

DEMO NOTES:

1. DEMO EXHAUST FAN AND ALL ASSOCIATED DUCTWORK AND HANGERS. SALVAGE EXHAUST FAN AND TURN OVER TO OWNER. DEMO OF FANS SHALL NOT OCCUR UNTIL THE NEW EXHAUST FAN AND VRV SYSTEM IS OPERATIONAL AND BALANCED.

PLAN NOTES:

1. RELOCATED AC-1-2 (E). ROUTE NEW REFRIGERANT PIPING ACROSS ROOF TO PITCH POCKET. AC-1-2 ROOF SLEEPERS FURNISHED AND INSTALLED BY G.C.

2. ROUTE REFRIGERANT PIPING UP THROUGH ROOF TO AC-1-2 (E).

3. ROUTE 3/4" CONDENSATE PIPING DOWN TO MOP BASIN.

4. INSTALL NEW STAND-ALONE NAVIGATION REMOTE CONTROLLER. VERIFY EXACT LOCATION WITH OWNER.

5. SEE DETAIL S/42 FOR REFRIGERANT PIPE SIZING.

PHASING NOTES:

1. WORK WILL BE SHUT DOWN AS REQUIRED FOR STAFF/PATIENT NEEDS OR NOISE ISSUES.

2. CORRIDORS TO REMAIN OPEN AT ALL TIMES AND SHOULD BE SCHEDULED AFTER BUSINESS HOURS OR ON WEEKENDS, AND SHOULD BE SUBDIVIDED TO MAINTAIN CIRCULATION.

3. CORRIDOR ACCESS TO ROOMS MUST BE MAINTAINED AT ALL TIMES (EXCEPT POSSIBLY OUTSIDE BUSINESS HOURS WHEN WORK COULD BE COORDINATED AND COMPLETED).

4. WORK MUST BE COORDINATED WITH THE IMMEDIATE REINSTALLATION OF FINISHES SO CORRIDORS DO NOT REMAIN IN AN UNFINISHED STATE.

5. CRANE WORK SHALL BE SCHEDULED FOR PERIODS WHEN TWO (2) FLOORS IMMEDIATELY BELOW ARE UNOCCUPIED. (E.G. WEEKENDS, HOLIDAYS, OR AFTER HOURS). COORDINATE WITH VA A MINIMUM OF TWO (2) WEEKS IN ADVANCE.

6. EXISTING EXHAUST FANS IN PROCEDURE ROOMS 2C-43 AND 2C-44 MUST REMAIN IN OPERATION UNTIL NEW VARIABLE REFRIGERANT VOLUME (VRV) SYSTEM FULLY OPERATIONAL.

7. ALL WORK IN OCCUPIED AREAS SHALL BE SCHEDULED FOR AFTER HOURS OR ON WEEKENDS. COORDINATE WITH VA A MINIMUM OF TWO (2) WEEKS IN ADVANCE. ALL ROOM SHALL BE RESTORED TO USABLE CONDITION AT THE END OF EACH SHIFT.

GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS.

B. COORDINATE ALL DUCTWORK AND PIPING INSTALLATION WITH GENERAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL CONTRACTORS. INSTALL ALL DUCTWORK AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP DUCTWORK TIGHT TO THE STRUCTURE ABOVE. OFFSET DUCTWORK TO AVOID BEAMS.

C. REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW DUCTWORK, EQUIPMENT, ETC.

D. THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE INSTALLATION OF NEW DUCTWORK, EQUIPMENT, ETC. VERIFY WITH ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW DUCTWORK, EQUIPMENT, ETC.

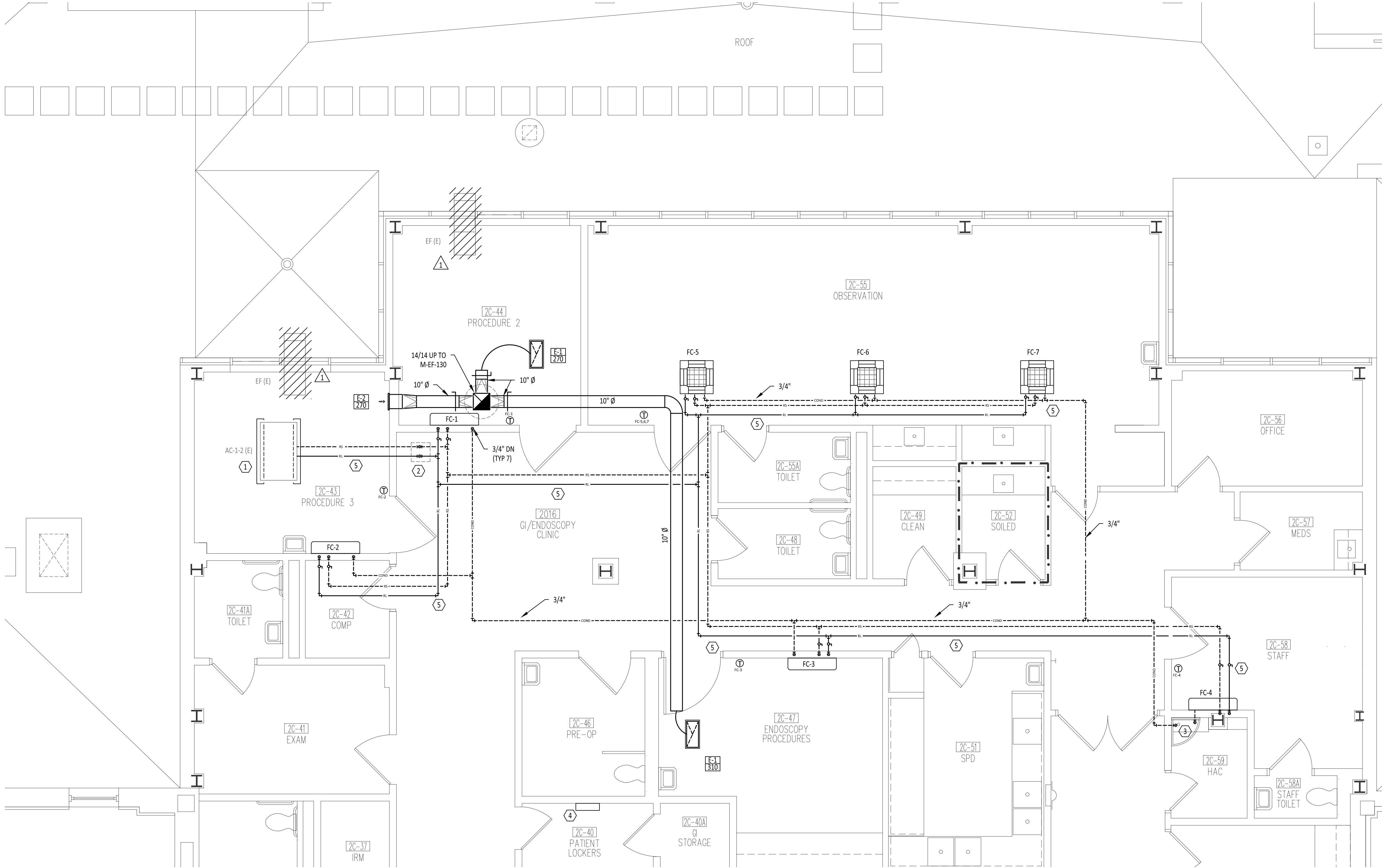
E. ALL WALL/FLOOR CUTTING & PATCHING BY GENERAL CONTRACTOR.

F. MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL CONTROL AND ACCESS PANELS FOR ACCESSIBILITY.

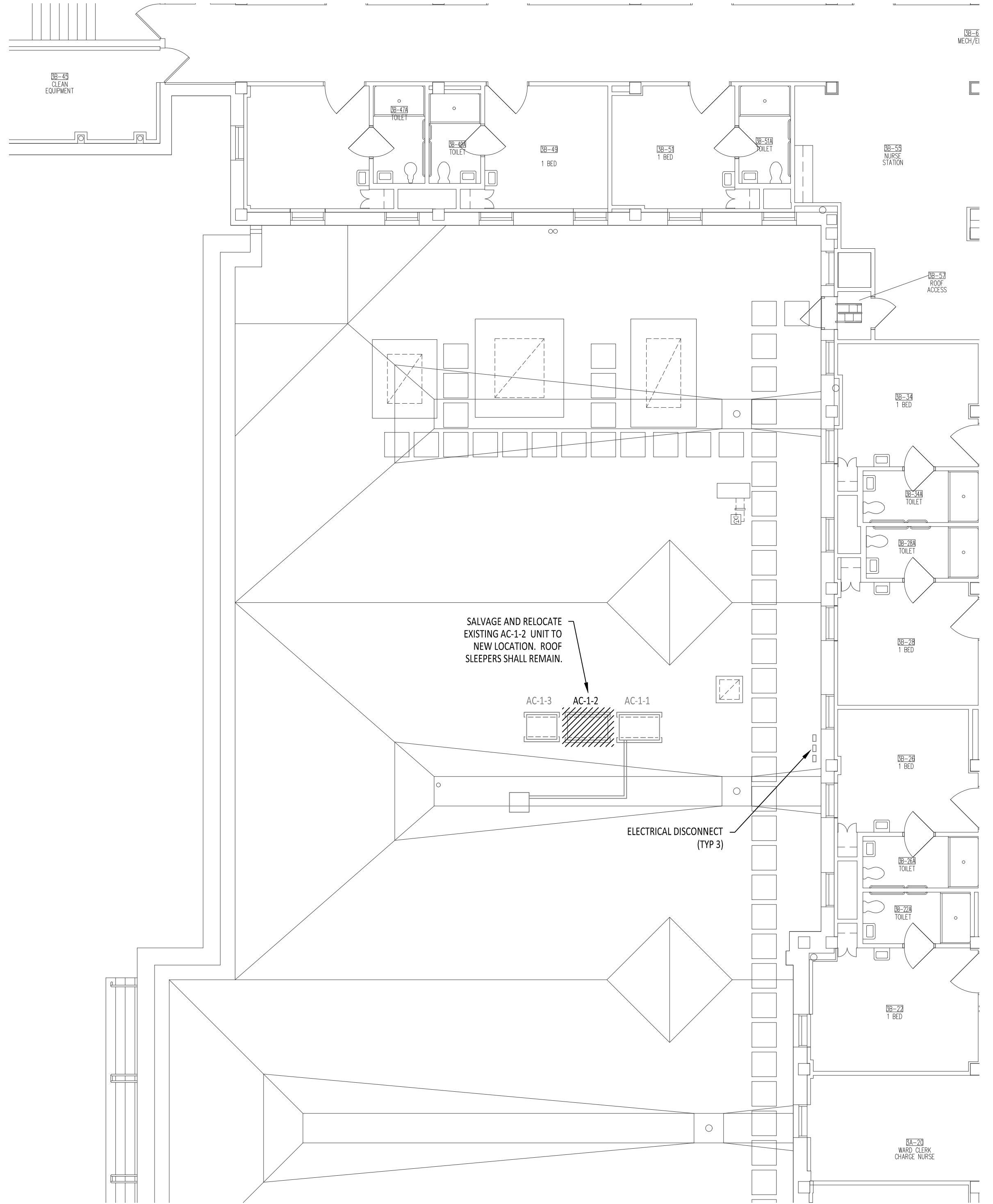
G. ALL OPEN ENDS OF DUCTS SHALL BE CAPPED WHEN NOT BEING WORKED ON.

