

## SECTION 230000 - GENERAL PROVISIONS

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. General Provisions specifically applicable to Division 15 Sections, in addition to Division 1 - General Requirements.

#### 1.2 SCOPE

- A. The work shall include the provisions of systems, equipment and materials specified in this Division and as called for on the drawings, to include supervision, operation, methods and labor for the fabrication, start-up and tests for a complete mechanical installation.
- B. Drawings for the Work are diagrammatic in nature and intended to convey the scope of the installation and to indicate the general arrangement and locations of the Work. Because of the scale of the drawings, certain basic items such as pipe fittings, access panels, and sleeves may not be shown. This Contractor shall be responsible for selecting the equipment to fit the space provided. The location and sizes for pipe fittings, sleeves, inserts, fire and/or smoke dampers, and other basic items required by code and other sections shall be coordinated and included for the proper installation of the work.
- C. Equipment Specifications may not deal individually with minute items required such as components, parts, controls and devices which may be required to produce the equipment performance specified or as required to meet the equipment warranties. Where such items are required, they shall be included by the supplier of the equipment, whether or not specifically indicated in the Contract Documents with no additional cost incurred.
- D. Where noted on the Drawings or indicated in other sections of the specification, the Contractor for this Division shall install equipment furnished by others, and shall make all final connections. Contractor shall install equipment and systems in strict accordance with manufacturer's recommendations.
- E. Coordinate with all trades in submittal of shop drawings. Space conditions shall be detailed to the satisfaction of all trades, subject to the review and final acceptance of the Architect/Engineer. In the event that the Contractor installs his work before coordinating with other trades or so as to cause any interference with the work of the other trades this Contractor shall make all required changes to correct the condition.
- F. Contractor shall verify all equipment connection sizes prior to installation of any systems. This Contractor shall adjust piping system sizes as required to match equipment connections. Utilize reducers where equipment connections are smaller than pipe sizes indicated on plans, no piping shall be decreased in size.

G. Examination of Bidding Documents:

1. Each bidder shall examine the bidding documents carefully and not later than ten (10) days prior to the date for receipt of bids, shall make written request to the Engineer for interpretation or correction of any ambiguity, inconsistency or error therein. Any interpretation or correction will be issued as an Addendum by the Engineer. Only a written interpretation or correction to bid documents by Addendum shall be binding. No bidder shall rely upon any interpretation or correction given by any other method.

1.3 REGULATORY REQUIREMENTS

- A. All installations and equipment shall be in strict accordance with all applicable Statutes, Codes and Regulations of the Governmental Bodies having jurisdiction.

1.4 FEES, PERMITS AND INSPECTIONS

- A. Secure all permits and pay all fees incurred thereto in connection with the Work.
- B. Coordinate and provide inspections as required by the Authorities Having Jurisdiction.
- C. Where applications are required for procuring services to the building, prepare and file such applications with the Utility Company. Furnish all information required in connection with the application required by the Utility Company.

1.5 SITE INSPECTION

- A. Contractor shall inspect the site to familiarize himself with the conditions of the site which affect his work. Contractor shall verify points of connection with utilities, routing of below grade piping to include required clearances from any existing structures, trees or other existing obstacles.
- B. Extra payment will not be provided for changes in the Work required because of Contractors failure to perform this inspection.

1.6 ELECTRICAL WORK

- A. Under Division 23 MECHANICAL, provide and install the following items of electrical Work which shall conform with the applicable requirements of the Electrical Division:
  1. Temperature control wiring.
  2. Interlock wiring for mechanical equipment.
  3. Alarm wiring for mechanical equipment.

- B. Under Division 26 ELECTRICAL, provide:
  - 1. Power wiring, complete from power source to motor or equipment junction box, including power wiring through motor starters.
  - 2. Disconnect switches and final connections thereof.
  - 3. Motor control centers or motor starter panelboards.
  - 4. All miscellaneous individual motor starters, unless noted otherwise.
- C. Any proposed changes made by Division 23 in motor sizes must be submitted for review and include all revisions to affected trades. Division 23 shall pay all costs incurred thereto.
- D. Coordinate with Division 26 all motors and other mechanical equipment which require electrical services and equipment.

#### 1.7 HOISTS, CRANES, RIGGING, TRANSPORTATION AND SCAFFOLDING

- A. Contractor shall provide cranes, scaffolding, staging, cribbing, tackle, hoists and rigging in accordance with OSHA regulations and requirements, necessary for placing materials and equipment in their proper locations on the project. Remove temporary work from site when no longer required.

#### 1.8 PROTECTION

- A. Special care shall be taken for the protection of equipment furnished. Equipment and material shall be completely protected from weather elements, painting, plaster, etc., until the project is completed. Damage such as rust, paint, scratches, etc., shall be repaired as required to restore equipment to original integrity.
- B. Where installation or connection of equipment requires work in areas previously finished by other contractors, the area shall be protected and not altered or otherwise damaged during the course of the said work. Contractor shall procure the services of the original contractors for the repairing and refinishing the damaged areas thereof.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
- D. Cover products subject to deterioration or damage with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Contractor to provide, as a minimum, one (1) five (5) pound CO<sub>2</sub> extinguisher shall be provided with each work crew, at all times when working within the building.

