements for Contractor's personnel and methods of accomplishing the training.
- c. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
- d. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material placement equipment available in case of an unforeseen spill emergency.
- e. The methods and procedures to be used for expeditious contaminant cleanup.
- f. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-801-424-8802) if a reportable quantity spill occurs. The plan shall contain a list of the required reporting channels and telephone numbers.

### 1.5.3 Recycling and Waste Minimization Plan

The Contractor shall submit a Recycling and Waste Minimization Plan as a part of the Environmental Protection Plan. The plan shall detail the Contractor's actions to comply with the following recycling and waste minimization requirements:

- a. The Contractor shall participate in State and local Government sponsored recycling programs to reduce the volume of solid waste materials at the source;
- b. Recovery of metal from debris and sale to recycling operation with Contractor retaining any money derived from sale;
- c. Collection of aluminum cans at the site for recycling.

### 1.5.4 Contaminant Prevention Plan

As a part of the Environmental Protection Plan, the Contractor shall prepare a contaminant prevention statement identifying potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, water, or ground. The Contractor shall detail provisions to be taken to meet Federal, State, and local laws and regulations regarding the storage and handling of these materials.

### 1.5.5 Storm Water Pollution Prevention Plan (SWPPP)

As a part of the Environmental Protection Plan, the Contractor shall prepare a Storm Water Pollution Protection Plan to ensure the design, implementation, management, and maintenance of Best Management Practices (BMP) in order to reduce the amount of sediment and other pollutants in storm water discharges associated with the land disturbance activities; comply with the Water Quality Standards of the state in which the construction activities take place. The SWPPP also ensures compliance with the terms and conditions of the Land Disturbance Permit.

### 1.5.6 Environmental Monitoring

The Contractor shall include in the plan the details of environmental monitoring requirements under the laws and regulations and a description of how this monitoring will be accomplished.

## PART 2 PRODUCTS

Not used.

## PART 3 EXECUTION

### 3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS

#### 3.1.1 Tree Protection

No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized by the Contracting Officer. Where such special use is permitted, the Contractor shall provide



effective protection to prevent damage to the trees and other land and vegetative resources. Unless specifically authorized by the Contracting Officer, no construction equipment or materials shall be placed or used within the dripline of trees shown on the drawings to be saved. No excavation or fill shall be permitted within the dripline of trees to be saved except as shown on the drawings.

#### 3.1.2 U.S. Department of Agriculture (USDA) Quarantined Considerations

The Contractor shall thoroughly clean all construction equipment at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present. The Contractor shall consult with the USDA Plant Protection and Quarantine (USDA PPQ) jurisdictional office for additional cleaning requirements that may be necessary.

#### 3.1.3 Commercial Borrow (IF REQUIRED ON PLANS)

Prior to bringing commercially obtained borrow material onsite, the Contractor shall submit to the Contracting Officer for approval, the following information:

- a. Written evidence of property rights - Signed Agreement.
- b. Soil tests from a Corps validated laboratory.
- c. State Department of Natural Resources land disturbance permits and any other required state or local approvals.
- d. Clean Water Act 401 and 404 permits, if applicable.
- e. USDA Farmland Protection and Farmland Conversion Impact.
- f. Cultural Resource Assessment done by professional, qualified archeologist; Section 106 Review and comments by state DNR.
- g. Endangered species report by independent Professional Biologist submitted to and commented on by both US Fish and Wildlife Service and USACE.
- h. Types and estimated quantities of materials to be obtained from each source.

#### 3.1.4 Disposal of Solid Wastes

Solid waste is rubbish, debris, waste materials, garbage, and other discarded solid materials (excluding clearing debris and hazardous waste as defined in following paragraphs). Solid waste shall be placed in containers and disposed of on a regular schedule. All handling and disposal shall be conducted in such a way as to prevent spillage and contamination. The Contractor shall transport all solid waste off site and dispose of it in compliance with Federal, State, and local requirements unless otherwise specified herein. The Contractor shall comply with Federal, State, and local laws and regulations pertaining to the use of the landfill area.

#### 3.1.5 Debris

Debris is defined as trees, tree stumps, tree trimmings, shrubs, leaves,

vegetative matter, excavated natural materials (e.g., dirt, sand, and rock), and demolition products (e.g., brick, concrete, glass, and metals).

a. The Contractor shall collect trees, tree stumps, tree trimmings, shrubs, leaves, and other vegetative matter and transport off site for proper disposal in compliance with Federal, State, and local requirements unless otherwise specified herein. The Contractor shall segregate the matter where appropriate for proper disposal. Untreated and unpainted scrap lumber may be disposed of with this debris where appropriate.

b. Excavated natural materials shall be transported from the project site for proper disposal in compliance with Federal, State, and local requirements unless otherwise specified herein.

c. Demolition products shall be transported from the project site for proper disposal in compliance with Federal, State, and local requirements unless otherwise specified herein.

#### 3.1.6 Disposal of Contractor Generated Hazardous Wastes

Hazardous wastes are hazardous substances as defined in 40 CFR 261, or as defined by applicable State and local regulations. Hazardous waste generated by construction activities shall be properly labeled, removed from the work area with required manifests, and be disposed of in compliance with Federal, State, and local requirements. Manifests shall be documented with fully executed and signed manifest returned to the Contracting Officer. The Contractor shall segregate hazardous waste from other materials and wastes, and shall protect it from the weather by placing it in a safe covered location; precautionary measures against accidental spillage such as berming or other appropriate measures shall be taken. Hazardous waste shall be removed from the project site within 60 days. Hazardous waste shall not be dumped onto the ground, into storm sewers or open water courses, or into the sanitary sewer system.

#### 3.1.7 Fuels and Lubricants

Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants and waste oil to be discarded shall be stored in marked corrosion resistant containers and recycled or disposed of in accordance with Federal, State, and local laws and regulations.

#### 3.1.8 Nuclear Density Meters

The Contractor shall adhere to the requirements of ER 385-1-80 when in possession of nuclear density meters.

### 3.2 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

#### 3.2.1 Discovered Historic, Archaeological, and Cultural Resources

If during construction activities, items are observed that may have historic or archaeological value (e.g., Native American human remains or associated objects are discovered), such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the

destruction of these resources. The Contractor shall prevent its employees from trespassing on, removing, or otherwise disturbing such resources.

### 3.3 PROTECTION OF WATER RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters.

#### 3.3.1 Wastewater

Wastewater directly derived from concrete construction activities shall not be discharged before being treated to remove pollutants.

### 3.4 PROTECTION OF FISH AND WILDLIFE RESOURCES

The Contractor shall keep construction activities under surveillance, management and control to minimize interference with, disturbance to, and damage of, fish and wildlife.

### 3.5 PROTECTION OF AIR RESOURCES

Special management techniques as set out below shall be implemented to control air pollution by the construction activities. These techniques supplement the requirements of Federal, State, and local laws and regulations; and the safety requirements under this Contract. If any of the following techniques conflict with the requirements of Federal, State, or local laws or regulations, or safety requirements under this contract, then those requirements shall be followed in lieu of the following.

#### 3.5.1 Particulates

Airborne particulates, including dust particles, from construction activities and processing and preparation of materials shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, and all other work areas free from airborne dust which would cause a hazard or nuisance.

#### 3.5.2 Other Air Pollutants

##### 3.5.2.1 Hydrocarbons and Carbon Monoxide

Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and State allowable limits at all times.

##### 3.5.2.2 Odors

Odors shall be controlled at all times for all construction activities, processing and preparation of materials.

### 3.6 INSPECTION

If the Contracting Officer notifies the Contractor in writing of any observed noncompliance with contract requirements or Federal, State, or local laws, regulations, or permits, the Contractor shall inform the Contracting Officer of proposed corrective action and take such action to correct the noncompliance. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the

work until satisfactory corrective action is taken. No time extensions will be granted or costs or damages allowed to the Contractor for any such suspension.

### 3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed pollution control facilities and portable pollution control devices for the duration of the Contract or for the length of time construction activities create the particular pollutant.

### 3.8 TRAINING OF CONTRACTOR PERSONNEL

Contractor personnel shall be trained in environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel monthly. The training and meeting agenda shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, installation and care of facilities (vegetative covers, etc.), and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control. Anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants, shall also be discussed. Other items to be discussed shall include recognition and protection of archaeological sites and artifacts.

### 3.9 EROSION CONTROL

#### 3.9.1 Unprotected Erodible Soils

Earthwork brought to final grade shall be finished as indicated. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in cases where the constructed feature obscures borrow areas, quarries, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the developed areas as approved by the Contracting Officer.

#### 3.9.2 Disturbed Areas

The Contractor shall effectively prevent erosion and control sedimentation through approved methods including, but not limited to, the following:

a. Retardation and Control of Runoff. Runoff from the construction site or from storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, berms, and by any measures required by area wide plans under the Clean Water Act.

b. Erosion and Sedimentation Control Devices. The Contractor shall construct or install temporary and permanent erosion and sedimentation control features as indicated in the Contractor Environmental Protection Plan or as indicated on the drawings. Berms, dikes, drains, grassing, and mulching shall be maintained until permanent drainage and erosion control facilities are completed and operative.

-- End of Section --

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SECTION 01 13 20  
PROJECT SCHEDULE

PART 1 GENERAL

1.1 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required project schedule reports.

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-01 Preconstruction Submittals

Project Schedule; G

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Pursuant to the Contract Clause, SCHEDULE FOR CONSTRUCTION CONTRACTS, a Project Schedule as described below shall be prepared using Primavera P6, Microsoft Project or equivalent. The scheduling of construction shall be the responsibility of the Contractor. Contractor management personnel shall actively participate in its development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate Project Schedule. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

3.2 BASIS FOR PAYMENT

The schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule or scheduling personnel will result in an inability of the Contracting Officer to evaluate the Contractor's progress for the purposes of payment. Failure of the Contractor to provide all information, as specified below, shall result in the disapproval of the entire Project Schedule submission and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. In the case where Project Schedule revisions have been directed by the Contracting Officer, and those revisions have not been included in the Project Schedule, the Contracting Officer may hold retainage up to the maximum allowed by contract, each payment period, until revisions to the Project Schedule have been made.

### 3.3 PROJECT SCHEDULE

The project schedule shall be submitted to the Contracting Officer within 10 days of Notice to Proceed. The schedule shall contain sufficient detail to show the order in which the Contractor proposes to perform the work and shall contain the following features as a minimum:

- a. A separate activity bar shall be created for each of the salient features of work (including acquiring materials, plant, equipment, mobilization, and demobilization).
- b. The start date, completion date, and scheduled percentage complete per month shall be indicated for each activity.
- c. The start date for the contract, which is the date of Notice to Proceed, any contract required interim completion dates, and the required completion date shall be indicated on the schedule and all time between said dates shall be accounted for on the schedule.
- d. The associated contract pay item (CLIN, Contract Line Item Number) shall be indicated for each activity. In addition, the dollar amount for each activity shall be indicated.
- e. A contract earnings schedule shall be included with the Project Schedule indicating the scheduled earnings per month and cumulative earnings through the duration of the contract.
- f. Submission, review, and acceptance of all submittals
- g. Submission and approval of O&M manuals
- h. Submission and approval of as-built drawings
- i. Testing plans and execution of testing
- j. Submission and approval of DD1354 data and installed equipment lists
- k. Quality Control Inspection & punchlist correction
- l. Prefinal Inspection & punchlist correction
- m. Final Inspection

#### 3.3.1 Schedule Updates

The Contractor shall enter the actual progress on the approved progress schedule submit the annotated schedule to the Contracting Officer with each progress payment and/or every 30 days whichever is less. 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 a supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.



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SECTION 01 15 00  
TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

As soon as practicable, but not later than 15 days after the date established for commencement of work, the Contractor shall provide the temporary facilities specified herein. The temporary facilities shall be maintained by the Contractor during the life of the contract and upon completion and acceptance of the work shall be removed from the site of the work.

1.1.1 No Separate Payment

Payment for materials and equipment furnished under this section will not be paid for separately, and all costs in connection therewith shall be included in other items for which payment is provided.

1.2 APPLICABLE PUBLICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements  
Manual

U.S. ARMY CORPS OF ENGINEERS (USACE)

EP 310-1-6A (2006) Sign Standards Manual, VOL 1

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

Access/Haul Road Plan; G

PART 2 PRODUCTS

2.1 TEMPORARY PROJECT AND SAFETY SIGNS

The Contractor shall furnish and erect one temporary project sign and one safety sign at the project site at the location designated by the Contracting Officer. The signs shall conform to the requirements of U.S. Army Corps of Engineers Sign Standard Manual EP 310-1-6A, Section 16

entitled, "Construction Project Signs", Pages 16.1 through 16.4, copies of which are enclosed at the end of this section. If sign is to be placed on a floating plant, it may be half sized. Information will be furnished by the Contracting Officer as to the location and wording of the signs.

#### 2.1.1 Army Star Logo

The graphic format guidance referred to above shall be modified to incorporate the Army Star logo. The Army Star logo dimensions for height and width of are multiples of four high by three wide. For official Army Brand information refer to Army Regulation (AR) 601-208, The Army Brand and Marketing Program, 16 July 2013. Proper incorporation of the Army Star logo in the standard USACE construction project signage is illustrated at the end of the section, last page.

#### 2.2 TEMPORARY PROJECT SAFETY FENCING

The Contractor shall furnish and erect temporary project safety fencing as required by the Safety and Health Requirements Manual EM 385-1-1. The safety fencing shall be a high visibility orange color, HDPE open-weave pattern, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. If required by the Safety Manual, fencing shall meet EPA's recommended recovered materials content levels of 60-100% for Postconsumer Content and 90-100% Total Recovered Materials Content.

### PART 3 EXECUTION

#### 3.1 HAUL ROADS

When haul roads are required, the Contractor shall construct them in accordance with the requirements of the Safety and Health Requirements Manual EM 385-1-1 and submit an access/haul road plan to the Contracting Officer prior to the beginning of construction activities indicating access to the sites and haul roads as necessary.

#### 3.2 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away as directed by the Contracting Officers Representative or designated Government Representative(s).

#### 3.3 RESTORATION OF SITE

Upon completion of the project, areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition at no additional cost to the Government. This includes, but is not limited to, areas used for haul roads and site access, temporary construction storage, and other areas within the construction limits.

-- End of Section --

The use of signs to identify Corps managed or supervised design, construction, and rehabilitation projects - both for military and civil works - is an important part of efforts to keep the public informed of Corps work. For this purpose, a construction project sign package has been adopted. This package consists of two signs: one for project identification and the other to show on-the-job safety performance of the contractor.

These two signs are to be displayed side by side and mounted for reading by passing viewers. Exact placement location will be designated by the contracting officer's representative.

The panel sizes and graphic formats have been standardized for visual consistency throughout all Corps operations.

