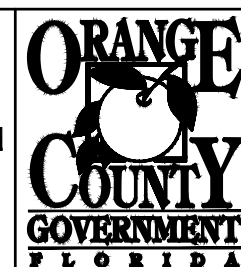


MECHANICAL GENERAL NOTES

- THE INTENT OF THESE NOTES AND MECHANICAL NOTES ON DRAWINGS IS TO CLARIFY THE SCOPE OF WORK AND ALERT CONTRACTOR OF EXISTING CONDITIONS. CONTRACTOR TO VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL, PLUMBING AND FIRE PROTECTION SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
- ALL SUPPLY AND RETURN DUCTWORK MAY BE R6 INSULATED ANTIMICROBIAL DUCTBOARD OR EXTERNALLY INSULATED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH LATEST SMACNA STANDARDS. INSULATION SHALL HAVE AN INSTALLED MINIMUM THERMAL RESISTANCE (R) VALUE OF 6.0. ALL EXHAUST DUCTWORK SHALL BE UNINSULATED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH LATEST SMACNA STANDARDS. ALL JOINTS SHALL BE SECURELY TAPED WITH 3" WIDE GLASS FABRIC TAPE WITH FOSTER 30/35 MASTIC OR EQUAL. FLEXIBLE DUCTS: EITHER SPIRAL ROUND SPRING STEEL WITH FLAMEPROOF VINYL SHEATHING, OR CORRUGATED ALUMINUM. COMPLY WITH UL 181. PROVIDE 1" THICK CONTINUOUS FLEXIBLE FIBERGLASS SHEATH WITH VINYL VAPOR BARRIER JACKET.
- DUCT SHALL BE SECURELY SUPPORTED, HUNG OR SUSPENDED IN ACCORDANCE WITH FL BUILDING CODE.
- OUTSIDE AIR INTAKE SHALL MAINTAIN A MINIMUM OF 10'-0" FROM ANY EXHAUST OR SANITARY VENT THROUGH ROOF PIPING.
- PROVIDE ALL AIR-CONDITIONING UNITS WITH MANUFACTURERS RECOMMENDED SERVICE AREA CLEARANCES AND ELECTRICAL CONVENIENCE OUTLETS.
- ALL TRANSFER DUCTWORK LEADING TO REST ROOMS (IF USED) SHALL HAVE A ZERO LEAKAGE BACK DRAFT DAMPER AS SHOWN ON THE MECHANICAL DRAWINGS.
- ALL AIR HANDLING UNITS TO HAVE SMOKE DETECTORS IF REQUIRED BY CODE. DETECTORS SHALL SHUT DOWN UNIT UPON ACTIVATION. SEE NOTE #13 FOR FURTHER DETAILS.
- IN GENERAL, PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED. HVAC CONTRACTOR IS RESPONSIBLE FOR ANY ADDED ELECTRICAL COSTS WHICH MAY RESULT FROM SUBSTITUTED EQUIPMENT.
- DUCTWORK INSULATION SHALL BE 1-1/2" FOIL FACED FIBERGLASS DUCT WRAP.
- COORDINATE AIR DISTRIBUTION DEVICE LOCATIONS WITH LIGHTING FIXTURES, SPRINKLER HEADS, AND SPEAKERS.
- TURNING VANES SHALL BE PROVIDED IN ALL SUPPLY DUCT RECTANGULAR ELBOWS WITH ANGLES BETWEEN 15 DEGREES AND LESS THAN 90 DEGREES PER FIG. 2-5 OF THE SMACNA MANUAL.
- DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, AND OTHER ITEMS OF THE AIR HANDLING SYSTEM SHALL NOT BE SUPPORTED BY THE CEILING OR CEILING SUSPENSION SYSTEM.
- SMOKE DETECTOR(S) SHALL BE INSTALLED IN AIR SYSTEMS WITH A DESIGN CAPACITY GREATER THAN 2000 CFM IN THE SUPPLY (AND RETURN AIR, IF REQUIRED BY CODE) DUCTWORK PRIOR TO MIXING WITH OUTSIDE AIR. FURTHERMORE, WHERE MULTIPLE AIR SYSTEMS SHARE COMMON SUPPLY OR RETURN AIR DUCTS OR PLENUMS WITH A COMBINED DESIGN CAPACITY GREATER THAN 2000 CFM, THE RETURN AIR AND SUPPLY AIR SYSTEM SHALL BE PROVIDED WITH SMOKE DETECTORS. IF THE BUILDING IS PROVIDED WITH A FULL FIRE ALARM SYSTEM, THE SMOKE DETECTOR(S) SHALL BE WIRED TO STOP THE FAN UPON DETECTION OF SMOKE, AND SIGNAL THE BUILDING FIRE ALARM CONTROL PANEL PER NFPA 72. IF THE BUILDING IS NOT PROVIDED WITH FULL FIRE ALARM SYSTEM, THE SMOKE DETECTOR(S) SHALL STOP THE FAN AND CAUSE A VISIBLE AND AUDIBLE ALARM SIGNAL IN A NORMALLY OCCUPIED AREA PER NFPA 90A. THE SMOKE DETECTOR(S) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR, WIRED BY THE ELECTRICAL OR FIRE ALARM CONTRACTOR, AND SHALL BE CONNECTED TO FIRE ALARM SYSTEM IN ACCORDANCE WITH REQUIREMENTS OF NFPA 72 NATIONAL FIRE ALARM CODE.