#### 1.9 COOPERATION

- A. Mechanical and Electrical trades shall give full cooperation to other trades and shall furnish in writing, with copies to Architect/Engineer, any information necessary to permit

the Work of all trades to be installed satisfactorily and with the least possible interference and delay. Exact location of all mechanical and electrical equipment, devices, etc., in all spaces shall be coordinated with the Architectural ceiling plans, elevations and details.

## 1.10 PRODUCT DATA AND SHOP DRAWINGS

### A. Product Data Submittals

1. Within thirty (30) days after award of the Contract, the Contractor shall submit to the Architect, for approval, a list of manufacturers' names of material and equipment he proposes to provide. In the event any items of material or equipment contained therein fail to comply with the Contract Documents, such items will be rejected.
2. All submittals shall be submitted electronically.
3. Submittals shall be clearly annotated indicating the specification section referenced and the contents of the submittal. All product data intended for use shall be clearly marked/identified with the corresponding equipment identification numbers as indicated in the Contract Documents. Mark-out items on product data sheets which constitute information not pertaining to the equipment specified.
4. Any submittal with product data that is not clearly annotated with be rejected without review.
5. Prepare and submit shop drawings for all specially fabricated items, modifications to standard items, specially designed systems where detailed design is not shown on the Contract Documents, or where the proposed installation differs from that shown on the Contract Documents.
6. Submit data as listed below, in addition to provisions of the paragraphs above and other sections of this specification.

Air Handlers

Heat Pumps

Condensing Units

Drains: Condensate, Floor, Roof

Valves: Globe, Check, Plug, Butterfly, Ball

Plumbing Fixtures and Trim

Thermostats

Exhaust Fans

Grilles, Registers and Diffusers

Duct Thermal Insulation Materials

Fire Dampers

Ductwork Materials

Duct Accessories

Pipe Systems: Pipe, Fittings, Solder, Flux, Gaskets

Pipe Insulation: Insulation, Fittings, Vapor Barrier, Jackets and Sealants

Water Heaters  
Shock Arrestors  
Trap Primer Valves  
Wall Heaters  
Radiation Dampers  
Refrigerant Piping

D. Product Data and Shop Drawing Resubmittal

1. First time review of submittal data and reports by the Architect/Engineer shall be a conformance review to the Contract Documents as stipulated on the shop drawing review stamp and will include all comments and/or notations deemed necessary by the Architect/Engineer.
2. Second time review shall be review of the submittal data and reports noted to be "Revise and Resubmit" and/or "Rejected" under the first review and shall be resubmitted to the Architect/Engineer within Thirty (30) days of the posted date of the shop drawing review of the first submittal. Original data resubmitted for the second time by the Contractor shall be corrected and have all comments and notations incorporated thereof whether indicated or implied. Items not conforming to initial comments shall be rejected.
3. Third time review shall be final review of the submittal data and reports. The resubmittal shall be sent to the Architect/Engineer within Fifteen (15) days of the posted date of the shop drawing review of the second submittal. Any product data or reports that are not corrected in all respects and conform to all comments and notations whether written or implied shall be rejected and Contractor shall provide and install the said equipment and materials in complete compliance with Contract Documents.

E. General

1. If materials or equipment are installed prior to receipt by the Contractor of the corresponding product data cuts or shop drawings marked "No Exceptions Taken" or "Note Markings", the Contractor shall be responsible for the removal and replacement of such items at no additional charge to the Owner.

1.11 FINISHING

A. General

1. Prior to acceptance of the installation and final payment of Contract, the Contractor shall perform work as outlined herein.

B. Closeout Submittals

1. General Conditions, and supplements to General Conditions. Closeout submittals shall include the following:

- a. Pipe and Duct Test Reports
- b. Test and Balance Reports
- c. Operation and Maintenance Manuals
- d. Equipment Warranties
- e. System Guarantee

C. Cleaning

1. At the conclusion of construction, the site and structure shall be cleaned thoroughly of all debris and unused materials remaining from the mechanical construction. All tunnels and closed-off spaces shall be cleaned of all packing boxes, wood frame members and other waste materials utilized in the mechanical construction.
2. The entire system of piping shall be cleaned internally. The Contractor shall open all dirt pockets and strainers, completely blowing down as required and clean strainer screens of all accumulated debris.
3. All tanks, fixtures and pumps shall be drained and proven free of sludge and accumulated matter.
4. All temporary labels, stickers, etc., shall be removed from all fixtures and equipment. (Do not remove permanent name plates, equipment model numbers, ratings, etc.).
5. Heating and air conditioning equipment, tanks, pumps, traps, etc., shall be thoroughly cleaned and new filters or filter media installed.

