

CONSTRUCTION STANDARD SPECIFICATION

SECTION 11000

HEAVY EQUIPMENT RELOCATION AND PLACEMENT

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SECTION 11000

HEAVY EQUIPMENT RELOCATION AND PLACEMENT

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. This section includes the moving, disassembling, crating, relocation and placement, uncrating, cleaning, lubricating, and assembling of equipment.
2. The touch-up of finishes and replacement or repair of damaged components and/or equipment as a result of work on this contract is included in this specification.

B. Related Sections: Refer to the following sections for related work:

1. Section 03300, "Cast-in-Place Concrete" for anchor bolt installation in concrete.
2. Section 05500, "Metal Fabrications" for miscellaneous metal fabrications.
3. Section 09900, "Painting."

1.02 REFERENCES

A. American Society of Testing and Materials (ASTM)

A307 Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength

C1107 Specification for Packaged Dry, Hydraulic Cement Grout (non-shrink)

B. Federal Specifications (FS)

FF-S-325 Shield, Expansion; Nail, Expansion; and Nail, Drive Screw (Devices, Anchoring, Masonry)

- C. Code of Federal Regulations (CFR)
 - Title 29 Part 1910 Labor - Occupational Safety and Health Standards
 - Title 29 Part 1926 Safety and Health Regulations for Construction
- D. Corps of Engineers (CE)
 - CRD C621 Specification for Non-shrink Grout
- E. Sandia National Laboratories (SNL)
 - Hoisting and Rigging Supplement Manual

1.03 DEFINITIONS

- A. "Approved" - Listed, labeled or certified by a Nationally Recognized Testing Laboratory (NRTL).
- B. "Critical Lifts" - Any lift, regardless of size or complexity, where the effects of collision, dropping or upset could result in one or several of the following:
 - 1. Significant work delay or programmatic impact.
 - 2. Significant damage to long-lead procurement items.
 - 3. Injury to personnel.
 - 4. Release of radioactivity or hazardous materials.
 - 5. Damage to monitoring/control systems necessary for safety control.

1.04 SUBMITTALS

General: Submit the following in accordance with conditions of contract and Section 01330, "Submittal Procedures."

- A. Product Data: Submit product data or manufacturer's specifications and installation instructions for the following products. Include laboratory tests, reports and other data to show compliance with specification.
 - 1. Anchor bolts (each type), include shear and tension capacities.
 - 2. Expansion anchors (each type), include shear and tension capacities.
 - 3. Non-metallic shrinkage-resistant grout.
- B. Moving Plan: The moving Contractor shall submit a moving plan of the proposed relocation and/or placement of equipment prior to any moves. The moving plan shall include sketches, details, moving procedures, safety devices, type of equipment used, rigging plans, anticipated utility shutdowns, and items of work to be performed, including moving on to the job site and clean-up of the mobilization

site upon completion of the work, all within the allotted contract time. The moving Contractor shall contact the equipment manufacturer for moving procedures, plans, disassembly and assembly procedures prior to start of move.

- C. Proof of Insurance: The moving Contractor shall furnish written certificates evidencing proof of liability and property damage insurance in the amount of the required coverage.
- D. License: The moving Contractor shall submit copies of state license.

1.05 QUALITY ASSURANCE

- A. All equipment will require some degree of accuracy for level after placement. These tolerances usually will be established on the contract drawings. In the absence of specific tolerances and instructions, the beds of equipment will be leveled through the use of a machinist's level. All equipment shall receive a steel leveling pad placed under each leveling screw. These pads shall be Contractor furnished unless stated otherwise on the contract drawings. Equipment shall be connected to the floor after leveling with anchor bolts or expansion anchors unless stated otherwise on the contract drawings. Unless stated otherwise, the minimum connection, for bid purposes, shall be equal to the present connection for equipment scheduled for relocation, and/or a connection equal to similar equipment at the site for new equipment.
- B. The moving Contractor shall be insured for the full replacement value of the equipment being moved, in addition to the amount of the Contract.
- C. The moving Contractor shall be a state licensed mover and/or have a minimum of three (3) years experience in moving equipment of similar size and cost. Movers shall either be of a journeyman millwright status or meet all the requirements for journeyman millwright status.
- D. The moving Contractor shall be solely responsible for any loss or destruction of, or damage to the facilities and for the safe transport of the equipment. The moving Contractor shall replace any damaged equipment at no cost to Sandia National Laboratories (SNL).
- E. The moving Contractor shall use approved safety devices.