H. REFER TO HVAC PIPING SCHEMATIC DIAGRAMS FOR ADDITIONAL INFORMATION AND SIZES.

I. ALL WALL MOUNTED FAN COIL UNITS SHALL BE INSTALLED CLOSE AS POSSIBLE TO UNDERSIDE OF THE CEILING.



1 PARTIAL SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 PARTIAL THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"

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Revisions	Date

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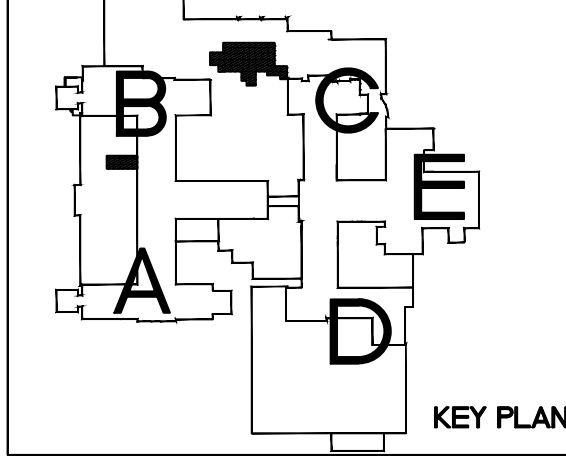
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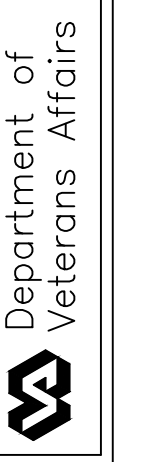
IMAGE
GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
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I hereby certify that this plan specification, or report was prepared by me or under my direct supervision, and that I am duly Registered Engineer under the laws of the State of North Dakota.

James P. Belland
Date: 08-01-17 Reg. No. PE-5639



Drawing Title PARTIAL SECOND FLOOR AND THIRD HVAC PLAN		Project Title UPGRADE GI SUITE WING 2C AIR CONDITIONING		Date SEPTEMBER 1, 2017
VA Project No. 437-16-205	Contract No. 437-5RF250	Designed By JPK	Checked By RJS	Drawn By KAR
Building No. 46	AutoCAD File Name 150044 HI.dwg	Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Drawing No. H1
				Dwg. 3 of 5



EXHAUST FANS															
TAG	MANUFACTURER	MODEL	TYPE	FAN			MOTOR				DAMPER TYPE	DAMPER SIZE	AREA SERVES	NOTES	
				AIRFLOW (CFM)	ESP (IN. WC)	SPEED (RPM)	HP	VOLT	PHASE	DRIVE					SONES
M-EF-130	COOK OR APPROVED EQUAL	ACE-D	PRV	850	0.75	1366	1/4	115	1	DIRECT	8.9	BDD	14/14	PROCEDURE ROOMS	1,2,3,4

- PROVIDE INSULATED CURB TO MATCH ROOF PITCH.
- DISCONNECT BY M.C.
- PROVIDE WITH SPEED SWITCH.
- EXHAUST FAN SHALL RUN CONTINUOUS.

TYPE:
PRV - POWER ROOF VENTILATOR

REGISTERS/GRILLES/DIFFUSERS									
TAG	MANUFACTURER	MODEL	FRAME SIZE	NECK SIZE	MOUNT	NOISE CRITERIA	OBD	NOTES	
E-1	TITUS OR APPROVED EQUAL	50F	12/24	10/22	LAY-IN	<20	NO	1	
E-2	TITUS OR APPROVED EQUAL	350RL	14/10	12/8	LAY-IN	<20	NO	2	

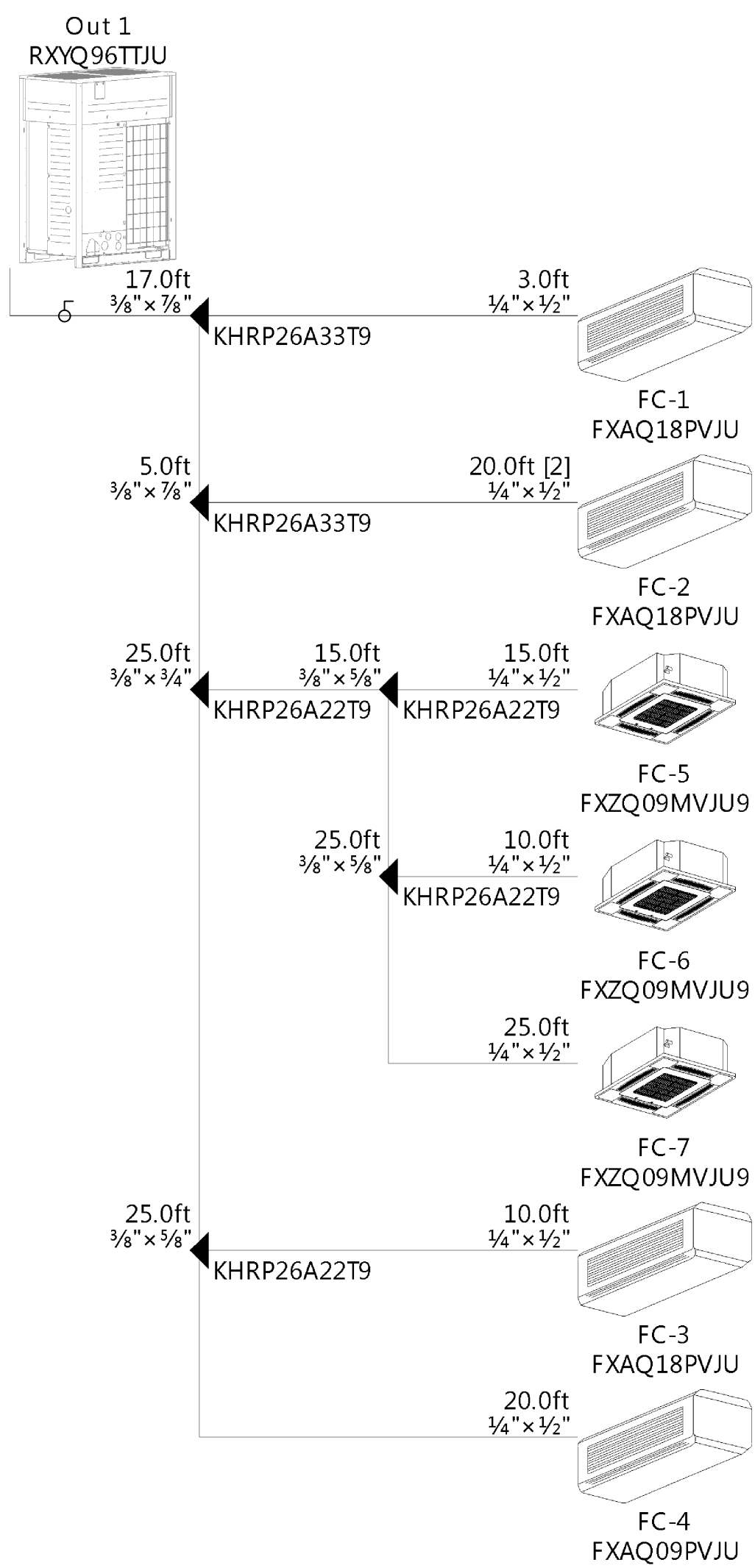
- NO SCREW HOLES.
- WITH SCREW HOLES.

