

DIVISION 15000: HVAC SPECIFICATIONS

GENERAL PROVISIONS:

- A. IN RESPECT TO ALL MATERIALS REQUIRED, THE CONTRACTOR SHALL FURNISH MATERIALS MEETING NEMA, ASME AND ASTM SPECIFICATIONS... B. MATERIALS SHALL BE NEW AND IN PERFECT CONDITION... C. THIS CONTRACTOR SHALL REMOVE ALL TOOLS, SURPLUS MATERIALS AND DEBRIS... D. CONTRACTOR SHALL PROVIDE OWNER WITH TWO (2) SETS OF "AS-BUILT" DRAWINGS... E. FURNISH ALL MATERIALS, TRANSPORTATION, RIGGING, HOISTING, ETC. TO PROVIDE A COMPLETE AND OPERABLE HEATING, VENTILATING AND AIR CONDITIONING SYSTEM... F. ALL EQUIPMENT IS TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER... G. ALL TEMPERATURE CONTROL WIRING AND CONDUIT SHALL BE DONE BY THE MECHANICAL CONTRACTOR... H. SYSTEM IS TO BE BALANCED BY AN ABC (OR NEBB) CONTRACTOR OR AIRFLOW SERVICES... I. PROVIDE THREE (3) MAINTENANCE MANUALS FOR ALL MECHANICAL SYSTEMS AND EQUIPMENT... J. ALL WORK SHALL BE VERIFIED WITH OWNER PRIOR TO PURCHASING ANY EQUIPMENT... K. CERTIFIED VENDOR SHOP DRAWINGS SHALL BE SUBMITTED FOR EQUIPMENT IDENTIFIED IN JOB SPECIFICATIONS... L. THE CONTRACTOR MAY SUBSTITUTE ANY EQUIPMENT IN LIEU OF WHAT IS INDICATED... M. SEISMIC EQUIPMENT: ALL NEW, (AND EXISTING IF INCORPORATED INTO THE CONSTRUCTION) MECHANICAL, PLUMBING, AND GAS EQUIPMENT... N. ENGINEER/ARCHITECT MUST BE GIVEN FULL OPPORTUNITY TO MAKE ANY INSPECTIONS AS DESIRED... O. WHEN HVAC EQUIPMENT IS OPERATED DURING CONSTRUCTION, THE MECHANICAL AND GENERAL CONTRACTOR SHALL MAKE EVERY PRECAUTION... P. ENTIRE SYSTEM INCLUDING ALL EQUIPMENT (HVAC EQUIPMENT, CONTROLS, VALVES, GAUGES, ETC.) SHALL HAVE A ONE YEAR EQUAL PARTS AND LABOR WARRANTY... Q. LABEL ALL EQUIPMENT AND PIPING WITH PERMANENT SIGNAGE WITH 1" LETTERING.

DUCTWORK:

- A. LOW PRESSURE (2" PRESSURE CLASS), HIGH PRESSURE (6" PRESSURE CLASS): PER SMACNA "DUCT CONSTRUCTION" CLASSIFICATION... B. LOW PRESSURE DUCT FABRICATION AND INSTALLATION SHALL BE AS FOLLOWS: 1. ALL RIGID DUCTWORK SHALL BE GALVANIZED SHEET METAL... 2. DUCT SIZES SHOWN ON THE PLANS ARE DIMENSIONS, AND SHALL BE ADHERED TO... 3. ALL RADIUS ELBOWS IN THE DUCT SYSTEM SHALL BE MADE WITH CENTERLINE RADIUS OF ONE AND ONE-HALF (1 1/2) TIMES THE TURNING WIDTH... 4. THE GENERAL ROUTE OF THE DUCTS IS SHOWN ON THE PLANS... 5. HANGERS TO BE 8 FT. CENTERS MAXIMUM WITH 1" X 20 GAUGE MINIMUM STRAPS... 6. INSULATED SHEET METAL DUCTWORK SHALL BE SEALED WITH DUCT SEALANT... C. INSULATION SHALL BE AS FOLLOWS: 1. ALL SUPPLY, ERV AIR, OUTSIDE AIR, AND RETURN AIR... 2. ALL INSULATION ADHESIVE USED FOR APPLYING INSULATION SHALL HAVE FIRE AND SMOKE HAZARD RATINGS... 3. DUCT LINER SHALL BE EQUAL TO CERTAINTED TOUGHGUARD DUCT LINER... 4. DRAIN LINE AND REFRIGERANT INSULATION SHALL BE RUBBER BASED CLOSED CELL ELASTOMERIC FOAM INSULATION... 5. DUCTWORK EXPOSED TO THE OUTDOORS: WRAP AND SEAL OUTSIDE OF EXPOSED DUCT WITH 2" ELASTOMERIC RUBBER... D. FLEXIBLE DUCTS SHALL BE EQUAL TO FLEXMASTER TYPE BM INSULATED (R=6)... E. SQUARE-TO-ROUND SIDE TAKE-OFFS SHALL BE EQUAL TO FLEXMASTER STO WITH DAMPER... F. ROUND-TO-ROUND TAKEOFF COLLARS SHALL BE EQUAL TO FLEXMASTER RST... G. FURNISH AND INSTALL ALL MANUAL DAMPERS IDENTIFIED ON DRAWINGS... H. PROVIDE FLEXIBLE DUCT CONNECTORS AT SUPPLY AND RETURN OF ALL AIR HANDLERS... I. ROUND DUAL WALL DUCTWORK: 1. ROUND DUAL WALL DUCTWORK SHALL BE SPIRAL LOCK SEAM FABRICATED OF ASTM-A653/A527 GALVANIZED SHEET METAL... 2. ALL FITTINGS SHALL BE FACTORY FABRICATED OF GALVANIZED STEEL WITH CONTINUOUS WELDED SEAMS... 3. SUSPENDED EXPOSED DUCT SHALL HAVE A CIRCULAR BAND IRON HANGER WITH A THREADED ROD AT THE CENTERLINE OF THE DUCT... DUCT SECTIONS AND FITTINGS SHALL BE CONNECTED WITH METAL SLP JOINT COUPLINGS, DUCT SEALANT AND SHEET METAL SCREWS... SPECIFIED: UNITED SHEET METAL ACOUST 1-K27. SUBSTITUTE: MONROE METAL, SEMCO, TEXAS, HAMLIN, LINDAB, EASTERN SHEETMETAL, TDC, AND TURKEYE.