Panels are fabricated using HDO plywood or aluminum with dimensional lumber uprights and bracing. The sign faces are nonreflective vinyl.

All legends are to be die-cut or computer-cut in the sizes and typefaces specified and applied to the white panel background following the graphic formats shown on pages 16-2 and 16-3. The Communication Red panel on the left side of the construction project sign with Corps Signature (reverse version) is screen-printed onto the white background.

A display of these two signs is shown on the following two pages. 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 Sign Program Manager.

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 Communication Red on the white background. The designation of a sponsor in the area indicated is optional with Military or Civil Works construction signs. Signs may list one sponsoring entity. If agreement on a sponsor designation cannot be achieved, the area should be left blank.

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 Sign Program Manager.

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 2a: One- to three-line identification of Military or Civil Works sponsor (optional). Place below Corps Signature to cross-align with Group 5a-b.  
Color: White  
Typeface: 1.25" Helvetica Regular  
Maximum line length: 19"

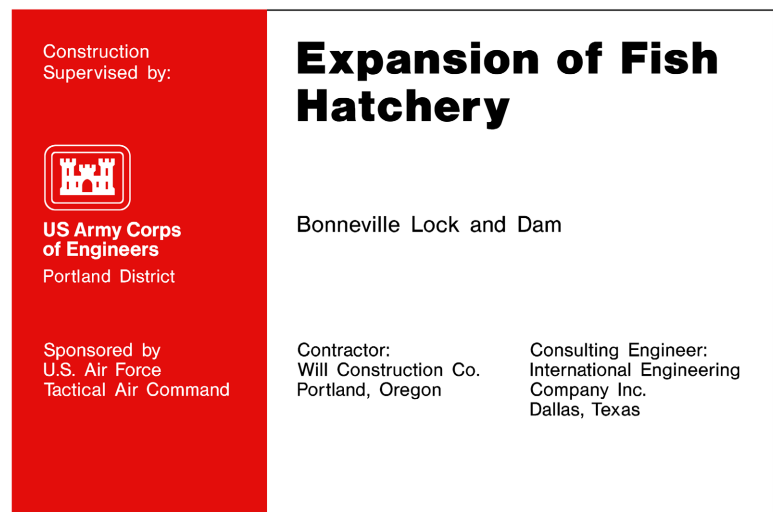
Legend Group 3: One- to three-line project title legend describes the work being done under this contract.  
Color: Black  
Typeface: 3" Helvetica Bold  
Maximum line length: 42"

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 (A) | Panel Size | Post Size | Specification Code | Mounting Height | Color Bkg/Lgd |
|-----------|-----------------|------------|-----------|--------------------|-----------------|---------------|
| CID-01    | various         | 4'x6'      | 4"x4"     | 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 Sign Program Manager.

Legend Group 1: Standard two-line title "Safety is a Job Requirement" with 8" (outside diameter) Safety Green first aid logo.  
Color: To match Pantone system 347  
Typeface: 3" Helvetica Bold  
Color: Black

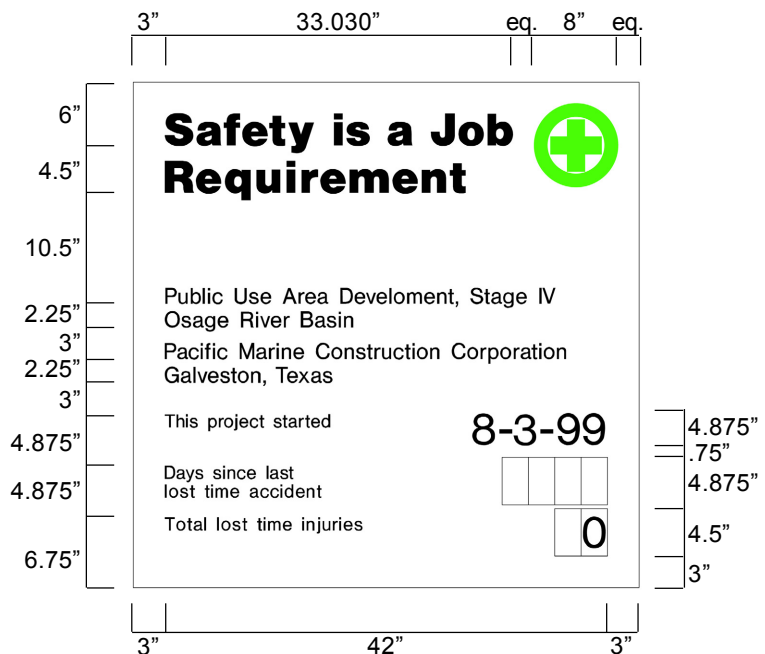
Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project.  
Color: Black  
Typeface: 1.5" Helvetica Regular  
Maximum line length: 42"

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"

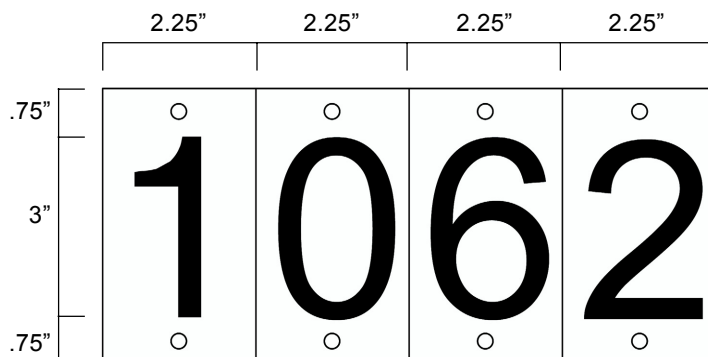
Legend Group 4: Standard safety record captions as shown.  
Color: Black  
Typeface: 1.25" Helvetica Regular

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 4.5"

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 (A) | Panel Size | Post Size | Specification Code | Mounting Height | Color Bkg/Lgd |
|-----------|-----------------|------------|-----------|--------------------|-----------------|---------------|
| CID-02    | various         | 4'x4'      | 4"x4"     | HDO-3              | 48"             | WH/BK-SG      |



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 representative and shall conform to the size, format, and typographic standards shown on pages 16-2 and 16-3. 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 Program Manager.

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 nonreflective vinyl film with positionable adhesive backing.

All graphics except for the Communication Red background with Corps Signature on the project sign are to be die-cut or computer-cut nonreflective vinyl, prespaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on pages 16-2 and 16-3.

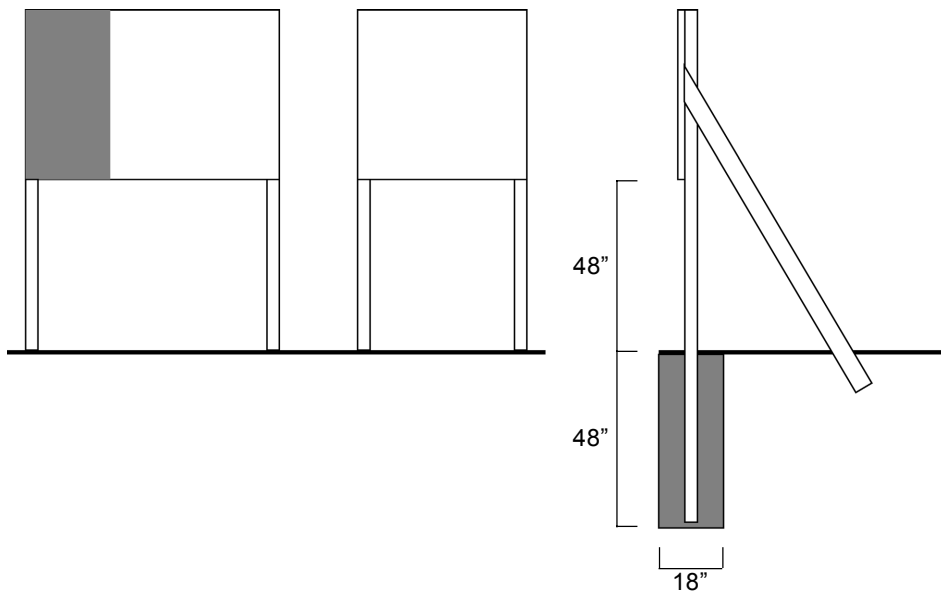
The 2'x 4' Communication Red panel (to match Pantone system 032) with full Corps Signature (reverse version) is to be screen-printed on the white background. Identification of the district or division may be applied under the signature with white cut vinyl letters prepared to Corps standards.

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 Identification Sign Legend Group 1: Corps Relationship

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

#### Legend Group 2: Division/District Name

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

#### Legend Group 2a: Military/Civil Works Sponsor

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

#### Legend Group 3: Project Title

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

#### Legend Group 4: Facility Name

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

#### Legend Group 5: Contractor/A&E

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

#### Legend Group 5b: Contractor/A&E

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

#### Safety Performance Sign

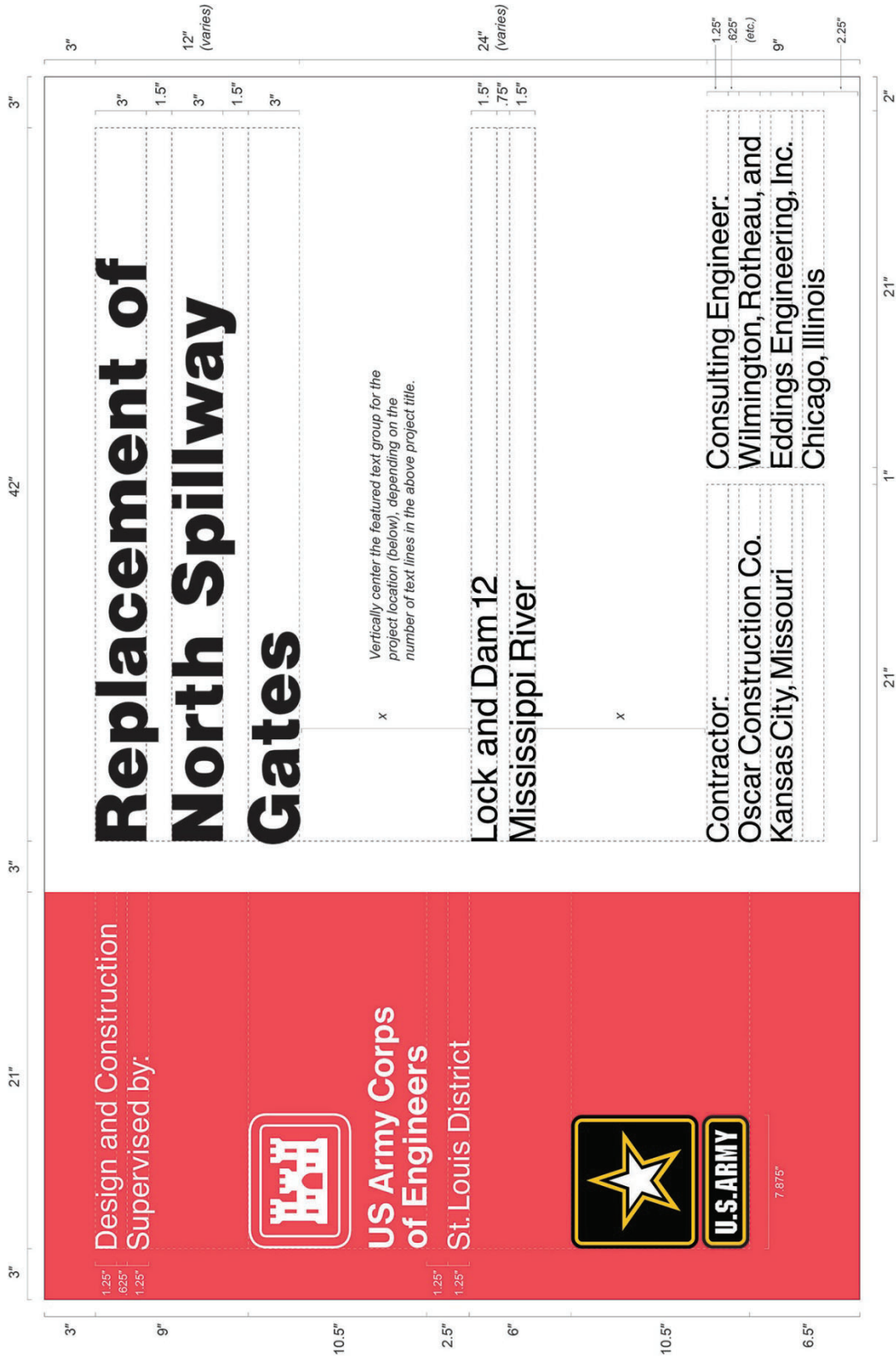
##### Legend Group 2: Project Title

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

##### Legend Group 3: Contractor/A&E

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





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PART 1 GENERAL

- 1.1 Mobilization and Demobilization
- 1.2 Bonds
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  - 1.3.1 Measurement
  - 1.3.2 Payment
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PART 2 PRODUCTS

PART 3 EXECUTION

-- End of Section Table of Contents --

SECTION 01 22 00.22 15  
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 Mobilization and Demobilization

Payment for mobilization and demobilization will be made at the contract unit price per each for "Mobilization and Demobilization" for each applicable reach of the river, which price and payment shall constitute full compensation for providing all plant, labor, material, and equipment and performing all operations necessary for project mobilization and demobilization as defined in Section 00700, Contract Clause PAYMENT FOR MOBILIZATION AND DEMOBILIZATION.

1.2 Bonds

Costs for bonds will not be measured for payment. Payment for costs associated with bonding will be made at the contract job price for "Bonds", as defined in the Contract Clauses, Section 00700.

1.3 STRUCTURE CONSTRUCTION - GRADED STONE

1.3.1 Measurement

The unit of measurement for stone satisfactorily placed in the work will be the ton (2,000 pounds). Final quantities will be computed to the nearest whole ton. If delivered by barge, stone will be measured for payment, by the Quality Assurance Representative, by weight determined by barge displacement. The Contractor shall furnish a list of barges to be used on this contract at the pre-construction conference. This will enable the Government to refer to the "Division Barge Displacement Tables" for updated tables. For any new barges to be utilized on this contract, the Contractor shall furnish with the barge displacement tables a drawing or sketch of each barge, dimensioned in sufficient detail to permit checking of the tables. The drawings shall show, as a minimum, the length, width, and depth of the barge and dimensions of the rake or rakes. Each such table shall have its accuracy certified by a person or firm, other than the Contractor, customarily performing this service. Each table submitted shall contain, in parallel columns, the freeboard of the barge in feet and tenths from zero to the full depth of the barge, and the corresponding gross displacement to the nearest ton. Each barge shall be suitably marked with lines parallel to the barge deck, (4 inches wide and 1 foot long) painted on both sides of the barge at each corner near the rake bulkheads. The freeboard will be measured at the 4 corners before and after being unloaded and the average of these measurements shall be used to determine the displacement. The amount of displacement will determine the quantity delivered. If the Quality Assurance Representative is unavailable to acquire barge measurements then the Quality Control Representative shall acquire the measurements. Measurements shall be taken at the project site, quarry measurements will not be accepted.