VRV CONDENSING UNIT												
TAG	MANUFACTURER	MODEL	AMB (F)	TOTAL CLG. CAP. (TON)	TOTAL HTG. CAP. (TON)	ELECTRICAL				WEIGHT	NOTES	
						VOLT	PHASE	RUN AMPS	MCA			MOCF
AC-1-2 (E)	DAIKIN	RXYQ96TJU	95	6.5	9.4	208-230	3	23.8	36.3	45	525	1

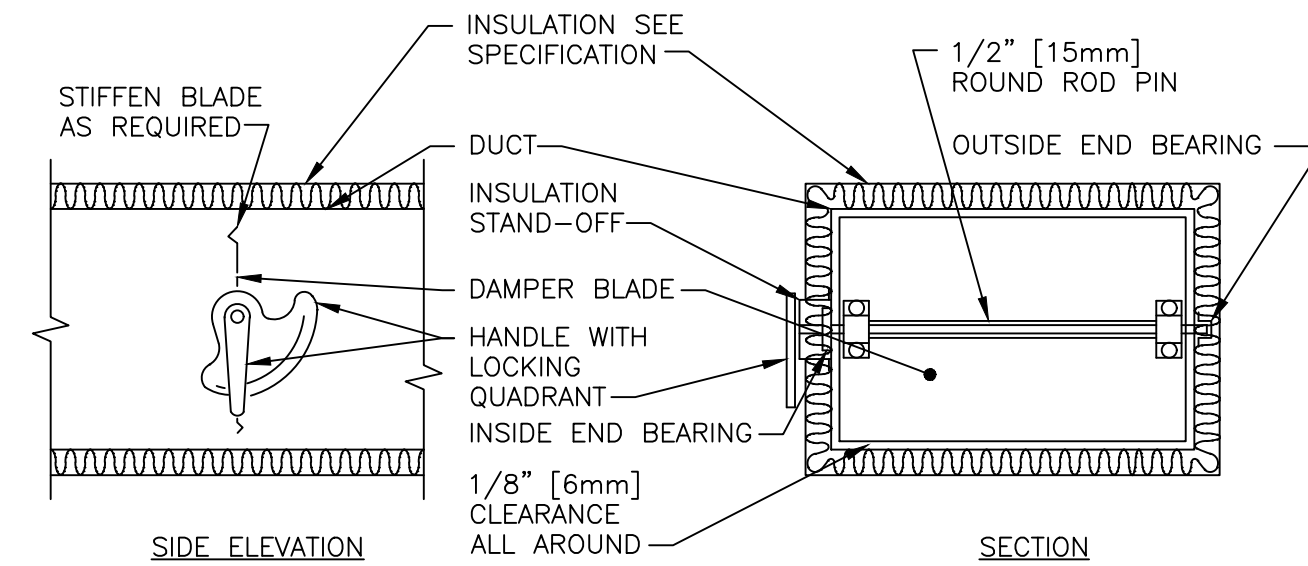
(1) UNIT IS EXISTING TO BE RELOCATED BY M.C.

VRV EVAPORATOR																	
TAG	MANUFACTURER	MODEL	MOUNTING	REFRIG.	COOLING CAPACITY				HEATING CAPACITY				ELECTRICAL			NOTES	
					TOTAL (TON)	SENSIBLE (TON)	EAT (F)	DB	WB	TOTAL (TON)	EAT (F)	DB	AIRFLOW (CFM)	VOLT	PHASE		MCA
FC-1	DAIKIN	FXAQ18PVJU	WALL	410A	1.3	1.0	75.2	62.6	1.8	68	500	208-230	1	0.4	15	2C-44	1,2,3,4
FC-2	DAIKIN	FXAQ18PVJU	WALL	410A	1.3	1.0	75.2	62.6	1.8	68	500	208-230	1	0.4	15	2C-47	1,2,3,4
FC-3	DAIKIN	FXAQ18PVJU	WALL	410A	1.3	1.0	75.2	62.6	1.8	68	500	208-230	1	0.4	15	2C-47	1,2,3,4
FC-4	DAIKIN	FXAQ09PVJU	WALL	410A	0.7	0.5	75.2	62.6	0.9	68	280	208-230	1	0.3	15	2C-58	1,2,3,4
FC-5	DAIKIN	FXZQ09MVJU9	CEILING	410A	0.7	0.5	75.2	62.6	0.9	68	320	208-230	1	0.8	15	2C-55	1,2,3,4
FC-6	DAIKIN	FXZQ09MVJU9	CEILING	410A	0.7	0.5	75.2	62.6	0.9	68	320	208-230	1	0.8	15	2C-55	1,2,3,4
FC-7	DAIKIN	FXZQ09MVJU9	CEILING	410A	0.7	0.5	75.2	62.6	0.9	68	320	208-230	1	0.8	15	2C-55	1,2,3,4

- PROVIDE REMOTE MOUNTED WIRED THERMOSTAT.
- FURNISH AND INSTALL REFRIGERANT PIPING AND ACCESSORIES PER MANUFACTURERS RECOMMENDATIONS.
- PROVIDE WITH CONDENSATE PUMP.
- EXISTING CONDENSING UNIT IS DAIKIN, USE ONLY DAIKIN EVAPORATORS.

