



SANIBEL FIRE & RESCUE DISTRICT
2351 PALM RIDGE ROAD, SANIBEL, FLORIDA 33957

SANIBEL FIRE AND RESCUE STATION 172

PROJECT LOCATION:

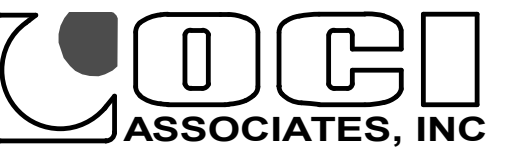
5171 SANIBEL-CAPTIVA ROAD
SANIBEL, FLORIDA 33957



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COMM. NO.: 2023820
ISSUE DATE: 01.05.2024
DRAWN BY: MBS

GENERAL NOTES,
ABBREVIATIONS AND
SYMBOL LEGEND - HVAC

M001

100% CONSTRUCTION DOCUMENTS

GENERAL LEGEND AND SYMBOLS	
	PIPE UP THROUGH PLAN
	PIPE DOWN THROUGH PLAN
	DIRECTION OF FLOW IN PIPE
	PIPE UP
	PIPE DOWN
	ELBOW WITH TURNING VANES
	PIPE GUIDE
	FLEXIBLE PIPE CONNECTOR
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE, HORIZONTAL SWING
	GATE VALVE
	THREE WAY MODULATING CONTROL VALVE
	THREE WAY CONTROL VALVE MODULATING ACTUATOR
	TWO WAY CONTROL VALVE MODULATING ACTUATOR
	GLOBE VALVE
	BALANCING VALVE
	PLUG VALVE
	GAS COCK, GAS STOP
	GAS COCK, GAS STOP
	PRESSURE RELIEF VALVE (WATER)
	PRESSURE REDUCING VALVE
	THERMOSTAT PORTS
	PRESSURE GAUGE
	HYDRONIC TEMPERATURE SENSOR
	UNION
	VALVE IN SERVICE BOX WITH CAST IRON COVER
	SOLENOID VALVE
	CAPPED LINE
	DIFFERENTIAL PRESSURE SWITCH
	B.A.S. FLOW METER/MONITOR
	PUMP (ARROW INDICATES FLOW)
	THERMOMETER IN PIPE
	SUPPLY DIFFUSER
	RETURN AIR GRILLE
	EXHAUST AIR GRILLE
	RIGID DUCTWORK (WIDTH/DEPTH)
	ELBOW WITH TURNING VANES
	MANUAL SPLITTER DAMPER
	FLEXIBLE DUCT WITH SPRING FITTING AND MANUAL VOLUME DAMPER
	MANUAL VOLUME DAMPER
	KEYNOTE DESIGNATION
	DELTA T (TEMPERATURE DIFFERENCE)
	CONDENSATE DRAIN LINE
	REFRIGERANT LINES
	FIRE DAMPER
	BACKDRAFT DAMPER
	MOTORIZED VOLUME DAMPER
	SMOKE DAMPER
	THERMOSTAT
	HUMIDISTAT
	DUCT MOUNTED SMOKE DETECTOR
	CARBON MONOXIDE SENSOR (MOUNT @36" A.F.F.)
	CARBON DIOXIDE SENSOR (MOUNT @60" A.F.F.)
	BIPOLAR IONIZATION UNIT
	DETAIL OR RISER DESIGNATION
	SHEET WHERE DETAIL OR RISER APPEAR

NOTE:
ALL STANDARD SYMBOLS AND ABBREVIATIONS MAY NOT APPEAR ON THE PROJECT DRAWINGS.

ABBREVIATIONS			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AC	AIR CONDITIONING	HB	HOSE BIBB
ACS	AUTOMATIC CONTROL SYSTEM	HC	HEATING COIL
ACU	AIR CONDITIONING UNIT	HD	HEAD
AD	ACCESS DOOR	HGT	HEIGHT
AFF	ABOVE FINISHED FLOOR	HORIZ	HORIZONTAL
AHU	AIR HANDLING UNIT	HP	HORSEPOWER
AMP	AMPERES	HR	HOUR
AP	ACCESS PANEL	HRR	HEAT RECOVERY RETURN
APPROX	APPROXIMATELY	HRS	HEAT RECOVERY SUPPLY
ARCH	ARCHITECTURAL	HW	DOMESTIC HOT WATER
AUX	AUXILIARY	HZ	HERTZ (FREQUENCY)
BHP	BRAKE HORSEPOWER	IN	INCH OR INCHES
BLDG	BUILDING	INSUL	INSULATION
BOP	BOTTOM OF DUCT	IPS	IRON PIPE SIZE
BTU	BRITISH THERMAL UNIT	IST	ICE STORAGE TANK
BTUH	BRITISH THERMAL UNIT PER HOUR	KW	KILOWATT
BWV	BACK WATER VALVE	L	LENGTH
CAM	COMMON AREA MAINTENANCE	LAT	LEAVING AIR TEMPERATURE
CC	COOLING COIL	LBS	POUNDS
CCP	CENTRAL CONTROL PANEL	LSHR	LEAVING AIR TEMPERATURE
CD	CUBIC FEET PER MINUTE	LWT	LEAVING WATER TEMPERATURE
CH	CHILLER	LX	LEAVING WET BULB TEMPERATURE
CHR	CHILLED WATER RETURN	LN FT	LEAVING NET BULB
CHW	CHILLED WATER SUPPLY	LWT	LEAVING WATER TEMPERATURE
CHWP	CHILLED WATER PUMP	MAX	MAXIMUM
CLG	CEILING	MB	MIXING BOX
CMU	CONCRETE MASONRY UNIT	MBH	THOUSANDS OF BTUH
COMB	COMBINATION	MC	MECHANICAL CONTRACTOR
COMPR	COMPRESSOR	MIN	MINIMUM
COND	CONDENSATE OR CONDENSER	NC	NORMALLY CLOSED
CONT	CONTINUATION	NIC	NOT IN CONTRACT
CUFFT	CUBIC FEET	NO	NORMALLY OPEN
CUH	CABINET UNIT HEATER	OA	OUTSIDE AIR
CU N	CUBIC INCHES	OD	OUTSIDE DIAMETER
D	DRAIN LINE	OV	OUTLET VELOCITY
DB	DRY BULB	PC	PLUMBING CONTRACTOR
DEG	DEGREES	P	PRESSURE DROP
DEG	DEGREES	PSI	POUNDS PER SQUARE INCH
DRI	DRAIN	PSIA	PSI ABSOLUTE
DRI	DRAIN	PSIG	PSI GAUGE
DUG	DUCT HEATING COIL	PSIG	PRESSURE
DIAM	DIAMETER	PVC	POLYVINYL CHLORIDE
DN	DOWN	R	RISE
DWG	DRAWING	RA	RETURN AIR
DX	DIRECT EXPANSION	RAF	RETURN AIR FAN
EAT	ENTERING AIR TEMPERATURE	RD	ROOF DRAIN
EC	ELECTRIC CONNECTOR	REQD	REQUIRED
EDD	EXTERIOR CLEANOUT	RHC	REFRIGERANT HOT GAS DISCHARGE
EWB	ENTERING WET BULB TEMPERATURE	R _h	REFRIGERANT LIQUID
EWV	EMERGENCY EYE WASH/SHOWER	R _m	ROOM
EF	EXHAUST FAN	RPM	REVOLUTIONS PER MINUTE
EL	ELEVATION	R _s	REFRIGERANT SUCTION
ELEC	ELECTRIC	RV	RELIEF VALVE
EQ	EQUAL	SFPDR	COMBINATION SMOKE AND FIRE DAMPER
EVAP	EVAPORATOR	SAU	SANITARY
EWB	ENTERING WET BULB TEMPERATURE	SAU	SANITARY
EWV	ELECTRIC WATER HEATER	SAU	SANITARY
EWT	ENTERING WATER TEMPERATURE	SCW	SECONDARY GLYCOL CHILLED WATER RETURN
EXP	EXPANSION	SCGRH	SECONDARY GLYCOL CHILLED WATER SUPPLY
EXST	EXISTING	SMH	STORM MANHOLE
F	FEET	SP	STATIC PRESSURE
F	FEET	SPR	SMOKE DAMPER
F	FEET	SPEC	SPECIFICATION
F	FEET	ST	STORM
FA	FIRE AREA	TB	TERMINAL BOX
FC	FLEXIBLE CONNECTION	TD	TRENCH DRAIN
FOU	FLOOR CLEANOUT	TDH	TOTAL DYNAMIC HEAD
FU	FAN COIL UNIT	TEMP	TEMPERATURE
FD	FLOOR DRAIN	TES	THERMAL ENERGY STORAGE
FDR	FIRE DAMPER	TF	TIP SPEED
FG	FINISHED GRADE	TYP	TYPICAL
FHC	FIRE HOSE CABINET	TX	TOWEL EXHAUST
FINFL	FINISHED FLOOR	UH	UNIT HEATER
FLA	FLAT LOAD AMPERES	V	VENT LINE
FOB	FLAT ON BOTTOM	VAV	VARIABLE AIR VOLUME UNIT
FOT	FLAT ON TOP	VLV	VALVE
FPI	FEET PER INCH	VTR	VENT THRU ROOF
FRM	FEET PER MINUTE	W	WITH
FPS	FEET PER SECOND	WO	WITHOUT
FTB	FAN POWERED TERMINAL BOX	W	WITH
FV	FACE VELOCITY	WB	WET BULB
GA	GAUGE	WC	WATER COLUMN
GAL	GALLONS	WCO	WALL CLEANOUT
GCHS	GLYCOL CHILLED WATER SUPPLY	WG	WATER GAUGE
GCHR	GLYCOL CHILLED WATER RETURN	WMS	WIRE MESH SCREEN
GO	GAS OUTLET	WP	WORKING PRESSURE
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		
H ₂ O	WATER		

MECHANICAL GENERAL NOTES	
1.	ALL MECHANICAL WORK SHALL BE GOVERNED AND INSTALLED IN COMPLIANCE WITH THE LATEST EDITION AND APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS: A. FLORIDA BUILDING CODE - 2023 B. FLORIDA MECHANICAL CODE - 2023 C. FLORIDA PLUMBING CODE - 2023 D. FLORIDA ENERGY EFFICIENCY CODE - 2023 E. FLORIDA FIRE PREVENTION CODE - 2023 F. FLORIDA EXISTING BUILDING CODE - 2023 G. NATIONAL ELECTRICAL CODE (NEC) - 2023 H. NFPA 99A - INSTALLATION OF AIR CONDITIONING & VENTILATING SYSTEMS I. NFPA 101 - LIFE SAFETY CODE J. ASHRAE STANDARDS (INCLUDING 15, 55, 62.1, 90.1 & 129) K. ANSI L. SMACNA DUCTWORK STANDARDS M. AMERICANS WITH DISABILITIES ACT (ADA) N. ALL OTHER APPLICABLE FEDERAL, COUNTY AND CITY CODES REQUIRED BY LOCAL JURISDICTIONS
2.	THE CONTRACTOR SHALL READ THE SPECIFICATIONS, THE SPECIFICATIONS AND DRAWINGS TOGETHER DEFINE THE FULL CONTRACT REQUIREMENTS. IN THE EVENT OF A DISCREPANCY BETWEEN THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT APPLIES UNLESS DIRECTED AS BEEN PROVIDED THROUGH A FORMAL REQUEST FOR INFORMATION OR CLARIFICATION PRIOR TO THE CLOSE OF THE BIDDING.
3.	ANY PROPOSED EQUIPMENT OR MATERIAL SUBSTITUTIONS SHALL BE APPROVED BY THE OWNER AND ENGINEER OF RECORD PRIOR TO THE CLOSE OF BIDDING. NO EQUIPMENT OR MATERIAL SUBSTITUTIONS WILL BE CONSIDERED ONCE THE BIDDING HAS ENDED AND THE GMP HAS BEEN ESTABLISHED.
4.	AIR HANDLING SYSTEMS SHALL NOT BE ENERGIZED UNTIL ALL OF THE DRYWALL FINISHING AND PAINTING SCOPES HAVE BEEN COMPLETED. CONFIRMATION THAT THESE SCOPES ARE REQUIRED WITH WRITTEN APPROVAL FROM THE OWNER AND ENGINEER BEFORE AIR HANDLING UNIT AND FANS CAN BE ENERGIZED. FAILURE TO OBTAIN WRITTEN APPROVAL TO ENERGIZE THE FANS WILL RESULT IN THE CLEANING OF THE ENTIRE INTERIOR OF ANY AFFECTED AIR DISTRIBUTION SYSTEM BY A LICENSED THIRD-PARTY CONTRACTOR AT NO ADDITIONAL COST.
5.	ALL TEMPORARY FILTRATION AT AIR HANDLING EQUIPMENT AND ANY RETURN AIR INTAKE GRILLE SHALL BE REPLACED WITH A MINIMUM OF ONCE A MONTH DURING PERIODS OF OPERATION DURING CONSTRUCTION. A LOG MUST BE MAINTAINED AT EACH AIR HANDLING UNIT INDICATING DATES OF FILTER REPLACEMENTS FOR INSPECTION. FAILURE TO MAINTAIN THE REQUIRED LOG WILL RESULT IN THE CLEANING OF THE ENTIRE INTERIOR OF ANY AFFECTED AIR DISTRIBUTION SYSTEM BY A LICENSED THIRD PARTY CONTRACTOR AT NO ADDITIONAL COST.
6.	ALL EQUIPMENT, DUCTWORK AND MATERIALS STORED ON THE JOBSITE SHALL BE PROPERLY PROTECTED FROM THE ELEMENTS AND CONSTRUCTION DIRT AND DEBRIS. ANY MATERIAL EXPOSED TO THE ELEMENTS WITH EXPOSED INSULATION WILL BE REQUIRED TO BE REPLACED AT NO ADDITIONAL COST. ANY EQUIPMENT OR MATERIAL THAT IS EXPOSED TO THE ELEMENTS DIRT AND DEBRIS THAT ARE DEEMED ACCEPTABLE TO REMAIN SHALL BE THOROUGHLY CLEANED AND DISINFECTED AND SIGNED OFF ON BY THE OWNER'S REPRESENTATIVE AND THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
7.	ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL REQUIREMENTS WITH EQUIPMENT SUPPLIER.
8.	ALL EQUIPMENT HOUSINGS AND COMPONENTS INSTALLED OUTDOORS OR WITHIN UNCONDITIONED VENTILATED SPACES THAT ARE EXPOSED TO THE ELEMENTS SHALL BE SUITABLE FOR SEACOST APPLICATION. ANY APPLIED CORROSION RESISTANT MATERIALS SHALL BE FACTORY APPLIED.
9.	EVERY PIECE OF MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH AN ENGRAVED NAMEPLATE WITH MINIMUM 1" HIGH LETTERS INDICATING EQUIPMENT DESIGNATION. ANY EQUIPMENT INSTALLED WHERE CONCEALED ABOVE CEILING SHALL BE NOTED WITH CLEAR ADHESIVE LABEL AT NEAREST GRID OR ON ACCESS PANEL IN ADDITION TO THE ENGRAVED NAMEPLATE.
10.	ALL VARIABLE FREQUENCY DRIVES AND MOTOR STARTERS SHALL BE PROVIDED WITH ENGRAVED LABELS INDICATING ASSOCIATED EQUIPMENT THEY SERVE AS WELL AS THE ELECTRICAL PANEL AND CIRCUIT THAT FEEDS THE DEVICE.
11.	ALL EXTERIOR MECHANICAL EQUIPMENT AND THEIR FRAMES, APPURTENANCES, COMPONENTS, SUPPORTS AND ANCHORING DEVICES SHALL BE ANCHORED TO RESIST THE FORCES DUE TO WIND PRESSURE AS REQUIRED BY THE FLORIDA BUILDING CODE.
12.	ALL EQUIPMENT AND MATERIALS INSTALLED THAT INTERFACE WITH THE ROOFING SYSTEM SHALL BE COORDINATED WITH THE ROOFING SYSTEM BEING PROVIDED. ALL MECHANICAL EQUIPMENT INSTALLATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE ROOFING MANUFACTURER TO MAINTAIN CONTINUITY AND WARRANTIES.
13.	COORDINATE LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES WITH ARCHITECTURAL, REFLECTED CEILING PLANS AND WORK OF ALL OTHER TRADES.
14.	ALL LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCTWORK ARE DESIGNED FROM A MINIMUM OF 0.05" TO A MAXIMUM OF 0.1" OF FRICTION PER 100 FT. OF DUCT.
15.	UNLESS NOTED OTHERWISE, FLEXIBLE DUCT CONNECTORS AND ROOF DUCT RUNOUTS SERVING SINGLE DIFFUSER SHALL BE THE SAME SIZE AS DIFFUSER NECK.
16.	PAINT INTERNAL DUCTWORK VISIBLE THROUGH DIFFUSERS, GRILLE OR LOUVER FACE FLAT BLACK.
17.	DUCTWORK LAYOUTS INDICATED ON PLANS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO BE USED AS DUCT FABRICATION DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION EFFORTS BETWEEN TRADES AS OUTLINED IN THE SPECIFICATIONS.
18.	ALL LOW PRESSURE BRANCH DUCTS SHALL BE PROVIDED WITH A MANUAL VOLUME DAMPER FOR BALANCING. ALL MANUAL VOLUME DAMPERS SHALL BE PROVIDED WITH A MINIMUM 12" LENGTH OF FLUORESCENT ORANGE RIBBON TO AIDE IN VISIBILITY WHERE ABOVE CEILING.
19.	ALL INSULATION / DUCT SEAMS SHALL BE SEALED WITH GLASS FIBER, STAPLES AND MASTIC. PRESSURE SENSITIVE TAPE IS NOT AN APPROVED DUCT / INSULATION CLOSURE SYSTEM. ANY PRESSURE SENSITIVE TAPE USED WILL BE REQUIRED TO BE REMOVED AND REPLACED WITH A PROPER CLOSURE SYSTEM.
20.	DUCT ACCESS DOORS SHALL BE PROVIDED WHERE ANY EQUIPMENT REQUIRING ACCESS IS INSTALLED ABOVE AN ACCESSIBLE CEILING. MINIMUM SIZE SHALL BE 12X12 OR AS LARGE AS NECESSARY TO ACCOMMODATE EQUIPMENT REPLACEMENT AND SERVICE.
21.	ALL DUCT AND PIPING PENETRATIONS THROUGH TILT WALL PANELS SHALL BE COORDINATED BETWEEN THE TILT WALL AND MECHANICAL SUBCONTRACTORS PRIOR TO WALL PANEL FORMING OR DUCT FABRICATION.
22.	THE FINISH OF ANY INTERIOR OR EXTERIOR EXPOSED MECHANICAL EQUIPMENT, DUCTWORK, FABRIC DUCT SYSTEMS, LOUVERS, ETC. SHALL BE CONFIRMED WITH THE ARCHITECT.
23.	ALL DOORS TO INDIVIDUAL TOILETS, JANITORS CLOSETS AND OTHER SMALL SPACES WITHOUT RETURN GRILLS ARE TO BE UNDERCUT MINIMUM 1/2".
24.	MOUNT SPACE MOUNTED SENSORS AT 48" TO THE CENTER UNLESS NOTED OTHERWISE.
25.	ALL WALL SENSORS INSTALLED IN PUBLIC SPACES SHALL BE PROVIDED WITH LOCKABLE VANDAL RESISTANT COVERS.
26.	ALL WALL SENSORS SHALL BE PROVIDED WITH ENGRAVED NAMEPLATE WITH 1/4" HIGH LETTERS INDICATING THE ASSOCIATED MECHANICAL EQUIPMENT IT SERVES.
27.	PROVIDE MOTOR STARTERS FOR ALL MOTORS THAT ARE REQUIRED TO BE CONTROLLED THAT ARE NOT BEING PROVIDED WITH A VARIABLE FREQUENCY DRIVE.
28.	ALL REFRIGERANT LINE RUNS SHALL BE SIZED AND INSULATED PER THE MANUFACTURER'S RECOMMENDATIONS. UNLESS NOTED OTHERWISE, PROVIDE PVC CHANGES UNDERGROUND WITH DIRECT PATH TO CONDENSING UNIT TO MINIMIZE LINE SET LENGTHS AS MUCH AS POSSIBLE. ALL REFRIGERANT LINES INSTALLED EXPOSED OUTDOORS SHALL BE NEATLY RACK MOUNTED AND PROVIDED WITH ALUMINUM JACKETING.
29.	THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL OF THE ROOF MOUNTED PLUMBING VENTS WITH THE PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. THE CODE MINIMUM SEPARATION BETWEEN OUTDOOR AIR
30.	ALL PIECES OF MECHANICAL EQUIPMENT REQUIRING ACCESS LOCATED ABOVE HARD CEILING SHALL BE PROVIDED WITH ACCESS PANELS SIZED PER DRAWINGS AND/OR MANUFACTURER'S RECOMMENDATION, WHICHEVER IS LARGER. COORDINATE STYLE, COLOR, LOCATION OF PANEL WITH A/E/C.