### 1.3.2 Payment

Payment for stone satisfactorily placed will be made at the contract unit price per ton for "Structure Construction, Graded Stone A" , Shallow and Regular Draft Work Sites, at each applicable reach of the river, which prices and payments shall constitute full compensation for furnishing all material specified in Section 32 22 73.22, and providing all labor, plant and equipment required for accomplishing all work specified in Section 35 22 23.22. No separate payment will be made for the removal of drift and debris, excavation for stone dikes and minor bank grading that may be required, and all costs in connection therewith shall be included in the applicable contract price for the item to which the work pertains.

## 1.4 REVETMENT/BANKLINE REPAIRS - GRADED STONE

### 1.4.1 Measurement

The unit of measurement for stone satisfactorily placed in the work will be the ton (2,000 pounds). Final quantities will be computed to the nearest whole ton. If delivered by barge, stone will be measured for payment, by the Quality Assurance Representative, by weight determined by barge displacement. The Contractor shall furnish a list of barges to be used on this contract at the pre-construction conference. This will enable the Government to refer to the "Division Barge Displacement Tables" for updated tables. For any new barges to be utilized on this contract, the Contractor shall furnish with the barge displacement tables a drawing or sketch of each barge, dimensioned in sufficient detail to permit checking of the tables. The drawings shall show, as a minimum, the length, width, and depth of the barge and dimensions of the rake or rakes. Each such table shall have its accuracy certified by a person or firm, other than the Contractor, customarily performing this service. Each table submitted shall contain, in parallel columns, the freeboard of the barge in feet and tenths from zero to the full depth of the barge, and the corresponding gross displacement to the nearest ton. Each barge shall be suitably marked with lines parallel to the barge deck, (4 inches wide and 1 foot long) painted on both sides of the barge at each corner near the rake bulkheads. The freeboard will be measured at the 4 corners before and after being unloaded and the average of these measurements shall be used to determine the displacement. The amount of displacement will determine the quantity delivered. If the Quality Assurance Representative is unavailable to acquire barge measurements then the Quality Control Representative shall acquire the measurements. Measurements shall be taken at the project site, quarry measurements will not be accepted.

### 1.4.2 Payment

Payment for stone satisfactorily placed will be made at the contract unit price per ton for "Revetment/Bankline Repairs, Graded Stone A", Shallow and Regular Draft Work Sites at each applicable reach of the river, which prices and payments shall constitute full compensation for furnishing all material specified in Section 32 22 73.22, and providing all labor, plant and equipment required for accomplishing all applicable work specified in Section 35 22 23.22. No separate payment will be made for the removal of drift and debris, excavation for stone dikes and minor bank grading that may be required as specified, and all costs in connection therewith shall be included in the applicable contract price for the item to which the work pertains.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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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 DEFINITIONS

1.1.1 Submittal Descriptions (SD)

Submittal requirements are specified in individual specification sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals

Submittals which are required prior to start of construction (work) or the start of the next major phase of the construction on a multi-phase contract. For example, schedules, work plans, lists of data, or lists including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work are considered preconstruction submittals.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accordance with specified requirements; report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site; and report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation, including investigation reports, daily logs and checklists, final acceptance test and operation test procedures reports.

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; 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-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism; special requirements necessary to properly close out a construction contract. For example, O&M Manuals, Warranty Documents, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

## 1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

### 1.2.1 Government Approved (G)

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 entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

### 1.2.2 For 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. These submittals shall be submitted in RMS 3.

## 1.3 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 that may exist, as the Contractor under the CQC requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After the Contracting Officer has approved submittals, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

## 1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and 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 "Changes" shall be furnished promptly to the Contracting Officer.

## 1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. In addition; the Government will withhold 2% of the total bid price of the applicable item for which FIO technical submittals are not being maintained and on file at the Contractor's Field Office.

## PART 2 PRODUCTS

Not Applicable.

## PART 3 EXECUTION

### 3.1 GENERAL

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. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to the submission of submittals, 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.

### 3.2 SUBMITTAL REGISTER (ENG FORM 4288-R)

At the end of this section is one set of ENG Form 4288-R listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Accident Prevention Program (00 08 00), Statement of Required Insurance (00 08 00), Environmental Protection Plan (01 11 30), Project Schedule Submission (01 13 20), and Quality Control Plan (01 45 00.00 10), shall be submitted as set forth in each applicable specification paragraph and shall be included as part of the Submittal Register ENG Form 4288-R. The Government has completed columns "c" through "f"; the Contractor shall complete the remainder of the form and submit to the Contracting Officer for approval within 10 calendar days after Notice to Proceed. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated. The time for submission, procurement, lag/lead and delivery shall be entered through the Resident Management System (RMS) QC module. After entry of that data, the ENG Form 4288-R (RMS) shall be produced from the RMS QC module.

### 3.3 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. It is the Contractor's responsibility to provide the Corps with timely, accurate, and complete submittal packages. The Corps, in turn, will process, review, and provide official responses to the Contractor within 30 calendar days after physical receipt of the submittal, unless otherwise noted in the Technical Provisions. The Contractor shall incorporate the stated Government review time in the submittal register. No delay damages or time extensions will be allowed for time lost in late submittals. The Contractor's Quality Control representative shall review the listing at least every 30 days and take appropriate action to maintain an effective system. Copies of updated or corrected listing shall be submitted to the Contracting Officer at least every 30 days in the quantity specified.

### 3.4 TRANSMITTAL FORM (ENG FORM 4025-R)

The sample transmittal form (ENG Form 4025-R), attached to this section, shall be used for submitting Government Approved submittals in accordance with the instructions on the reverse side of the form. This form should also be used to document the Contractor Quality Control review, and approval of, For Information Only submittals prior to submitting in RMS 3. These forms will be furnished to the Contractor. 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 specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item. The ENG Form 4025-R may be prepared by use of the Resident Management System (RMS) QC module.

### 3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

#### 3.5.1 Procedures

The Contractor shall electronically submit to the Contracting Officer for approval all shop drawings as called for under the various headings of these specifications via the latest version of RMS 3.

#### 3.5.2 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.

### 3.6 CONTROL OF SUBMITTALS

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

### 3.7 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, dated, and returned to the Contractor via the latest version of RMS 3.

### 3.8 INFORMATION ONLY SUBMITTALS

Approval of the Contracting Officer is not required on information only submittals. The Contractor shall submit into RMS 3, all current FIO submittals for use by CQC Manager during the course of the contract. The Government will periodically spot-check the Contractor's compliance with maintaining current and correct FIO submittals for CQC purposes. Any incorrect submittals found during the Government spot check will be immediately corrected by the CQC Manager. If the Contractor fails to keep the FIO submittals current and correct, 2% of the total bid price against the applicable bid item will be withheld. By the completion of the

contract, the Contractor shall have submitted the entire file of FIO submittals to the Government through the RMS submittal process.

### 3.9 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:                  | _____   |

-- End of Section --

| <b>TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR<br/>MANUFACTURER'S CERTIFICATES OF COMPLIANCE</b><br>For use of this form, see ER 415-1-10; the proponent agency is CECW-CE. |  |   |                               |  | DATE                             |   | TRANSMITTAL NO.  |  |
|--|--|---|-------------------------------|--|----------------------------------|---|--|--|
| <b>SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS</b> <i>(This section will be initiated by the contractor)</i>   |  |   |                               |  |                                  |   |  |  |
| TO:  |  | FROM:   |                               | CONTRACT NO.   |                                  |   | CHECK ONE:<br><input type="checkbox"/> THIS IS A NEW TRANSMITTAL<br><input type="checkbox"/> THIS IS A RESUBMITTAL OF<br>TRANSMITTAL _____ |  |
| SPECIFICATION SEC. NO. <i>(Cover only one section with each transmittal)</i>   |  |   | PROJECT TITLE AND LOCATION    |  |                                  | THIS TRANSMITTAL IS FOR: <i>(Check one)</i><br><input type="checkbox"/> FIO <input type="checkbox"/> GA <input type="checkbox"/> DA <input type="checkbox"/> CR <input type="checkbox"/> DA/CR <input type="checkbox"/> DA/GA |  |  |
| ITEM<br>NO.<br><small>(See<br/>Note 3)</small><br><br>a.   | DESCRIPTION OF SUBMITTAL ITEM<br><small>(Type size, model number/etc.)</small><br><br>b. | SUBMITTAL<br>TYPE CODE<br><small>(See Note 8)</small><br><br>c. | NO.<br>OF<br>COPIES<br><br>d. | CONTRACT DOCUMENT<br>REFERENCE   |                                  | CONTRACTOR<br>REVIEW<br>CODE<br><br>g.  | VARIATION<br><small>Enter "Y" if<br/>requesting<br/>a variation<br/>(See Note 6)</small><br><br>h.   | USACE<br>ACTION<br>CODE<br><small>(Note 9)</small><br><br>i. |
|  |  |   |                               | SPEC.<br>PARA. NO.<br><br>e.   | DRAWING<br>SHEET NO.<br><br>f.   |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
|  |  |   |                               |  |                                  |   |  |  |
| REMARKS  |  |   |                               | I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated. |                                  |   |  |  |
|  |  |   |                               | NAME OF CONTRACTOR   |                                  |   | SIGNATURE OF CONTRACTOR  |  |
| <b>SECTION II - APPROVAL ACTION</b>  |  |   |                               |  |                                  |   |  |  |
| ENCLOSURES RETURNED <i>(List by item No.)</i>  |  | NAME AND TITLE OF APPROVING AUTHORITY                           |                               |  | SIGNATURE OF APPROVING AUTHORITY |   | DATE   |  |

## INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each Transmittal shall be numbered consecutively. The Transmittal Number typically includes two parts separated by a dash (-). The first part is the specification section number. The second part is a sequential number for the submittals under that spec section. If the Transmittal is a resubmittal, then add a decimal point to the end of the original Transmittal Number and begin numbering the resubmittal packages sequentially after the decimal.
3. The "Item No." for each entry on this form will be the same "Item No." as indicated on ENG FORM 4288-R.
4. Submittals requiring expeditious handling will be submitted on a separate ENG Form 4025-R.
5. Items transmitted on each transmittal form will be from the same specification section. Do not combine submittal information from different specification sections in a single transmittal.
6. If the data submitted are intentionally in variance with the contract requirements, indicate a variation in column h, and enter a statement in the Remarks block describing the detailed reason for the variation.
7. ENG Form 4025-R is self-transmitting - a letter of transmittal is not required.
8. When submittal items are transmitted, indicate the "Submittal Type" (*SD-01 through SD-11*) in column c of Section I.  
Submittal types are the following:

|                         |                                     |                                      |                  |                     |                      |
|-------------------------|-------------------------------------|--------------------------------------|------------------|---------------------|----------------------|
| SD-01 - Preconstruction | SD-02 - Shop Drawings               | SD-03 - Product Data                 | SD-04 - Samples  | SD-05 - Design Data | SD-06 - Test Reports |
| SD-07 - Certificates    | SD-08 - Manufacturer's Instructions | SD-09 - Manufacturer's Field Reports | SD-10 - O&M Data | SD-11 - Closeout    |                      |
9. For each submittal item, the Contractor will assign Submittal Action Codes in column g of Section I. The U.S. Army Corps of Engineers approving authority will assign Submittal Action Codes in column i of Section I. The Submittal Action Codes are:

|   |  |
|---|--|
| A -- Approved as submitted.   | F -- Receipt acknowledged.   |
| B -- Approved, except as noted on drawings. Resubmission not required.                            | X -- Receipt acknowledged, does not comply with contract requirements, as noted.               |
| C -- Approved, except as noted on drawings. Refer to attached comments.<br>Resubmission required. | G -- Other action required ( <i>Specify</i> )  |
| D -- Will be returned by separate correspondence.   | K -- Government concurs with intermediate design. ( <i>For D-B contracts</i> )                 |
| E -- Disapproved. Refer to attached comments.   | R -- Design submittal is acceptable for release for construction. ( <i>For D-B contracts</i> ) |
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract.

# SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

NESP Ecosystem Restoration Twin Islands Moores Towhead Alton Pool

CONTRACTOR

| ACTIVITY NO | TRANSMITTAL NO | SPEC SECT | DESCRIPTION<br>ITEM SUBMITTED    | PARAGRAPH | GOVT CLASSIFICATION | CONTRACTOR:<br>SCHEDULE DATES |                          |                          | CONTRACTOR<br>ACTION |                      | DATE FWD<br>TO APPR<br>AUTH/ | APPROVING AUTHORITY              |                                  |                |                      | MAILED<br>TO CONTR/<br><br>DATE RCD<br>FRM APPR<br>AUTH | REMARKS |
|-------------|----------------|-----------|----------------------------------|-----------|---------------------|-------------------------------|--------------------------|--------------------------|----------------------|----------------------|------------------------------|----------------------------------|----------------------------------|----------------|----------------------|---|---------|
|             |                |           |                                  |           |                     | SUBMIT                        | APPROVAL<br>NEEDED<br>BY | MATERIAL<br>NEEDED<br>BY | ACTION<br>CODE       | DATE<br>OF<br>ACTION | DATE RCD<br>FROM<br>CONTR    | DATE FWD<br>TO OTHER<br>REVIEWER | DATE RCD<br>FROM OTH<br>REVIEWER | ACTION<br>CODE | DATE<br>OF<br>ACTION |   |         |
| (a)         | (b)            | (c)       | (d)                              | (e)       | (f)                 | (g)                           | (h)                      | (i)                      | (j)                  | (k)                  | (l)                          | (m)                              | (n)                              | (o)            | (p)                  | (q)   | (r)     |
|             |                | 00 08 00  | SD-01 Preconstruction Submittals |           |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Accident Prevention Program      | 1.10      | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Statements of Required Insurance | 1.16      | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | SD-06 Test Reports               |           |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Ledge Testing                    | 1.28      | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                | 01 11 30  | SD-01 Preconstruction Submittals |           |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Environmental Protection Plan    | 1.5       | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Commercial Borrow                | 3.1.3     | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                | 01 13 20  | SD-01 Preconstruction Submittals |           |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Project Schedule                 | 3.3       | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                | 01 15 00  | SD-01 Preconstruction Submittals |           |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Access/Haul Road Plan            | 3.1       | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                | 01 35 26  | SD-01 Preconstruction Submittals |           |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Accident Prevention Plan (APP)   | 1.7       | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | SD-06 Test Reports               |           |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Monthly Exposure Reports         | 1.4       |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Notifications and Reports        | 1.12      |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Accident Reports                 | 1.12.2    | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | LHE Inspection Reports           | 1.12.3    |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | SD-07 Certificates               |           |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Crane Operators/Riggers          | 1.6.1.3   |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Standard Lift Plan               | 1.7.3.1   | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Critical Lift Plan               | 1.7.3.2   | G                   |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Activity Hazard Analysis (AHA)   | 1.8       |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |
|             |                |           | Certificate of Compliance        | 1.12.4    |                     |                               |                          |                          |                      |                      |                              |                                  |                                  |                |                      |   |         |

