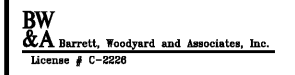


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BR+A 300 West Summit Office Bldg

300 West Summit Ave. Suite #310 Charlotte, NC 28203

PROJECT NUMBER: 19-018 CONSTRUCTION ISSUE: 6.20.2019

SPECIFICATIONS - MECHANICAL SCALE: AS NOTED

MO.1

C. The final T&B report shall serve to substantiate compliance with the intent of the Contract Documents, specifically the HVAC systems.

1.04 SUBMITTALS
A. The name and certification of the Agency, along with the name and certification of the Certified Test and Balance Engineer, shall be submitted to the Architect for review within 30 days after the award of the general contract.

1.05 PERFORMANCE WARRANTY
A. The agency shall warrant that all work will be performed in accordance with the applicable standards and procedures and evidence of the firm's certification shall be provided.

3.0 EXECUTION
3.01 GENERAL CONTRACTOR'S DUTIES
A. The General Contractor shall provide the following, within 10 days after his receipt, to the Agency:

1. Contract drawings
2. Contract applicable specification division 23 (others as applicable)
3. Addenda
4. Change orders
5. Reviewed submittals

3.02 TESTING AND BALANCING
A. Testing and balancing of the HVAC system shall be performed in accordance with the standards of AABC and shall be performed under the direct supervision of a Certified Test and Balance Engineer as specified in Section 23043. Note that this work is to be performed under a separate Contract directly under the General Contractor. Submit four (4) copies of the test and balance report directly to the Architect.

3.03 SCOPE OF WORK
A. HVAC test and balance shall be performed by an independent agency certified by the Associated Air Balance Council (AABC) or National Environmental Balancing Bureau (NEBB) under direct contract to the General Contractor.

1.0 GENERAL
1.01 DESCRIPTION
A. All work specified in this Section is governed by the HVAC General Section 23010.

3.04 CLEANING, LUBRICATION AND ADJUSTMENT
A. The exterior surfaces of all mechanical equipment, piping, ductwork, conduit, etc., shall be cleaned and free of all dirt, grease, oil, paint splatter, and other construction debris.

3.05 PAINTING
A. All uncoated and uninsulated steel surfaces exposed to sight inside the building, such as piping, equipment hangers and supports which are not provided with factory painted or galvanized steel, shall be cleaned and primed with one coat of rust inhibiting primer.

3.06 DUCTWORK AND PIPING LEAK TESTING
A. Underground, concealed and insulated ductwork and piping shall be tested for leaks in place before backfilling, concreting or covering. Tests shall be conducted in the presence of the Architect or a designated representative.

3.07 RECORD (AS-BUILT) DRAWINGS
A. At the completion of the project, provide a set of reproducible copies to the Architect, which reflect all changes, deviations and revisions made to the original design documents.

3.08 OPERATING AND MAINTENANCE MANUALS AND INSTRUCTIONS
A. Complete operating and maintenance manuals shall be provided to the Owner. Four copies shall be provided. Each copy shall be bound in a separate 3-ring, loose leaf notebook.

3.09 TESTING AND BALANCING
A. Testing and balancing of the HVAC system shall be performed in accordance with the standards of AABC and shall be performed under the direct supervision of a Certified Test and Balance Engineer as specified in Section 23043.

1.02 INTENT
A. It is the intent of this Section of the specifications to provide a complete operable and balanced HVAC system as shown and specified which is reasonably airtight, comfortable and free of objectionable noise and vibration.

2. Industrial Risk Insurers (IRI)
3. Underwriters Laboratories, Inc. (UL)
4. ADC: Air Diffusion Council
5. AGA: American Gas Association

3.0 EXECUTION
3.01 SUBMITTALS
A. Before preparing submittals, study all Contract Drawings and specifications in detail, obtain manufacturer's recommended instructions, and have submittals prepared based on specific equipment and material proposed for installation.

