

SECTION 23 00 10 - BASIC REQUIREMENTS – HVAC CONSTRUCTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Non-technical/Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes general administrative and procedural requirements for HVAC installations. Administrative and procedural requirements are included in this Section and in other Non-technical/Division 01 Specification Sections.

1.3 PERMITS AND FEES

- A. Refer to Non-technical/Division 01 Specification Sections, General Conditions of The Contract, for information relating to permits and fees.

1.4 PROJECT SCHEDULE

- A. Refer to Non-technical/Division 01 Specification sections for contract completion time and project construction schedule.

1.5 SHOP DRAWINGS AND SUBMITTALS

- A. Follow the procedures specified in the Non-technical/Division 01 Specification Sections. Also refer to individual sections of the Division 23 specifications for additional shop drawing and submittal requirements.
- B. It is the responsibility of the contractor to thoroughly review any and all shop drawings prior to submission to the Architect/Engineer. The contractor's review shall include verifying conformance to the project documents. The contractor will also be responsible for verifying the quantities of materials are adequate.
- C. All shop drawings shall be submitted with a cover sheet indicating the name of the project, the Architects and Engineers name, the name of the vendor and the contractor. There must be sufficient space on the title sheet to allow the appropriate stamping by both the Architect and the Engineer. Shop drawings and submittals not conforming to the above may be returned without review.
- D. All shop drawing submittals will include a listing of any and all exceptions to the requirements indicated in the specifications and on the drawings. Where there are no exceptions, the submittals shall indicate such. Submittals that do not have this listing will not be reviewed.

1.6 COORDINATION DRAWINGS

- A. Coordination drawings are required. Refer to Non-technical/Division 01 Specification Sections for the work required by this Contractor in preparing Coordination Drawings.

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1.7 INSTALLATION ACCESSIBILITY

- A. The installation of all equipment and appurtenances shall be completed so that access and clearances meet the requirements of the equipment manufacturer as well as the requirements of all applicable codes.

1.8 ACCEPTABLE MANUFACTURES

- A. The design of the mechanical systems is based on the equipment manufacturer indicated on the drawings. Although individual sections of the specifications may list other manufacturers, these manufacturers will be accepted only if the following occurs:
 - 1. Performance, as judged by the engineer, must be equal to the design-based equipment.
 - 2. Operating characteristics, as judged by the engineer, must be identical to those of the design-based equipment.
 - 3. Physical size of the equipment must be such that it can be installed in the available space, maintaining all required clearances for access/maintenance and meet the architectural requirements of the project such as installed height, length, width and operating weight. The contractor shall be responsible for verifying the equipment meets this requirement.
 - 4. The contractor will be responsible for any costs associated for adding additional supports, changes in electrical wiring, piping changes, ductwork changes and / or controls that may be required if equipment other than the design based is used.

1.9 RECORD DOCUMENTS

- A. Prepare record documents, including Operating and Maintenance Manuals, in accordance with Non-technical/Division 01 Specification Sections. In addition to the requirements specified, indicate the following installed conditions:
 - 1. Mains and branches of piping systems, with valves and control devices and numbered, concealed unions located, and with items requiring maintenance located (i.e., traps, strainers, expansion compensators, tanks, etc.). Valve location diagrams, complete with valve tag chart. Indicate actual inverts and horizontal locations of underground piping.
 - 2. Equipment locations (exposed and concealed), dimensioned from prominent building lines.
 - 3. Approved substitutions, Contract Modifications, and actual equipment and materials installed.
 - 4. Contract Modifications, actual equipment and materials installed.
 - 5. Record Documents are to be prepared and/or revised to indicate the room names and numbers to be used by the owner after the projects is complete.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.
- B. When materials and products are stored on site, provide protection from weather and temperatures that may cause damage to the items.

1.11 EXTRA MATERIALS

- A. Various Division 23 Specification Sections may indicate extra materials (filters, fan belts, etc.) that are to be provided with the respective equipment. Where indicated, the contractor shall provide the required extra materials.

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- B. When directed by the owner's representative, the contractor shall install extra filters in the respective equipment. If no additional installation is required, the contractor shall forward, to the owner, all extra materials. When forwarding materials obtain a receipt for any materials forwarded.
- C. The contractor shall also provide a list of all filter sizes for each type and size of unit provided on the project.

1.12 WARRANTY

- A. All equipment, material and labor provided by the contractor shall be warranted for a minimum period of one year after the date of substantial completion. Refer to Division 23 Technical Specification sections for additional Warranties that may be required.

PART 2 - PRODUCTS

- 2.1 Not Applicable.

PART 3 - EXECUTION

3.1 ROUGH-IN

- A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected.
- B. Obtain equipment shop drawings for the various items that require rough-in.

3.2 HVAC INSTALLATIONS

- A. Sequence, coordinate, and integrate the various elements of mechanical systems, materials, and equipment. Comply with the following requirements:
 - 1. Coordinate mechanical systems, equipment, and materials installation with other building components.
 - 2. Verify all dimensions by field measurements.
 - 3. Coordinate requirements for chases slots, and openings in other building components during the progress of construction, to allow for mechanical installations.
 - 4. Sequence, coordinate, and integrate installations of mechanical materials and equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing in the building.
 - 5. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to provide the maximum headroom possible.
 - 6. Coordinate connection of mechanical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.
 - 7. Install systems, materials, and equipment to conform with approved submittal data, including coordination drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Engineer.

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8. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces.
9. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations. Extend grease fittings to an accessible location.
10. Install systems, materials, and equipment giving right-of-way priority to the systems required to be installed at a specified slope.
11. Seal all places where piping or ducts pass through walls and floors.

3.3 CUTTING AND PATCHING

- A. Perform cutting, fitting, and patching of mechanical equipment and materials required to:
 1. Uncover Work to provide for installation of ill-timed Work.
 2. Removal and replacement of defective Work.
 3. Remove and replace Work not conforming to requirements of the Contract Documents.
 4. Remove samples of installed Work as specified for testing.
 5. Install equipment and materials in existing structures.
- B. Upon written instructions from the Architect, uncover and restore Work to provide for Architect/Engineer observation of concealed Work.
- C. In areas of the building where new finishes are being provided, the patching required on a surface which is to receive a new finish will be to bring the underlying surface up to the finish required to receive the final finish. This contractor shall coordinate subsurface finish requirements with the finish trade contractor(s).
- D. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas.
- E. Patch existing finished surfaces and building components using new materials matching existing materials and experienced Installers. Installers' qualifications refer to the materials and methods required for the surface and building components being patched.

3.4 CLEANING

- A. This contractor shall be required to thoroughly clean all installed equipment, ductwork and piping. Cleaning shall be required before substantial completion on any phase of the project. Do not use cleaning materials and agents that are hazardous to health or property or that may damage the finished surfaces.

END OF SECTION 23 00 10