

FMS INPUT/OUTPUT SUMMARY	OUTPUTS		INPUTS		SOFTWARE			NOTES
	BINARY	ANALOG	BINARY	ANALOG	ALARM	DDC	ENERGY MGMT.	
DOAS UNIT								
O. A. INTAKE DAMPER		X						
SUPPLY FAN	X							
SUPPLY FILTER			X					
O. A. PREFILTER								
SUPPLY TEMP. BEFORE COIL				X				
CONDENSER STAGE 1	X							
CONDENSER STAGE 2	X							
SUPPLY TEMP. AFTER EVAP. COIL				X				
GAS HEAT (STAGE AS REQ'D)	X							
SUPPLY TEMP. AFTER HEATER				X				

(1) POINTS ACHIEVED THROUGH BACNET INTERFACE. FURNISH OTHER POINTS AS REQUIRED FOR SPECIFIC UNIT CONTROL AND MONITORING. COORDINATE POINTS REQUIRED WITH OWNER.

FMS INPUT/OUTPUT SUMMARY	OUTPUTS		INPUTS		SOFTWARE			NOTES
	BINARY	ANALOG	BINARY	ANALOG	ALARM	DDC	ENERGY MGMT.	
TYPICAL VRF INDOOR UNIT								
ROOM TEMPERATURE				X				(1)
ROOM TEMPERATURE OFFSET				X				(1)
SUPPLY FAN	X					X	X	(1)
SUPPLY AIR TEMPERATURE				X				(1)
COOLING VALVE %		X						(1)
HEATING VALVE %		X						(1)
SAFETY CIRCUIT			X					(1)
BIPOLAR IONIZATION STATUS	X							
BIPOLAR IONIZATION OUTPUT				X				

(1) UNIT LOCAL CONTROL ACHIEVED BY VRF EQUIPMENT CONTROLS. TIME SCHEDULE AND TEMPERATURE LIMITS/SETBACK ACHIEVED BY FMS CONTROLS. OUTPUTS AND INPUTS LISTED SHALL BE ACHIEVED THROUGH BACNET INTERFACE AT VRF EQUIPMENT. PROVIDE ADDITIONAL POINTS AS REQUIRED BY OWNER.

FMS INPUT/OUTPUT SUMMARY	OUTPUTS		INPUTS		SOFTWARE			NOTES
	BINARY	ANALOG	BINARY	ANALOG	ALARM	DDC	ENERGY MGMT.	
MISCELLANEOUS								
TYPICAL EXHAUST FAN	X			X			X	
OUTSIDE AIR TEMPERATURE				X				
OUTSIDE AIR HUMIDITY				X				
AHU OVERRIDE (1 PER FAN)	X							
POWER MONITORING								(1)
TYPICAL VRF SYSTEM								(2)

(1) PROVIDE BACNET INTERFACE.
 (2) PROVIDE BACNET INTERFACE. PROVIDE MINIMUM 30 MONITORING POINTS IN BID FOR EACH OUTDOOR UNIT (NOT INCLUDING INDOOR UNIT POINTS). COORDINATE MONITORING POINTS WITH OWNER.

FMS INPUT/OUTPUT SUMMARY	OUTPUTS		INPUTS		SOFTWARE			NOTES
	BINARY	ANALOG	BINARY	ANALOG	ALARM	DDC	ENERGY MGMT.	
TYPICAL DUCTLESS SPLIT SYSTEM HEAT PUMP								
ROOM TEMPERATURE				X				(1)

-- AIR DISTRIBUTION SCHEDULE --						
MARK	TYPE	NECK CONNECTION (1)	FINISH	OBD	PRICE NO. UNLESS NOTED	REMARKS (2)
A/G	CEILING DIFFUSER	6"Ø	MANUFACTURER'S STANDARD FINISH	NO	SCD-4C	24 X 24 PANEL (3)
A/B	CEILING DIFFUSER	8"Ø	MANUFACTURER'S STANDARD FINISH	NO	SCD-4C	24 X 24 PANEL (3)
A/10	CEILING DIFFUSER	10"Ø	MANUFACTURER'S STANDARD FINISH	NO	SCD-4C	24 X 24 PANEL (3)
D	CEILING RETURN/EXHAUST	22" X 22"	MANUFACTURER'S STANDARD FINISH	NO	80	24 X 24 PANEL WITH BORDER FRAME
E	SUPPLY REGISTER	SEE PLANS	MANUFACTURER'S STANDARD FINISH	NO	520	DOUBLE DEFLECTION 3/4" BLADE SPACING
F	RETURN GRILLE	SEE PLANS	MANUFACTURER'S STANDARD FINISH	NO	535	45° DEFLECTION 1/2" BLADE SPACING
G	CEILING RETURN W/FILTER	22" X 22"	MANUFACTURER'S STANDARD FINISH	NO	80FF	24 X 24 PANEL WITH BORDER FRAME

- DUCT RUNOUT SIZE SAME AS NECK CONNECTION SIZE, UNLESS NOTED OTHERWISE.
- PROVIDE LAY-IN TYPE FOR T-BAR CEILINGS AND SURFACE TYPE FOR ALL OTHER CEILINGS. REFER TO ARCHITECTURAL FINISH SCHEDULE FOR CEILING TYPES.
- PROVIDE WITH REMOVABLE CORE (RC) AND MOLDED, INSULATED BACKPAN WITH FOIL SKRIM VAPOR BARRIER.
- PROVIDE WITH CUSTOM COLOR AS SELECTED BY ARCHITECT.

