



SEQUENCE OF OPERATIONS FOR CONTROLS	
FURNACE SPLIT SYSTEM (F-1, 2, 3, 4/C-1, 2, 3, 4)	
UNOCCUPIED OPERATION:	
THE UNIT SHALL BE SHUT OFF. IF THE SPACE TEMPERATURE AS SENSED BY THE ZONE SENSOR FALLS BELOW OR RISES ABOVE THE UNOCCUPIED SETPOINT, THE COMPRESSOR OR NATURAL GAS HEAT AND THE FAN SHALL BE ENERGIZED BASED ON THE NEED FOR EITHER HEATING OR COOLING UNTIL THE UNOCCUPIED SETPOINT IS REACHED.	
UNOCCUPIED OPERATION SCHEDULE:	
SUNDAY: 12:00 AM - 6:00 AM FOLLOWING DAY	
MONDAY: 4:30 PM TO 6:00 AM FOLLOWING DAY	
TUESDAY: 4:30 PM - 6:00 AM FOLLOWING DAY	
WEDNESDAY: 4:30 PM - 6:00 AM FOLLOWING DAY	
THURSDAY: 4:30 PM - 6:00 AM FOLLOWING DAY	
FRIDAY: 4:30 PM - 12:00 AM FOLLOWING DAY	
SATURDAY: 12:00 AM - 12:00 AM FOLLOWING DAY	
UNOCCUPIED SETPOINTS:	
COOLING: 80°F	
HEATING: 65°F	
OCCUPIED OPERATION:	
THE UNIT FAN SHALL OPERATE CONTINUOUSLY. IF THE SPACE TEMPERATURE AS SENSED BY THE ZONE SENSOR FALLS BELOW OR RISES ABOVE THE OCCUPIED SETPOINT, THE COMPRESSOR OR NATURAL GAS HEAT SHALL BE ENERGIZED BASED ON THE NEED FOR EITHER HEATING OR COOLING UNTIL THE OCCUPIED SETPOINT IS REACHED.	
OCCUPIED OPERATION SCHEDULE:	
SUNDAY: NONE	
MONDAY: 6:00 AM - 4:30 PM	
TUESDAY: 6:00 AM - 4:30 PM	
WEDNESDAY: 6:00 AM - 4:30 PM	
THURSDAY: 6:00 AM - 4:30 PM	
FRIDAY: 6:00 AM - 4:30 PM	
SATURDAY: NONE	
OCCUPIED SETPOINTS:	
COOLING: 75°F	
HEATING: 70°F	
OPERATOR INTERFACE:	
PROVIDE EACH SYSTEM WITH A 7-DAY PROGRAMMABLE THERMOSTAT WITH LOCKOUT CAPABILITIES. THERMOSTAT SHALL HAVE AT MINIMUM TWO (2) SCHEDULES PER DAY, AND A MINIMUM OF A TWO (2) DAY BATTERY BACKUP FOR LOSS OF POWER. UNIT SHALL DISPLAY THE FOLLOWING POINTS:	
1 SYSTEM ON/OFF INDICATION.	
2 SYSTEM FAN ON/OFF INDICATION.	
3 SYSTEM COMPRESSOR ON/OFF INDICATION.	
4 SYSTEM NATURAL GAS HEAT ON/OFF INDICATION.	
5 OUTSIDE-AIR TEMPERATURE INDICATION.	
6 ZONE TEMPERATURE SETPOINT (ADJUSTABLE).	
7 ZONE TEMPERATURE INDICATION.	

HVAC LEGEND	
SYMBOL	DESCRIPTION
	NEW RECT. SHEETMETAL DUCTWORK: FIRST FIG. WIDTH, SECOND FIG. DEPTH
	NEW ROUND RIGID SHEETMETAL DUCTWORK
	NEW FLEXIBLE ROUND DUCTWORK
	SUPPLY-AIR DUCT (UP/DN)
	RETURN-AIR DUCT (UP/DN)
	EXHAUST-AIR DUCT (UP/DN)
	CEILING SUPPLY-AIR DIFFUSER
	CEILING RETURN-AIR GRILLE
	CEILING EXHAUST-AIR GRILLE
	SIDE TAKE-OFF FITTING
	TURNING VANES
	SQUARE TO ROUND TRANSITION
	VOLUME DAMPER
	MOTORIZED DAMPER
	THERMOSTAT
	SHEETMETAL SUPPLY-AIR DUCTWORK
	SHEETMETAL RETURN-AIR DUCTWORK
	SHEETMETAL EXHAUST-AIR DUCTWORK
	SHEETMETAL OUTSIDE-AIR DUCTWORK
	CONDENSATE DRAIN PIPING
	REFRIGERANT PIPING SET (LIQUID AND SUCTION)
	SUPPLY-AIR DIFFUSER (SEE SCHEDULE)
	RETURN-AIR GRILLE (SEE SCHEDULE)
	EXHAUST-AIR GRILLE (SEE SCHEDULE)
	LOUVER (SEE SCHEDULE)
	VENTILATING FAN (SEE SCHEDULE)
	INFRARED HEATER (SEE SCHEDULE)
	SPLIT SYSTEM FURNACE (SEE SCHEDULE)
	AIR COOLED CONDENSING UNIT (SEE SCHEDULE)
	ROOF MOUNTED INTAKE HOOD (SEE SCHEDULE)
	WELDING FUME EXTRACTION SYSTEM (SEE SCHEDULE)
	DRYER BOOSTER FAN (SEE SCHEDULE)