- ALL SUPPLY AIR DIFFUSERS SHALL BE 4-WAY DIRECTIONAL THROW UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE NOTED, INSTALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO BOTTOM OF STRUCTURE. COORDINATE DUCT ELEVATION WITH RAIN LEADERS, WATER PIPING, SANITARY DRAINS AND MAJOR ELECTRICAL CONDUITS.
- CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS. INSTALLATION OF THE EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATIONS AND CLEARANCE REQUIREMENTS FOR SERVICING OF EQUIPMENT.
- VERIFY SERVICE VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
- PROVIDE A TRAP IN ALL CONDENSATE PIPING LOCATED AT THE AHU UNIT. SLOPE CONDENSATE LINES 1/8" PER FOOT. CONDENSATE LINES SHALL BE PVC SCH. 40. ALL CONDENSATE DRAIN PIPING SHALL BE PROPERLY SUPPORTED.
- ALL MECHANICAL WORK SHALL MEET ALL THE REQUIREMENTS OF THE "FLORIDA BUILDING CODE 2010".
- GUARANTEE: FOR ONE YEAR AFTER DATE OF ACCEPTANCE BY THE OWNER, ALL EQUIPMENT, MATERIALS AND WORKMANSHIP TO BE FREE FROM ANY DEFECTS.
- DO NOT CUT STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR ARCHITECT. ARRANGE FOR REPAIRS REQUIRED TO RESTORE OTHER WORK, BECAUSE OF DAMAGE CAUSED AS A RESULT OF MECHANICAL INSTALLATIONS.
- FLEXIBLE AND RIGID ROUND DUCT TAKE-OFFS FOR DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 12'-0". FLEXIBLE DUCT SHALL BE THERMAFLEX TYPE M-KA OR EQUAL, AND BE UL LISTED AND COMPLY WITH NFPA STANDARD NO. 90A.
- ALL WALL MOUNTED THERMOSTATS SHALL BE INSTALLED AT AN ELEVATION OF 54" ABOVE FINISHED FLOOR TO THE TOP UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTAT SHALL BE COORDINATED WITH OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF THERMOSTAT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE IN THE FIELD.
- ALL UNITS SHALL BE BALANCED TO WITHIN 10 PERCENT OF THE DESIGN AIR QUANTITY. BALANCE DIFFUSERS AND REGISTERS TO WITHIN 10% OF QUANTITIES SHOWN ON DRAWINGS.
- PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS ON THE DISCHARGE AND ENTERING SIDES OF ALL VIBRATING EQUIPMENT TO WHICH DUCTWORK IS ATTACHED.
- CONTRACTOR SHALL PROVIDE A COPY OF A TEST AND BALANCE REPORT. AIR BALANCING SHALL BE PERFORMED BY AN INDEPENDENT TESTING AND BALANCING CONTRACTOR WHICH SHALL BE QUALIFIED AND CERTIFIED BY EITHER ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). THIS REPORT MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO THE FINAL INSPECTION.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TRADES INSTALLATION SCHEDULES. FIXED WORK SUCH AS DUCTWORK AND PLUMBING SHALL BE INSTALLED PRIOR TO ANY TRADE WORK THAT CAN BE EASILY RELOCATED OR OFFSET SUCH AS ELECTRICAL CONDUITS, SMALL WATER LINES ETC.
- WHEN THE INTENT OF ARCHITECT/ENGINEER WITH REGARD TO ANY DETAIL IS NOT CLEAR, OR IS CAPABLE OF MORE THAN ONE INTERPRETATION, SUCH MATTERS WILL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING BEFORE THE SUBMISSION OF BIDS, AND THE ARCHITECT/ENGINEER SHALL MAKE CORRECTION OR EXPLANATION IN WRITING. OTHERWISE, NO EXTRA CHARGE WILL BE ALLOWED FOR THE WORK OR MATERIAL WHICH THE ARCHITECT/ENGINEER WILL REQUIRE, PROVIDED THAT IT COMES WITHIN A REASONABLE INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS.
- PLANS AND SPECIFICATIONS ARE INTENDED AS A GENERAL DESCRIPTION OF THE WORK TO BE PERFORMED. ALL ITEMS NOT SPECIFICALLY MENTIONED OR SHOWN, BUT NECESSARY FOR THE COMPLETION OF THE INSTALLATION, SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MECHANICAL, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL PLANS BEFORE SUBMITTING HIS FINAL BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO THE CONTRACTOR'S FAILURE TO FAMILIARIZE HIMSELF/HERSELF WITH THE PLANS.

REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE
(IF NOT SCALE ACCORDINGLY)



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MECHANICAL SYMBOLS, ABBREVIATIONS, & GENERAL NOTES - ADMINISTRATION BUILDING

OCU FILE NO.: 78466	SCALE: As Shown
DESIGNED BY: JAD	DRAWING NO.:
DRAWN BY: JAD	M100.1
CHECKED BY: DLM	SHEET: 14 OF 71
CADD FILE:	

DENNIS L. MATULA
REGISTERED ENGINEER
FLORIDA LICENSE # 55194

SHEET INDEX - ADMINISTRATION BUILDING

M100.1	SYMBOLS, ABBREV., GENERAL NOTES
M100.2	DETAILS
MD101.1	DEMO ROOF PLAN
MD101.2	DEMO REFLECTED CEILING PLAN
M101.1	ROOF PLAN
M101.2	REFLECTED CEILING PLAN

AIR HANDLING UNIT SCHEDULE

PLAN MARK	MODEL NUMBER	TONNAGE	COOLING PERFORMANCE					OUTDOOR AIR TEMPERATURE (95°F)			ELECTRICAL/ELECTRIC HEAT DATA			SUPPLY FAN				UNIT WEIGHT (LBS)	NOTES
			GROSS COOLING CAPACITY(MB/H)	ARI RATED AIR FLOW (CFM)	SOUND RATING NUMBER(db)	TOTAL UNIT POWER	EER (BTU/WATT)	ENTERING WET BULB TEMPERATURE(°F)	TOTAL COOLING CAPACITY(MB/H)	SENSIBLE COOLING (MB/H)	HEATING DATA (KW)	MCA/MOCP	VOLTS/ PHASE/HZ	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	BAROMETRIC RELIEF (CFM)	E.S.P. (IN. OF WG.)		
AHU-1	MCCA08	10	117.06	3600	-	5 HP	11.0	67	117.06	91.37	11	22.9/30	460/3PH/60HZ	3600	-	-	-	981.1	1,2,3
AHU-2	TWE061D4	5	60	2000	-	-	-	67	-	12	15.9/20	460/3PH/60HZ	2000	-	-	-	232	1,2,3	
AHU-3	MCCA10	7.5	88.0	4200	-	5 HP	11.2	67	88.0	34	50.5/70	460/3PH/60HZ	4200	-	-	-	1148	1,2,3	
AHU-4	MCCA10	10	125.0	4535	-	5 HP	11.2	67	125.0	20	33.7/45	460/3PH/60HZ	4535	-	-	-	1148	1,2,3	
AHU-5	CSAA	10	113.6	1500	-	-	11.4	76	113.6	15	26.47/45	460/3PH/60HZ	1500	1500	-	-	3260.2	1,2,3	
AHU-6	mitsubishi PKA-A12HA4	1	12.0	425	43	-	15.2	10.1	12.0	-	1/15	208/1PH/60HZ	-	-	-	-	29	1,2,3	

NOTE:

- TRANE USED AS BASIS OF DESIGN. APPROVED EQUALS ARE CARRIER, LENNOX, AND YORK.
- CONTRACTOR TO VERIFY THE NEED FOR LONG LINE KIT
- CONTRACTOR TO PROVIDE AND INSTALL HONEYWELL ALERTON BMS. ALL HVAC EQUIPMENT TO BE WIRED AND CONTROLLABLE VIA WEB INTERFACE.