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2351 PALM RIDGE ROAD, SANIBEL, FLORIDA 33957

**SANIBEL FIRE AND RESCUE
STATION 172**

PROJECT LOCATION:

5171 SANIBEL-CAPTIVA ROAD
SANIBEL, FLORIDA 33957



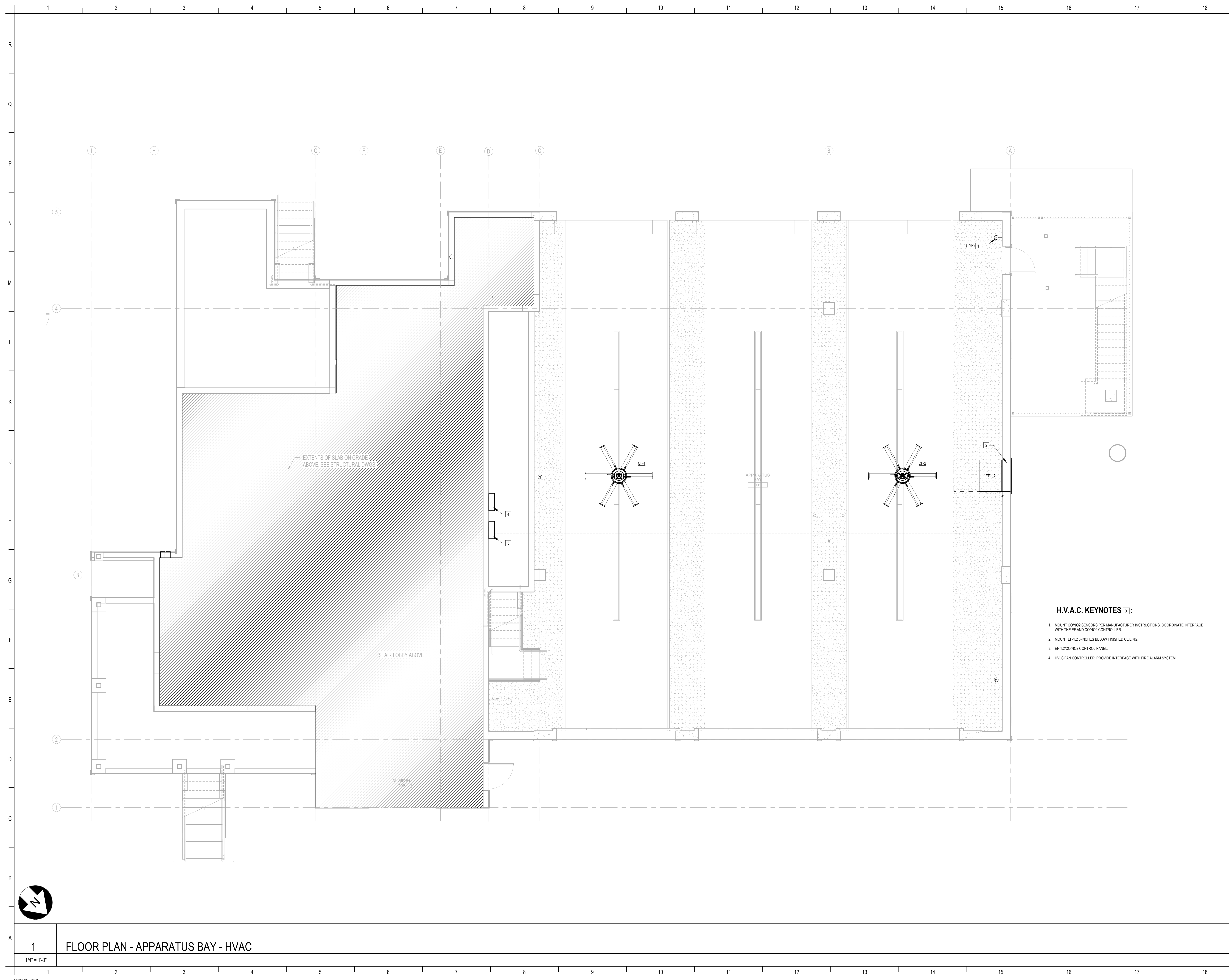
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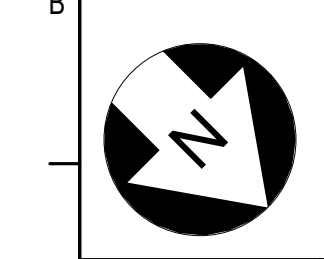
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MARK	DESCRIPTION	DATE



- H.V.A.C. KEYNOTES [X]:**
1. MOUNT CO2 SENSORS PER MANUFACTURER INSTRUCTIONS. COORDINATE INTERFACE WITH THE EF AND CO2 CONTROL CONTROLLER.
 2. MOUNT EF-1 2-6 INCHES BELOW FINISHED CEILING.
 3. EF-1/2 CO2 CONTROL PANEL.
 4. HVLS FAN CONTROLLER. PROVIDE INTERFACE WITH FIRE ALARM SYSTEM.



1 FLOOR PLAN - APPARATUS BAY - HVAC
1/4" = 1'-0"

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**FLOOR PLAN - APPARATUS
BAY - HVAC**



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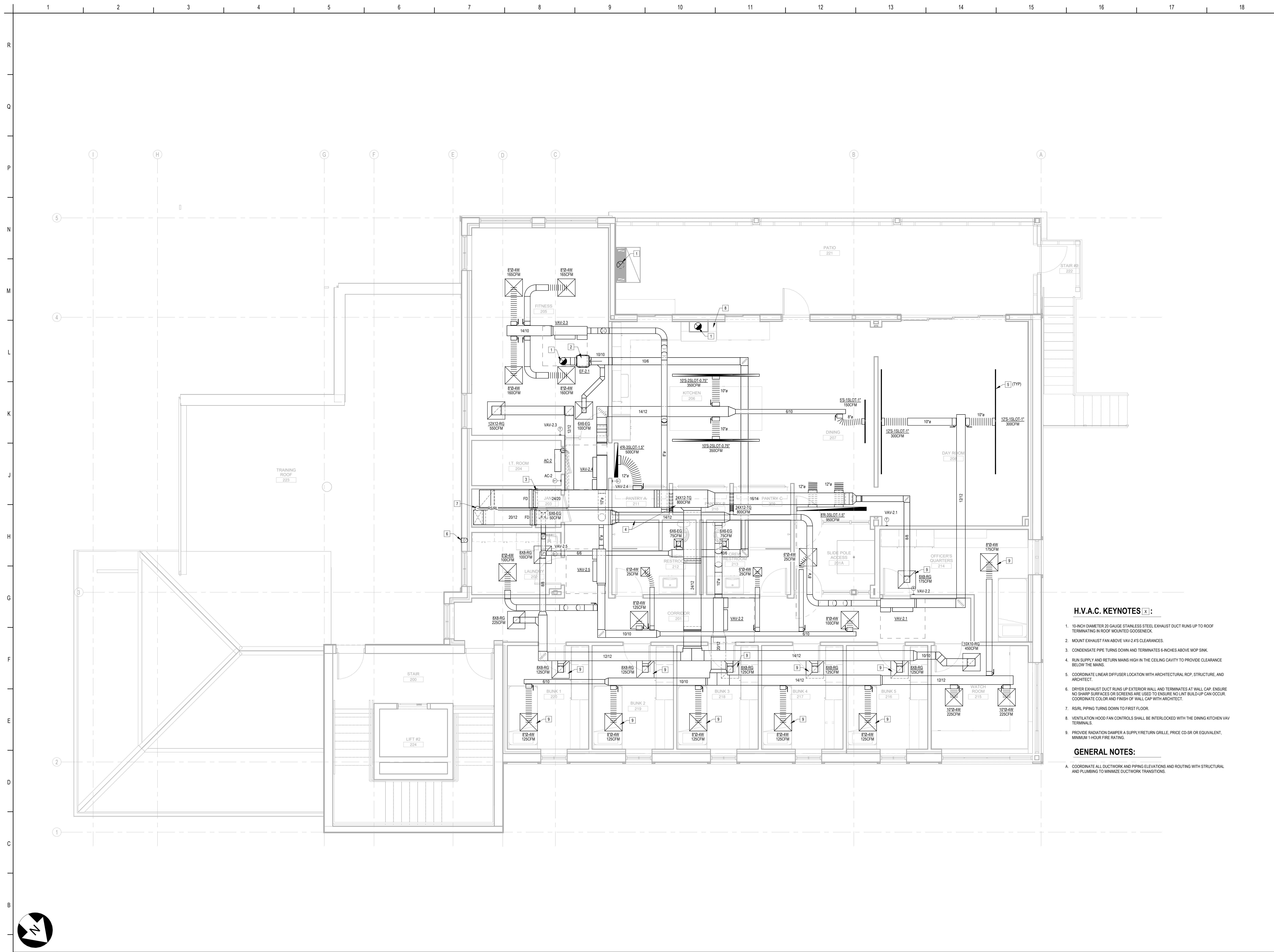


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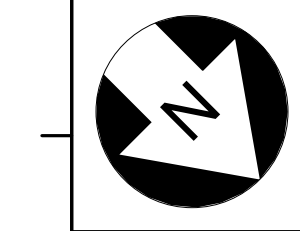


H.V.A.C. KEYNOTES

- 10-INCH DIAMETER 20 GAUGE STAINLESS STEEL EXHAUST DUCT RUNS UP TO ROOF TERMINATING IN ROOF MOUNTED COOSENECK.
- MOUNT EXHAUST FAN ABOVE VAV-2'S CLEARANCES.
- CONDENSATE PIPE TURNS DOWN AND TERMINATES 6-INCHES ABOVE MOP SINK.
- RUN SUPPLY AND RETURN MAINS HIGH IN THE CEILING CAVITY TO PROVIDE CLEARANCE BELOW THE MAINS.
- COORDINATE LINEAR DIFFUSER LOCATION WITH ARCHITECTURAL RCP, STRUCTURE, AND ARCHITECT.
- DRYER EXHAUST DUCT RUNS UP EXTERIOR WALL AND TERMINATES AT WALL CAP. ENSURE NO SHARP SURFACES OR SCREENS ARE USED TO ENSURE NO LINT BUILDUP CAN OCCUR. COORDINATE COLOR AND FINISH OF WALL CAP WITH ARCHITECT.
- RSRL PIPING TURNS DOWN TO FIRST FLOOR.
- VENTILATION HOOD FAN CONTROLS SHALL BE INTERLOCKED WITH THE DINING KITCHEN VAV TERMINALS.
- PROVIDE RADIATION DAMPER A SUPPLY/RETURN GRILLE, PRICE CD-SR OR EQUIVALENT, MINIMUM 1-HOUR FIRE RATING.

GENERAL NOTES:

- A. COORDINATE ALL DUCTWORK AND PIPING ELEVATIONS AND ROUTING WITH STRUCTURAL AND PLUMBING TO MINIMIZE DUCTWORK TRANSITIONS.



1 FLOOR PLAN - SECOND FLOOR - HVAC

1/4" = 1'-0"

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**FLOOR PLAN - SECOND
FLOOR - HVAC**

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CONTROL POINTS (X)

CONTROL POINTS

1. OA TEMP
2. OA HUMIDITY
3. OA DAMPER POSITION
4. OA FILTER STATUS/DP
5. OA FLOW RATE
6. RA TEMP
7. RA HUMIDITY
8. RA CO2
9. RA DAMPER POSITION
10. FILTER STATUS/DP
11. AIR PURIFICATION SYSTEM STATUS
12. COIL LEAVING AIR TEMP
13. FAN STATUS
14. ECM INTERFACE
15. HIGH STATIC LIMIT
16. DUCT SYSTEM STATIC PRESSURE
17. SPACE TEMP
18. SPACE HUMIDITY

ALARMS

1. SA HIGH STATIC
2. SA FAN FAILED TO START
3. SPACE RH ABOVE SETPOINT
4. COIL LEVEL ABOVE SETPOINT
5. OA DAMPER FAILED

SUPPLY FAN CONTROL:

THE FAN CAN BE STARTED BASED ON ANY OF THE FOLLOWING CONDITIONS:

1. WHEN THE SYSTEM IS PUT INTO WARM UP / COOL DOWN MODE (THRU THE EMS SYSTEM)
2. WHEN THE SYSTEM IS PUT IN THE OCCUPIED MODE (THRU THE EMS SYSTEM)
3. WHEN THE SYSTEM IS MANUALLY PUT IN AN OVERRIDE MODE (THRU THE EMS SYSTEM)
4. IF THE HAND-OFF-AUTO SWITCH LOCATED ON THE MOTOR IS PUT IN THE HAND POSITION ONLY THE FAN STARTS.

WHEN THE FAN IS INDEXED TO START VIA THE OPERATIONAL MODE SELECTION, THE ECM SHALL INCREASE THE SUPPLY FAN(S) SPEED SLOWLY OVER A PERIOD OF 1 MINUTE (ADJ.) TO ACHIEVE THE DUCT STATIC PRESSURE SETPOINT. THE ECM SHALL CONTINUE TO MODULATE THE FAN SPEED AS REQUIRED TO MAINTAIN THE CURRENT STATIC PRESSURE SETPOINT. THE ASSOCIATED EXHAUST FANS ARE STARTED, OUTDOOR AIR DAMPERS WILL MODULATE OPEN (SEE BELOW) AND THE UNIT CONTROL LOOPS ARE ENABLED.

STATIC PRESSURE CONTROL:

WHEN THE SUPPLY FAN PROOF OF FLOW HAS BEEN DETERMINED THE SUPPLY FAN STATIC LOOP IS ALLOWED TO CONTROL. THE SUPPLY FAN SPEED IS RAISED UP ON FAN START-UP AND THEN MODULATED TO MAINTAIN DISCHARGE STATIC PRESSURE SETPOINT DEPENDING IF IN THE OCCUPIED MODE OR NOT.

FAN STATIC PRESSURE SETPOINT RESET:

THE EMS SYSTEM SHALL CONTINUOUSLY MONITOR THE DAMPER POSITION AND AIRFLOWS OF ALL VAV TERMINALS SERVED BY THE AIR HANDLING UNIT. THE SYSTEM SHALL EVALUATE THE DUCT STATIC PRESSURE CONDITIONS EVERY 10 MINUTES (ADJ.)

THE SYSTEM SHALL HAVE A MINIMUM AND MAXIMUM SETTING FOR THE SUPPLY AIR STATIC SETPOINT TO BE ADJUSTABLE AND DETERMINED DURING TEST AND BALANCE. UPON FAN INITIAL STARTUP, THE MINIMUM SETPOINT SHALL BE THE STARTING POINT FOR FAN CONTROL.

IN THE EVENT THAT ALL VAV TERMINALS ARE SATISFIED (I.E. ALL VAV TERMINALS ARE AT LESS THAN 100% MAXIMUM OPEN POSITION AND ANY THAT ARE AT 100% MAXIMUM POSITION ARE DELIVERING AT LEAST 95% (ADJ.) OF THE SUPPLY AIR FLOW (MAXIMUM SETPOINT)) THE DUCT STATIC PRESSURE SETPOINT SHALL DECREASE BY 0.1" W.C.

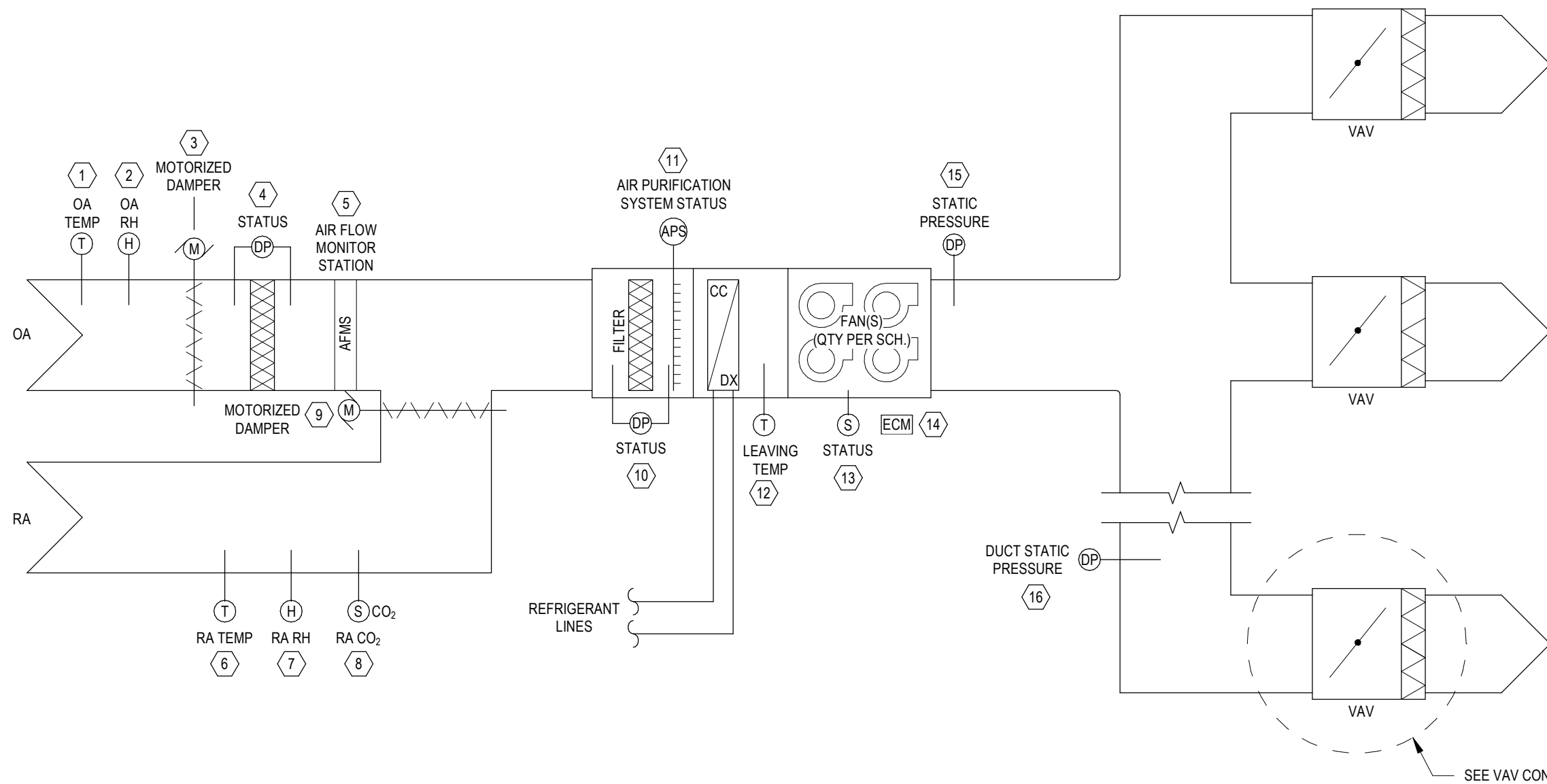
IN THE EVENT THAT ANY VAV TERMINAL IS NOT SATISFIED WITH VALVE AT THE 100% MAXIMUM OPEN POSITION AND IS DELIVERING LESS THAN 95% (ADJ.) OF THE SUPPLY AIR FLOW (MAXIMUM SETPOINT), THE DUCT STATIC PRESSURE SETPOINT SHALL INCREASE BY 0.1" W.C.