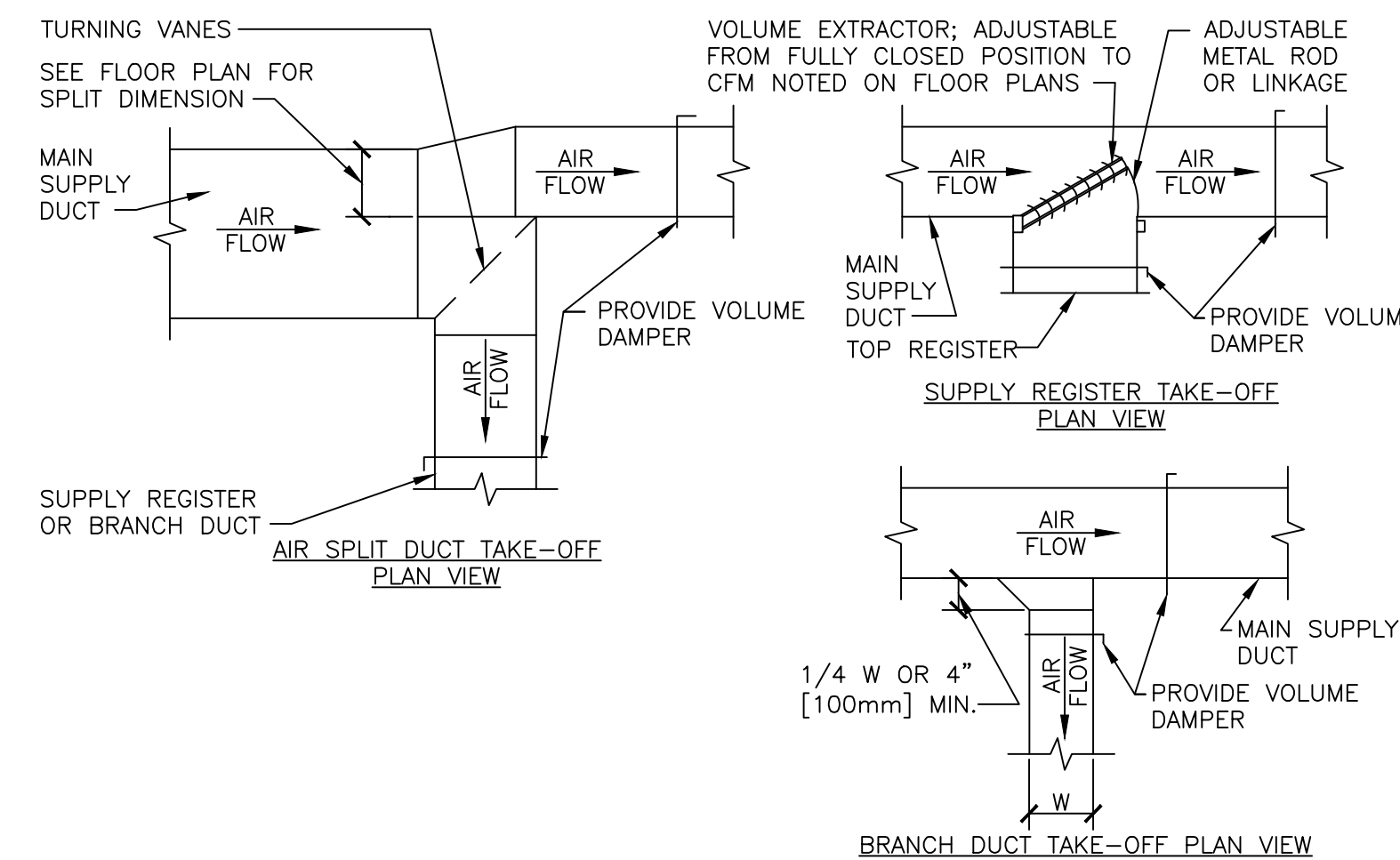


5 VRV PIPING SCHEMATIC

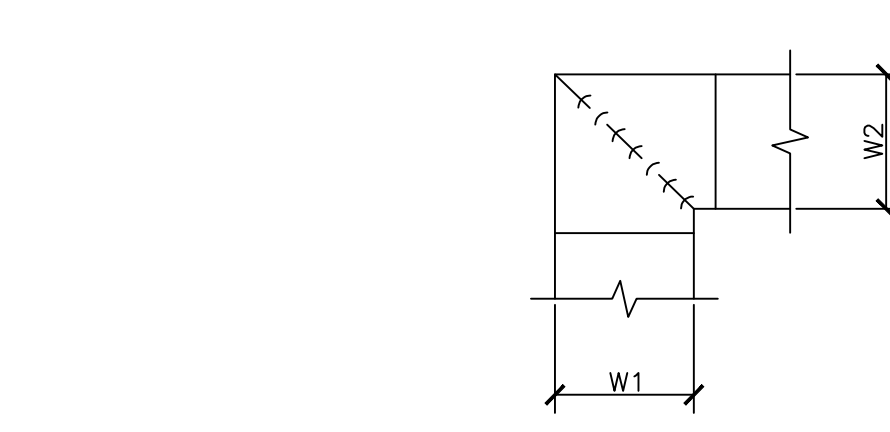


- NOTE:
- DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
 - DETAIL SHOWS SINGLE BLADE DAMPER, DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