## SUBMITTAL REGISTER

|              |
|--------------|
| CONTRACT NO. |
|--------------|

### TITLE AND LOCATION

NESP Ecosystem Restoration Twin Islands Moores Towhead Alton Pool

CONTRACTOR

[illegible]

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## SECTION 01 35 26

### GOVERNMENTAL SAFETY REQUIREMENTS

#### PART 1 GENERAL

##### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

##### AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

|             |  |
|-------------|--|
| ASME B30.3  | (2020) Tower Cranes  |
| ASME B30.5  | (2018) Mobile and Locomotive Cranes  |
| ASME B30.7  | (2016) Winches   |
| ASME B30.8  | (2015) Floating Cranes and Floating Derricks   |
| ASME B30.9  | (2018) Slings  |
| ASME B30.20 | (2018) Below-the-Hook Lifting Devices  |
| ASME B30.22 | (2016) Articulating Boom Cranes  |
| ASME B30.23 | (2016) Personnel Lifting Systems Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings |
| ASME B30.26 | (2015; R 2020) Rigging Hardware  |

##### AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

|             |   |
|-------------|---|
| ASSP A10.22 | (2007; R 2017) Safety Requirements for Rope-Guided and Non-Guided Workers' Hoists |
| ASSP A10.34 | (2001; R 2012) Protection of the Public on or Adjacent to Construction Sites      |
| ASSP Z359.0 | (2018) Definitions and Nomenclature Used for Fall Protection and Fall Arrest      |
| ASSP Z359.1 | (2016) The Fall Protection Code   |
| ASSP Z359.2 | (2017) Minimum Requirements for a Comprehensive Managed Fall Protection Program   |
| ASSP Z359.3 | (2019) Safety Requirements for Lanyards and Positioning Lanyards                  |
| ASSP Z359.4 | (2013) Safety Requirements for  |

Assisted-Rescue and Self-Rescue Systems,  
Subsystems and Components

|              |  |
|--------------|--|
| ASSP Z359.6  | (2016) Specifications and Design<br>Requirements for Active Fall Protection<br>Systems                           |
| ASSP Z359.7  | (2019) Qualification and Verification<br>Testing of Fall Protection Products                                     |
| ASSP Z359.11 | (2014) Safety Requirements for Full Body<br>Harnesses  |
| ASSP Z359.12 | (2019) Connecting Components for Personal<br>Fall Arrest Systems   |
| ASSP Z359.13 | (2013) Personal Energy Absorbers and<br>Energy Absorbing Lanyards  |
| ASSP Z359.14 | (2014) Safety Requirements for<br>Self-Retracting Devices for Personal Fall<br>Arrest and Rescue Systems         |
| ASSP Z359.15 | (2014) Safety Requirements for Single<br>Anchor Lifelines and Fall Arresters for<br>Personal Fall Arrest Systems |
| ASSP Z359.16 | (2016) Safety Requirements for Climbing<br>Ladder Fall Arrest Systems  |
| ASSP Z359.18 | (2017) Safety Requirements for Anchorage<br>Connectors for Active Fall Protection<br>Systems                     |

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

|          |   |
|----------|---|
| NFPA 10  | (2018; ERTA 1-2 2018) Standard for<br>Portable Fire Extinguishers   |
| NFPA 70  | (2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA<br>20-1; TIA 20-2; TIA 20-3; TIA 20-4)<br>National Electrical Code |
| NFPA 70E | (2021) Standard for Electrical Safety in<br>the Workplace   |
| NFPA 241 | (2019) Standard for Safeguarding<br>Construction, Alteration, and Demolition<br>Operations                    |

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

|          |   |
|----------|---|
| TIA-222  | (2018H; Add 1 2019) Structural Standard<br>for Antenna Supporting Structures and<br>Antennas and Small Wind Turbine Support<br>Structures |
| TIA-1019 | (2012; R 2016) Standard for Installation,<br>Alteration and Maintenance of Antenna  |

## Supporting Structures and Antennas

### U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements Manual

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

29 CFR 1910 Occupational Safety and Health Standards

29 CFR 1910.146 Permit-required Confined Spaces

29 CFR 1926 Safety and Health Regulations for Construction

29 CFR 1926.16 Rules of Construction

29 CFR 1926.500 Fall Protection

29 CFR 1926.552 Material Hoists, Personal Hoists, and Elevators

29 CFR 1926.553 Base-Mounted Drum Hoists

29 CFR 1926.1400 Cranes and Derricks in Construction

CPL 02-01-056 (2014) Inspection Procedures for Accessing Communication Towers by Hoist

## 1.2 DEFINITIONS

### 1.2.1 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

### 1.2.2 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person requirements as defined EM 385-1-1 Appendix Q, with thorough knowledge of OSHA's Confined Space Standard, 29 CFR 1910.146, and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

### 1.2.3 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined in EM 385-1-1 Appendix Q, is a person meeting the competent person, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying,

evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

#### 1.2.4 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and 29 CFR 1926, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

#### 1.2.5 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and in accordance with ASSP Z359.0, who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

#### 1.2.6 Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the training material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

#### 1.2.7 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

#### 1.2.8 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

#### 1.2.9 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

#### 1.2.10 Medical Treatment

Medical Treatment is treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even when provided by a physician or registered personnel.

#### 1.2.11 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

#### 1.2.12 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this "envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.

#### 1.2.13 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

#### 1.2.14 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the definition requirements of EM 385-1-1 Appendix Q, and ASSP Z359.2 standard, having a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

#### 1.2.15 Recordable Injuries or Illnesses

Recordable Injuries or Illnesses are any work-related injury or illness that results in:

- a. Death, regardless of the time between the injury and death, or the length of the illness;
- b. Days away from work (any time lost after day of injury/illness onset);
- c. Restricted work;
- d. Transfer to another job;
- e. Medical treatment beyond first aid;
- f. Loss of consciousness; or
- g. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (a)

through (f) above

#### 1.2.16 Government Property and Equipment

Interpret "USACE" property and equipment specified in USACE EM 385-1-1 as Government property and equipment.

#### 1.2.17 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over). Document an LHE mishap using the Crane High Hazard working group mishap reporting form.

#### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification 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

Accident Prevention Plan (APP); G

##### SD-06 Test Reports

Monthly Exposure Reports

Notifications and Reports

Accident Reports; G

LHE Inspection Reports

##### SD-07 Certificates

Crane Operators/Riggers

Standard Lift Plan; G

Critical Lift Plan ; G

Activity Hazard Analysis (AHA)

Certificate of Compliance

#### 1.4 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher.

#### 1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this Contract, comply with the most recent edition of USACE EM 385-1-1, and all federal, state, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

#### 1.6 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

##### 1.6.1 Personnel Qualifications

##### 1.6.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section 1. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and Government-accepted Accident Prevention Plan. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs.

If the SSHO is off-site for a period longer than 24 hours, an equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

##### 1.6.1.1.1 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

The SSHO may not serve as the Quality Control Manager. The SSHO may not serve as the Superintendent.

##### 1.6.1.2 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and electrical work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (i.e. competent person, fall protection).



The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the Contracting Officer for information in consultation with the Safety Office.

#### 1.6.1.2.1 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements of EM 385-1-1, Section 21.C.04, 21.B.03, and herein.

#### 1.6.1.3 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in EM 385-1-1, Section 15.B for Riggers and Section 16.B for Crane Operators and Signal Persons. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators qualified by a source that qualifies crane operators (i.e., union, a Government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualification.

#### 1.6.2 Personnel Duties

##### 1.6.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

- a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily production report.
- b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.
- c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the site Safety Bulletin Board.
- d. Maintain applicable safety reference material on the job site.
- e. Attend the pre-construction, pre-work meetings including preparatory meetings, and periodic in-progress meetings.
- f. Review the APP and AHAs for compliance with EM 385-1-1, and approve, sign, implement and enforce them.
- g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.
- h. Ensure subcontractor compliance with safety and health requirements.
- i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SDS).

- j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.
- k. Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, QC Manager, and SSHO are subject to dismissal if the above or any other required duties are not being effectively carried out. If either the Superintendent, QC Manager, or SSHO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

### 1.6.3 Meetings

#### 1.6.3.1 Preconstruction

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project must attend the preconstruction. This includes the project superintendent, Site Safety and Occupational Health Officer, quality control manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).
- b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the Contract. This list of proposed AHAs will be reviewed and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude project delays.
- c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

#### 1.6.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors at the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

## 1.7 ACCIDENT PREVENTION PLAN (APP)

### 1.7.1 APP - Construction

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, and as supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the Contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control Manager, and any designated Certified Safety Professional (CSP) or Certified Health Physicist (CIH). The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the Contract. Disregarding the provisions of this Contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary, throughout the life of the Contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e. imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSP A10.34), and the environment.

### 1.7.2 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

- a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel

designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.

- b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

### 1.7.3 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

#### 1.7.3.1 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with EM 385-1-1, Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of three months.

#### 1.7.3.2 Critical Lift Plan - Crane or Load Handling Equipment

Provide a Critical Lift Plan as required by EM 385-1-1, Section 16.H.01, using Form 16-3. In addition, Critical Lift Plans are required for the following:

- a. Lifts over 50 percent of the capacity of barge mounted mobile crane's hoist.
- b. When working around energized power lines where the work will get closer than the minimum clearance distance in EM 385-1-1 Table 16-1.
- c. For lifts with anticipated binding conditions.
- d. When erecting cranes.

##### 1.7.3.2.1 Critical Lift Plan Planning and Schedule

Critical lifts require detailed planning and additional or unusual safety precautions. Develop and submit a critical lift plan to the Contracting Officer 30 calendar days prior to critical lift. Comply with load testing requirements in accordance with EM 385-1-1, Section 16.F.03.

##### 1.7.3.2.2 Lifts of Personnel

In addition to the requirements of EM 385-1-1, Section 16.H.02, for lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400 and EM 385-1-1, Section 16.T.

#### 1.7.3.3 Barge Mounted Mobile Crane Lift Plan

Provide a Naval Architecture Analysis and include an LHE Manufacturer's Floating Service Load Chart in accordance with EM 385-1-1, Section 16.L.03.

#### 1.7.3.4 Multi-Purpose Machines, Material Handling Equipment, and Construction Equipment Lift Plan

Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Written approval from a qualified registered professional engineer, after a safety analysis is performed, is allowed in lieu of the OEM's approval. Demonstrate that the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.

#### 1.7.3.5 Fall Protection and Prevention (FP&P) Plan

The plan must be in accordance with the requirements of EM 385-1-1, Section 21.D and ASSP Z359.2, be site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary, the Fall Protection and Prevention Plan documentation as conditions change, but at a minimum every six months, for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

#### 1.7.3.6 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSP Z359.2, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

### 1.8 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1, Section 1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the

start of each activity task, or DFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including crane and rigging and fall protection.

#### 1.8.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

#### 1.8.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must review the AHA for that work and sign a signature log specifically maintained for that AHA prior to starting work on that activity. The SSHO must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

### 1.9 DISPLAY OF SAFETY INFORMATION

#### 1.9.1 Safety Bulletin Board

Prior to commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, Section 01.A.07.

#### 1.9.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

- a. Date deficiency identified;
- b. Description of deficiency;
- c. Name of person responsible for correcting deficiency;
- d. Projected resolution date;
- e. Date actually resolved.

#### 1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals.

#### 1.11 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. Government has no responsibility to provide emergency medical treatment.

#### 1.12 NOTIFICATIONS and REPORTS

##### 1.12.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q, any report of injury, illness, or any property damage. For LHE or rigging mishaps, notify the Contracting Officer as soon as practical but not more than four hours after mishap. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; Contract title; type of Contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

##### 1.12.2 Accident Reports

- a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report Form 3394, and provide the report to the Contracting Officer within 5 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms.
- b. Near Misses: For Army projects, report all "Near Misses" to the GDA, using local mishap reporting procedures, within 24 hrs. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.
- c. Conduct an accident investigation for any load handling equipment accident (including rigging accidents) to establish the root cause(s) of the accident. Complete the LHE Accident Report (Crane and Rigging

Accident Report) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. The Contracting Officer will provide a blank copy of the accident report form.

#### 1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

#### 1.12.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this Contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section 16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

#### 1.13 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must comply with the applicable Storm Plan and:

- a. Secure outside equipment and materials and place materials that could be damaged in protected areas.
- b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.
- c. Ensure that temporary erosion controls are adequate.

### PART 2 PRODUCTS

### PART 3 EXECUTION

#### 3.1 CONSTRUCTION AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

- a. Hard Hat
- b. Long Pants



c. Appropriate Safety Shoes

d. Appropriate Class Reflective Vests

#### 3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. Develop an employee check-in/check-out communication procedure to ensure employee safety.

### 3.2 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSP Z359.2 and EM 385-1-1, Sections 21.A and 21.D.

#### 3.2.1 Training

Institute a fall protection training program. As part of the Fall Protection Program, provide training for each employee who might be exposed to fall hazards and using personal fall protection equipment. Provide training by a competent person for fall protection in accordance with EM 385-1-1, Section 21.C. Document training and practical application of the competent person in accordance with EM 385-1-1, Section 21.C.04 and ASSP Z359.2 in the AHA.

#### 3.2.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 Section 21.I, 29 CFR 1926.500 Subpart M, ASSP Z359.0, ASSP Z359.1, ASSP Z359.2, ASSP Z359.3, ASSP Z359.4, ASSP Z359.6, ASSP Z359.7, ASSP Z359.11, ASSP Z359.12, ASSP Z359.13, ASSP Z359.14, ASSP Z359.15, ASSP Z359.16 and ASSP Z359.18.

##### 3.2.2.1 Additional Personal Fall Protection Measures

In addition to the required fall protection systems, other protective measures such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1, Sections 21.O through 21.O.06. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment

is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

#### 3.2.2.2 Personal Fall Protection Equipment

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabineers must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. Equip all full body harnesses with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1, Section 21.I.06.

#### 3.2.3 Horizontal Lifelines (HLL)

Provide HLL in accordance with EM 385-1-1, Section 21.I.08.d.2. Commercially manufactured horizontal lifelines (HLL) must be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500). The competent person for fall protection may (if deemed appropriate by the qualified person) supervise the assembly, disassembly, use and inspection of the HLL system under the direction of the qualified person. Locally manufactured HLLs are not acceptable unless they are custom designed for limited or site specific applications by a Registered Professional Engineer who is qualified in designing HLL systems.