THE ABILITY SHALL BE PROVIDED TO BLACKLIST ANY PROBLEM ZONE THAT WILL NOT BE CONSIDERED IN THE STATIC PRESSURE SETPOINT ADJUSTMENT.

THE AHU GRAPHICS SCREEN SHALL INCLUDE THE CURRENT STATIC PRESSURE SETPOINT AND CURRENT STATIC PRESSURE READINGS AS WELL AS IDENTIFY ANY ZONES THAT ARE NOT SATISFIED IN TERMS OF AIRFLOW.

EACH SYSTEM SHALL HAVE A MINIMUM TOTAL SYSTEM SUPPLY AIRFLOW SETPOINT TO AVOID SURGE AS RECOMMENDED BY THE MANUFACTURER. IN THE EVENT THAT THE SYSTEM TOTAL FLOW DROPS TO WITHIN 10% (ADJ.) OF THE MINIMUM AIRFLOW SETPOINT, THE SYSTEM SHALL RESET THE STATIC PRESSURE SETPOINT TO THE MINIMUM SETTING. UPON A CONTINUED DROP IN TOTAL SYSTEM FLOW BELOW THE MINIMUM SETPOINT, THE VAV TERMINAL MINIMUM FLOW OVERRIDE SAFETY SHALL ENABLE.

1 TYPICAL MULTIZONE VAV AHU CONTROL SCHEMATIC NTS



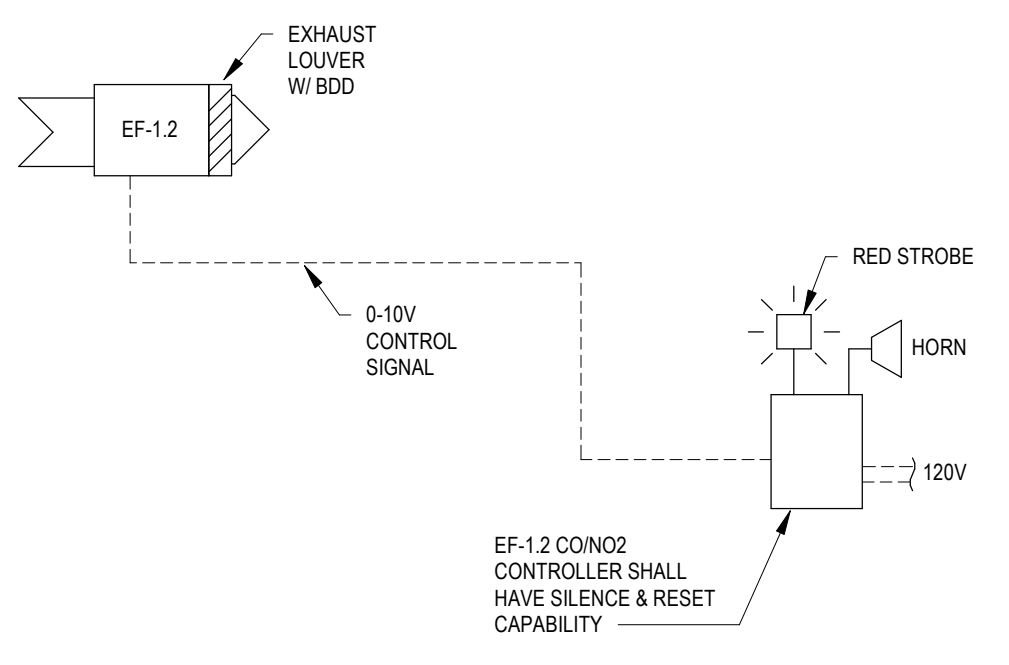
SEE VAV CONTROL DIAGRAM FOR SEQUENCE AND POINTS LIST (TYP)

EMERGENCY VENTILATION CONTROL SYSTEM SEQUENCE:

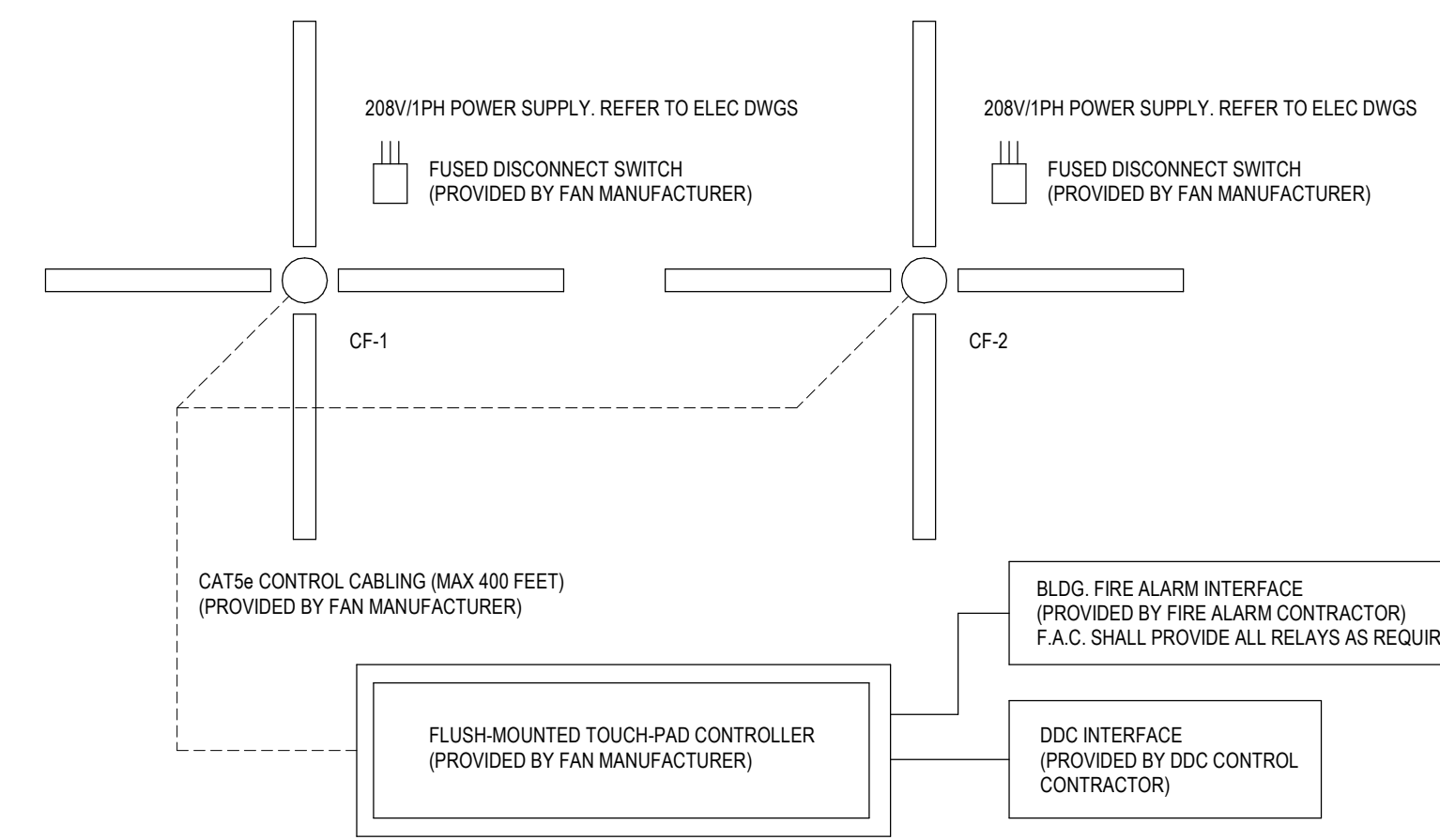
1. GENERAL: PROVIDE A CONTROL SYSTEM INCLUDING ALL EQUIPMENT, SENSORS, TRANSMITTERS, RELAYS, WIRING, ETC. FOR A COMPLETELY OPERATIONAL SYSTEM. EF-1.2 SHALL BE INTERLOCKED WITH THE EF CO2/NO EXHAUST VENTILATION SYSTEM IN THE APARATUS BAY.
2. SHOP DRAWINGS: SUBMIT COMPLETE SUBMITTAL PACKAGE INCLUDING PRODUCT DATA, SCHEMATIC WIRING DIAGRAMS, POWER REQUIREMENTS, ETC. FOR REVIEW AND APPROVAL.
3. SEQUENCE: UNDER NON-ALARM CONDITIONS, EF-1.2S MOTOR SHALL BE DE-ENERGIZED.

THE EF CONTROL SYSTEM AND EQUIPMENT MAINTAINS THE CO2/NO LEVELS IN THE APARATUS BAY.

EF-1.2 WHEN SIGNALLED VIA THE EF CONTROL SYSTEM SHALL ENERGIZE TO FULL CAPACITY DURING AN ALARM CONDITION AT THE EF CONTROL PANEL. UPON DE-ACTIVATION OF THE ALARM OR RESET AT THE EF PANEL, EF-1.2 WILL DE-ENERGIZE.



4 CONTROLS - EMERGENCY VENTILATION SYSTEM (ECM) NTS



BUILDING FIRE ALARM INTERFACE:

THE BUILDING FIRE ALARM SYSTEM CONTRACTOR SHALL DISABLE FAN OPERATION THRU THE FAN CONTROLLER UPON ACTIVATION OF THE BUILDING'S FIRE ALARM SYSTEM.

FAN CONTROLLER WIRING REQUIREMENTS:

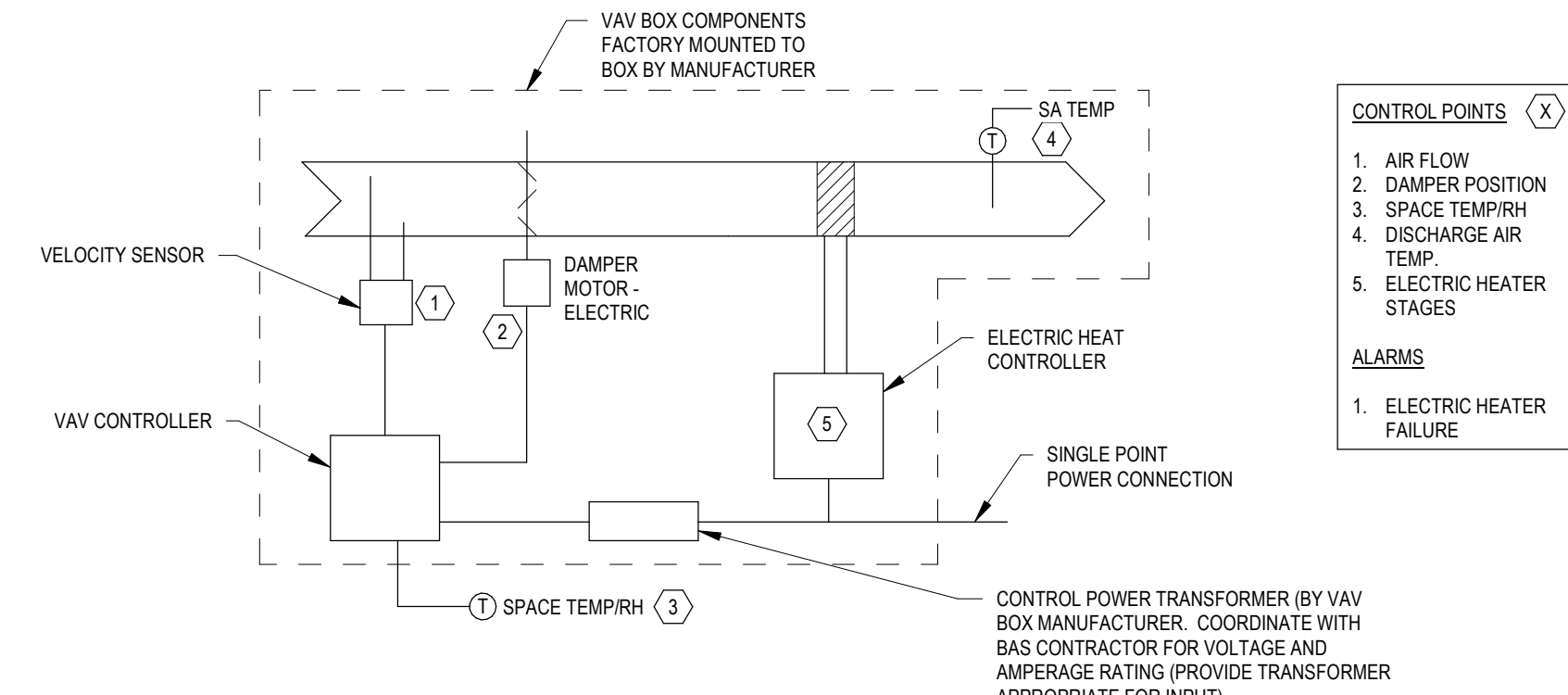
ALL WIRING SCHEMATICS AND FINAL WIRING TO THE FANS, BLDG. HVAC CONTROL SYSTEM, AND FIRE ALARM SYSTEM SHALL BE COMPLETELY COORDINATED. PROVIDE ALL RELAYS WIRING (IN CONDUIT), ETC. AS REQUIRED TO PROVIDE COMPLETE INTERFACE.

DDC CONTROL SEQUENCE:

DDC SHALL ONLY BE REQUIRED TO ENABLE/DISABLE THE CEILING FAN CONTROLLER BASED UPON THE OCCUPIED/UNOCCUPIED SCHEDULE FOR THE FAN OPERATION.



5 HVLS FAN CONTROL SCHEMATIC NTS



VAV SEQUENCE:

EACH VAV SHALL BE PROVIDED WITH INDEPENDENT SETPOINTS FOR THE FOLLOWING CONDITIONS:

ZONE MODE	COOLING TEMP	HEATING TEMP	MINIMUM AIRFLOW
UNOCCUPIED	80 (ADJ.)	64 (ADJ.)	TERMINAL RECOMMENDED MINIMUM FLOW
OCCUPIED	75 (ADJ.)	69 (ADJ.)	AS SCHEDULED

WHEN THE ASSOCIATED AIR HANDLING UNIT IS ENABLED THE VAV TERMINAL SHALL OPERATE PER THE FOLLOWING:

UPON RISE IN SPACE TEMPERATURE ABOVE THE SPACE COOLING SETPOINT, AIR VALVE SHALL OPEN TO INCREASE SUPPLY AIR FLOW. UPON FALL IN SPACE TEMPERATURE THE REVERSE SHALL OCCUR UNTIL THE AIR VALVE REACHES THE MINIMUM AIRFLOW SETPOINT. IF SPACE TEMPERATURE CONTINUES TO FALL BELOW THE SPACE HEATING SETPOINT THE ELECTRIC HEAT SHALL STAGE ON TO RAISE SUPPLY AIR TEMPERATURE AS REQUIRED TO MAINTAIN THE SPACE HEATING SETPOINT.

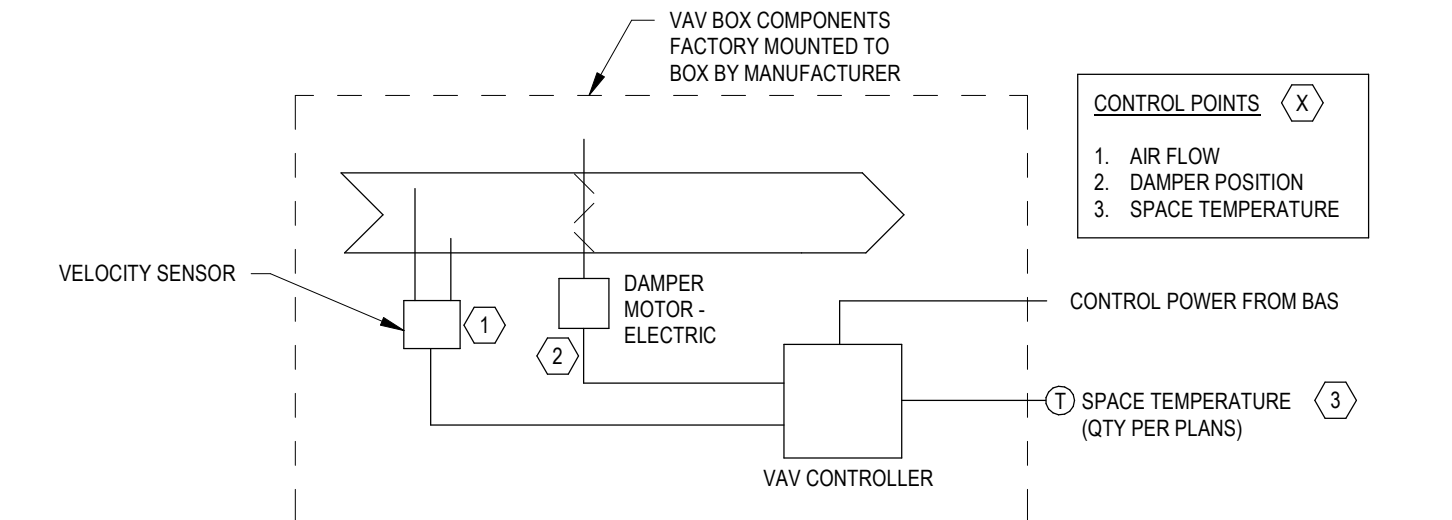
THE ZONE OCCUPIED / UNOCCUPIED MINIMUM AIRFLOW SETPOINTS SHALL BE DETERMINED BY SIGNAL FROM OCCUPANCY SENSOR BY ELECTRICAL CONTRACTOR. COORDINATE AND PROVIDE ALL REQUIRED CONTROL INTERFACES, RELAYS, WIRING FOR INTERCONNECTION OF OCCUPANCY SENSOR WITH LIGHTING CONTROL / OCCUPANCY SENSOR MANUFACTURER.

SYSTEM MINIMUM FLOW VAV OVERRIDE: WHEN COMMANDED FROM THE AHU CONTROLLER, THE VAV MINIMUM SETPOINTS SHALL BE OVERRIDDEN AS OUTLINED IN THE VAV AIR HANDLING UNIT CONTROL SEQUENCE.

VAV-2.1 AND VAV-2.5

VAV'S SHALL BE ENABLED TO MAXIMUM CFM WHEN THE VENTILATION HOOD OVER THE COOKTOP IS ENERGIZED. PROVIDE THE REQUIRED INTERLOCKS FOR THIS OPERATION. REHEAT COILS SHALL ENERGIZE TO MAINTAIN ROOM TEMPRH SETPOINT DURING THIS OPERATION.