6 VOLUME DAMPER DETAIL

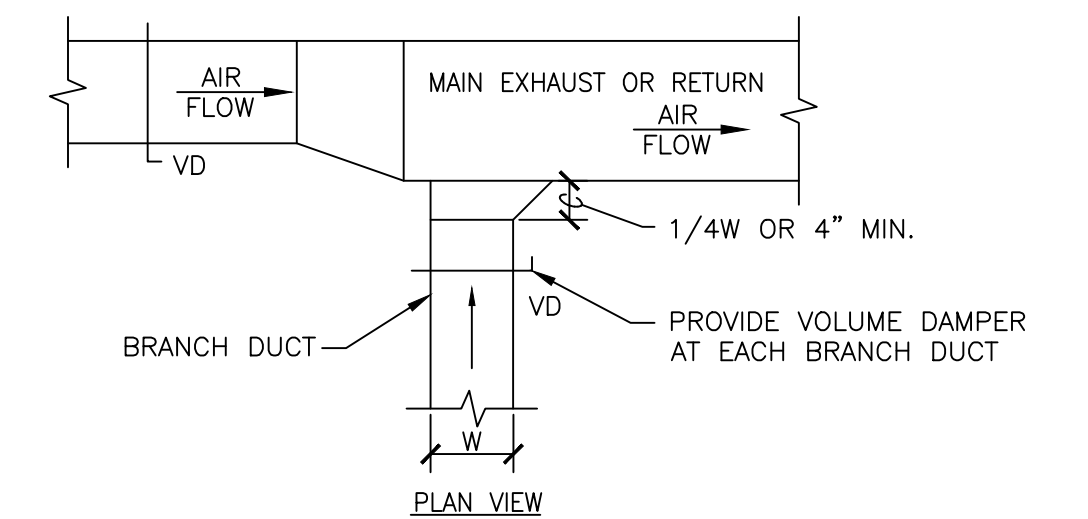


7 SUPPLY DUCTWORK TAKE-OFFS

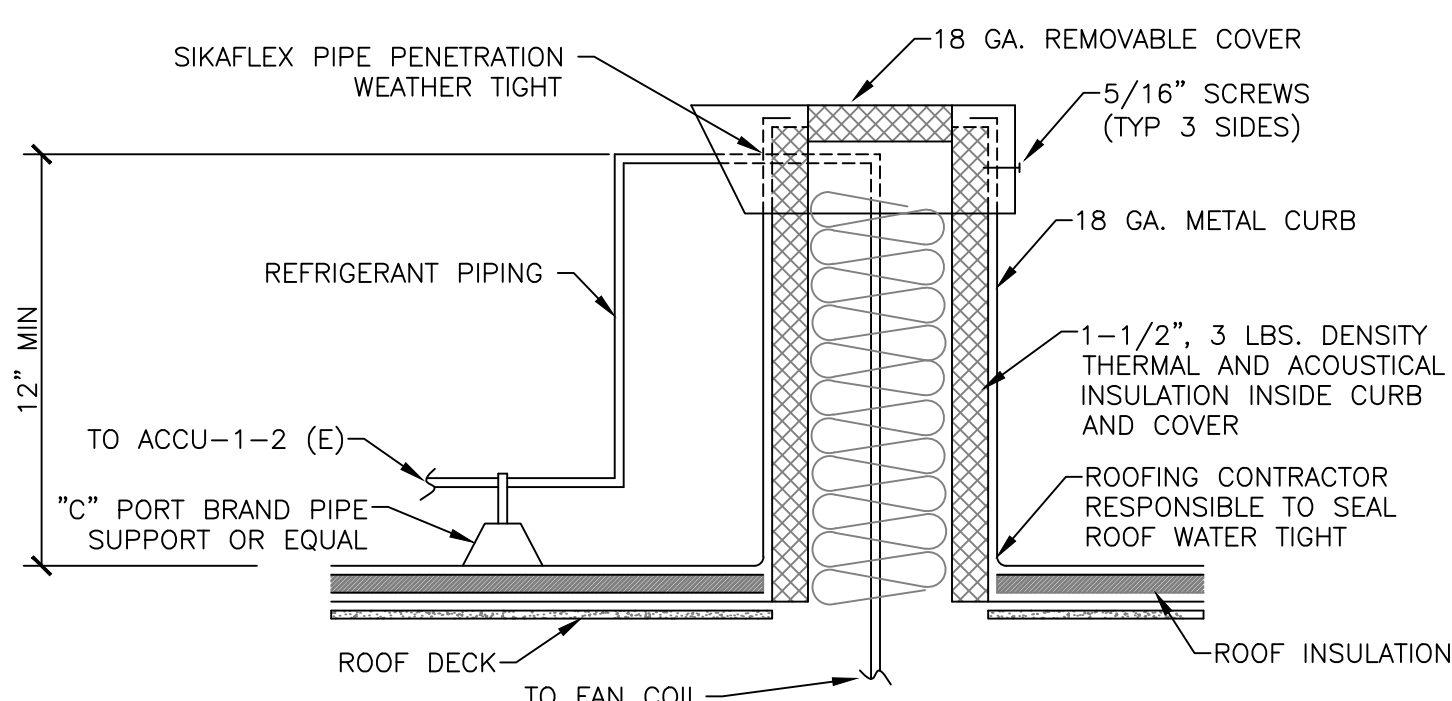


- NOTE:
- ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
 - WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
 - ALL SINGLE THICKNESS VANES SHALL HAVE A 2" RADIUS, 1 1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
 - WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE VANE TYPE.