D. Equipment Startup

1. No equipment shall be operated or tested before full compliance with the equipment manufacturers' specifications and recommendations for the lubrication, alignment, direction of rotation, balance and other applicable considerations.
2. Contractor shall take particular care to ensure that all equipment is completely assembled, properly lubricated, and all grease and oil reservoirs have been filled to correct level with the manufacturers' recommended lubricants.
3. It is the Contractors responsibility to place each item of equipment, installed by him, in full operating condition. This responsibility shall include, but not be limited to, auxiliaries, piping, wiring, unit start up, check of unit performance, etc.

E. Record Drawings

1. Contractor shall keep accurate records of all deviations in Work, as actually installed, from Work indicated on Contract Documents.

2. When Work is complete, Division 23 Contractor shall minimally provide two (2) complete "Record" sets of bond drawings and one (1) reproducible CD. Contractor may at his option obtain reproducible drawings through the Architect of the original Contract Documents for alteration by Him. Contractor shall pay all fees for the drawing reproduction thereto. Contractor shall certify the accuracy of each drawing by endorsement and signature thereon. Upon completion of the Record Drawings the Contractor shall deliver them to the Architect/Engineer for review, prior to forwarding to Owner.
3. All underground Work shall be accurately located on the Record Drawings by plan dimension, grade elevation and service elevation. Such work shall include utilities, storage tanks, grease interceptors, etc.

F. Operating and Maintenance Instructions

1. Format:
  - a. Prepare two (2) complete sets of data in the form of instructional manuals.
  - b. Binders: Commercial quality, 8-1/2 x 11 inch three-ring binders with hardback, cleanable, plastic covers; two inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
  - c. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; list title of Project and separate building; identify subject matter of contents.
  - d. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
  - e. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment to include equipment tag number (i.e., AHU-5A).
  - f. Text: Manufacturer's printed data, or typewritten data on 20 pound minimum paper.
  - g. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
2. Contents, Each Volume
  - a. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect/Engineer, subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
  - b. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
  - c. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
  - d. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

- e. Type Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
  - f. Warranties and Bonds: Bind in copy of each and as specified in Section 01700.
3. Manual for Equipment and Systems
- a. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
  - b. Include color coded wiring diagrams as installed.
  - c. Operating Procedures: Include start-up, break-in, and routine normal operating instructions. Include sequence of operation of the mechanical systems. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
  - d. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting balancing, and checking instructions. Contractor shall provide a master maintenance schedule with listing of names, addresses and phone numbers of service organizations of each item of equipment. This schedule shall be typewritten and subdivided by specification section numbers and indicate equipment tag numbers.
  - e. Provide servicing and lubrication schedule, and list of lubricants required.
  - f. Include manufacturer's printed operation and maintenance instructions.
  - g. Include sequence of operation by controls manufacturer.
  - h. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
  - i. Provide control diagrams by controls manufacturer as installed.
  - j. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
  - k. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
  - l. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
  - m. Include final test and balancing reports.
  - n. Additional Requirements: As specified in individual product specification sections.

#### 1.12 CONCRETE WORK

- A. Provide concrete bases and housekeeping pads for mechanical equipment unless indicated otherwise. Vibration pads and equipment bases shall be provided by this Contractor.



- B. Provide all equipment anchor bolts and coordinate their proper installation and accurate location.
- C. All equipment located on floor slab, that is not mounted on wheels and is capable of being moved shall be secured to the floor with anchor bolts. All equipment bolt holes shall be utilized in equipment mounting and a minimum of two bolts shall be used per item. Bolts shall be of sufficient size to prevent equipment from overturning.

#### 1.13 ACCESS PANELS

- A. Provide access panels where required and not shown on the drawings for installation by the drywall contractor. All access panel locations shall be approved by the Architect. Provide rated access doors and frames where required.

#### 1.14 ESCUTCHEONS

- A. Provide chrome plated escutcheons at each sleeve or penetration into finished spaces. Escutcheons shall fit around pipe or pipe insulation where installed. Outside diameter of escutcheon shall completely conceal sleeves and openings in elements. Where sleeves extend above finished floor, provide deep escutcheons to conceal sleeve extensions. Secure escutcheons or directly to sleeve or element with set screws or other approved devices. Escutcheon screws shall not be secured to insulation.

#### 1.15 INSULATION PROTECTION

- A. Where exposed insulated piping extends to floor, provide sheet metal guard around insulation.

#### 1.16 SYSTEM GUARANTEE

- A. Work required under this Division shall include one-year guarantee for all installations and systems. Guarantee by Contractor to Owner to replace for Owner any defective workmanship and/or material which has been furnished under Contract at no cost to the Owner for a period of one (1) year from the date of acceptance of building by Owner. Guarantee shall also include all reasonable adjustment of systems required for proper operation during the guarantee period. Guarantee shall not include normal preventative maintenance services or filters.
- B. At "Demonstration", one-year guarantee provision by Contractor shall be explained to Owner.
- C. All hermetically sealed refrigeration systems shall be provided with a five (5) year factory warrantee.

GRAND OAKS APARTMENTS  
LEE COUNTY, FL  
FK PROJECT NO. 5331

ISSUE DATE: 08/31/16  
PRICING SET

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 230000