HVAC NOTES:

- NOT ALL EXISTING WORK IS SHOWN, AND THAT SHOWN IS IN ITS APPROXIMATE LOCATION AND ARRANGEMENT. EXACT LOCATION, ARRANGEMENT, AND SIZES SHALL BE VERIFIED ON THE JOB BEFORE STARTING ANY NEW WORK.
- INSTALL PIPING AND DUCTWORK IN EQUIPMENT ROOMS ADJACENT TO WALLS AND CEILINGS WHERE POSSIBLE TO PROVIDE MAXIMUM ROOM CLEARANCE.
- COORDINATE THE INSTALLATION OF WORK UNDER THIS DIVISION WITH THAT OF OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF PIPING, DUCTWORK, AND EQUIPMENT.
- PIPING, DUCTWORK, AND EQUIPMENT IS SHOWN IN ITS GENERAL LOCATION UNLESS DIMENSIONED.
- ARRANGE PIPING AND DUCTWORK TO CLEAR STRUCTURAL MEMBERS, PIPING AND RIGT FIXTURES.
- EXACT LOCATION OF GRILLES AND CEILING OUTLETS SHALL BE DETERMINED ON THE JOB SITE. COORDINATE WITH LIGHTS, SPRINKLER HEADS, AND OTHER CEILING APPURTEANCES TO PROVIDE A UNIFORM AND SYMMETRICAL APPEARANCE. REFER TO ARCHITECTURAL AND ELECTRICAL FINISHES AND DETAILS.
- ALL PIPING SHALL BE CONCEALED, UNLESS NOTED OTHERWISE.
- PROVIDE FLEXIBLE DUCT CONNECTIONS TO ALL AIR HANDLING EQUIPMENT.
- SLOPE DRAIN LINES TOWARD DRAIN WITH A MINIMUM SLOPE OF 1/8" PER FOOT.
- PROVIDE ACCESS DOORS IN DUCTWORK FOR ALL FIRE AND SMOKE DAMPERS, DUCT-MOUNTED COILS, AND CONTROL DEVICES.
- PROVIDE SMOKE DETECTOR SENSING CONTROL FOR ALL HVAC SYSTEMS IN EXCESS OF 2000 CFM.

H.V.A.C. LEGEND	
SYMBOL	DESCRIPTION
— SL —	REFRIGERANT SUCTION / LIQUID
— D —	CONDENSATE DRAIN
T	THERMOSTAT 4"-6" A.F.
C.P.	CONTROL PANEL
◀	FIRE DAMPER
OBD	OPPOSED BLADE DAMPER
BDD	BACKDRAFT DAMPER
∫ or C.F.M.	CUBIC FEET PER MINUTE
1/M-1	DETAIL NO. 1/M-1 SHEET NO.
⊗	SUPPLY DIFFUSER
⊘	RETURN OR EXHAUST GRILLE
⊕ or ⊖	MANUAL FIRE DAMPER
⊕	FLEXIBLE DUCT CONNECTION
⊕	LINED DUCT (SIZE SHOWN IS METAL SIZE)
⊕	SQUARE ELL WITH SINGLE THICK TURNING VANES
A/B	AIR DEVICE NECK CONNECTION SIZE
1/2	NEW TO EXISTING CONNECTION
A.F.	ABOVE FLOOR
RET.	RETURN (AIR - DUCT)
CONN.	CONNECTION
EXH.	EXHAUST
∅	DIAMETER
TYP.	TYPICAL
---	RATED PARTITION, SEE ARCH.
⊗	DEMOLITION EXTENTS (DEMO. PLANS ONLY)
PD	PRESSURE DROP
NOM.	NOMINAL
EAT	ENTERING AIR TEMPERATURE
LAT	LEAVING AIR TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
APD	AIR PRESSURE DROP
DB	DRY BULB
WB	WET BULB
HP	HORSEPOWER
MBH	THOUSAND BTU'S PER HOUR
REFRIG.	REFRIGERANT
EER	ENERGY EFFICIENCY RATIO
SEER	SEASONAL ENERGY EFFICIENCY RATIO
COP	COEFFICIENT OF PERFORMANCE
OA	OUTSIDE AIR
FPM	FEET PER MINUTE



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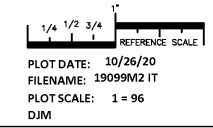
KEY PLAN:

REVISIONS:	
Date	Description

CCSD I.T./TRAINING DEPARTMENT
 FOR
 COLUMBIA COUNTY SCHOOL DISTRICT
 4395 RIVERWATCH PARKWAY
 EVANS, GA 30809

DRAWING TITLE
HVAC LEGEND, NOTES, AND CONTROLS

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