2 TYPICAL VAV W/ ELEC HEAT CONTROL SCHEMATIC NTS



VAV SEQUENCE:

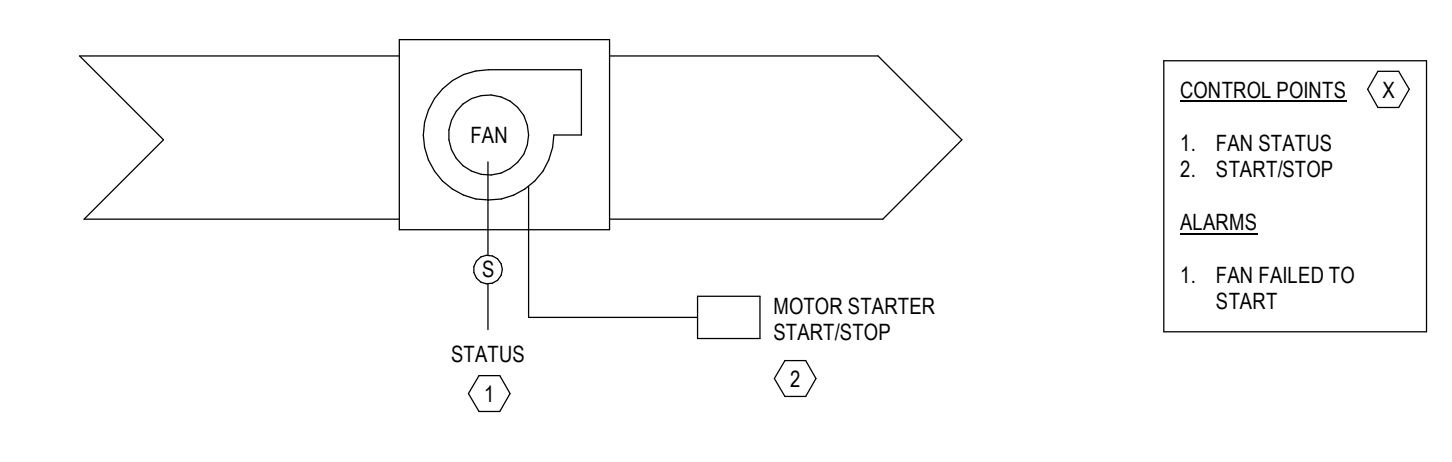
THE BAS SHALL CONTINUOUSLY MONITOR THE SPACE TEMPERATURES OF SPACES SERVED WITH TEMPERATURE SENSORS.

THE VAV TERMINAL SHALL MODULATE AIRFLOW AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE COOLING SETPOINT(S). THE SPACE SETPOINTS (ADJ.) ARE AS FOLLOWS IN PRIORITY OF THE ORDER LISTED:

1. SYSTEMS - 75°F
2. ELECTRICAL - 85°F
3. MECHANICAL - 78°F

IN THE EVENT ANY ONE SPACE TEMPERATURE DROPS BELOW 68°F (ADJ.) THE VAV CONTROL SHALL BE OVERRIDDEN TO MAINTAIN THE WORST CASE MINIMUM TEMPERATURE.

3 TYPICAL VAV W/O HEAT CONTROL SCHEMATIC NTS



FANS INTERLOCKED WITH AHUS / OCCUPIED MODES: (EF-1.1, 2.1)

WHEN ASSOCIATED AIR HANDLING UNIT IS IN OCCUPIED MODE, THE FAN SHALL BE ENERGIZED. WHEN THE ASSOCIATED AIR HANDLING UNIT IS IN UNOCCUPIED MODE THE FAN SHALL BE DE-ENERGIZED.

6 TYPICAL EXHAUST FAN CONTROL SCHEMATIC NTS

COMM. NO.: 2023820

ISSUE DATE: 01.05.2024

DRAWN BY: MBS

CONTROLS - HVAC



100% CONSTRUCTION DOCUMENTS



SANIBEL FIRE & RESCUE DISTRICT
2351 PALM RIDGE ROAD, SANIBEL, FLORIDA 33957

**SANIBEL FIRE AND RESCUE
STATION 172**

PROJECT LOCATION:

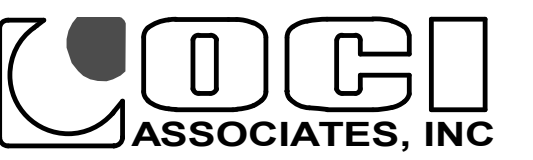
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SANIBEL, FLORIDA 33957



9510 Corkscrew Palms
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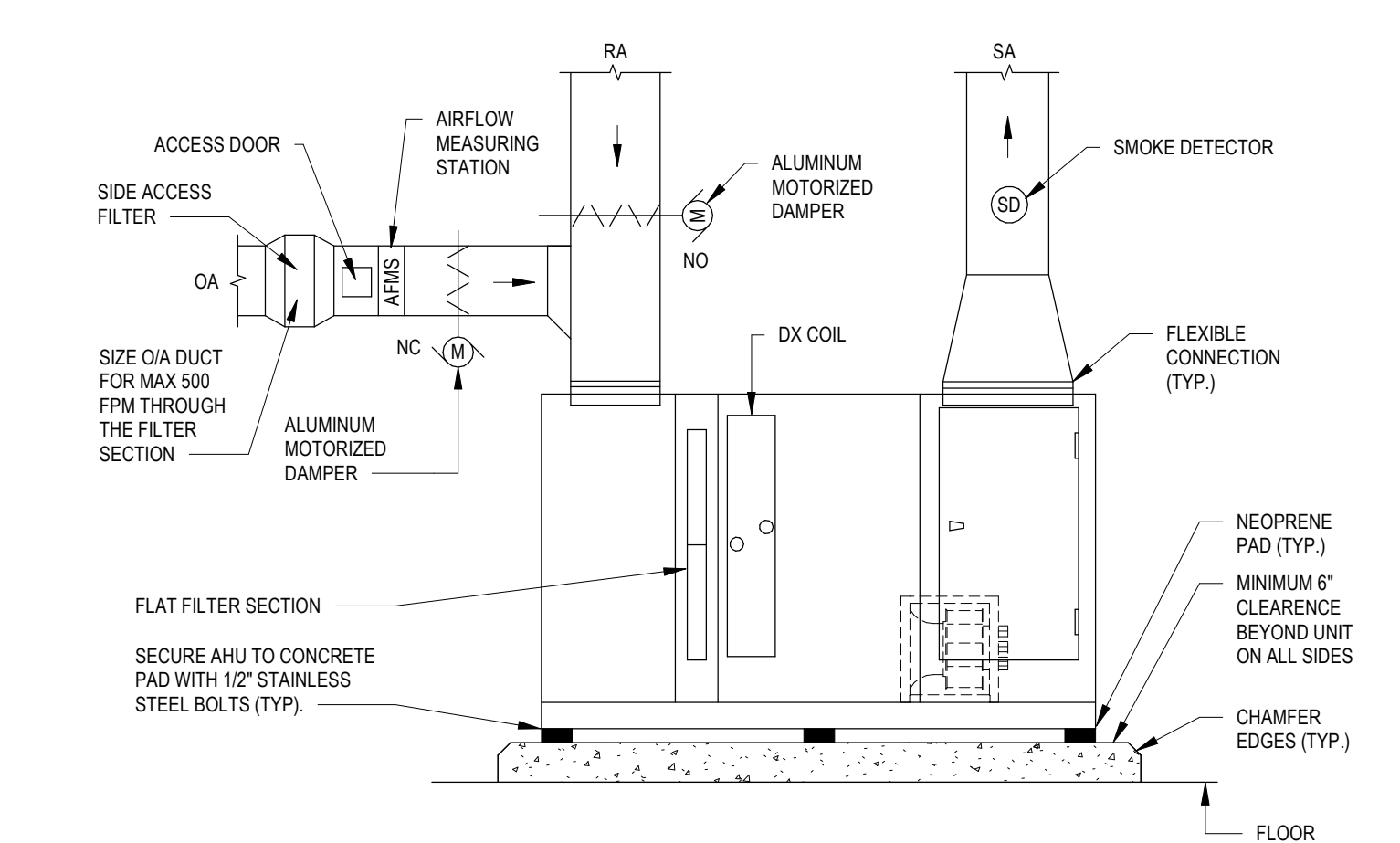


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JASON L. SMITH, P.E.
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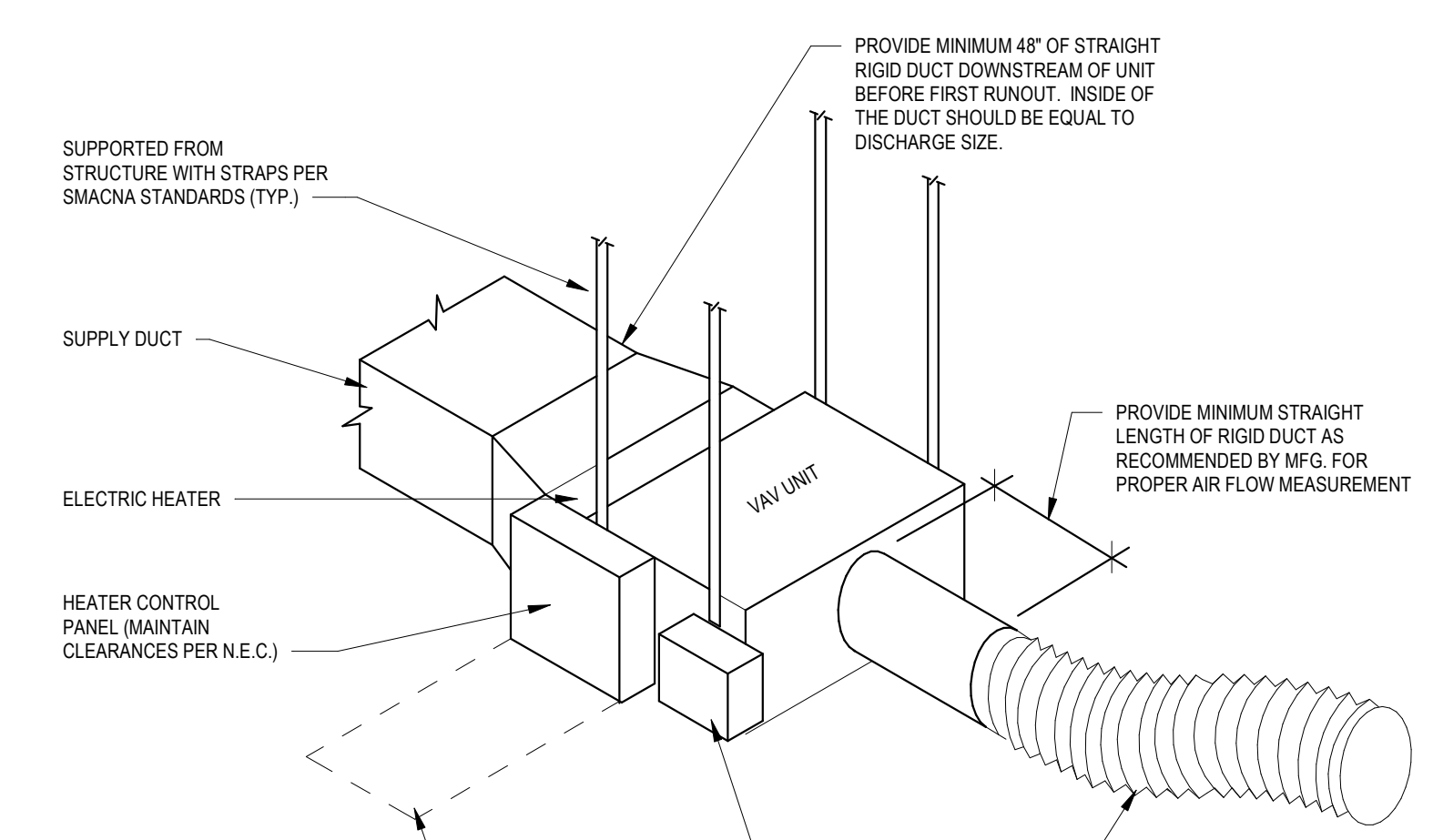
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MARK	DESCRIPTION	DATE



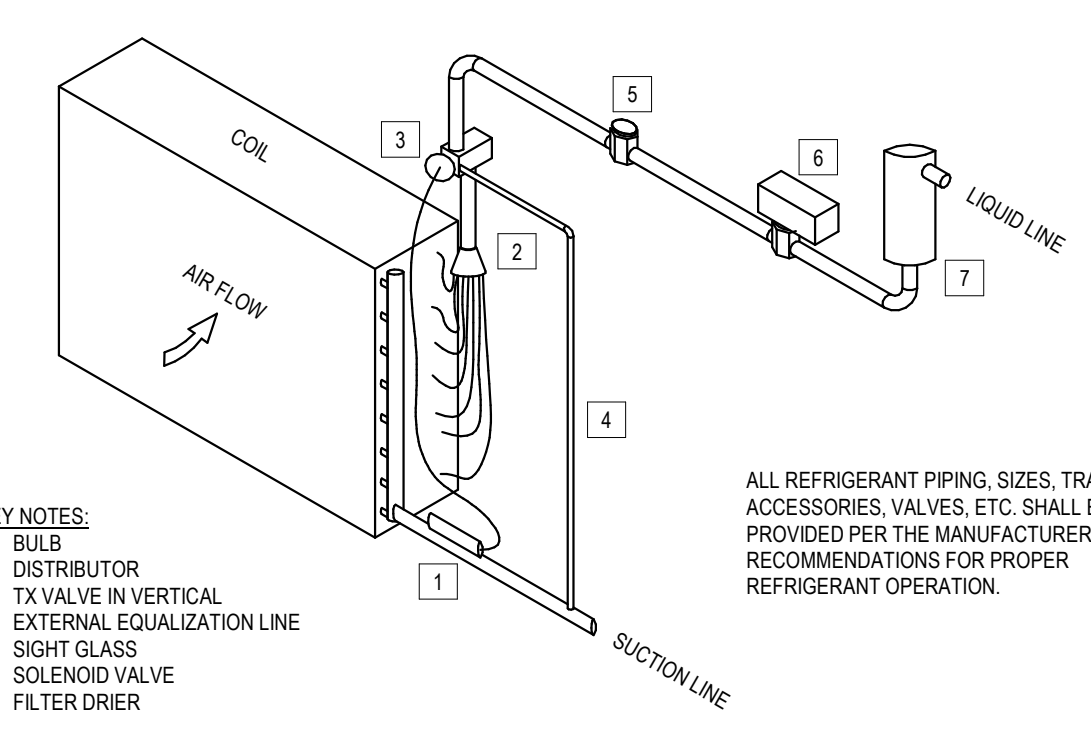
- NOTES:
- ACCESS DOORS AND AHU SECTIONS SHOWN ARE DIAGRAMATIC. COORDINATE QUANTITIES AND LOCATIONS WITH ENLARGED MECHANICAL ROOM PLANS.
 - VERIFY CONDENSATE P-T-RAP DIMENSION REQUIREMENTS PRIOR TO EQUIPMENT FABRICATION. PROVIDE WITH BASE RAIL HEIGHT AS REQUIRED TO ACCOMMODATE P-T-RAP DEPTH WITH 4\"/>

1 VAV AHU
NTS



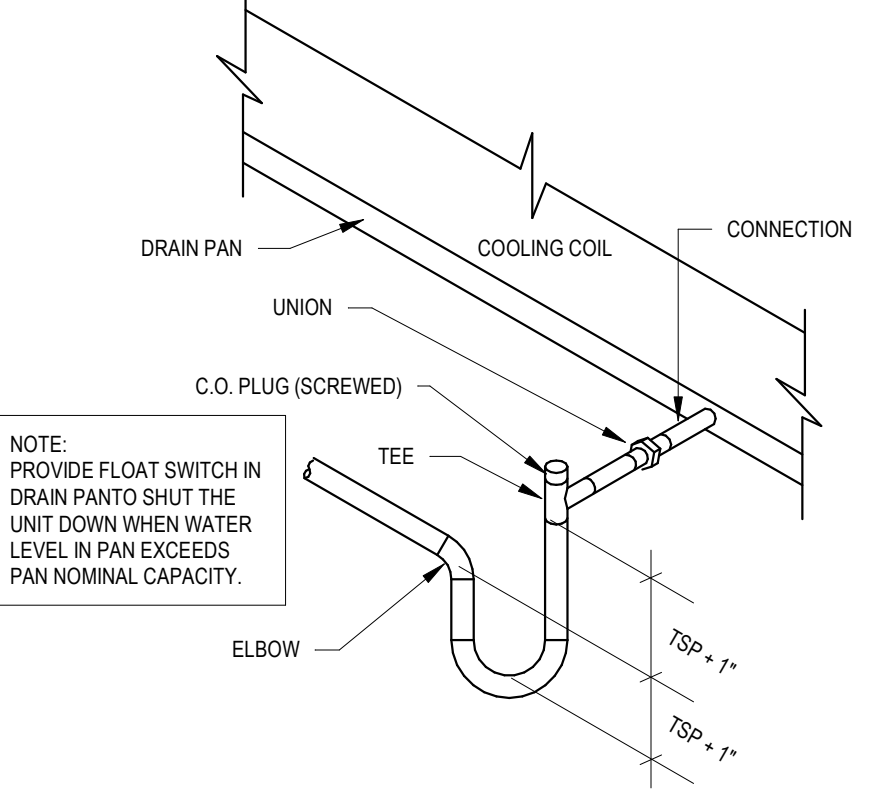
- NOTE:
- VERIFY LEFT/RIGHT ORIENTATION WITH THE PLANS.
 - FOR VAV TERMINALS WITH ELECTRIC HEAT, PROVIDE SUPPLY AIR TEMPERATURE SENSOR.