CONDENSING UNIT SCHEDULE

PLAN MARK	MODEL NUMBER	TONNAGE	COOLING PERFORMANCE				OUTDOOR AIR TEMPERATURE (75°F)		ELECTRICAL/ELECTRIC HEAT DATA				UNIT WEIGHT (LBS)	NOTES
			GROSS COOLING CAPACITY(MB/H)	SOUND RATING NUMBER(db)	TOTAL UNIT POWER	EER (BTU/WATT)	TOTAL COOLING CAPACITY(MB/H)	SENSIBLE COOLING (MB/H)	BLOWER DRIVE TYPE	MCA/MOCP	VOLTS/ PHASE/HZ			
CU-1	TTA120F4	10	117.06	-	-	11.7	117.06	91.37	DIRECT	24.1/30	460/3PH/60HZ	509	1,2,3,4	
CU-2	4TTA3060D4	5	60.0	-	-	12.0	60.0	-	DIRECT	10/15	460/3PH/60HZ	226	1,2,3,4	
CU-3	TTA090D4	7.5	83.6	-	-	12.4	88.0	83.86	DIRECT	17.7/25	460/3PH/60HZ	363	1,2,3,4	
CU-4	TTA120F4	10	125.0	-	-	12.2	125.0	106.43	DIRECT	24.1/30	460/3PH/60HZ	509	1,2,3,4	
CU-5	RAUJ	10	113.6	-	-	11.4	113.6	63.2	DIRECT	63/80	460/3PH/60HZ	1936	1,2,3,4	
CU-6	mitsubishi PUY-A12NH44	1	12.0	-	-	10.1	12.0	12.0	DIRECT	13/15	208/1PH/60HZ	82	1,2,3,4	

NOTE:

- TRANE USED AS BASIS OF DESIGN. APPROVED EQUALS ARE CARRIER, LENNOX, AND YORK.
- CONTRACTOR TO VERIFY THE NEED FOR LONG LINE KIT
- PROVIDE FACTORY COATED CONDENSER COILS
- CONTRACTOR TO PROVIDE AND INSTALL HONEYWELL ALERTON BMS. ALL HVAC EQUIPMENT TO BE WIRED AND CONTROLLABLE VIA WEB INTERFACE.

TAG	QUANTITY	MODEL NUMBER	PRIMARY INLET	DESIGN COOLING AIRFLOW CFM	MIN COOLING AIRFLOW CFM	APD @ COOLING AIRFLOW IN H2O	VALVE HEATING AIRFLOW CFM	ELECTRIC HEATER KILOWATT	ELECTRIC HEATER VOLTAGE	ELECTRIC HEATER STAGE	FULL LOAD AMPS	MIN CIRCUIT AMPACITY	MAX FUSE SIZE	NOTES
VAV 4-1	1	VCEF05	5" (127mm)	250	100	0.013	100	1.0	208/1	1	4.81	6.01	15	1
VAV 4-2	1	VCEF05	5" (127mm)	300	100	0.018	100	1.0	208/1	1	4.81	6.01	15	1
VAV 4-3	1	VCEF05	5" (127mm)	280	100	0.016	100	1.0	208/1	1	4.81	6.01	15	1
VAV 4-4	1	VCEF05	5" (127mm)	300	100	0.018	100	1.0	208/1	1	4.81	6.01	15	1
VAV 4-5	1	VCEF06	6" (152mm)	360	120	0.116	120	1.0	208/1	1	4.81	6.01	15	1
VAV 4-6	1	VCEF08	8" (203mm)	875	250	0.107	250	2.5	208/1	1	12.02	15.02	20	1
VAV 4-7	1	VCEF12	12" (305mm)	1440	400	0.041	525	4.5	208/1	2	21.63	27.04	30	1

NOTE:

- CONTRACTOR TO PROVIDE AND INSTALL HONEYWELL ALERTON BMS. ALL HVAC EQUIPMENT TO BE WIRED AND CONTROLLABLE VIA WEB INTERFACE.
- MECHANICAL CONTRACTOR TO PROVIDE FACTORY FUSED OVERLOAD PROTECTION. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECTS.