#### 3.2.4 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1, Section 21.F.01 and 29 CFR 1926 Subpart M.

#### 3.2.5 Rescue and Evacuation Plan and Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue or assisted-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan must be in accordance with the requirements of EM 385-1-1, ASSP Z359.2, and ASSP Z359.4.

### 3.3 EQUIPMENT

#### 3.3.1 Material Handling Equipment (MHE)

- a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.
- b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.
- c. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

#### 3.3.2 Load Handling Equipment (LHE)

The following requirements apply. In exception, these requirements do not apply to commercial truck mounted and articulating boom cranes used solely to deliver material and supplies (not prefabricated components, structural steel, or components of a systems-engineered metal building) where the lift consists of moving materials and supplies from a truck or trailer to the ground; to cranes installed on mechanics trucks that are used solely in the repair of shore-based equipment; to crane that enter the activity but are not used for lifting; nor to other machines not used to lift loads suspended by rigging equipment. However, LHE accidents occurring during such operations must be reported.

- a. Equip cranes and derricks as specified in EM 385-1-1, Section 16.
- b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with EM 385-1-1, Section 16.A.02, so that necessary quality assurance spot checks can be coordinated. Contractor's operator must remain with the crane during the spot check. Rigging gear must be in accordance with OSHA, ASME B30.9 Standards safety standards.
- c. Comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.
- d. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices and ASME B30.26 for rigging hardware.
- e. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME B30.5 or ASME B30.22 as applicable.
- f. Do not use crane suspended personnel work platforms (baskets) unless

the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally, submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.

- g. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.
- h. All employees must keep clear of loads about to be lifted and of suspended loads, except for employees required to handle the load.
- i. Use cribbing when performing lifts on outriggers.
- j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- k. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.
- l. Maintain inspection records in accordance by EM 385-1-1, Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.
- m. Maintain written reports of operational and load testing in accordance with EM 385-1-1, Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.
- n. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).
- o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.
- q. Follow FAA guidelines when required based on project location.

### 3.3.3 Machinery and Mechanized Equipment

- a. Proof of qualifications for operator must be kept on the project site for review.
- b. Manufacture specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

#### 3.3.4 Base Mounted Drum Hoists

- a. Operation of base mounted drum hoists must be in accordance with EM 385-1-1 and ASSP A10.22.
- b. Rigging gear must be in accordance with applicable ASME/OSHA standards.
- c. When used on telecommunication towers, base mounted drum hoists must be in accordance with TIA-1019, TIA-222, ASME B30.7, 29 CFR 1926.552, and 29 CFR 1926.553.
- d. When used to hoist personnel, the AHA must include a written standard operating procedure. Operators must have a physical examination in accordance with EM 385-1-1 Section 16.B.05 and trained, at a minimum, in accordance with EM 385-1-1 Section 16.U and 16.T. The base mounted drum hoist must also comply with OSHA Instruction CPL 02-01-056 and ASME B30.23.
- e. Material and personnel must not be hoisted simultaneously.
- f. Personnel cage must be marked with the capacity (in number of persons) and load limit in pounds.
- g. Construction equipment must not be used for hoisting material or personnel or with trolley/tag lines. Construction equipment may be used for towing and assisting with anchoring guy lines.

-- End of Section --

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SECTION 01 42 00  
SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization, (e.g. ASTM B564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number.

ASTM INTERNATIONAL (ASTM)  
100 Barr Harbor Drive, P.O. Box C700  
West Conshohocken, PA 19428-2959  
Ph: 610-832-9585  
Fax: 610-832-9555  
E-mail: [service@astm.org](mailto:service@astm.org)  
Internet: <http://www.astm.org>

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)  
1 Batterymarch Park  
Quincy, MA 02169-7471  
Ph: 617-770-3000 or 800-344-3555  
Fax: 617-770-0700  
E-mail: [webmaster@nfpa.org](mailto:webmaster@nfpa.org)  
Internet: <http://www.nfpa.org>

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)  
2500 Wilson Blvd., Suite 300  
Arlington, VA 22201  
Ph: 703-907-7700  
Fax: 703-907-7727  
Internet: <http://www.tiaonline.org>

U.S. ARMY CORPS OF ENGINEERS (USACE)  
Order CRD-C DOCUMENTS from:  
Headquarters Points of contact  
441 G Street NW  
Washington, DC 20314-1000  
Ph: 202-761-0011

E-mail: [hq-publicaffairs@usace.army.mil](mailto:hq-publicaffairs@usace.army.mil)  
Internet: <http://www.wes.army.mil/SL/MTC/handbook.htm>  
Order Other Documents from:  
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Ph: 301-394-0081  
Fax: 301-394-0084  
E-mail: [pubs-army@usace.army.mil](mailto:pubs-army@usace.army.mil)  
Internet: <http://www.usace.army.mil/publications>  
or <http://www.hnd.usace.army.mil/techinfo/engpubs.htm>

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## PART 2 PRODUCTS

Not Used

## PART 3 EXECUTION

Not used

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QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D3740 (2012a) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

ASTM E329 (2018) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program. Include all associated costs in the applicable Bid Schedule item.

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. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control (CQC) Plan; G

SD-06 Test Reports

Verification Statement

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with FAR 52.246-12 Inspection of Construction. QC consist of

plans, procedures, and organization necessary to produce an end product which complies with the Contract requirements. The QC system covers all construction operations, both onsite and offsite, and be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the Contract. In this context the highest level manager responsible for the overall construction activities at the site, including quality and production is the project superintendent.

### 3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

Submit no later than 15 days after Notice of Award, the Contractor Quality Control (CQC) Plan proposed to implement the requirements FAR 52.246-12 Inspection of Construction. The Government will consider an interim plan for the first 15 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 accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional work.

#### 3.2.1 Content of the CQC Plan

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 will implement the three phase control system for all aspects of the work specified. Include a CQC System Manager that reports 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. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the CQC System Manager. Furnish copies of these letters to the Contracting Officer.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures must 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 are required to be used.)
- f. The name and address of the Corps of Engineers validated commercial testing laboratory to be used for quality control testing; a letter of

validation from the Material Testing Center (MTC); a list of applicable ASTM procedures that the laboratory is validated to perform; and the qualifications of the field technician(s) identified for the project.

- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish verification procedures 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 is identified by different trades or disciplines, or it is work by the same trade in a different environment. Although each section of the specifications can generally be considered as a definable feature of work, there are frequently more than one 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 the Contractor Quality Control(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, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

### 3.3 MUTUAL UNDERSTANDING MEETING (MUM)

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. Submit the CQC Plan a minimum of 7 calendar days prior to the Meeting. During the meeting, a mutual understanding of the system details must 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 will be prepared by the Government, signed by both the Contractor and the Contracting Officer and will become a part of the contract file. There can be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

#### 3.3.1 Weekly Coordination Meeting

Once construction begins the Contractor shall conduct weekly onsite coordination meetings at a mutually agreed upon time with the Government. The meeting may be conducted at a lesser interval if mutually agreed upon by the Government and Contractor. The Contractor shall prepare minutes for

each meeting and provide a copy to the Government prior to the next meeting for review and concurrence. The minimum outline of items to be addressed at the coordination meetings shall include an update and a review of progress since last week, project schedule, work schedule for the week ahead, submittals, modifications and potential modifications, QC/QA issues, RFI's, environmental protection, safety, and any other issues determined appropriate.

### 3.4 QUALITY CONTROL ORGANIZATION

#### 3.4.1 Personnel Requirements

The requirements for the CQC organization are a Safety and Health Manager, CQC System Manager, and sufficient number of additional qualified personnel to ensure safety and Contract compliance. The Safety and Health Manager reports directly to a senior project (or corporate) official independent from the CQC System Manager. The Safety and Health Manager will also 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 maintains 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 will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly complete and furnish all letters, material submittals, shop drawing submittals, schedules and all other project documentation to the CQC organization. The CQC organization is 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

Identify as CQC System Manager an individual within the onsite work organization that is responsible for overall management of CQC and has the authority to act in all CQC matters for the Contractor. The CQC System Manager shall report to the project manager or someone higher in the Contractor's organization. Project Manager in this context shall mean the individual with responsibility for the overall management of the project including quality and production. The CQC System Manager is required to be a graduate engineer, or a graduate of construction management, with a minimum of 3 years construction experience on construction similar to this Contract or a construction person with a minimum of 5 years in related work as a construction manager. This CQC System Manager is on the site at all times during construction and is employed by the prime Contractor. The CQC System Manager is assigned no other duties. Identify in the plan an alternate to serve in the event of the CQC System Manager's absence. The requirements for the alternate are the same as the CQC System Manager.

#### 3.4.3 Additional Requirement

In addition to the above experience and education requirements, the Contractor Quality Control(CQC) System Manager and Alternate CQC System Manager are required to have completed the Construction Quality Management (CQM) for Contractors course. If the CQC System Manager does not have a current certification, obtain the CQM for Contractors course certification within 90 days of award. This course is periodically offered by the Naval

Facilities Engineering Command and the Army Corps of Engineers. Contact the Contracting Officer for information on the next scheduled class.

The Construction Quality Management Training certificate expires after 5 years. If the CQC System Manager's certificate has expired, retake the course to remain current.

#### 3.4.4 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, 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, have to comply with the requirements in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

#### 3.6 CONTROL

CQC 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 phases of control are required to be conducted by the CQC System Manager for each definable feature of the construction work as follows:

##### 3.6.1 Preparatory Phase

This phase is 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 includes:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the work.
- b. Review of the Contract drawings.
- c. Check to assure that all materials and 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. 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. 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. 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 needs to be notified at least 48 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

#### 3.6.2 Initial Phase

This phase is accomplished at the beginning of a definable feature of work. Accomplish the following:

- a. Check 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 are in compliance with the contract.
- 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 needs to be notified at least 24 hours in advance of beginning the initial phase for definable feature of work. Prepare separate minutes of this phase by the CQC System Manager and attach to the daily CQC report. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases.
- g. The initial phase for each definable feature of work is 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

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may



be affected by the deficient work. Do not build upon nor conceal non-conforming work.

#### 3.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases 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 TESTS

#### 3.7.1 Materials Testing and Inspection

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government. All testing shall be performed by a Corps of Engineers validated commercial testing laboratory. Both the field and permanent laboratory shall be validated. If the Contractor elects to establish testing facilities, work requiring testing will not be permitted until the Contractor's facilities have been validated by the Materials Testing Center. The Contractor shall ensure that the Materials Testing Center is reimbursed for all costs regarding validation of testing laboratories pertaining to this contract.

#### 3.7.2 Testing Laboratories

All testing laboratories must be validated by the USACE Material Testing Center (MTC) for the tests to be performed. Information on the USACE MTC with web-links to both a list of validated testing laboratories and for the laboratory inspection request can be found at:  
<https://mtc.erdcdren.mil/>

##### 3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel are required to meet criteria detailed in ASTM D3740 and ASTM E329.

##### 3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed any charges incurred to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the Contract amount due the Contractor.

#### 3.7.3 Onsite Laboratory

If an onsite CQC laboratory is established, the Contractor shall submit the request for validation to the District POC in a timely manner and emphasize the critical need. After the request to the MTC is submitted, the Contractor should anticipate a six-week turn around and reflect the turn-around time in its scheduling.

#### 3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, f.o.b., at the following address:

For delivery by mail:  
US Army Engineer Research  
and Development Center  
P.O. Box 631  
Vicksburg, MS 39181-0631

For other deliveries:  
US Army Engineer Research  
and Development Center  
3909 Halls Ferry Road  
Vicksburg, MS 39180-6199

Coordination for each specific test, exact delivery location, and dates shall be made through the Area Office.

#### 3.8 COMPLETION INSPECTION

##### 3.8.1 Punch-Out Inspection

Conduct an inspection of the work by the CQC System Manager near the end of the work, or any increment of the work established by a time stated in FAR 52.211-10 Commencement, Prosecution, and Completion of Work, or by the specifications. Prepare and include in the CQC documentation a punch list of items which do not conform to the approved drawings and specifications, as required by paragraph DOCUMENTATION. Include within the list of deficiencies the estimated date by which the deficiencies will be corrected. Make a second inspection the CQC System Manager or staff to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the Government that the facility is ready for the Government Pre-Final inspection.

##### 3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. 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. Correct any items noted on the Pre-Final inspection in a timely manner. These inspections and any deficiency corrections required by this paragraph need to 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.

##### 3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative is required to be in attendance at the final acceptance inspection. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notify the Contracting Officer at least 14 days prior to the final acceptance inspection and 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 FAR 52.246-12 Inspection of Construction.

### 3.9 DOCUMENTATION

#### 3.9.1 Quality Control Activities

Maintain current records providing factual evidence that required quality control activities and tests have been performed. Include in these records the work of subcontractors and suppliers on an acceptable form that includes, as a minimum, the following information:

- a. The name and area of responsibility of the Contractor/Subcontractor.
- 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 control activities performed with results and references to specifications/drawings requirements. Identify the control phase (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 specifications.

#### 3.9.2 Verification Statement

Indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. Furnish the original and one copy of these records in report form to the Government daily within 24 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, prepare and submit one report for every 7 days of no work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the contract. The first report following a day of no work will be for that day only. Reports need to be signed and dated by the Contractor Quality Control(CQC) System Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC System Manager Report.

### 3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. 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. If the Contractor fails or refuses to comply promptly, the Contracting Officer can 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 will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

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RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM)

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements  
Manual

1.2 CONTRACT ADMINISTRATION

The Government and the Contractor shall use the Resident Management System (RMS), version 3.0, to assist in its monitoring and administration of this contract. The Contractor uses the Government-furnished Construction Contractor Mode of RMS, referred to as RMS CS, to record, maintain, and submit various information throughout the contract period. The Contractor mode user manuals, updates, and training information can be downloaded from the RMS web site (<http://rms.usace.army.mil>). The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. RMS provides the means for the Contractor to input, track, electronically share, and manage all documents with the Government, including but not limited to, the following:

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

1.2.1 Correspondence and Electronic Communications

For ease and speed of communications, exchange correspondence and other documents in electronic format between the Government and Contractor.

1.2.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", Section 01 13 20 PROJECT SCHEDULE, Section 01 33 00 SUBMITTAL PROCEDURES, and Section 01 45 00.00 10 QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through RMS. Also, there is no separate payment for establishing and maintaining the RMS database; costs associated will be included in the contract pricing for the work.

### 1.3 RMS SOFTWARE

RMS is a Windows-based program that can be run on a Windows based PC meeting the requirements as specified in paragraph SYSTEM REQUIREMENTS. The Government will make available the RMS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor will be responsible to download, install and use the latest version of the RMS software from the Government's RMS Internet Website. Any program updates of RMS will be made available to the Contractor via the Government RMS Website as the updates become available.