2 VAV TERMINAL UNIT
NTS



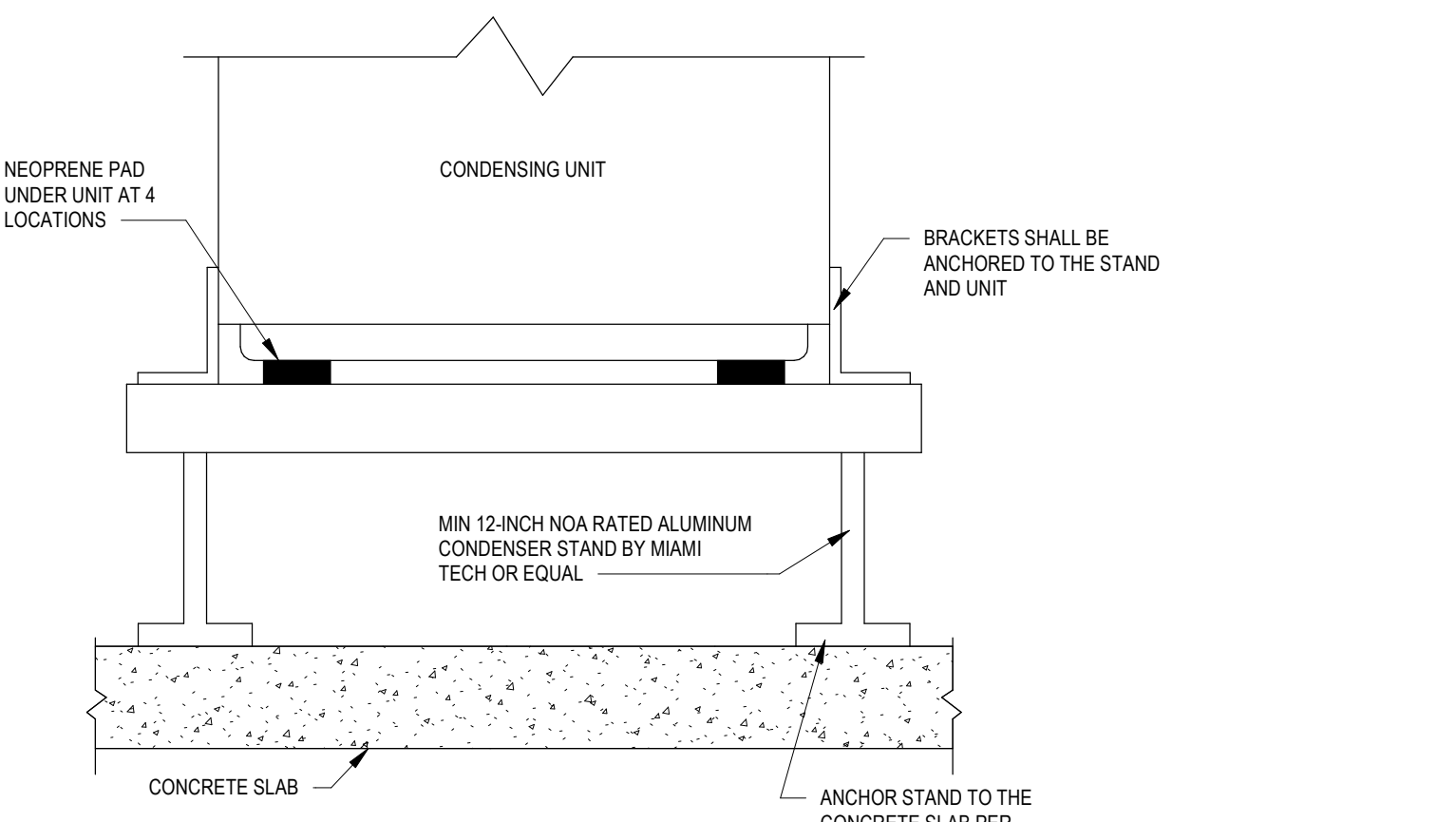
- KEY NOTES:
- BEUER
 - DISTRIBUTOR
 - TX VALVE IN VERTICAL
 - EXTERNAL EQUALIZATION LINE
 - SIGHT GLASS
 - SOLENOID VALVE
 - FILTER DRIER

3 DX COIL PIPING
NTS



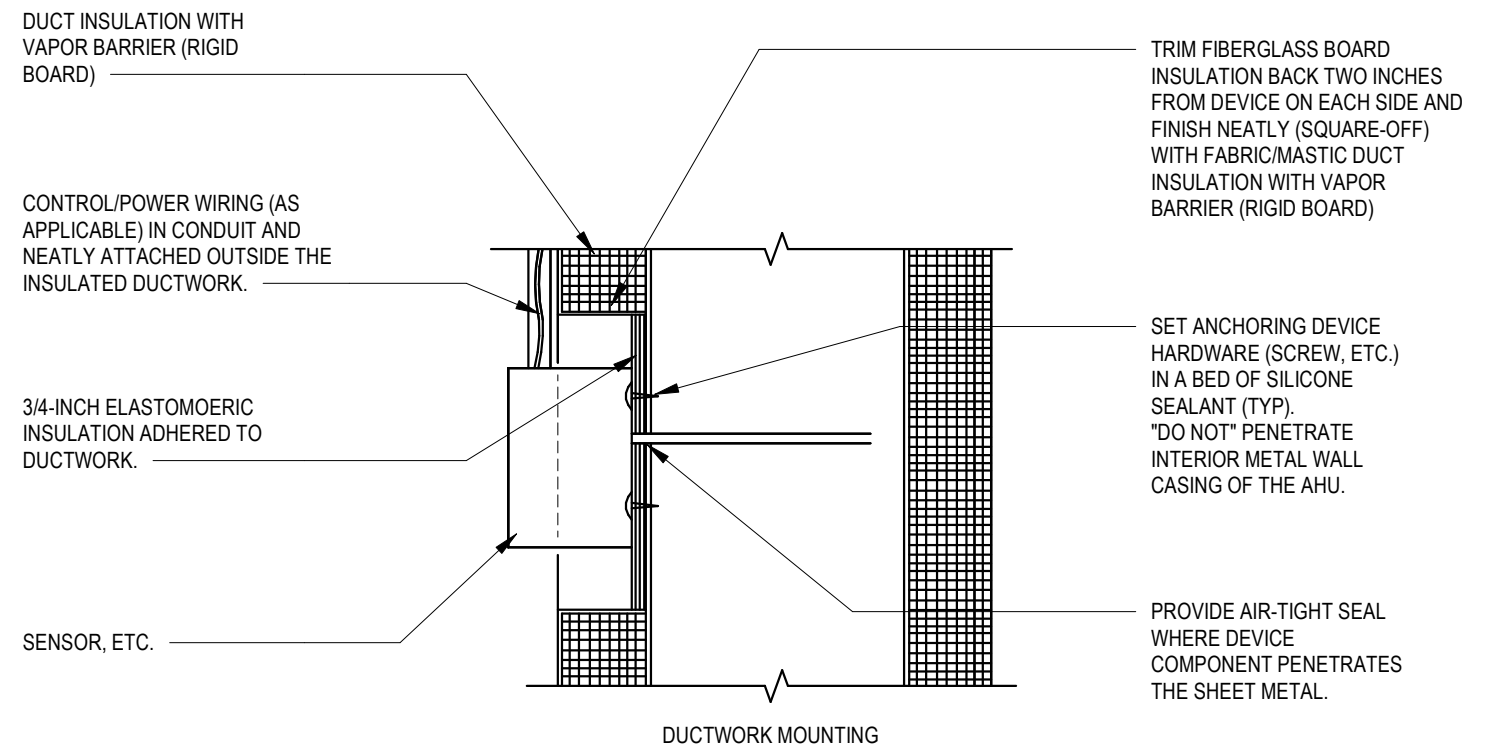
NOTE: PROVIDE FLOAT SWITCH IN DRAIN PAN TO SHUT THE UNIT DOWN WHEN WATER LEVEL IN PAN EXCEEDS FAN NOMINAL CAPACITY.

4 CONDENSATE DRAIN
NTS

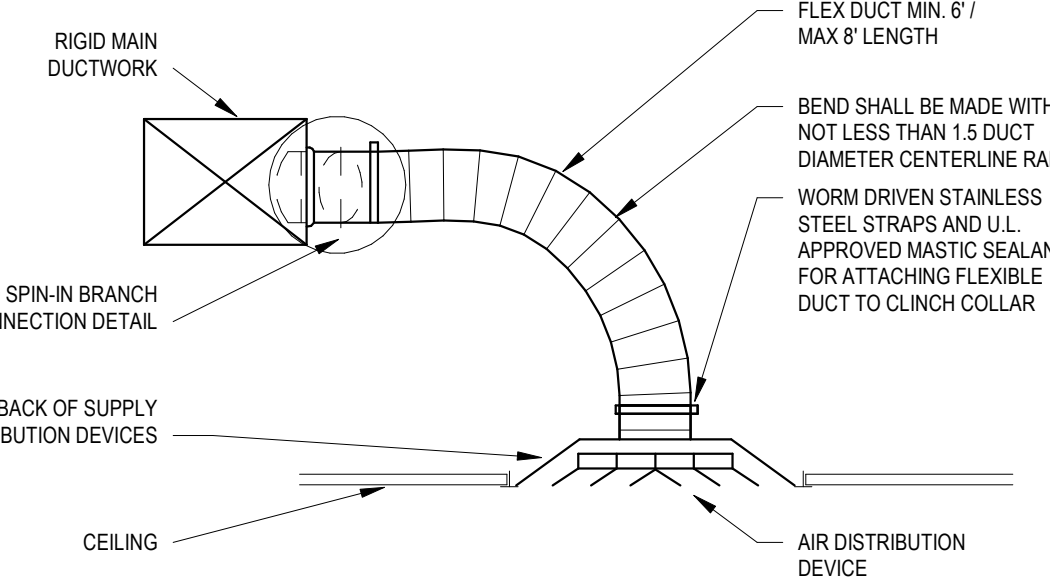


NOTE: MEANS OF ATTACHING CONDENSING UNIT SHALL COMPLY WITH THE LOCAL WIND LOAD RATING REQUIRED BY FBC.

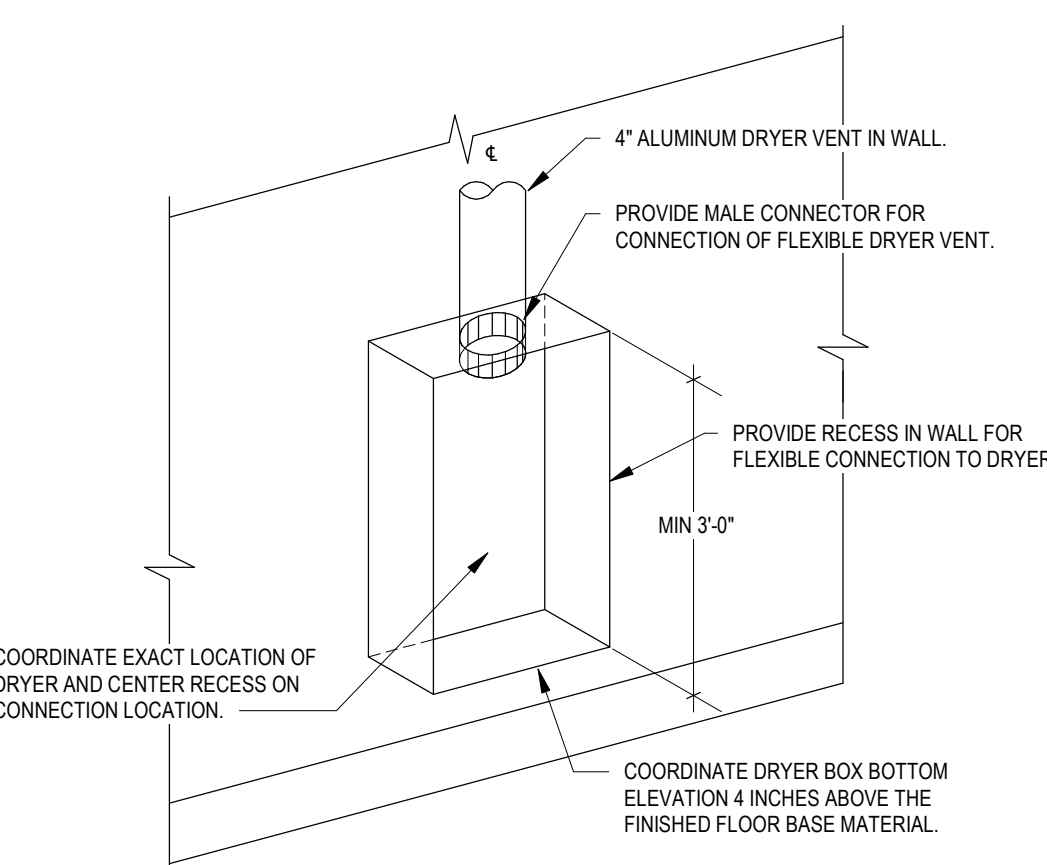
5 CONDENSING UNIT AT PAD
NTS



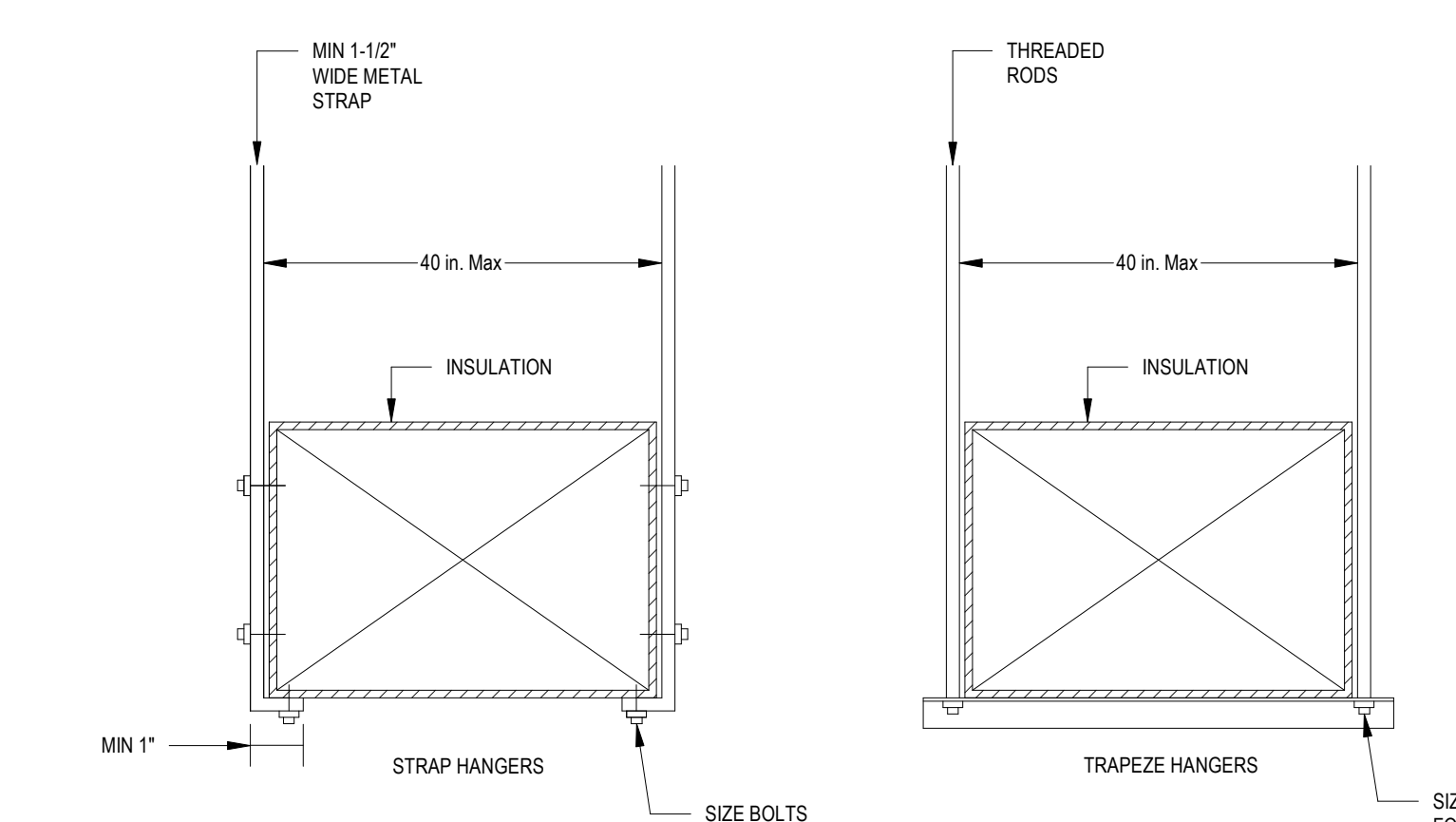
6 DEVICE/J-BOX MOUNTING
NTS



7 DIFFUSER AND FLEX DUCT
NTS

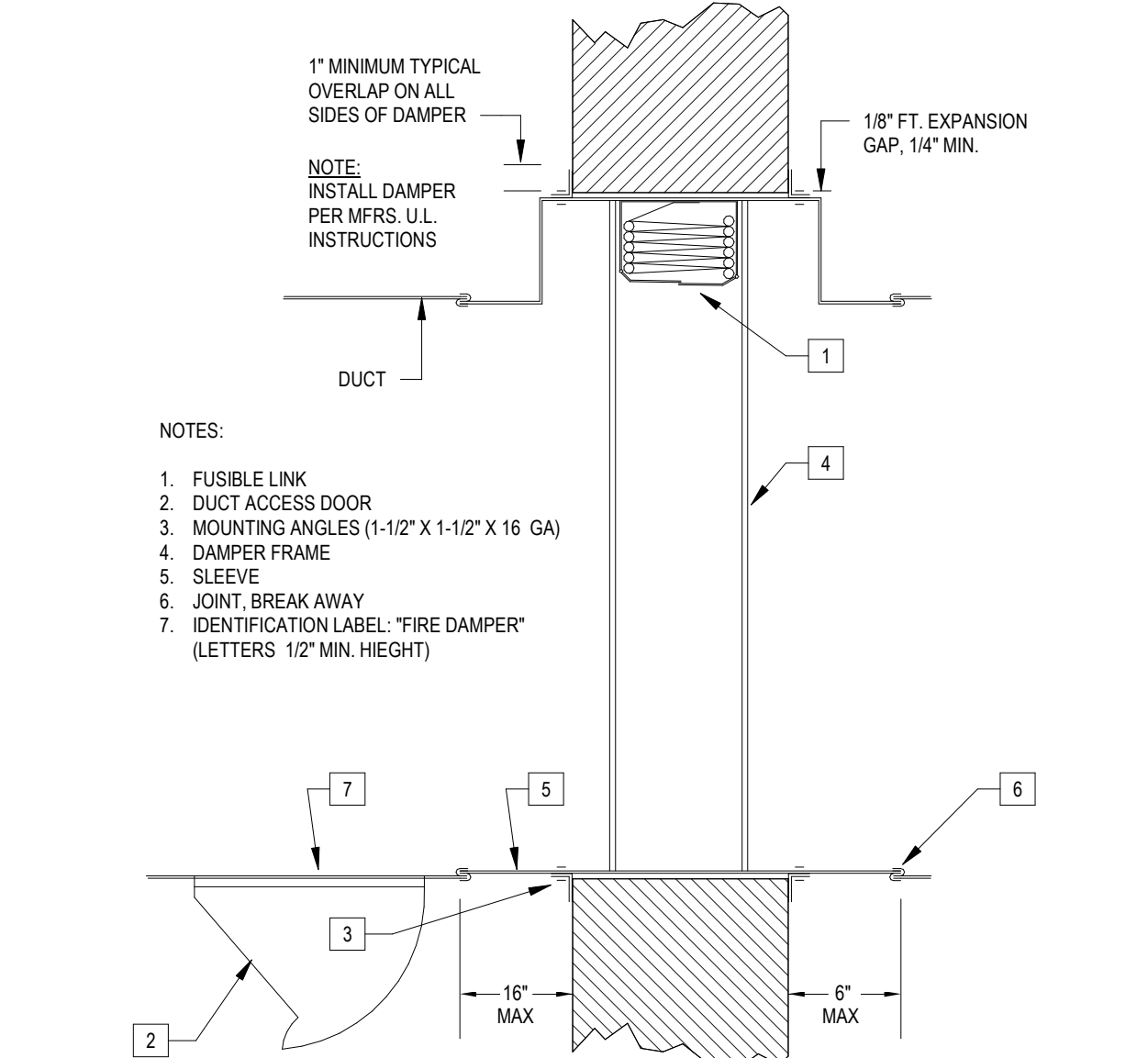


8 DRYER VENT BOX
NTS

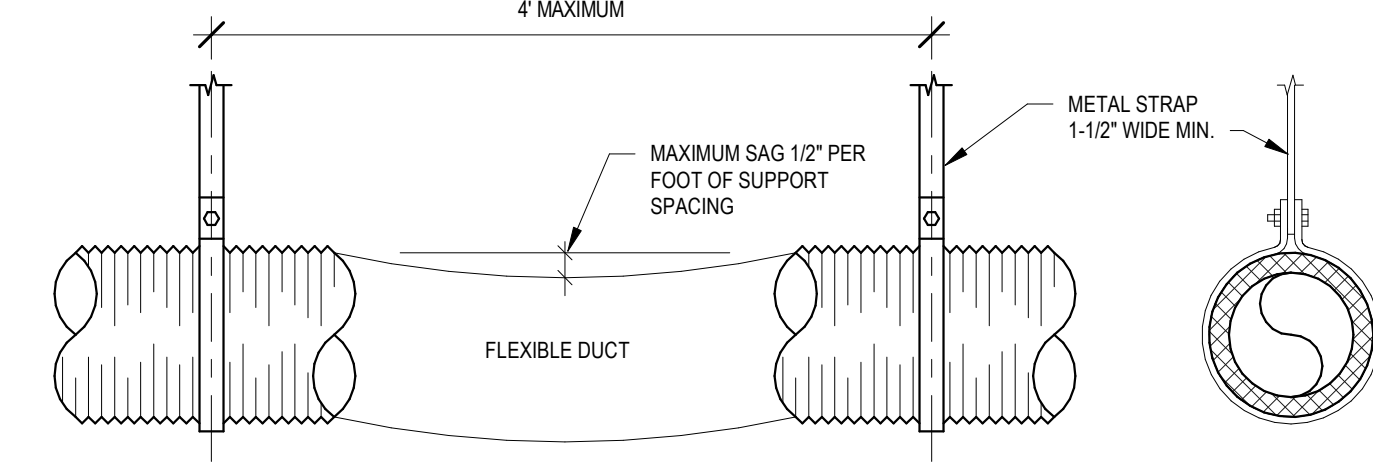


NOTE: 1. DUCTWORK TRAPEZE HANGERS SUPPORT SHALL NOT BE COVERED BY DUCTWORK INSULATION.

