

ANSI B30.2	Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)
ANSI B30.9	Slings
ANSI B30.10	Hooks
ANSI B30.16	Overhead Hoists (underhung).
ANSI B30.20	Below - the - Hook Lifting Devices.
ANSI MH 27.1	Specifications for Underhung Crane and Monorail Systems.
ASTM A 36	Specification for Structural Steel.
CCR	California Code of Regulations, Title 8, Div. 1, Chapter 4, Subchapter 7, Group 13.
CMA	Crane Manufacturer's Association of America.
NEMA	National Electrical Manufacturers Association.

1.4 CONTRACTOR SUBMITTALS

- A. Submittals shall be made in accordance with the General Requirements.
- B. Shop Drawings: The CONTRACTOR shall submit complete shop drawings of all hoist and crane equipment in accordance with the General Requirements. Such shop drawings shall include all electrical requirements, weights, wheel loads, dimensions, and clearances required.
- C. O & M Manuals: The CONTRACTOR shall furnish to the ENGINEER [10] copies of complete operating and maintenance instructions of all the hoist and crane systems as specified in the TECHNICAL MANUALS of the General Requirements.
- D. Tools and Spare Parts: The CONTRACTOR shall supply one complete set of special wrenches or other special tools necessary for the assembly, adjustment, and dismantling of the equipment. All tools shall be of best quality and furnished in labeled tool boxes of suitable design.
- E. Each piece of equipment shall be furnished with one year's supply of lubricants, as well as spare parts as recommended by the manufacturer, such as bearings, drive belts, seals, washers, rings, and any other parts subject to wear or frequent replacement. All parts shall be properly labeled and identified with the name and number of the equipment to which they belong.
- F. The Contractor shall submit all the required written certifications from Manufacturer showing that the equipment is in compliance with all applicable codes and standards.

1.5 QUALITY ASSURANCE

- A. Inspection and Testing Requirements: After erection, the CONTRACTOR shall inspect and test all hoists and crane systems in the presence of the manufacturer's service representative, for proper operation and conformance with the Specifications.

\$# _____

NTS: If load test is required, specifier shall consult Structural Division for testing procedure.

#\$

1.6 MANUFACTURER'S SERVICE REPRESENTATIVE

- A. The CONTRACTOR shall have the equipment manufacturer for each piece of equipment provide the services of a trained, qualified representative for at least one day after the units are put in proper working order, or as otherwise specified, for the purpose of inspecting the installation and instructing the CITY's operating personnel.

PART 2 -- PRODUCTS

2.1 GENERAL

- A. The CONTRACTOR shall furnish and install all hoist and crane equipment specified below. Equipment of similar design shall be from the same manufacturer.
- B. The capacity of each hoist and trolley shall be permanently marked in a conspicuous manner on the equipment. The wire rope reeving shall be of the two-part double, cross mounted or similar appropriate type, to provide a true, vertical lift without drift, unless otherwise specified.
- C. All hooks shall be safety type with latch.
- D. The CONTRACTOR shall verify all dimensions and clearances in the field prior to erection and shall be responsible for the proper fitting and operation of the equipment.
- E. Manufacturers, or Equal:
 - 1. Abell-Howe Company
 - 2. ACCO Babcock, Inc., (Wright);
 - 3. American Monorail;
 - 4. Cleveland Tramrail;
 - 5. Lift Tech International, Inc.;
 - 6. ETN Material Handling (Yale)

7. Spanmaster, a Division of Jervis B. Webb Co.;
8. Thern, Inc., (Cal South Equipment Co.);
9. B. E. Wallace Products Corporation.

2.2 BASIC MATERIALS

- A. All materials used must be new and of the best commercial grade. Where materials are not specified, the CONTRACTOR shall have the manufacturer use the most suitable selection for the given application and environment.

2.3 PLANT FABRICATED ITEMS

- A. All fabrication, assembly, and welding shall be carried out by factory-trained specialists and certified welders.

PART 3 -- EXECUTION

3.1 GENERAL REQUIREMENTS

- A. All hoist and crane equipment shall be installed in strict accordance with the manufacturer's printed instructions and the CONTRACTOR shall arrange to have all installation performed under the guidance of the manufacturer's field representative.

3.2 WORKMANSHIP

- A. The workmanship shall be in accordance with the referenced standards and codes.

3.3 INSTALLATION; CONSTRUCTION; APPLICATION; ERECTION; ETC.

- A. Care shall be taken, that the structural integrity of beams, columns, walls, floors, and roofs will be maintained at all times.

3.4 EXECUTION OF TEST PROCEDURES; VALIDATION; ETC.

- A. After completion of the WORK, the CONTRACTOR shall test all hoist and crane equipment in the presence of the manufacturer's field representative, who shall certify in writing that the equipment meets all applicable standards and specifications.

* * * * *