#### 1.3.1 RMS CONTRACTOR'S MODE (CM)

RMS Contractor's Mode or RMS CM is the replacement for Quality Control System or QCS. The database remains the same. References to RMS in this specification includes RMS CM.

### 1.4 SYSTEM REQUIREMENTS

The following is the minimum system configuration required to run RMS and Contractor Mode:

| Minimum RMS System Requirements |   |
|---------------------------------|---|
| Hardware                        |   |
| Windows-based PC                | 1.5 GHz 2 core or higher processor                    |
| RAM                             | 8 GB  |
| Hard drive disk                 | 200 GB space for sole use by the QCS system           |
|                                 |   |
| Monitor                         | Screen resolution 1366 x 768                          |
| Mouse or other pointing device  |   |
| Windows compatible printer      | Laser printer must have 4 MB+ of RAM                  |
| Connection to the Internet      | minimum 4 Mbs per user                                |
| Software                        |   |
| MS Windows                      | Windows 7 x 64 bit (RMS requires 64 bit O/S) or newer |
| Word Processing software        | Viewer for MS Word 2013, MS Excel 2013, or newer      |



| Minimum RMS System Requirements |  |
|---------------------------------|--|
| Microsoft.NET Framework         | Coordinate with Government QA Representative for free version required                                 |
| Email                           | MAPI compatible  |
| Virus protection software       | Regularly upgraded with all issued manufacturer's updates and is able to detect most zero day viruses. |

## 1.5 RELATED INFORMATION

### 1.5.1 RMS User Guide

After contract award, download instructions for the installation and use of RMS from the Government RMS Internet Website.

## 1.6 CONTRACT DATABASE

Prior to the pre-construction conference, the Government will provide the Contractor with basic contract award data to use for RMS. The Government will provide data updates to the Contractor as needed. These updates will generally consist of submittal reviews, correspondence status, Quality Assurance(QA) comments, and other administrative and QA data.

## 1.7 DATABASE MAINTENANCE

Establish, maintain, and update data in the RMS database throughout the duration of the contract at the Contractor's site office. Submit data updates to the Government (e.g., daily reports, submittals, RFI's, schedule updates, payment requests) using RMS. The RMS database typically includes current data on the following items:

### 1.7.1 Administration

#### 1.7.1.1 Contractor Information

Contain within the database the Contractor's name, address, telephone numbers, management staff, and other required items. Within 7 calendar days of receipt of RMS software from the Government, deliver Contractor administrative data in electronic format in RMS.

#### 1.7.1.2 Subcontractor Information

Contain within the database the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed. Assign each subcontractor/trade a unique Responsibility Code, provided in RMS. Within 7 calendar days of receipt of RMS 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 are 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

Contain within the Contractor's RMS database 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

RMS 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 RMS. Among these reports are: Progress Payment Request worksheet, Quality Assurance/Quality Control (QA/QC) comments, Submittal Register Status, Three-Phase Control checklists.

#### 1.7.1.6 Request For Information (RFI)

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

### 1.7.2 Finances

#### 1.7.2.1 Pay Activity Data

Include within the RMS database a list of pay activities that the Contractor develops in conjunction with the construction schedule. The sum of pay activities equals the total contract amount, including modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities equals the amount of each CLIN. The sum of all CLINs equals the contract amount.

#### 1.7.2.2 Payment Requests

Prepare all progress payment requests using RMS. Complete the payment request worksheet, prompt payment certification, and payment invoice in RMS. 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 RMS. Submit the payment request, prompt payment certification, and payment invoice with supporting data using RMS CM. The Contractor shall submit a pencil copy of requested quantities to the Quality Assurance Representative for verification.

### 1.7.3 Quality Control (QC)

RMS provides a means to track implementation of the 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 RMS generated daily report. Provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01 45 00.00 10

QUALITY CONTROL. Within seven calendar days of Government acceptance, submit a RMS 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.

RMS includes the means to produce the Daily CQC Report. The Contractor can use other formats to record basic Quality Control(QC) data. However, the Daily CQC Report generated by RMS must be the Contractor's official report. Summarize data from any supplemental reports by the Contractor and consolidate onto the RMS-generated Daily CQC Report. Submit daily signed CQC Reports as required by Section 01 45 00.00 10 QUALITY CONTROL. Electronically submit reports to the Government within 24 hours after the date covered by the report.

#### 1.7.3.2 Deficiency Tracking.

Use RMS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using its Quality Control (QC) punch list items. Maintain a current log of its QC punch list items in the RMS database. The Government will log the deficiencies it has identified using its Quality Assurance (QA) punch list items. The Government's QA punch list items will be included in its export file to the Contractor. 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 RMS. Update data on these QC requirements as work progresses, and promptly provide the information to the Government via RMS.

#### 1.7.3.4 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS.

#### 1.7.3.5 Labor and Equipment Hours

Log labor and equipment exposure hours on a daily basis. The labor and equipment exposure 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 provided via RMS CM. Regularly update the correction status of the safety comments. In addition, utilize RMS to advise the Government of any accidents occurring on the jobsite. A brief supplemental entry of an accident 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

Include a complete list of the features of work in the RMS database. A feature of work is 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 RMS CM to develop a hazard analysis for each feature of work included in the CQC Plan. The Activity Hazard Analysis will include information required by EM 385-1-1, paragraph 01.A.13.

#### 1.7.4 Submittal Management

The Government will provide the initial submittal register in electronic format. Thereafter, maintain a complete list of submittals, including completion of data columns. Dates when submittals are received and returned by the Government will be included. Use RMS CM to track and transmit submittals. ENG Form 4025, submittal transmittal form, and the submittal register update is produced using RMS. RMS will be used to update, store and exchange submittal registers and transmittals. In addition to requirements stated in specification Section 01 33 00 SUBMITTAL REQUIREMENTS, actual submittals are to be stored in RMS CM. Exception will be where the Contracting Officer specifies only hard copies required, where size of document cannot be saved in RMS CM, and where samples, spare parts, color boards, and full size drawings are to be provided.

#### 1.7.5 Schedule

Develop a construction schedule consisting of pay activities, in accordance with Section 01 13 20 PROJECT SCHEDULE. Input and maintain in the RMS database the schedule either manually or by using the Standard Data Exchange Format (SDEF) (see Section 01 13 20 PROJECT SCHEDULE). Include with each pay request the updated schedule. Provide electronic copies of transmittals.

#### 1.7.6 Import/Export of Data

RMS includes the ability to import schedule data using SDEF.

### 1.8 IMPLEMENTATION

Use of RMS CM as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS CM system. RMS CM is an integral part of the Contractor's management of quality control.

#### 1.9 MONTHLY COORDINATION MEETING

Update the RMS CM database each workday. At least monthly, generate and submit a schedule update. At least one week prior to submittal, meet with the Government representative to review the planned progress payment data submission for errors and omissions.

Make required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will not be accepted. The Government will not process progress payments until all required corrections are processed.

#### 1.10 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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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 78 00

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- 1.1 DEFINITIONS
  - 1.1.1 As-Built Drawings
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- 1.2 SUBMITTALS

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- 2.1 AS-BUILT DRAWINGS
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  - 2.1.2 Markup Guidelines
  - 2.1.3 Final As-Built Drawing Package

-- End of Section Table of Contents --

## SECTION 01 78 00

### CLOSEOUT SUBMITTALS

#### PART 1 GENERAL

##### 1.1 DEFINITIONS

###### 1.1.1 As-Built Drawings

As-built drawings are developed and maintained by the Contractor and depict actual conditions, including deviations from the Contract Documents. These deviations and additions may result from coordination required by, but not limited to: contract modifications; official responses to Contractor submitted Requests for Information; direction from the Contracting Officer; designs which are the responsibility of the Contractor, and differing site conditions. Maintain the as-builts throughout construction as red-lined hard copies on site and/or red-lined PDF files. These files serve as the basis for the creation of the record drawings.

###### 1.1.2 Record Drawings

The record drawings are the final compilation of actual conditions reflected in the as-built drawings.

##### 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. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-11 Closeout Submittals

As-Built Drawings; G

#### PART 2 EXECUTION

##### 2.1 AS-BUILT DRAWINGS

Provide and maintain two black line print copies and/or PDF version of the contract drawings for As-Built Drawings.

###### 2.1.1 As-Built Drawings Content

Provide 2 sets of paper copies and/or a PDF file of the contract drawings to show the as-built conditions by red-line process during the execution of the project. Keep these working as-built markup drawings current on a weekly basis and at least one set available on the jobsite at all times. Changes from the contract drawings which are made during construction or additional information which might be uncovered in the course of construction must be accurately and neatly recorded as they occur by means of details and notes. Submit the working as-built markup drawings for

approval prior to submission of each monthly pay estimate. For failure to maintain the working and final record drawings as specified herein, the Contracting Officer will withhold 10 percent of the monthly progress payment until approval of updated drawings. Show on the as-built drawings, but not limited to, the following information:

- a. The actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, show by offset dimensions to two permanently fixed surface features the end of each run including each change in direction on the record drawings. Locate valves, splice boxes and similar appurtenances by dimensioning along the utility run from a reference point. Also record the average depth below the surface of each run.
- d. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.
- e. Changes in details of design or additional information obtained from working drawings specified to be prepared or furnished by the Contractor; including but not limited to shop drawings, fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment, and foundations.
- f. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.
- g. Changes or Revisions which result from the final inspection.
- h. Where contract drawings or specifications present options, show only the option selected for construction on the working as-built markup drawings.
- j. Modifications (include within change order price the cost to change working as-built markup drawings to reflect modifications).
- l. Actual location of anchors, construction and control joints, etc., in concrete.
- m. Unusual or uncharted obstructions that are encountered in the contract work area during construction.
- n. Location, extent, thickness, and size of stone protection particularly where it will be normally submerged by water.

#### 2.1.2 Markup Guidelines

Make comments and markup the drawings complete without reference to letters, memos, or materials that are not part of the As-Built drawing. Show what was changed, how it was changed, where item(s) were relocated and change related details. These working as-built markup prints must be neat, legible and accurate as follows:

- a. Use base colors of red, green, and blue. Color code for changes as follows:
  - (1) Special (Blue) - Items requiring special information,



coordination, or special detailing or detailing notes.

(2) Deletions (Red) - Over-strike deleted graphic items (lines), lettering in notes and leaders.

(3) Additions (Green) - Added items, lettering in notes and leaders.

- b. Provide a legend if colors other than the "base" colors of red, green, and blue are used.
- c. Add and denote any additional equipment or material facilities, service lines, incorporated under As-Built Revisions if not already shown in legend.
- d. Use frequent written explanations on markup drawings to describe changes. Do not totally rely on graphic means to convey the revision.
- e. Use legible lettering and precise and clear digital values when marking prints. Clarify ambiguities concerning the nature and application of change involved.
- f. Wherever a revision is made, also make changes to related section views, details, legend, profiles, plans and elevation views, schedules, notes and call out designations, and mark accordingly to avoid conflicting data on all other sheets.
- g. For deletions, cross out all features, data and captions that relate to that revision.
- h. For changes on small-scale drawings and in restricted areas, provide large-scale inserts, with leaders to the applicable location.
- i. Indicate one of the following when attaching a print or sketch to a markup print:
  - 1) Add an entire drawing to contract drawings
  - 2) Change the contract drawing to show
  - 3) Provided for reference only to further detail the initial design.
- j. Incorporate all as-built shop, catalog cuts, and fabrication drawings into the markup drawings.

#### 2.1.3 Final As-Built Drawing Package

Submit the final record PDF drawings package for the entire project within 20 days of substantial completion of all phases of work. The package must be complete in all details and identical in form and function to the contract drawing files supplied by the Government.

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- 2.1 BIOENGINEERED STRUCTURES - WOODY BUNDLES
  - 2.1.1 Structure Materials
  - 2.1.2 Anchor Materials
  - 2.1.3 Cable Tie

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SECTION 31 32 39

BIOENGINEERING PRACTICES FOR PLACEMENT OF WOODY BUNDLES

PART 1 GENERAL

1.1 SUMMARY

The work by the Contractor consists of furnishing and installing bioengineered features in the form of woody bundles.

1.2 Measurement and Payment

Measure the standard binder by the placement of each woody bundle.

PART 2 DETAILS

2.1 BIOENGINEERED STRUCTURES - WOODY BUNDLES

2.1.1 Structure Materials

Woody bundles shall be constructed of gathered or procured dead timber with or without root wads attached. Timber shall have a minimum of 12 inches diameter and a maximum of 24 inches at mid-length. Timber can have branches as long as they don't interfere with securing timber to each other in a manner that retains the woody bundle integrity. Timber shall be a minimum of 12 ft in length and a maximum as the placement site and handling allows. Each woody bundle shall consist of 3 to 6 wood timbers. Timber species is not specified other than a hard wood material that is devoid of rot and decay.

2.1.2 Anchor Materials

Woody Bundle anchor material shall consist of weighted concrete block(s) weighing approximately 1200 lbs that can be secured to the woody bundle by a cable tie and are sufficient to hold the woody bundle in place during flood conditions.

2.1.3 Cable Tie

Woody bundles shall be secured with cable ties that can withstand the forces of the river as well as the movement of the structure for placement.

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DIVISION 32 - EXTERIOR IMPROVEMENTS

SECTION 32 22 73.22

STONE MATERIAL FOR RIVER TRAINING STRUCTURES

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- 1.2 GOVERNMENT TESTING AND STUDIES
  - 1.2.1 Stone
    - 1.2.1.1 General
    - 1.2.1.2 Sources and Evaluation Testing
- 1.3 GRADATION TESTS
- 1.4 SUBMITTALS
- 1.5 CERTIFIED WEIGHT TICKETS

PART 2 PRODUCTS

- 2.1 GRADED STONE A

PART 3 EXECUTION

-- End of Section Table of Contents --

SECTION 32 22 73.22  
STONE MATERIAL FOR RIVER TRAINING STRUCTURES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ASTM INTERNATIONAL (ASTM)

|           |  |
|-----------|--|
| ASTM C127 | (2007) Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate |
|-----------|--|

1.2 GOVERNMENT TESTING AND STUDIES

1.2.1 Stone

1.2.1.1 General

All stone shall be of a hard, durable quality such as will not disintegrate under the elements or be easily broken in handling. It shall be clean and free from earth, dust, or other refuse, except as otherwise provided in paragraph Graded Stone A. The faces of individual pieces of stone shall be roughly angular, not rounded, in shape. Field stone will not be accepted.