9 DUCTWORK SUPPORT
NTS

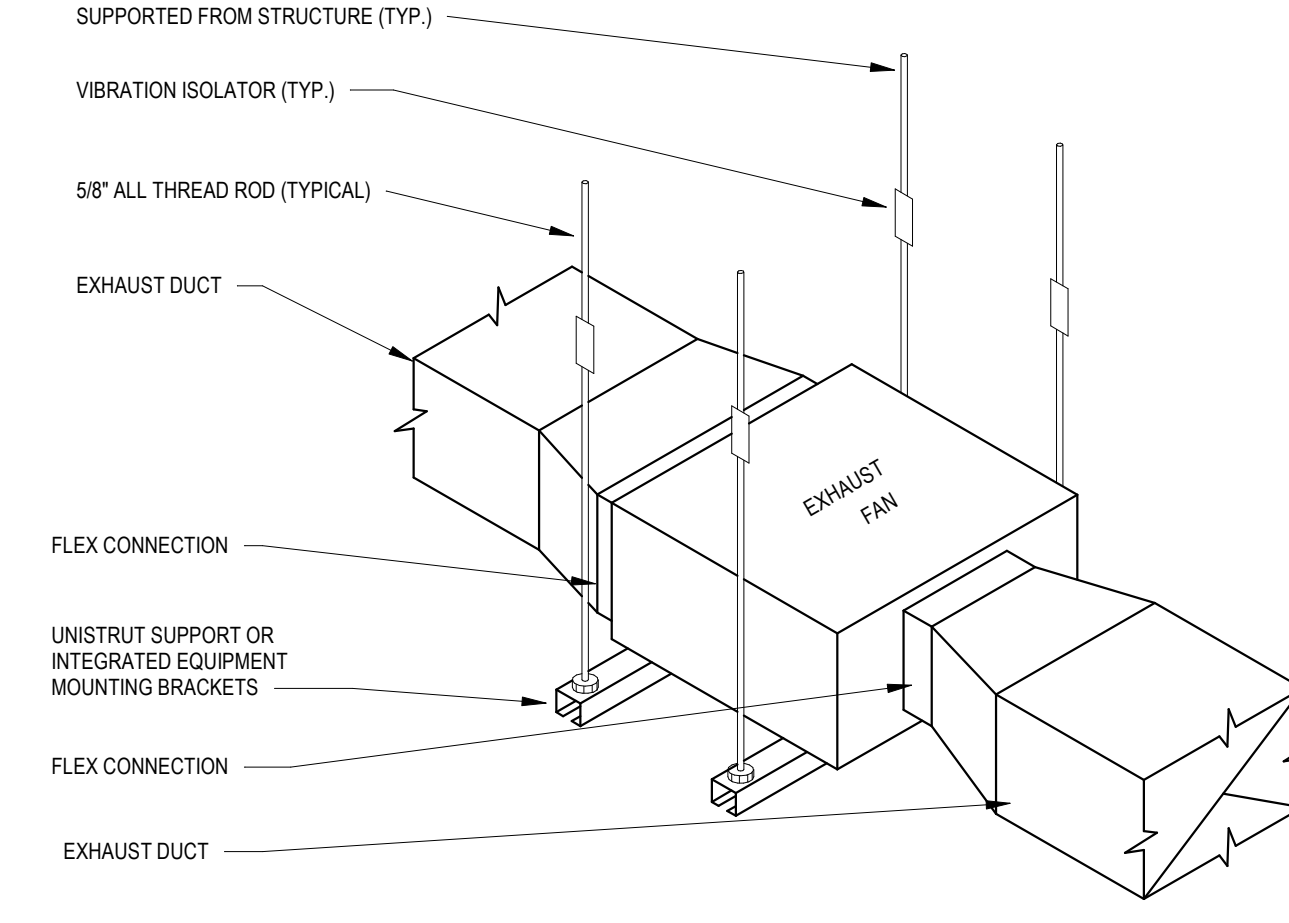


10 FIRE DAMPER
NTS



- NOTES:
- DUCT SHOULD EXTEND STRAIGHT FOR SEVERAL INCHES FROM A CONNECTION BEFORE BENDING.
 - SUPPORT SYSTEM MUST NOT DAMAGE DUCT OR CAUSE OUT OF ROUND SHAPE.

11 FLEX DUCT SUPPORT
NTS



12 IN-LINE EXHAUST FAN
NTS



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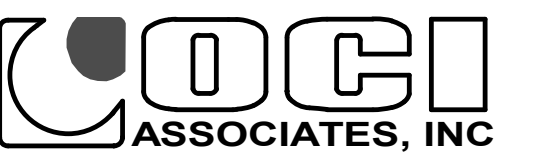
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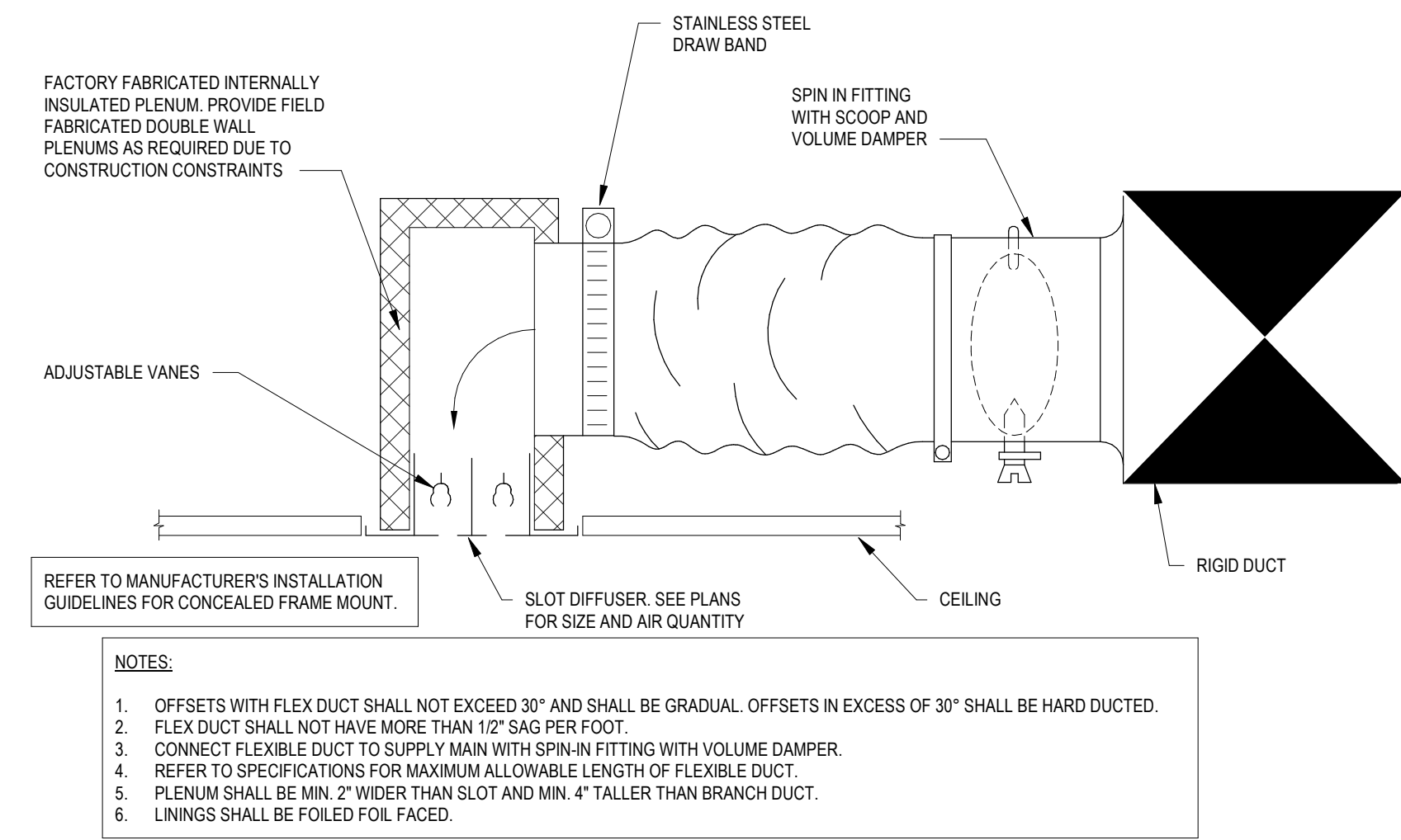
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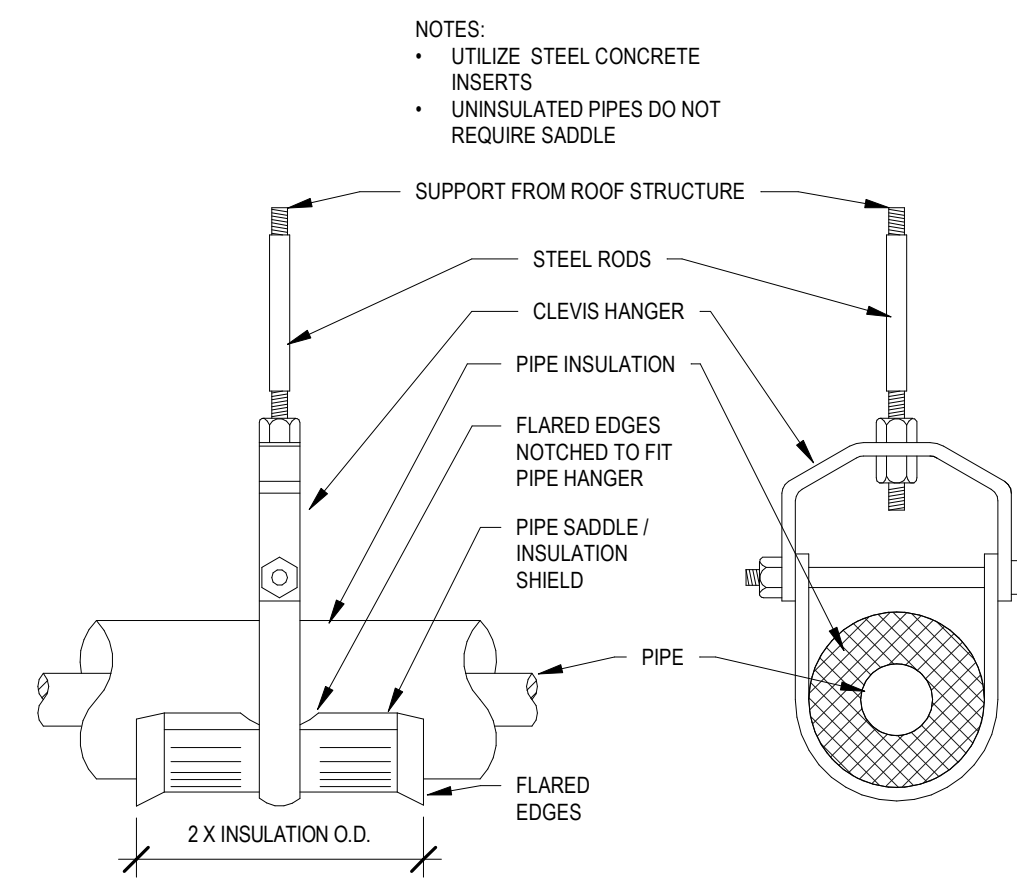
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#01616 (FL) #01616 (FL)
#01616 (FL) #01616 (FL)

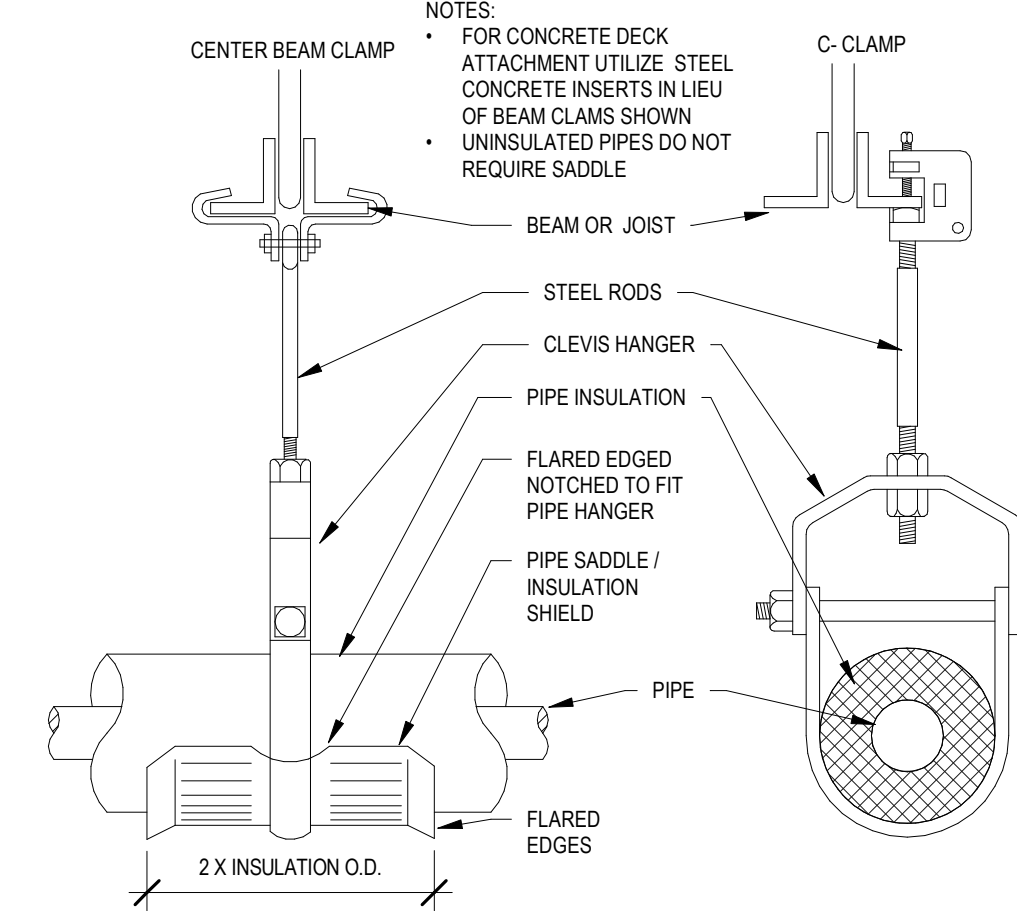
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MARK	DESCRIPTION	DATE



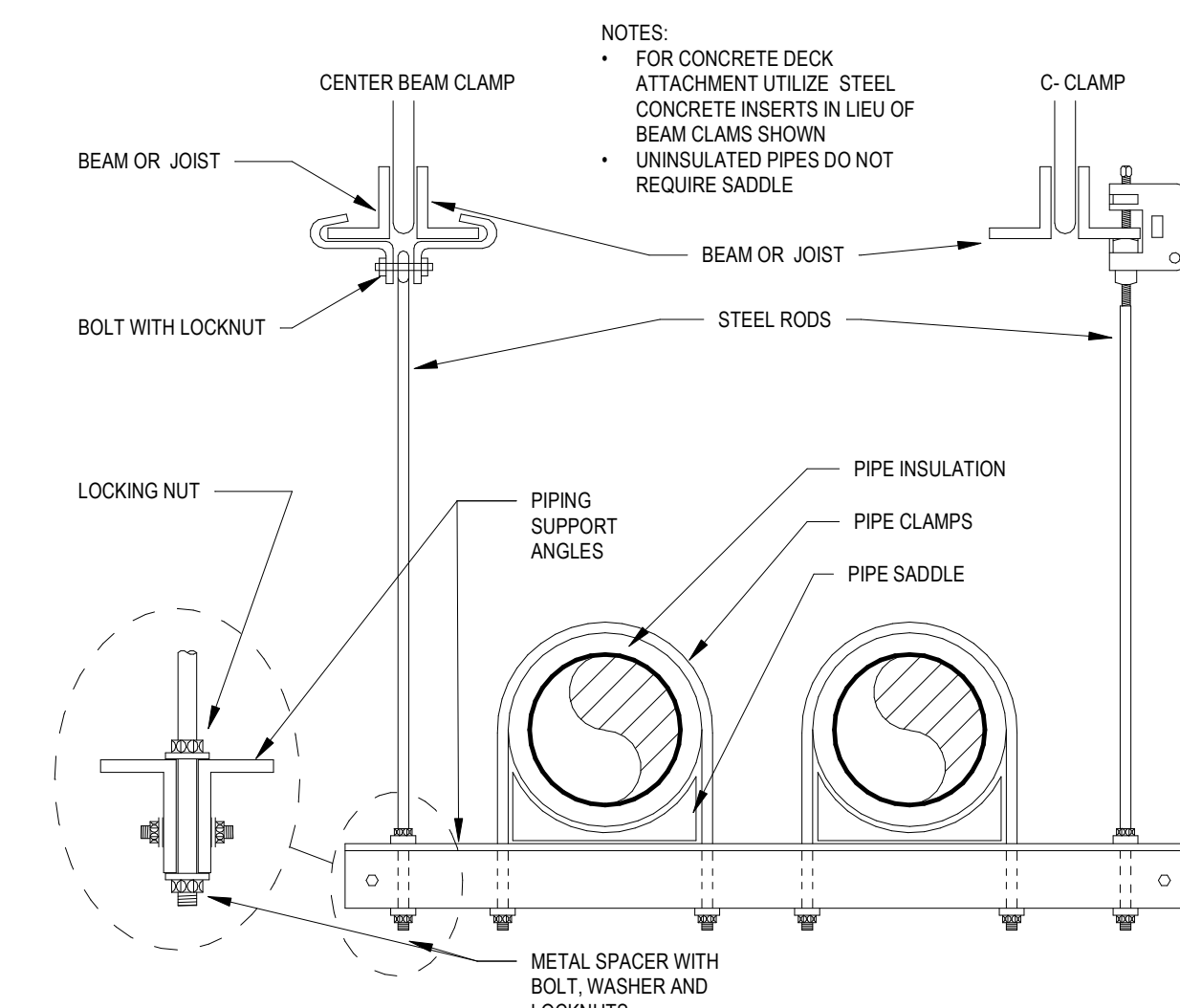
1 LINEAR DIFFUSER FLEX CONNECTION TO PLENUM BOOT
NTS