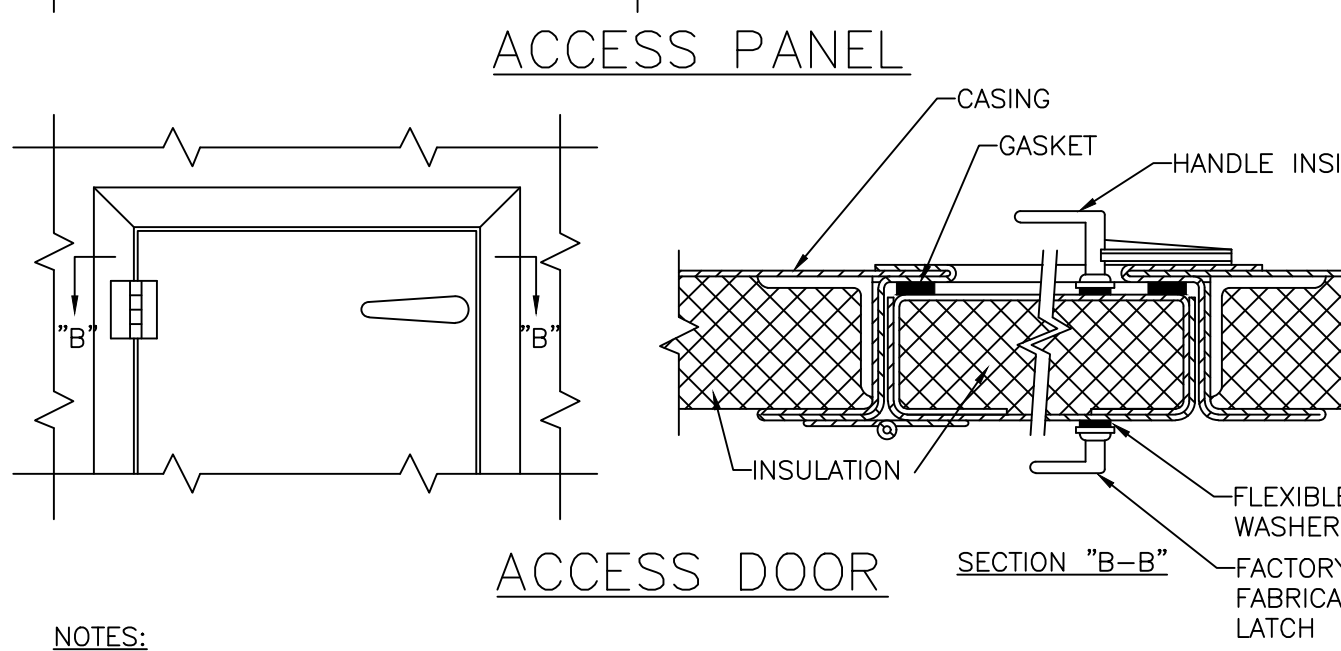
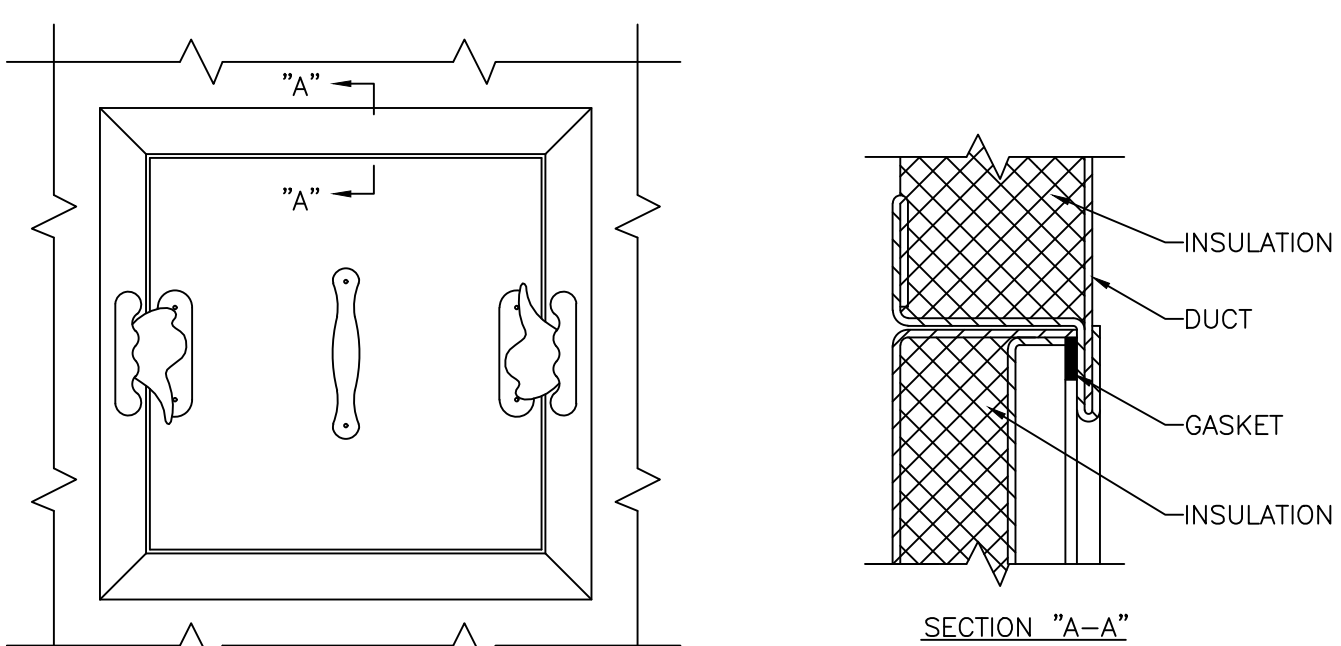
8 DUCTWORK SQUARE VANE ELBOWS