1.2.1.2 Sources and Evaluation Testing

All stone shall be obtained in accordance with the provisions in SPECIAL CLAUSES 00 08 00, STONE SOURCES. If the Contractor proposes to furnish stone from a source not listed in SPECIAL CLAUSES 00 08 00, the Government will make such investigations as necessary to determine whether acceptable stone can be produced from the proposed source. Satisfactory service records on work outside the Corps of Engineers will be acceptable. If no such records are available, the Government will make tests to ensure the acceptability of the stone. The tests to which the stone may be subjected will include petrographic analysis, specific gravity, abrasion, absorption, wetting and drying, freezing and thawing, and such other tests as may be considered necessary by the Contracting Officer. The following guidance is provided for use by the Contractor in analyzing a source of stone not listed in SECTION 00 08 00. Stone that either weighs less than 155 pounds per cubic foot or has more than 2 percent absorption will not be accepted unless other tests and service records show that the stone is satisfactory. The method of tests for unit weight and absorption will be ASTM C127, entitled "Standard Method of Test for Specific Gravity and Absorption of Coarse Aggregate." Samples of stone from a source not listed in SPECIAL CLAUSES 00 08 00 shall be submitted to the Contracting Officer for testing and acceptance prior to delivery of any stone to the worksite. Samples shall consist of at least seven pieces of stone, roughly cubical in shape and weighing not less than 100 pounds each. All such samples shall be taken by the Contractor under the supervision of the Contracting Officer. The samples shall be shipped at the Contractor's

expense to the Waterways Experiment Station, Vicksburg, Mississippi, at least 60 days in advance of the time the placing of the stone is expected to begin. The tests will be conducted in accordance with applicable Corps of Engineers methods of test given in the Handbook of Concrete and Cement, and will be performed at the Waterways Experiment Station, Vicksburg, Mississippi or other validated testing laboratory. The cost of testing shall be borne by the Contractor.

### 1.3 GRADATION TESTS

Gradation tests of stone shall be accomplished at the quarry in accordance with the test method attached at the end of this section. Tests by weight shall be made by the Contractor in the presence of the Contracting Officer's representative. The Contractor shall notify the Contracting Officer not less than 3 days in advance of each test. In the event of nonavailability of the Government representative, the Contractor may perform the tests and certify to the Contracting Officer that the stone shipped complies with the specifications. A minimum of one test shall be performed for each batch of 50,000 tons or less of stone purchased. Each test sample shall be representative of the stone being shipped and shall consist of not less than 50 tons for stone. Percentage determinations shall be made for each stone weight specified in paragraph GRADED A STONE. Gradation test data shall be recorded on LMV Form 602-R, "Gradation Test Data Sheet", a copy of which is shown at the end of this section. An initial gradation test on the stone shall be performed prior to delivery to the site. Failure of the test on the initial sample and on an additional sample will be considered cause for rejection of the quarry and/or quarry process, and all stone represented by the failed tests shall be set aside and not incorporated into the work. Any additional tests required because of the failure of an initial test sample will not be considered as one of the required tests. Certification and test results will represent stone shipped from the quarry and must be received by the Government representative before the stone is used in the work. The Contractor shall designate on the test form that portion (in tons) of the lot tested which is applicable to this contract. Any deviation from the reported tonnage shall be corrected on a revised gradation test form. The Contracting Officer may direct, under the Contract Clause "Inspection of Construction", additional testing of stone furnished to the worksite if the stone appears, by visual inspection, to be of questionable gradation or quality. Refer to paragraph GRADATION TESTS for the gradation test method.

### 1.4 SUBMITTALS

Government approval is required for all 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-06 Test Reports

##### Gradation Tests

The gradation tests shall be submitted using the GRADATION TEST DATA SHEET enclosed at end of this section.

##### Sources and Evaluation Testing

Quality tests on the stone in accordance with paragraph SOURCES AND EVALUATION TESTING shall be the responsibility of the Contractor and submitted for approval prior to delivery of such material to the worksite.

#### SD-07 Certificates

##### Graded Stone A

Certificates of compliance attesting that the materials meet specification requirements shall be submitted to the Contracting Officer.

##### Laboratory

A copy of the documents, provided by the Materials Testing Center (MTC) at CEWES or other governmental agency, that validates that the laboratory can perform the required tests. The individual tests shall be listed for which the validation covers along with the date of the inspection.

##### Scales

The Contractor shall submit certification stating the scales used were tested and approved by the local authority.

##### Certified Weight Tickets

#### 1.5 CERTIFIED WEIGHT TICKETS

Stone weight will be determined from certified weight tickets which shall be furnished by the Contractor without additional cost to the Government. A certified weight ticket shall be defined as each truck being weighed empty, and again when loaded and the ticket, identified by the Contractor's name and the contract number, signed by the approved quarry representative with the statement "certified correct". This procedure shall be followed for each load hauled. The Contractor shall initial each ticket to verify the accuracy and completeness of each ticket before submitting it to the Government. Certification stating the scales were tested and approved by the local authority shall be furnished by the Contractor.

#### PART 2 PRODUCTS

##### 2.1 GRADED STONE A

Graded Stone A used for repair or construction of revetments or structures shall conform to the following table:

GRADED STONE A

| STONE WEIGHT<br>POUNDS | CUMULATIVE PERCENT<br>FINER BY WEIGHT |
|------------------------|---------------------------------------|
| 5,000                  | 100                                   |
| 2,500                  | 70 - 100                              |
| 500                    | 40 - 65                               |
| 100                    | 20 - 45                               |
| 5                      | 0 - 15                                |
| 1                      | 0 - 5                                 |

PART 3 EXECUTION

Not Applicable.

-- End of Section --



## STANDARD TEST METHOD FOR GRADATION OF RIPRAP

- A. Select a representative sample (Note No. 1), weigh and dump on hard stand.
- B. Select specific sizes (see example) on which to run "individual weight larger than" test. (See Note No. 2). Procedure is similar to the standard aggregate gradation test for "individual weight retained."
- C. Determine the largest size stone in the sample. (100 percent size)
- D. Separate by "size larger than" the selected weights, starting with the larger sizes. Use reference stones, with identified weights, for visual comparison in separating the obviously "larger than" stones. Stones that appear close to the specific weight must be individually weighed to determine size grouping. Weigh each size group, either individually or cumulatively.
- E. Paragraph d above will result in "individual weight retained" figures. Calculate individual percent retained (heavier than), cumulative percent retained, and cumulative percent passing (lighter than). Plot percent passing, along with the specification curve on Eng Form 4055.

## Notes

1. Sample Selection. The most important part of the test and least precise is the selection of a representative sample. No "standard" can be devised; larger quarry run stone is best sampled at the shot or muck pile by given direction to the loader; small graded riprap is best sampled by random selection from the transporting vehicles. If possible, all parties should take part in the sample selection, and agree before the sample is run, that the sample is representative.
2. Selection of Size for Separation. It is quite possible and accurate to run a gradation using any convenient sizes for the separation, without reference to the specifications. After the test is plotted on a curve, the gradation limits may be plotted. Overlapping gradation with this method are no problem. It is usually more convenient, however, to select points from the gradation limits, such as the minimum 50 percent size, the minimum 15 percent size, and one or two others, as separation points.

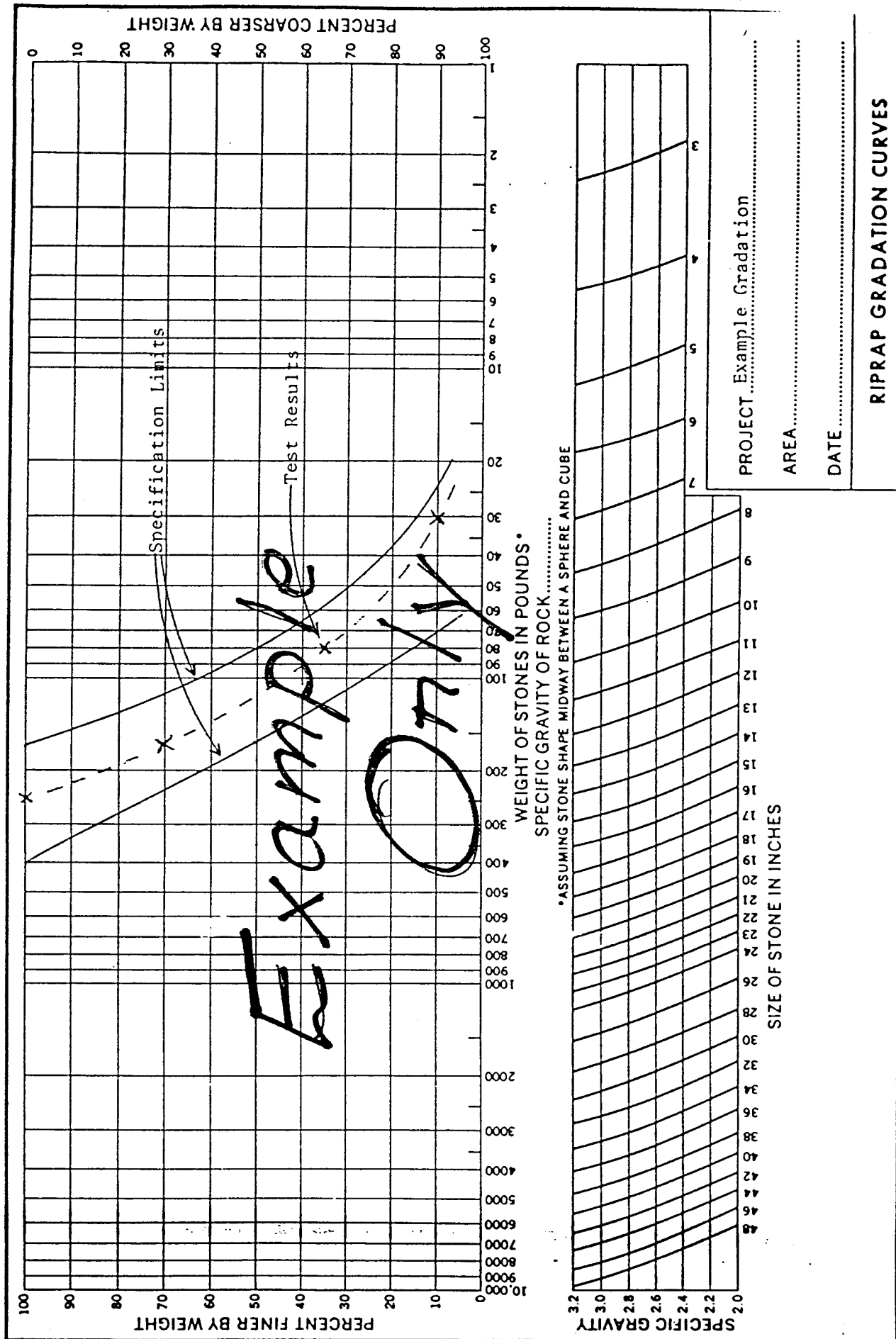
Example GradationSpecifications

| <u>Stone Weight in Lbs</u> | <u>Percent Finer by Weight</u> |
|----------------------------|--------------------------------|
| 400-160                    | 100                            |
| 160-80                     | 50                             |
| 80-30                      | 15                             |

Example Worksheet

| <u>Stone Size<br/>Lbs</u> | <u>Individual<br/>Wt. Retained</u> | <u>Individual<br/>Percent Retained</u> | <u>Cumulative<br/>Percent<br/>Retained</u> | <u>Cumulative<br/>Percent<br/>Passing</u> |
|---------------------------|------------------------------------|--|--|---|
| 400                       | 0                                  | 0                                      | -  | 100                                       |
| 160                       | 9,600                              | 30                                     | 30   | 70  |
| 80                        | 11,200                             | 35                                     | 65   | 35  |
| 30                        | 8,000                              | 25                                     | 90   | 10  |
| 30                        | <u>3,200</u>                       | 10                                     | 100  | -   |
|                           | 32,000 lbs                         |  |  |   |

NOTE:  
Largest stone 251 lbs



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# GRADATION TEST DATA SHEET

Sample No. : \_\_\_\_\_  
 Type of \_\_\_\_\_  
 Stone Tested \_\_\_\_\_  
 Quarry \_\_\_\_\_  
 Date of Test \_\_\_\_\_ Testing Rate \_\_\_\_\_ Tons  
 Contractor \_\_\_\_\_ Location \_\_\_\_\_

## TEST REPRESENTS

Tons

[illegible]

## GRADATION

**Specification**  
**% Finer by wt**

|              |  |  |  |  |  |
|--------------|--|--|--|--|--|
|              |  |  |  |  |  |
|              |  |  |  |  |  |
|              |  |  |  |  |  |
|              |  |  |  |  |  |
|              |  |  |  |  |  |
|              |  |  |  |  |  |
|              |  |  |  |  |  |
|              |  |  |  |  |  |
|              |  |  |  |  |  |
|              |  |  |  |  |  |
| Total Weight |  |  |  |  |  |

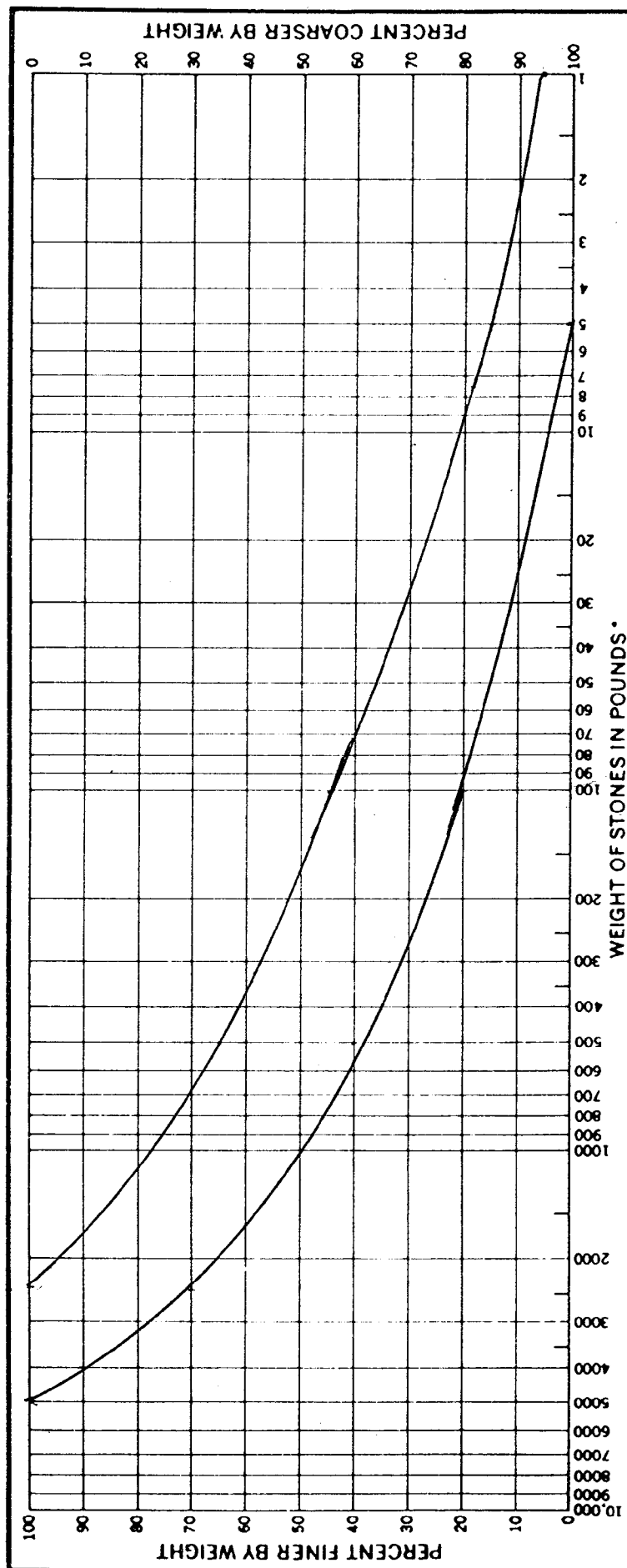
Remarks: \_\_\_\_\_

I certify that the above stone sample is representative of the total tonnage covered by this test report:

Contractor Representative \_\_\_\_\_

Government Representative \_\_\_\_\_

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STONE WEIGHT  
(LBS.)