1.06 SEQUENCE AND SCHEDULING

- A. The moving Contractor shall notify the Sandia Construction Observer five (5) business working days prior to the proposed move.
- B. Stand-By Time: The Contractor will be required to have his personnel available upon completion of the placement of equipment and after the connection of utilities, exhaust and other services required for proper operation, until the installation of the item has been approved by the Sandia Construction Observers. The Contractor shall correct any deficiencies within 24 hours of notification during equipment start-up.

PART 2 - PRODUCTS

2.01 MATERIAL

- A. Anchor Bolts: ASTM A307, nonheaded type unless otherwise indicated.
- B. Expansion Anchors: Expansion anchors complying with FS FF-S-325.
- C. Non-Metallic Shrinkage-Resistant Grout: Premixed, non-metallic, non-corrosive, non-staining product containing selected silica sands, Portland Cement, shrinkage compensating agents, plasticizing and water-reducing agents, complying with ASTM C1107 (formerly referenced as CE CRD C621).

Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to, the following:

- 100 Non-shrink Grout (non-metallic) - Conspec, Inc.
- Crystex - L&M Construction Chemicals, Inc.
- Euco Non-shrink Grout - Euclid Chemical Co.
- Kemset - Chem-Masters Corp.
- SonogROUT - Sonneborn Building Products Div., Rexnord Chemical Products, Inc.
- Supreme Grout - Cormix, Inc.
- Sure-Grip High Performance Grout - Dayton Superior
- Vibropruf #41 - Lambert Corp.

PART 3 - EXECUTION

3.01 WORK AREA

- A. Relocate equipment and items only when designated on contract drawings and/or equipment lists or elsewhere in the contract documents.
- B. All Contractor equipment and material shall be kept in a designated area except during time of actual usage. Since there may be others working in the area, operations shall be restricted to designated work areas and routes of access and egress so as to minimize interruptions of normal operations.

3.02 AISLEWAY BLOCKAGE

- A. If the equipment to be moved is more than half the width of the corridor through which it is to be transported, the equipment shall be moved during non-standard hours. No equipment shall be moved without the presence of the Sandia Construction Observer.
- B. No equipment shall be left in corridors during the move:

3.03 UTILIZATION OF EXISTING EQUIPMENT

Where overhead bridge cranes, monorails and/or hoists are existing, the moving Contractor may make arrangements to utilize such equipment in performance of his work. All such arrangements shall be made with the Sandia Delegated Representative (SDR) and the Sandia Construction Observer; however, use of such equipment is not guaranteed. Approval for use of SNL existing equipment will be determined by its availability, capacity, contractor operator's training, maintenance and required utilization by Owner. In order for the contractor to use and operate SNL cranes they must be experienced crane operators and have completed SNL Crane and Rigging Training or equivalent documented training courses. Only experienced riggers will be allowed to do any rigging. Riggers' requirements are to be documented as to experience and training. Mobile crane operators must be able to show experience, training and licensing per Section 1.04.

3.04 CRITICAL LIFTS

If a lift is determined to be a critical lift, then the contractor will have to follow Chapter 4 of the SNL Hoisting and Rigging Supplement Manual.

3.05 PREPARATION

Clean and prep area to receive equipment. Verify that all needed utilities have been installed prior to any equipment moves.

3.06 DISCONNECT

Disconnect utilities to equipment to be moved unless directed otherwise. Do not shut down existing utilities without prior consent of the Sandia Construction Observer. Cap all utility disconnects unless directed otherwise by the contract documents.

3.07 RELOCATION AND REINSTALLATION OF EQUIPMENT

Relocate and reinstall equipment per approved moving plan and manufacturer's installation instructions. All equipment shall be fully covered for protection from dirt, water, etc., during transit. Re-connect utilities to match connections to equipment prior to move unless directed otherwise by the contract documents. Do not shut down existing utilities without prior consent of Sandia Construction Observer.

3.08 TOUCH-UP PAINTING

Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint. Apply paint to exposed areas using same material as used for shop painting. Repair and touch-up paint areas of wall damaged during transit of equipment. Match existing wall color.

Apply by brush or spray to provide minimum dry film thickness of 3.0 mils (.076 mm). Completely enclose area to be painted with plastic prior to painting.

3.09 CLEANUP

It shall be the Contractor's responsibility during the course of the work to maintain a clean and neat work site. Upon removal and/or installation of equipment, all unused anchor bolts and/or expansion anchors shall be removed, and any holes in floor and floor finishes shall be patched immediately (match existing adjacent flooring unless noted otherwise). Upon completion of the work, the work site(s) shall be cleaned of all debris, Contractor's equipment, anchor bolts, associated protective equipment, barricades, and crating. All work shall be as noted in the contract documents and to the satisfaction of the SDR.

END OF SECTION