10 EXHAUST OR RETURN BRANCH DUCTWORK

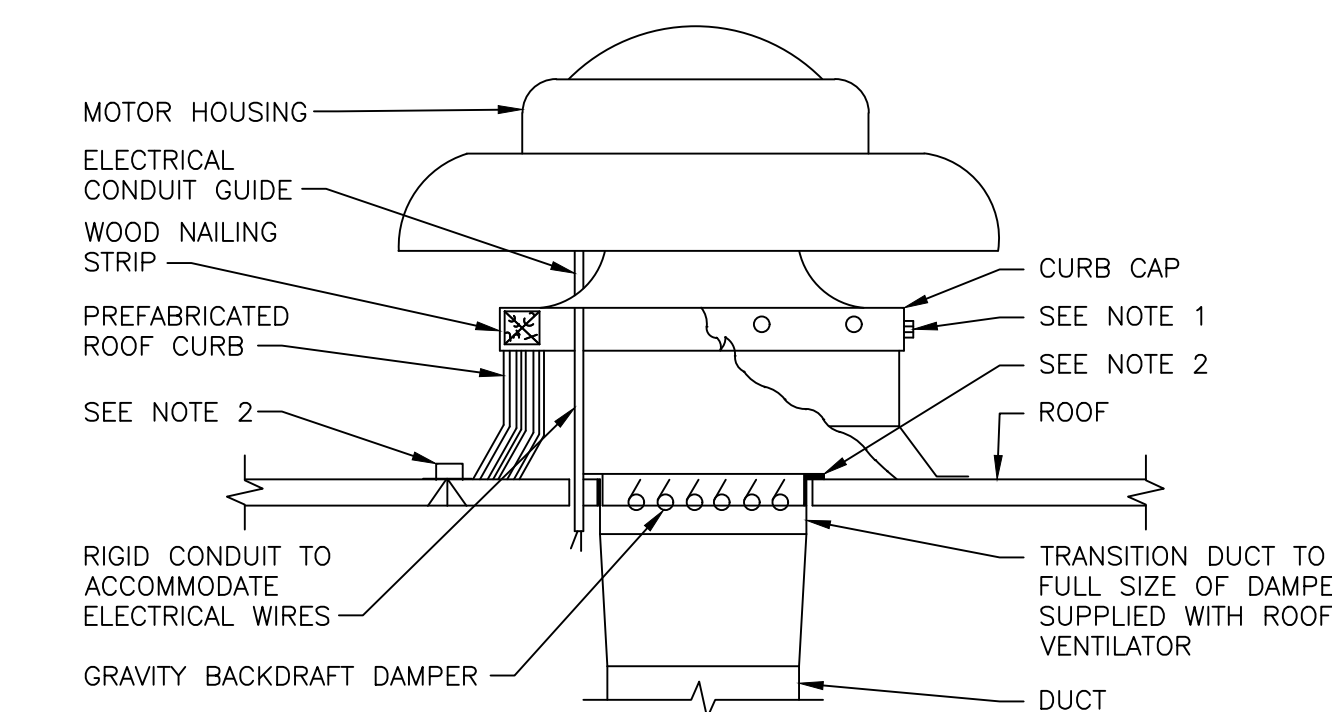


1 REFRIGERANT PITCH POCKET DETAIL



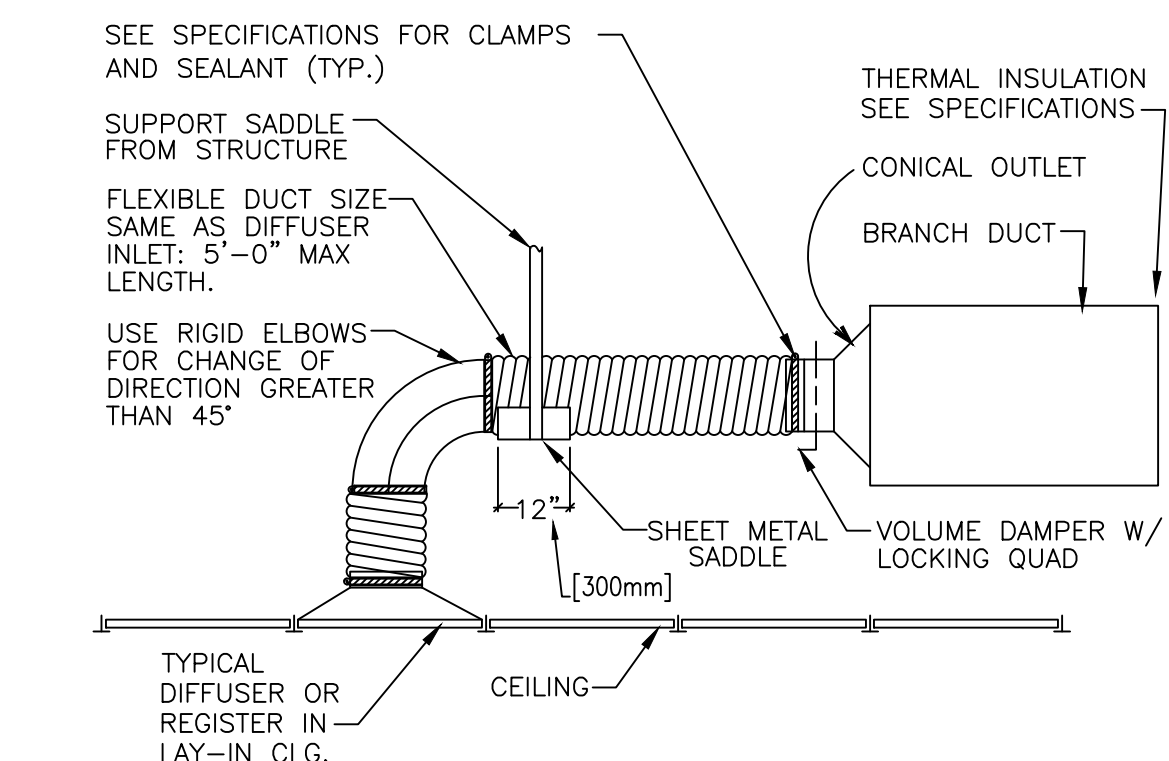
- NOTES:
- LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
 - HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINN.
 - SEE SMACNA 2005, FIGURE 9-15

2 ACCESS PANEL AND DOOR DETAIL



- NOTE:
- SECURE CURB CAP TO WOOD NAILING STRIP WITH 3/8" [10 mm] CADMIUM PLATED LAG BOLTS NOT OVER 12" [300 mm] ON CENTER.
 - SECURE ROOF CURB, DUCTWORK AND DAMPER TO ROOF WITH EXPANSION BOLTS (CONCRETE ROOF) OR RUST RESISTANT BOLTS (METAL DECK AND BAR JOIST ROOF).
 - RUN ELECTRICAL LINES THROUGH CLEARANCE HOLE PROVIDED IN GRAVITY DAMPER, THEN THROUGH VENTILATOR ELECTRICAL CONDUIT GUIDE.

3 POWER ROOF VENTILATOR



4 FLEXIBLE AIR DUCT CONNECTOR

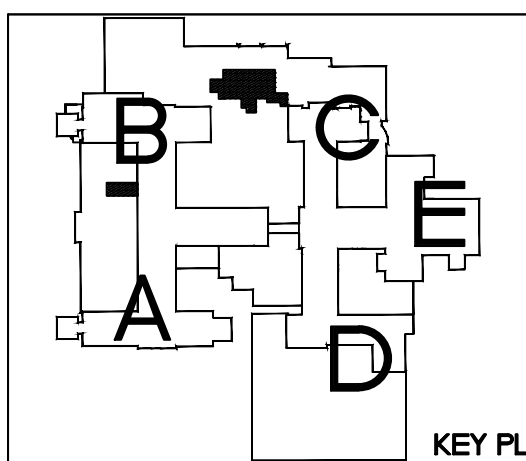
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IMAGE
GROUP
IMAGE GROUP INC.
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I hereby certify that this plan specification, or report was prepared by me or under my direct supervision, and that I am duly Registered Engineer under the laws of the State of North Dakota.
James P. Bell
Date: 08-01-17 Reg. No. PE-5639



Drawing Title HVAC SCHEDULES AND DETAILS		Project Title UPGRADE GI SUITE WING 2C AIR CONDITIONING		Date SEPTEMBER 1, 2017
VA Project No. 437-16-205	Contract No. 437-5RF250	Designed By JPK	Checked By RJS	Drawn By KAR
Building No. 46	AutoCAD File Name 150044 H2.dwg	Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Drawing No. H2
				Dwg. 4 of 5

Department of Veterans Affairs

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