3.02 EXCAVATION, TRENCHING AND BACKFILLING
A. Perform all excavation, trenching and backfilling for underground work under this Division 23. During excavation, the excavated material shall be piled back from the banks of the trench to avoid overloading, slides or cave-ins.

3.03 INSTALLATION REQUIREMENTS
A. All equipment shall be installed in strict conformance with the recommendations of the equipment manufacturer, as indicated on the Drawings and as specified.

2.0 PRODUCTS
2.01 BID BASIS AND SUBSTITUTION PROCEDURES
A. Manufacturers names, sizes and model numbers, as noted or specified, are the basis for bid and substitution.

2.02 MINIMUM STANDARDS
A. Every piece of energy consuming equipment, all fire suppression products and life safety equipment shall comply with the following standards as applicable, especially in regard to prevailing codes:

1. Factory Mutual Laboratories (FM)
2. Industrial Risk Insurers (IRI)
3. Underwriters Laboratories, Inc. (UL)
4. ADC: Air Diffusion Council
5. AGA: American Gas Association

1. Starters for motors 1/3 horsepower or smaller shall be manual unless remote or automatic starting is required, in which case the starters shall be magnetic, full voltage, non-reversing, single-speed, unless otherwise indicated.

2. Each starter for a three-phase motor shall be furnished with three (3) overload relays sized for the full load running current of the motor actually provided. Provide an external "HAND-OFF-AUTO" selector switch with red "RUNNING" light. Provide a green pilot light to indicate motor "STOPPED".

2.01 BID BASIS AND SUBSTITUTION PROCEDURES
A. Manufacturers names, sizes and model numbers, as noted or specified, are the basis for bid and substitution.

2.02 MINIMUM STANDARDS
A. Every piece of energy consuming equipment, all fire suppression products and life safety equipment shall comply with the following standards as applicable, especially in regard to prevailing codes:

2.03 SCOPE OF WORK
A. HVAC test and balance shall be performed by an independent agency certified by the Associated Air Balance Council (AABC) or National Environmental Balancing Bureau (NEBB) under direct contract to the General Contractor.

1.02 EXISTING CONDITIONS
A. Attention is called to the fact that the work is to be performed within an existing, operational facility. Prior to the submission of bids, each bidder shall visit the project site, thoroughly investigate and be familiar with all existing conditions which will affect their work.

1.03 INTENT OF DRAWINGS AND SPECIFICATIONS
A. The implied and stated intent of the drawings and specifications is to establish minimum acceptable standards for materials, equipment and workmanship, and to provide operable mechanical systems complete in every respect.

SECTION 23010
HVAC GENERAL
1.0 GENERAL
1.01 DESCRIPTION
A. This Division 23 and the accompanying drawings cover the provision of all labor, equipment, appliances, and materials and performing all operations in connection with the construction of the air conditioning, ventilating, and heating systems as specified herein and as shown.

1.02 EXISTING CONDITIONS
A. Attention is called to the fact that the work is to be performed within an existing, operational facility. Prior to the submission of bids, each bidder shall visit the project site, thoroughly investigate and be familiar with all existing conditions which will affect their work.

1.03 INTENT OF DRAWINGS AND SPECIFICATIONS
A. The implied and stated intent of the drawings and specifications is to establish minimum acceptable standards for materials, equipment and workmanship, and to provide operable mechanical systems complete in every respect.

1.04 SPACE PRIORITY
A. Ensure optimum use of available space for materials and equipment installed above ceilings. Allocate space in the order of priority as listed below except as otherwise detailed. Items are listed in the order of priority, with items of equal importance listed under a single priority number.

1.05 COORDINATION
A. Coordinate all work under this Division 23 with work under all other Divisions, providing adjustment as necessary.

1.06 CODE COMPLIANCE
A. All workmanship and materials provided under this Division 23 shall comply with all laws, ordinances, codes and regulations of all Federal, State and Local Authorities having jurisdiction.

1.07 ELECTRICAL REQUIREMENTS AND INTERFACE
A. All electrical equipment and wiring provided under this Division 23 shall comply with the electrical system characteristics indicated on the electrical drawings and specified in Division 26.