CUMULATIVE %  
FINER BY WEIGHT

|      |          |
|------|----------|
| 5000 | 100      |
| 2500 | 70 - 100 |
| 500  | 40 - 65  |
| 100  | 20 - 45  |
| 5    | 0 - 15   |
| 1    | 0 - 5    |

NOT MORE THAN 5 PERCENT BY WEIGHT FINER  
THAN 1/2-INCH SCREEN.

GRADATION  
GRADED STONE A

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35 22 23.22

RIVER TRAINING STRUCTURES CONSTRUCTION DETAILS - **ILLINOIS RIVER, MILES 80-0**

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- 1.1 SCOPE
- 1.2 QUALITY CONTROL
- 1.3 RIVER STAGE AND WEATHER LIMITATIONS
  - 1.3.1 No Work Stages
  - 1.3.2 Low River Stages
    - 1.3.2.1 Shallow Draft Work Locations
  - 1.3.3 Revetment Repair
- 1.4 Types of Work
- 1.5 SHALLOW DRAFT CAPABILITIES

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PART 3 EXECUTION

- 3.1 ORDER OF WORK
  - 3.1.1 Work Locations
- 3.2 CONSTRUCTION PROCEDURE
- 3.3 REMOVAL OF DRIFT AND DEBRIS
- 3.4 GRADED STONE A REPAIR/CONSTRUCTION
  - 3.4.1 Stone Fill Structures
  - 3.4.2 Grade and Section
  - 3.4.3 Order of Placement
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  - 3.4.7 Stone Revetment
- 3.5 REVETMENT STONE REPAIR
- 3.6 CLEARING
- 3.7 GRADING
- 3.8 SURVEYS
- 3.9 CONSTRUCTION TOLERANCES
- 3.10 MODIFICATION OF WORK

-- End of Section Table of Contents --

## PART 1 GENERAL

## 1.1 SCOPE

The work provided for herein consists of furnishing all plant, labor, material, and equipment and performing all operations in connection with the construction of new stone structures and revetments and appurtenant work in accordance with this section of the specifications and the applicable drawings.

## 1.2 QUALITY CONTROL

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

- (a) Location of work.
- (b) Removal of debris other than woody material or as needed to access the worksites.
- (c) Grade and section of structures.
- (d) Stone placement.

## 1.3 RIVER STAGE AND WEATHER LIMITATIONS

## 1.3.1 No Work Stages

No work will be permitted during extreme flood conditions, unless specifically authorized by the Contracting Officer.

When construction work is prevented during such times and because of such actions, the Contracting Officer will determine the extent of the delay to the work as a whole, and the time fixed for completion of the contract will be extended for the period of such delay.

Work may be performed at River stages up to one foot over the finished grade of the structure being worked on at the time of completion unless authorized by the Contracting Officer.

## 1.3.2 Low River Stages

## 1.3.2.1 Shallow Draft Work Locations

Low River stage for worksites designated as "Shallow Draft Work Location" shall be any stage resulting in less than 4 feet of water depth at the worksite or access to the worksite. In the event the Contractor encounters these low stages with no other priority worksite accessible for work, the contract period of performance will be extended day-for-day for each day of low river delay.

### 1.3.3 Revetment Repair

Placement of Graded Stone A will be permitted at all river stages below flood stage, except that subaqueous placement of stone will be as directed by the Contracting Officer.

### 1.4 Types of Work

| Type | Description   | Material       |
|------|---|----------------|
| I    | Repair/place revetment from toe of slope up to top of natural high bank.                    | Graded Stone A |
| II   | Restore existing stone structure to elevation and length specified.                         | Graded Stone A |
| III  | Stone/pile removal/notch from structure or revetment within limits and elevation specified. | Graded Stone A |
| IV   | Repair roundout at dike head with stone blanket or toe dike.                                | Graded Stone A |
| V    | Raise/Extend existing structure.  | Graded Stone A |
| VI   | Scour hole repair with stone blanket as specified.  | Graded Stone A |
| VII  | Construct Structure as specified.   | Graded Stone A |
| VIII | Construct Weir as specified.  | Graded Stone A |
| IX   | Construct a bullnose to protect island head.  | Graded Stone A |
| X    | Place Gradual Slope Revetment (GSR) as specified.   | Graded Stone C |
| XI   | Construction access may require shallow capabilities.                                       | N/A            |
| XII  | Stone removal from navigation channel.  | N/A            |
| XIII | Place Rock Riffle at length and width specified.  | Graded Stone C |
| XIV  | Placement of Woody Bundles  | N/A            |

No lumber mattress, piles or stringers will be required under this contract. Woody debris located on site should be incorporated into the revetment or structure when possible.

### 1.5 SHALLOW DRAFT CAPABILITIES

Shallow draft work locations are called out in the contract drawings and also identified in the comments column in the below list of work locations. Special considerations shall be made by the Contractor to ensure their capability to access and perform this work at a River stage resulting in a minimum of 4 feet water depth.

## PART 2 PRODUCTS

### 2.1 STONE

Stone shall conform to requirements of Section 32 22 73.22 - STONE MATERIAL FOR RIVER TRAINING STRUCTURES.

## PART 3 EXECUTION

### 3.1 ORDER OF WORK

The areas to be repaired are shown on the plans and listed in paragraph Work Locations. Work sites may, or may not be included in the contract drawings at time of award. Any work added after award within the project limits (Illinois River Miles 80.0 to 0.0) and scope shall not be considered a contract change. In order that the Contractor may take advantage of higher river stages which occur during the construction season, the Contractor may be permitted to proceed with placing of stone only on the upper part of the revetment. Stockpiling of stone on the revetment will not be permitted. When river stages are such that work can be performed on the lower portion of the revetment or structures, the Contractor shall return, at its own expense, to the first location at which work is thereafter directed, and complete all work required on the revetment or structures. In the event that river stages force cessation of work at any locality, and if similar work is required and can be performed at another locality within the contract reach, such work will be made available to the Contractor. All expenses in moving to the new locality and returning to the original location, when conditions again permit work to be performed, shall be borne by the Contractor.

#### 3.1.1 Work Locations

| <u>Location/Mile</u> | <u>Type</u>    | <u>Comments</u>  |
|----------------------|----------------|--|
| 77.5 R               | I, VII, IX, XI | Place a 300 ft bullnose at the head of Moores Towhead with a top elevation of 428 ft NAVD88. Place 640 ft of revetment along the main channel side of Moores Towhead, starting adjacent to the end of the bullnose leg and ending at the navigation marker. A channel should remain between the bullnose and revetment with a bottom elevation between 420 and 418 ft NAVD88. This worksite will require shallow draft capabilities. |
| 77.5 R               | XI, XIV        | Place 3 woody bundles behind the bullnose and upstream of Moores Towhead. This worksite will require shallow draft capabilities.   |

### 3.2 CONSTRUCTION PROCEDURE

Before work is to begin at any locality, the Contractor shall inspect that locality with an authorized representative of the Contracting Officer. The Contractor shall ascertain the types and approximate quantities of materials and equipment necessary to perform the repairs indicated at that

locality and shall have sufficient supplies and equipment available for use at the said locality in time to permit the work to begin and progress without delay.

### 3.3 REMOVAL OF DRIFT AND DEBRIS

The Contractor is allowed to remove any incidental drift, timber, and debris which has accumulated on the banks to the extent necessary to provide clear working space for making the required repairs. However, where possible, woody debris located on site should be incorporated into the revetment and/or structure. This is not a payable bid item when it is incidental to accessing a worksite.

When the work order is to remove debris as a project it will be paid as a clin.

### 3.4 GRADED STONE A REPAIR/CONSTRUCTION

#### 3.4.1 Stone Fill Structures

The location and length of each structure or section thereof to be constructed or repaired shall be in accordance with the drawings for paragraph Work Locations. The repairs shall be constructed with Graded Stone A, conforming to the requirements of Section 32 22 73.22, placed as specified.

#### 3.4.2 Grade and Section

The elevation or grade at the crest of each structure shall be constructed as shown on the plans or in paragraph Work Locations. The crown width for each dike shall be 6 feet unless otherwise directed by the Contracting Officer's Representative and the side slopes shall be determined by the angle of repose, approximately 1V on 1.5H.

#### 3.4.3 Order of Placement

Placement of stone in a structure shall be started at the end nearest the bank and proceed continuously toward the riverward end. When, in the opinion of the Contracting Officer, river stages are such as to restrict operations at the landward end, the Contracting Officer reserves the right to direct the Contractor by written notice to either lighten the barges or resort to other equipment, in which event an equitable adjustment will be made in accordance with Contract Clause entitled "Changes". For the underwater portion of the dike the stone shall be placed in approximately uniform layers not exceeding 4 feet in thickness, proceeding riverward from the bank. Each layer shall be carried the entire length of the structure and low areas and gaps shall be brought up to the desired elevation before proceeding with the next lift. That portion of the dike above the water may be placed in one lift. When scouring of the river bed occurs, the Contractor shall blanket the center 10 foot width of the structure base for the entire length of the structure with stone to a depth of 4 feet before placing the remainder of the stone for the structure. The Contractor is advised that should the total estimated quantity of stone, as shown on the Bidding Schedule, be placed prior to completing the repairs at all locations specified in paragraph Work Locations, the work under this contract may, at the discretion of the Contracting Officer, be considered complete, regardless of the total number of locations repaired.

#### 3.4.4 Placement

The stone shall be placed in the structures in such manner as to produce a reasonably well graded mass of stone. The material may be placed by crane or dragline equipped with skip, grapple, rock bucket or clamshell or other approved equipment. The material above the water surface shall be rearranged or shaped to the prescribed section after placement.

Additional material shall be added below the water surface as directed if soundings or sections indicate such to be necessary. The larger stones shall be well distributed throughout the mass and the finished dike shall be free from pockets of small stones and clusters of large stones.

#### 3.4.5 Bank Protection Repairs at Structures

Bank protection repairs may include adding Graded Stone A to the existing structures as necessary to restore the original grade and section adjacent to stone fill dikes. The location and extent of each type of work shall be as directed by the Contracting Officer pursuant to paragraphs Work Locations and CONSTRUCTION PROCEDURE. The repairs shall be constructed with Graded Stone A conforming to the requirements of Section 32 22 73.22 and placed as specified in paragraph Placement.

#### 3.4.6 Stone Foundation

A stone foundation shall be constructed when required to stabilize the bank adjacent to a structure or within a reach of bank protection repairs. The stone foundation shall be constructed of Graded Stone A conforming to the requirements of Section 32 22 73.22 and placed as specified in paragraph Placement.

#### 3.4.7 Stone Revetment

Stone revetment shall consist of a course of Graded Stone A with a minimum thickness of 30 inches. The limits of the area to be paved at dike heads, on slopes behind roundouts, and on specified areas of bankline shall be as directed by the Contracting Officer. Where necessary to make connection with subaqueous work, the bank protection may be extended by placement of stone under water. The limits of underwater paving and the amounts required shall be as directed by the Contracting Officer.

#### 3.5 REVETMENT STONE REPAIR

Bank protection repairs may include adding Graded Stone A to the existing revetment to restore the original grade and section and placing stone a minimum of 30 inches thick on areas eroded by wavewash or ice. The location and extent of each type of work shall be as directed by the Contracting Officer pursuant to paragraph Work Locations. The repairs shall be constructed with stone conforming to the requirements of Section 32 22 73.22 and placed as specified in paragraph Placement.

#### 3.6 CLEARING

No bank clearing is anticipated.

#### 3.7 GRADING

No bank clearing is anticipated.

### 3.8 SURVEYS

No surveys are required unless otherwise stated.

### 3.9 CONSTRUCTION TOLERANCES

The finished surface and stone layer thickness shall not deviate from the lines and grades shown by more than the tolerances listed below. Tolerances are measured perpendicular to the indicated neatlines.

| Construction Tolerances |                                      |                                     |
|-------------------------|--------------------------------------|-------------------------------------|
| Feature                 | ABOVE (outside)<br>NEATLINE (inches) | BELOW (inside)<br>NEATLINE (inches) |
| Dike Crown Elevation    | 24                                   | 12                                  |
| Dike Crown Width        | 36                                   | 12                                  |
| Dike Slope              | 1.75H:1V                             | 1.25H:1V                            |
| Weir Crown Elevation    | 12                                   | 24                                  |
| Weir Crown Width        | 36                                   | 12                                  |
| Weir Upstream Slope     | 1.75H:1V                             | 1.25H:1V                            |
| Weir Downstream Slope   | 4H:1V                                | 2H:1V                               |
| Weir/Dike Degradation   | 0                                    | 24                                  |
| Revetment - Bank Paving | 12                                   | 12                                  |
| Revetment - Caving Bank | 24                                   | 12                                  |

### 3.10 MODIFICATION OF WORK

The work locations shown on the plans and listed in the specifications and the quantities shown on the Bidding Schedule are estimated requirements based on existing available surveys, including soundings, and anticipated conditions in the field at the time of construction. Additional surveys by the Government, and/or actual field conditions which develop as the work proceeds, may make it desirable to increase or decrease the amount of work, shift the work location, modify lengths and heights, add to or eliminate the bank protection, and/or stone foundations required at the structures, and/or increase or decrease the quantities of stone required, in which case the Government reserves the right to make any or all of the aforesaid changes, within the scope of this section which changes may extend the work to embrace locations anywhere on the Illinois River between River Miles 80-0, without change in the contract unit prices.

-- End of Section --