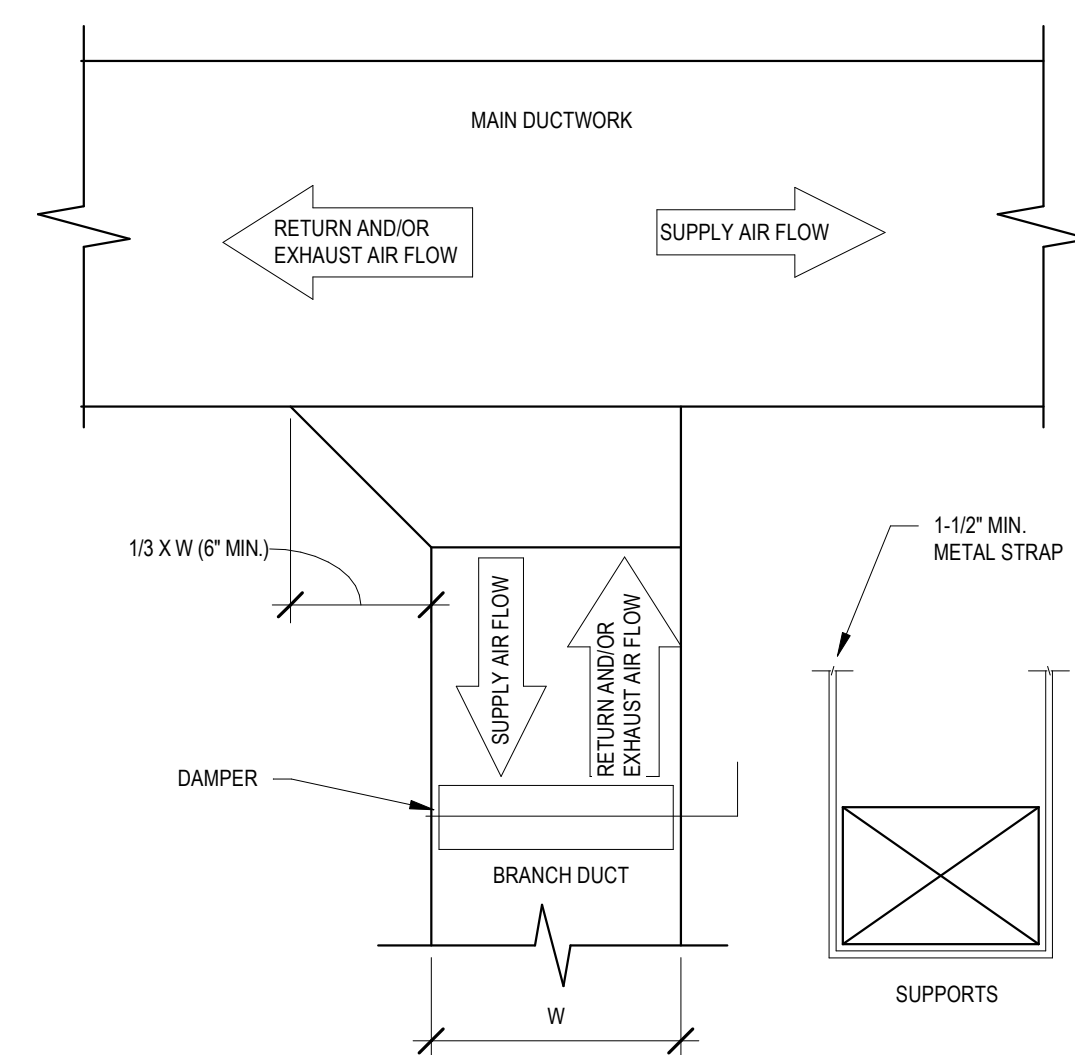
2 PIPE HANGER - CONCRETE
NTS



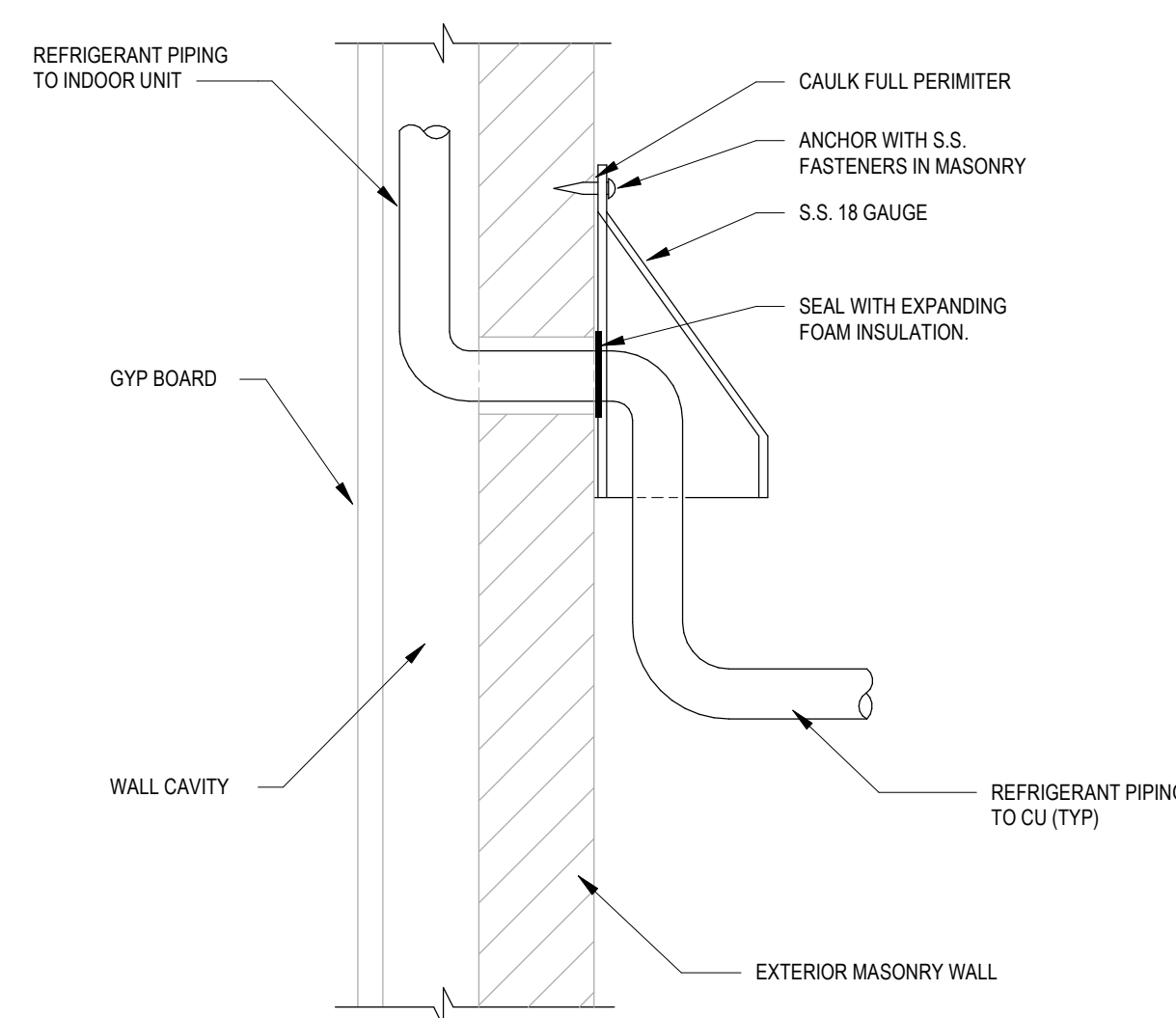
3 PIPE HANGER - TRUSS
NTS



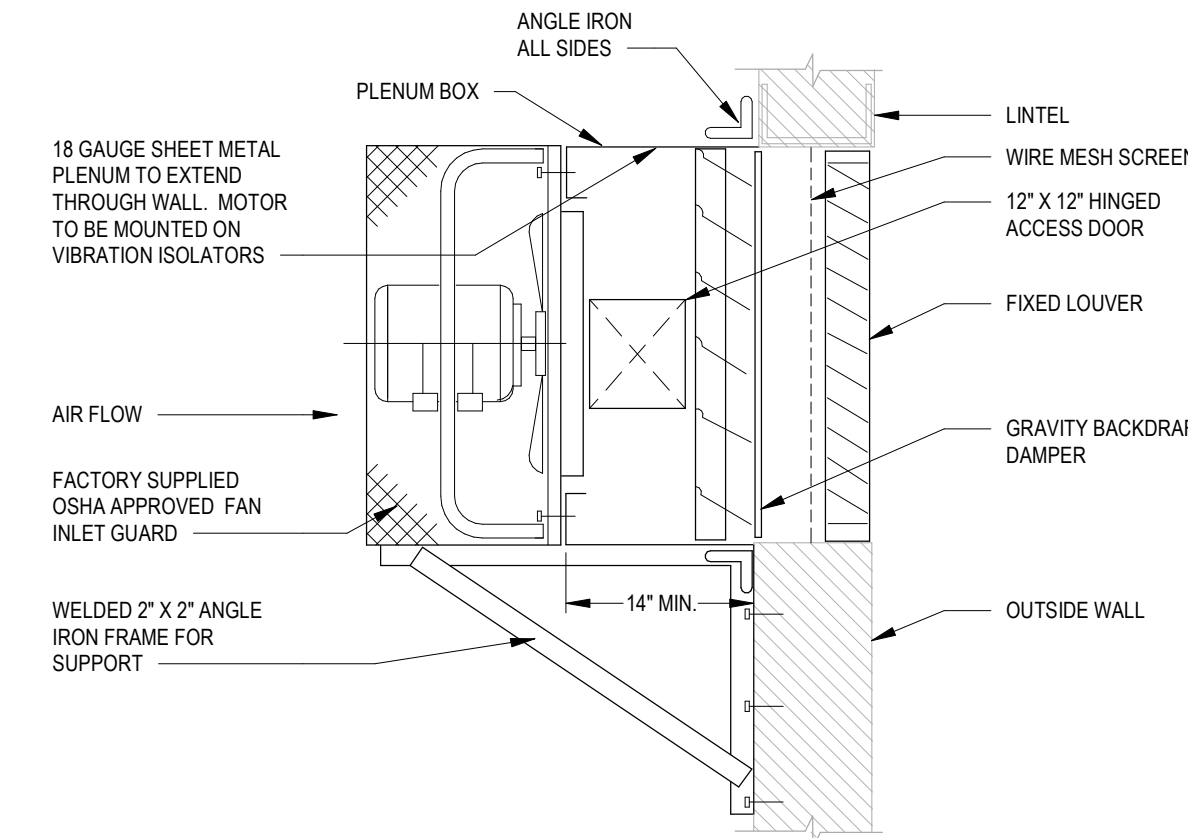
4 PIPE TRAPEZE HANGER
NTS



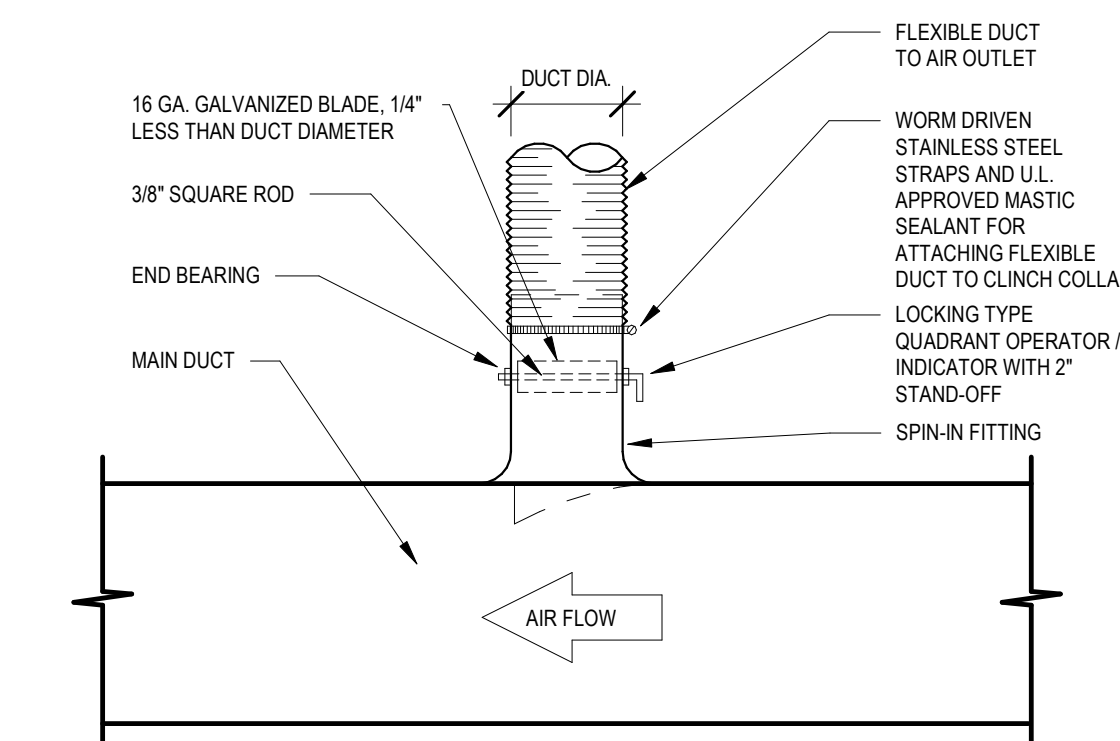
5 RECTANGULAR DUCT BRANCH
NTS



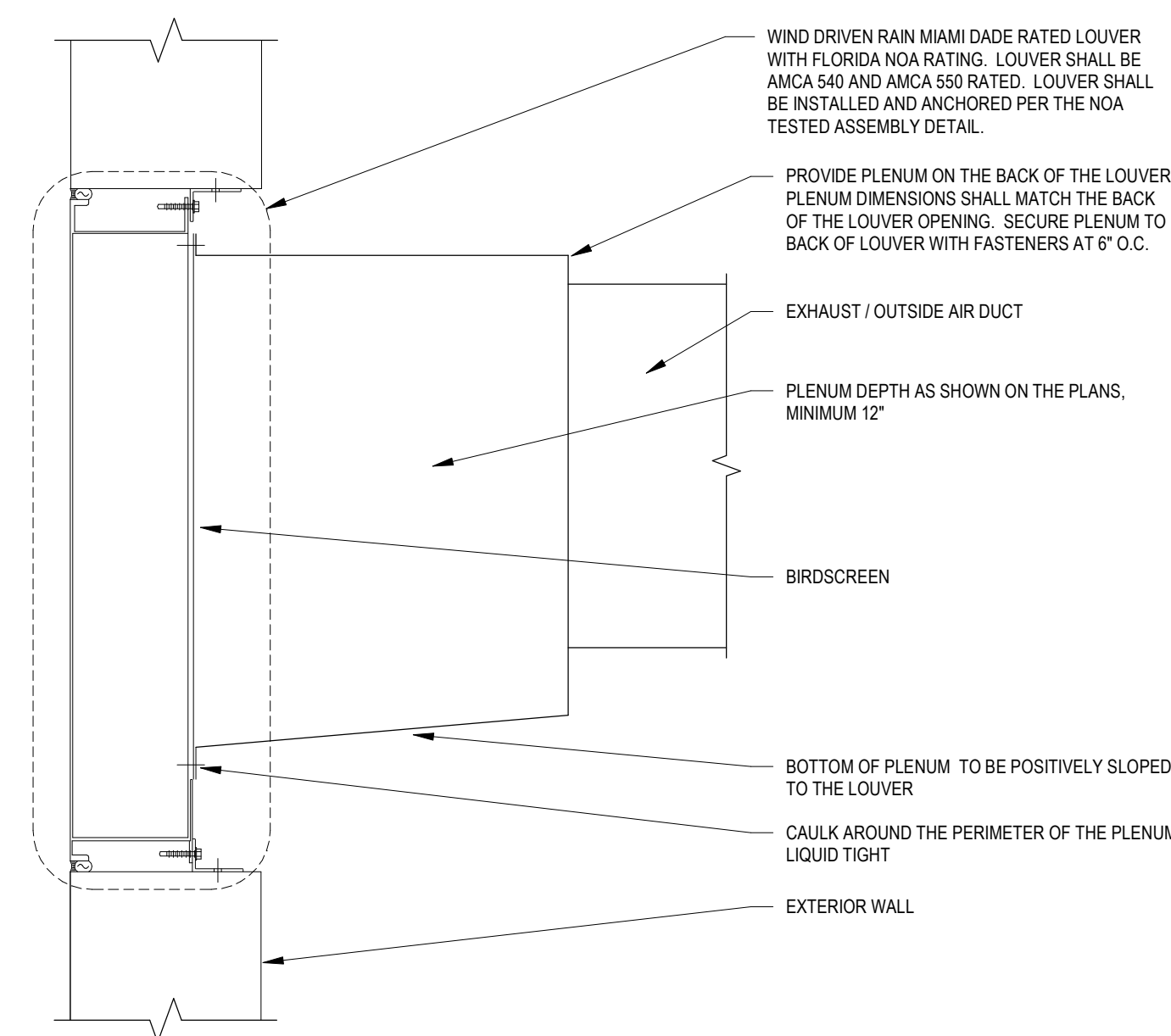
6 REFRIGERANT PIPING THRU EXTERIOR WALL
NTS



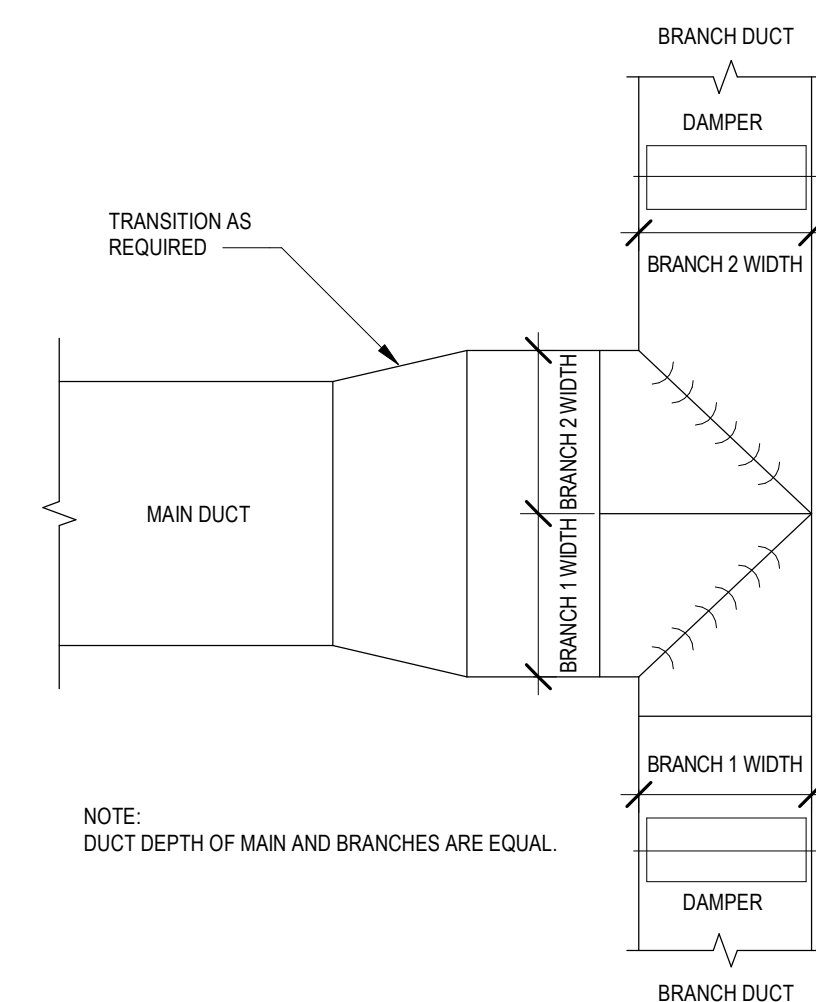
7 SIDEWALL PROPELLER EXHAUST FAN
1/8" = 1'-0"