- ### HVAC NOTES
- ALL WORK SHALL BE IN ACCORDANCE WITH THE KENTUCKY BUILDING CODE, INTERNATIONAL MECHANICAL CODE, AND OTHER LOCAL, STATE, AND NATIONAL CODES THAT APPLY.
 - THESE PLANS ARE SCHEMATIC IN NATURE AND INDICATE THE APPROXIMATE AND GENERAL LOCATION OF DUCTWORK, EQUIPMENT, AND PIPING.
 - CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE FABRICATION AND/OR INSTALLATION.
 - CONTINUOUSLY SEAL ALL TRANSVERSE DUCT JOINTS WITH MONECO, DUCTMATE, HARDCAST, OR APPROVED EQUAL DUCT SEALER.
 - REINFORCED CONCRETE PADS SHALL BE PLACED FOR ALL GRADE MOUNTED EQUIPMENT. CONCRETE SHALL HAVE A DEVELOPED STRENGTH OF 5,000 PSI AT 28 DAYS. CHAMFER ALL EXPOSED EDGES AT 1".
- OUTDOOR INSTALLATION:**
- PAD SHALL BE AT MINIMUM 6" THICK BUT SUITABLE FOR GRADE/DRAINAGE CONDITIONS.
 - STEEL REINFORCEMENT SHALL BE #4 REBAR @ 12" C/C E.W. W/ 3" MINIMUM COVER.
 - PAD DIMENSIONS SHALL GENERALLY EXTEND 8" PAST EQUIPMENT OUTLINE.
- CONTRACTOR SHALL FLASH AND SEAL ALL WALL AND ROOF PENETRATIONS.
 - THE CONTRACTOR SHALL COORDINATE ALL DUCTWORK, PIPING, AND EQUIPMENT LOCATIONS WITH ALL PROJECT DRAWINGS TO AVOID CONFLICTS.
 - THE CONTRACTOR SHALL PATCH/REPAIR ALL WALLS, FLOORS, AND CEILINGS DAMAGED DUE TO NEW WORK. PAINT TO MATCH ADJACENT AREAS.
 - THE CONTRACTOR IS ALERTED TO THE FACT THAT SEVERAL UTILITIES ARE LOCATED IN THE GROUND BELOW THE PROJECT CONSTRUCTION LIMITS. EXERCISE CAUTION WHEN EXCAVATING.
 - CONTRACTOR SHALL REPAIR/REPLACE ALL PAVEMENT, SIDEWALKS, WALLS, ETC. AS REQUIRED IN ACCORDANCE WITH THE SPECIFICATIONS.
 - AN ASSOCIATED AIR BALANCE-CERTIFIED BALANCING CONTRACTOR SHALL BALANCE AIR FLOWS AND SUBMIT BALANCE REPORTS TO THE ENGINEER FOR APPROVAL.
 - EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. ANY DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE BID DATE.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE AND PROPER INSTALLATION OF THERMOSTATS AND ALL OTHER NECESSARY FIELD MOUNTED CONTROL COMPONENTS. THE HVAC EQUIPMENT MANUFACTURER SHALL FURNISH COMPLETE WIRING DIAGRAMS TO THE INSTALLER FOR USE IN WIRING CONTROLS. ALL CONTROL WIRING SHALL BE IN CONDUIT AND INSTALLED IN STRICT ACCORDANCE WITH THE APPLICABLE CONTROL AND/OR ELECTRICAL SPECIFICATIONS AND WITH THE LATEST EDITION OF THE N.E.C. (NATIONAL ELECTRIC CODE).
 - ALL DUCTWORK SHALL BE SLEEVED THROUGH WALL AND CEILING PENETRATIONS.
 - TOP OF THERMOSTATS SHALL BE MOUNTED AT APPROXIMATELY 48" ABOVE THE FINISHED FLOOR. PROVIDE 1" MINIMUM, OR SAME SIZE AS UNIT CONNECTION CONDENSATE DRAIN FROM EACH UNIT TRAPPED TO MAINTAIN A WATER SEAL 1 IN. H2O GREATER THAN THE FAN TOTAL STATIC PRESSURE.
 - PROVIDE FLEXIBLE CONNECTIONS BETWEEN HVAC UNITS AND SHEETMETAL DUCTWORK. THE MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL BE NO LONGER THAN 4 INCHES.
 - ALL PIPE AND DUCT SUPPORTS SHALL BE INSTALLED FOR SEISMIC DESIGN CATEGORY D AS SPECIFIED IN THE KENTUCKY BUILDING CODE.
 - DUCTWORK SHALL BE GALVANIZED STEEL FABRICATED AND INSTALLED IN ACCORDANCE WITH THE APPLICABLE MANUAL OR HANDBOOK OF THE SHEETMETAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA), LATEST ISSUE.
 - THE CONTRACTOR SHALL FURNISH AND INSTALL ADDITIONAL SHEAVES, PULLEYS, AND/OR BELTS AS REQUIRED TO BRING AIR SYSTEM TO WITHIN 10% OF DESIGN.
 - UNLESS OTHERWISE NOTED, ALL DUCTWORK, PIPING, ETC. SHALL BE CONCEALED IN CEILING OR WALL SPACE.
 - CLOSE AND CAREFUL COORDINATION SHALL BE EXERCISED WHEN ROUTING DUCTWORK IN CEILING SPACE, TO AVOID POSSIBLE CONFLICTS WITH PLUMBING, LIGHTING, ETC. VERIFY EQUIPMENT LOCATIONS WITH ALL PROJECT PLANS.
 - EXTERNALLY INSULATE ALL RIGID RECTANGULAR AND ROUND SHEETMETAL DUCTWORK, TRANSITIONS, TAKE-OFFS, AND GRILLE BACKS WITH FIBERGLASS INSULATION AND VAPOR BARRIER AS SPECIFIED. TAPE ALL JOINTS.

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HVAC LEAD SHEET

castleberry megregor swinford ARCHITECTS

BENTON GAS SYSTEM

Project No. 10560

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DATE 10/01/10