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EQUIPMENT:

- A. PACKAGED HEAT PUMP UNITS: SPECIFIED UNIT IS JCI. TRANE, AMERICAN STANDARD, CARRIER, BRYANT, YORK, LUXAIRE, AND LENNOX ARE APPROVED... B. FRESH AIR ROOFTOP UNITS: SPECIFIED UNIT IS REZNOV. JCI, VALENT, MORGANIZER, DAKIN REBEL, AND VENMAR ARE APPROVED... C. PROVIDE THERMOSTATS WITH THE FOLLOWING: AUTOMATIC CHANGE-OVER, ON/OFF/AUTO FAN SWITCH, ON/OFF MODE SWITCH, MOUNTED 48" AFF... D. LOUVERS AND BRICK VENTS: LOUVERS SHALL BE DRAINABLE WITH BRD SCREEN AND EXTENDED SILL... E. SMOKE DETECTORS: DETECTOR SHALL BE LOCATED IN THE RETURN AIR STREAM AS REQUIRED BY THE INTERNATIONAL MECHANICAL CODE... F. ENERGY RECOVERY VENTILATOR (ERV): ENERGY RECOVERY VENTILATORS SHALL INCLUDE A LIGHT WEIGHT POLYMER ENTHALPHY WHEEL WITH A PERMANENTLY BONDED SILICA... SPECIFIED: GREENHOG MODEL ERV. SUBSTITUTE: COOK AND VENMAR.

SECTION 230900 - DDC CONTROLS FOR HVAC

PART 1 - GENERAL

- 1.01 SYSTEM DESCRIPTION: THE CONTROL SYSTEM SHALL CONSIST OF MULTIPLE COMMERCIAL ZONE CONTROLLERS, BYPASS CONTROLLERS, SINGLE PACKAGE UNIT (SPU) CONTROLLERS... 1.02 DELIVERY, STORAGE AND HANDLING: THE PRODUCTS SHALL BE STORED AND HANDLED PER MANUFACTURER'S RECOMMENDATIONS... 1.03 QUALIFICATIONS: ACCEPTABLE MANUFACTURERS FOR CONTRACTORS ARE AS FOLLOWS: a. JOHNSON CONTROLS, b. SOUTHWEST AUTOMATION SERVICES, c. SMARTER INTEGRATED SOLUTIONS, d. CMC. 2.01 PRODUCTS: THE CONTROL SYSTEM SHALL BE AVAILABLE AS A COMPLETE PACKAGE WITH THE REQUIRED INPUT SENSORS AND DEVICES... 2.02 SETPOINTS: THE ZONE CONTROLLER SHALL UTILIZE AND STORE THE FOLLOWING SETPOINTS: a. OCCUPIED HEATING SETPOINT, b. OCCUPIED COOLING SETPOINT, c. UNOCCUPIED HEATING SETPOINT, d. UNOCCUPIED COOLING SETPOINT. 3. ALL SETPOINTS SHALL BE CAPABLE OF BEING MODIFIED AT THE ZONE COORDINATOR OR SYSTEM MANAGER DISPLAY... E. SCHEDULING: THE SYSTEM MANAGER AND ZONE COORDINATOR SHALL BE CAPABLE OF OPERATING IN AN OCCUPIED OR UNOCCUPIED MODE... F. SECURITY LEVEL: THE SYSTEM MANAGER AND ZONE COORDINATOR SHALL REQUIRE A PASSWORD FOR FULL ACCESS... G. HVAC EQUIPMENT PROTECTION: THE SINGLE PACKAGE UNIT (SPU) CONTROLLER SHALL BE CAPABLE OF MONITORING THE LEAVING AIR TEMPERATURE... H. STAND-ALONE CAPABILITY: THE CONTROLLERS SHALL BE CAPABLE OF PROVIDING ALL CONTROL FUNCTIONS OF THE HVAC SYSTEM WITHOUT THE USE OF A COMPUTER... I. DDC CONTROL NETWORKING: THE CCS CONTROLLERS SHALL BE CAPABLE UTILIZING A STANDARD BUILDING COMMUNICATIONS PROTOCOL... J. ZONE COORDINATOR: THE ZONE COORDINATOR SHALL BE CAPABLE OF CONTROLLING SPACE DEMAND IN A VARIABLE VOLUME APPLICATION... 4. THE ZONE COORDINATOR SHALL BE CAPABLE OF PROVIDING A COMMUNICATION CHECK OF ALL ASSOCIATED CONTROLS AND DISPLAY DEVICE TYPE AS WELL AS ERROR CONDITIONS.

Georgetown County Regional Parks Andrews Recreation Center

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MEP Consultant: Charleston Engineering 125 B. Wagon Creek Dr. Charleston, SC 29411

Structural Consultant: WEATHERLY STRUCTURAL ENGINEERS

Irrigation Consultant:

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