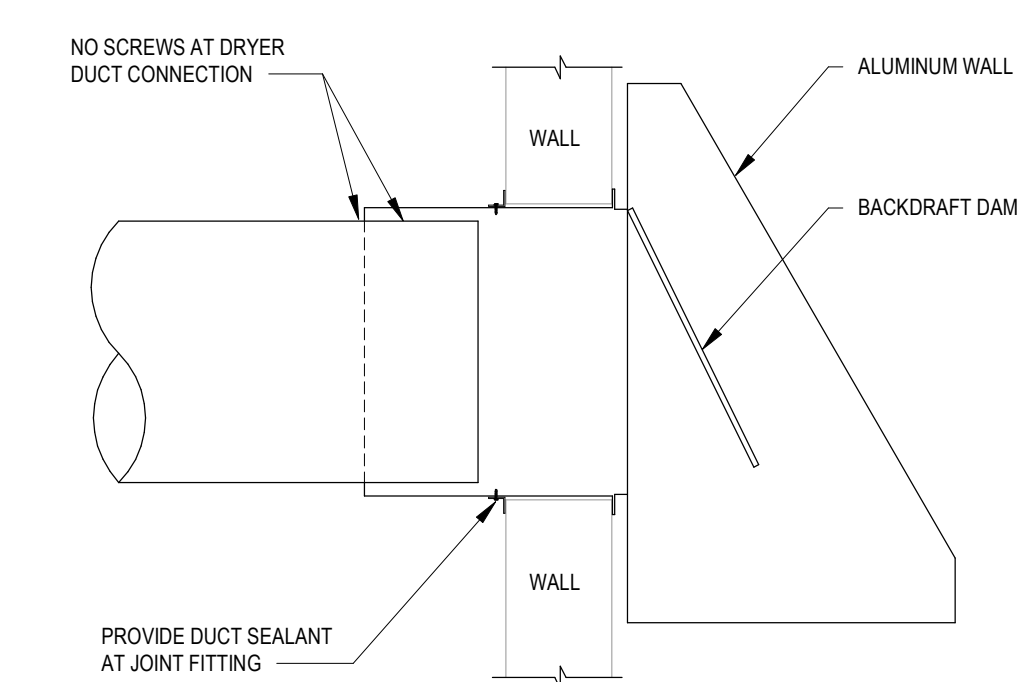
8 TYPICAL SPIN-IN BRANCH CONNECTION
NTS



9 TYPICAL LOUVER
NTS



10 DUCT WITH SPLITTER DAMPER
NTS



11 TYPICAL WALL CAP
NTS

COMM. NO.: 2023820
ISSUE DATE: 01.05.2024
DRAWN BY: MBS

DETAILS - HVAC

M502

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SPLIT SYSTEM INDOOR UNIT SCHEDULE

MARK	AREA SERVED	FAN DATA				COOLING COIL DATA				ELECTRICAL DATA			BASIS OF DESIGN		NOTES				
		SUPPLY AIR (CFM)	OUTDOOR AIR (CFM)	E.S.P. (IN. WG)	QTY	HP (EACH)	FLA (EACH)	EAT °F (DBWB)	LAT °F (DBWB)	CAPACITY - MBTU (TOTAL/SENS.)	VOLTAGE/PHASE	MCA	MOCIP	EER		WEIGHT (LBS)	MANUFACTURER	MODEL #	
AHU-1	BUILDING	5000	1250	850	2.5	2	3.5	8.8	80.0/67.2	53.5/52.3	226.9/145.1	208/3	19.8	25	11.2	1612	DAIKIN	CAH11GDDM	1 THRU 11

NOTES:
1. COORDINATE REFRIGERANT PIPING LENGTH WITH MANUFACTURER.
2. PROVIDE SMOKE DETECTORS IN SUPPLY MAIN OFF OF THE UNIT TO SHUT THE UNIT DOWN UNDER ALARM CONDITIONS.
3. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.
4. EACH AIR HANDLER AND ASSOCIATED HEAT PUMP/CONDENSING UNIT SHALL BE PROVIDED WITH AN ENGRAVED NAMEPLATE SHOWING SPECIFIC UNIT DESIGNATION.
5. PROVIDE WITH STAINLESS STEEL CONDENSATE DRAIN PAN.
6. PROVIDE WITH FOAM INJECTED DOUBLE WALL INSULATION (R-13 MIN).
7. PROVIDE ECM FAN ARRAY AND ECM BACNET CONTROL PANEL WITH 5 YEAR PARTS AND LABOR WARRANTY.
8. LIGHTING INTERNAL TO EACH AHU SHALL BE FACTORY-WIRED AND READY FOR FIELD CONNECTION BY E.C.
9. ALL UNITS SHALL BE FACTORY PAINTED.
10. PROVIDE COIL WITH FACTORY APPLIED ELECTRO-FIN PROTECTIVE COATING.
11. PROVIDE WITH BI-POLAR IONIZATION SYSTEM SIZED FOR THE GIVEN AIRFLOW. PLASMA AIR SERIES 7000 OR APPROVED EQUIVALENT.

SPLIT SYSTEM AIR CONDENSING UNIT SCHEDULE

MARK	UNIT SERVED	COOLING CAPACITY (MBTUH)		CONDENSER FANS		COMPRESSORS		ELECTRICAL		WEIGHT (LBS)	EER	BASIS OF DESIGN		NOTES			
		TOTAL	SENSIBLE	QTY	FLA	QTY	R/LA (EACH)	L/R/LA (EACH)	REFRIGERANT			VOLTS/PH	MCA		MOCIP	MANUFACTURER	MODEL
CU-1.1	AHU-1	113.3	72.6	1	7.0	1	32.6	240.0	R-410A	208/3	47.7	80	345	11.2	DAIKIN	DX14XA1203A	1 THRU 4
CU-1.2	AHU-1	113.3	72.6	1	7.0	1	32.6	240.0	R-410A	208/3	47.7	80	345	11.2	DAIKIN	DX14XA1203A	1 THRU 4

NOTES:
1. COORDINATE REFRIGERANT PIPING LENGTH WITH MANUFACTURER. PROVIDE MANUFACTURER'S ACCESSORIES RECOMMENDED FOR LONG LINE APPLICATIONS WHEN THE EQUIVALENT LENGTH EXCEEDS 75 FT.
2. UPSIZE THE VAPOR LINE TO MINIMIZE THE COOLING CAPACITY LOSS TO LESS THAN 3%.
3. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.
4. INTERLOCK FAN OPERATION WITH AHU'S OPERATION.
5. PROVIDE FACTORY APPLIED CORROSION COATING FOR CONDENSER COILS.

VAV UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	INLET SIZE	PRIMARY AIR CFM		HEATING		AP		AUXILIARY ELECTRIC HEAT		NOTES
				MAX	MIN	CFM	(IN. W.G.)	ΔP	ΔP	W	VOLTS/PH	
VAV-1.1	DAIKIN	MOTHS508	6	450	160	225	0.50	2.5	208/1	1		1 THRU 7
VAV-1.2	DAIKIN	MOTHS506	6	375	135	190	0.50	2.0	208/1	1		1 THRU 7
VAV-1.3	DAIKIN	MOTHS506	6	450	160		0.50					1 THRU 8
VAV-2.1	DAIKIN	MOTHS508	8	600	210	300	0.50	3.0	208/1	1		1 THRU 7
VAV-2.2	DAIKIN	MOTHS510	10	1200	440	635	0.50	6.0	208/1	1		1 THRU 7
VAV-2.3	DAIKIN	MOTHS508	8	650	230	335	0.50	3.5	208/1	1		1 THRU 7
VAV-2.4	DAIKIN	MOTHS510	10	825	290	415	0.50	4.0	208/1	1		1 THRU 7
VAV-2.5	DAIKIN	MOTHS506	6	400	140	200	0.50	2.0	208/1	1		1 THRU 7

NOTES:
1. PROVIDE WITH INTEGRAL STEP DOWN TRANSFORMER FOR CONTROL POWER. COORDINATE VOLTAGE WITH ELECTRICAL CONTRACTOR.
2. PROVIDE WITH OPTIONAL FUSES.
3. PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
4. PROVIDE WITH NORMALLY OPEN SPRING LOADED DAMPER.
5. VAV BOXES SHALL BE PRESSURE INSULATED WITH DDC CONTROLS. FACTORY INSTALLED.
6. VAV BOXES SHALL BE PROVIDED WITH 3/4" FIBERGLASS DOUBLE WALL INTERNAL INSULATION WITH A MIN R-VALUE OF R-4.6.
7. MIN 22 GAUGE G 60 GALVANIZED CONSTRUCTION.
8. VAV TERMINAL WITHOUT HEAT SHALL OPERATE VIA 24-VOLT CONTROL VIA THE DDC SYSTEM.

DUCTLESS SPLIT SYSTEM INDOOR UNIT SCHEDULE

MARK	AREA SERVED	AIR FLOW (CFM)	WATTS	VOLTS/PH	FLA	WEIGHT (LBS)	MANUFACTURER	MODEL #	NOTES
AC-2	IT ROOM	650	35	208/1	6.5	31	DAIKIN	FTK18AXVJU	1 THRU 6

NOTES:
1. PROVIDE WITH WALL MOUNTED 7 DAY DIGITAL PROGRAMMABLE THERMOSTAT. COORDINATE WITH OWNER PRIOR TO ORDERING.
2. COORDINATE REFRIGERANT PIPING LENGTH WITH MANUFACTURER.
3. EACH DUCTLESS UNIT AND ASSOCIATED CONDENSING UNIT SHALL BE PROVIDED WITH AN ENGRAVED NAMEPLATE SHOWING SPECIFIC UNIT DESIGNATION.
4. INDOOR UNIT POWERED BY THE OUTDOOR CONDENSING UNIT.
5. PROVIDE WITH FACTORY INSTALLED CONDENSATE PUMP.
6. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.

DUCTLESS SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

MARK	INDOOR UNIT SERVED	TOTAL CAP. (MBR)	CONDENSER FAN(S)		COMPRESSOR(S)		MCA	MOCIP	WEIGHT (LBS)	SEER	MANUFACTURER	MODEL #	NOTES		
			QTY	VOLTS/PH	FLA (EACH)	QTY								VOLTS/PH	FLA (EACH)
CU-2	AC-2	18.0	1	208/1	1.0	1	208/1	13.0	13.4	20	99	18.5	DAIKIN	RK18AXVJU	1 THRU 3

NOTES:
1. COORDINATE REFRIGERANT PIPING LENGTH WITH MANUFACTURER. PROVIDE MANUFACTURER'S ACCESSORIES RECOMMENDED FOR LONG LINE APPLICATIONS WHEN THE EQUIVALENT LENGTH EXCEEDS 75 FT. UPSIZE THE VAPOR LINE TO MINIMIZE THE COOLING CAPACITY LOSS TO LESS THAN 3%.
2. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.
3. PROVIDE FACTORY APPLIED CORROSION COATING FOR CONDENSER COILS.

EXHAUST FAN SCHEDULE

MARK	AREA SERVED	FAN TYPE	FAN			MOTOR			BASIS OF DESIGN		NOTES
			CFM	ESP (IN. WG)	RPM	SONES	HP	VOLTS/PH	MANUFACTURER	MODEL	
EF-1	RECOGNIZ	INLINE	375	0.50	1600	7.7	0.1	208/1	GREENHECK	SG-90-VG	1 THRU 4
EF-2	APPARATUS BAY	PROPELLER	9000	0.20	975	19.9	3.0	208/1	GREENHECK	AER-36-53-095-VGD	1, 2, 3, 5
EF-2.1	FITNESSRR	INLINE	300	0.50	1525	7.1	0.1	208/1	GREENHECK	SG-90-VG	1 THRU 4

NOTES:
1. PROVIDE WITH BACKDRAFT DAMPER.
2. PROVIDE DISCONNECT SWITCH MOUNTED AT THE UNIT.
3. DIRECT DRIVE HIGH EFFICIENCY MOTOR WITH SOLID STATE SPEED CONTROL.
4. INTERLOCK FAN OPERATION WITH AHU'S OPERATION.
5. INTERLOCK WITH CO2 SENSORS LOCATED IN THE APPARATUS BAY.

COMMERCIAL HVLS CEILING FAN SCHEDULE

MARK	AREA SERVED	TYPE	FAN		ELECTRICAL		WEIGHT (LBS)	BASIS OF DESIGN		NOTES	
			RPM	DIAMETER (FT)	HP	VOLTS/PH		BREAKER (A)	MANUFACTURER		MODEL
CF-1	ASSEMBLY BAY	CEILING	87	8	0.75	115/1	20	140	MACROAIR	AIRLITE	1 THRU 5
CF-2	ASSEMBLY BAY	CEILING	87	8	0.75	115/1	20	140	MACROAIR	AIRLITE	1 THRU 5

NOTES:
1. PROVIDE ONE DIGITAL TOUCHSCREEN CONTROLLER, REPEATER, AND BACNET INTERFACE. SHALL BE POWERED BY FAN DRIVE.
2. PROVIDE MOUNTING DROPS AND BEAM MOUNTING HARDWARE FOR CONNECTION TO STRUCTURE.
3. FAN CONTROLS SHALL INTERFERE WITH BUILDING FIRE ALARM SYSTEM.
4. PROVIDE WITH FUSED DISCONNECT SWITCH.
5. COLOR SHALL BE SELECTED BY ARCHITECT/OWNER FROM MANUFACTURER'S STANDARD COLORS.

SOUND ATTENUATOR SCHEDULE

MARK	SERVED	CFM	S.P. DROP (IN. H2O)	WIDTH (IN.)	HEIGHT (IN.)	LENGTH (IN.)	VELOCITY (FPM)	OCTAVE BAND 1/3 INSERTION LOSS (dB)					BASIS OF DESIGN		NOTES	
								125	250	500	1000	2000	4000	MANUFACTURER		MODEL
SA-1	AHU-1 SUPPLY	5000	0.07	16	60	36	750	8	12	14	17	15	13	VIBRACOUSTICS	RD-MV-F1	1

NOTES:
1. ANY CHANGE FROM BASIS OF DESIGN MUST MEET INSERTION LOSS VALUES AND DIMENSIONS INDICATED.

DEHUMIDIFICATION SYSTEM SCHEDULE

MARK	AREA SERVED	PERFORMANCE DATA			ELECTRICAL DATA		WEIGHT (LBS)	BASIS OF DESIGN		NOTES		
		AIRFLOW (CFM)	WATER REMOVAL (PINTS PER DAY)	EFF. FACTOR (PINTS/WH)	WATTS @ 80%/60% RH	FLA		VOLTS/PH	MANUFACTURER		MODEL	
DHU-1	TURNOUT GEAR	150	70	5.0	4.8	580	5.1	115/1	55	SANTA FE	ULTRA70	1 THRU 5
DHU-2	MED STORAGE	150	70	5.0	4.8	580	5.1	115/1	55	SANTA FE	ULTRA70	1 THRU 5

NOTES:
1. WATER REMOVAL PERFORMANCE BASED ON 70 DEGREE F @ 60% RH.
2. PROVIDE STANDARD CORD RATED FOR 115V WITH 3-PIN CORD.
3. PROVIDE MEDIA FILTER.
4. PROVIDE UNIT WITH BUILT-IN ON-OFF SWITCH AND HUMIDITY LEVEL SELECTOR.
5. DDC CONTROLS SHALL PROVIDE HUMIDISTAT IN THE ROOM SERVED TO MONITOR ROOM R.H. LEVELS. SIGNAL ALARM OVER 65% R.H.

AIR DISTRIBUTION DEVICE SCHEDULE

MARK / LEGEND		TYPE	MANUFACTURER	MODEL	NOTES
NECK SIZE	→ 8"Ø-40"	THROW PATTERN			
AIR FLOW	→ 200CFM	CEILING MOUNTED PLAQUE SUPPLY DIFFUSER	PRICE	ASPO	1, 4, 5, 6
LINEAR LENGTH	→ 25"ØSLOT-1"	#SIZE OF SLOTS	CEILING OR SIDEWALL MOUNTED LINEAR SLOT SUPPLY DIFFUSER	PRICE	SDS
AIR FLOW	→ 200CFM				4, 5, 9, 10
LINEAR LENGTH	→ 25"ØSLOT-1"	#SIZE OF SLOTS	CEILING OR SIDEWALL MOUNTED LINEAR SLOT RETURN GRILLE	PRICE	SDS
AIR FLOW	→ 200CFM				4, 5, 9, 10
NECK SIZE	→ 12X12-60"	CEILING OR SIDEWALL MOUNTED RETURN AIR GRILLE	PRICE	600	1 THRU 5
AIR FLOW	→ 200CFM				
NECK SIZE	→ 12X8-60"	CEILING OR SIDEWALL EXHAUST AIR GRILLE	PRICE	600	1 THRU 5
AIR FLOW	→ 200CFM				
NECK SIZE	→ 24X24-GAL	WALL MOUNTED OUTSIDE AIR INTAKE LOUVER	GREENHECK	EHH-601D	5, 7, 8
AIR FLOW	→ 500CFM				
NECK SIZE	→ 24X24-EL	WALL MOUNTED EXHAUST DISCHARGE LOUVER	GREENHECK	EHH-601D	5, 7, 8
AIR FLOW	→ 500CFM				

NOTES:
1. PROVIDE 24X24 OR 24X12 LAY-IN MODULE WHERE LOCATED IN LAY-IN CEILING.
2. NECK SIZE IS 22X22 UNLESS NOTED OTHERWISE ON FLOOR PLANS.
3. PROVIDE SQUARE TO ROUND NECK TRANSITION WHERE APPLICABLE.
4. COORDINATE BORDER TYPES WITH ARCHITECTURAL FLOOR PLAN AND REFLECTED CEILING PLAN.
5. COORDINATE TRIM WITH ARCHITECT.
6. COORDINATE TRIM PATTERN WITH FLOOR PLANS.
7. LOUVER SHALL HAVE FLORIDA PRODUCT APPROVAL. NOA AND BE INSTALLED PER THE MANUFACTURER'S CRITERIA.
8. PRIME AND PAINT TO MATCH ADJACENT SURFACES.
9. LAY-IN LINEAR SLOT DIFFUSER. PROVIDE WITH FACTORY INSULATED SUPPLY PLENUM BEHIND SLOT DIFFUSER FOR BRANCH DUCT TO TAP INTO.
10. PROVIDE WITH OPPOSED BLADE VOLUME DAMPER.



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