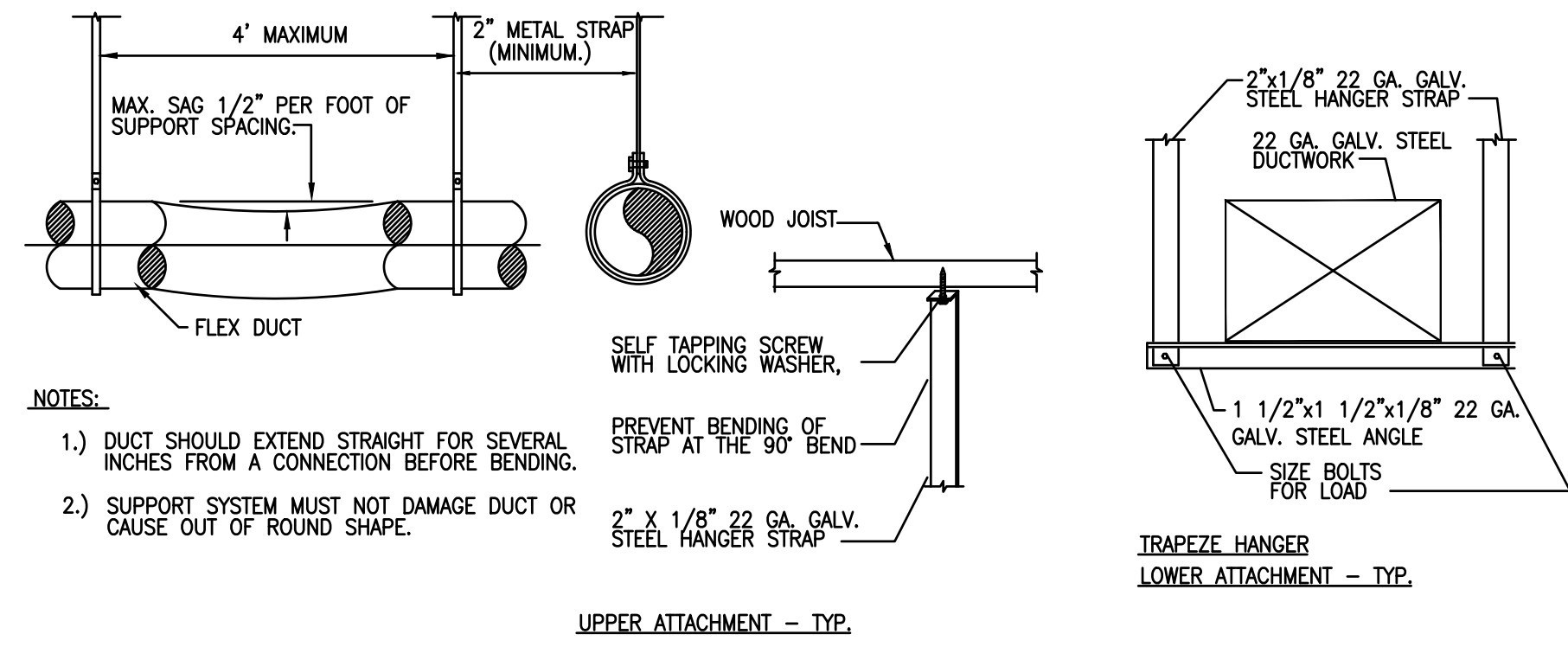
MECHANICAL NOTES

- AIR CONDITIONING UNITS ARE BASED ON ARI STANDARD CONDITIONS OF 80°F DB, 67° WB, INDOOR ENTERING AIR TEMPERATURE AND 95° DB ENTERING AIR OUTDOOR DESIGN.
- PROVIDE WITH MOTORIZED AIR DAMPERS, FILTERS AND PROTECTION AGAINST COMPRESSOR SHORT CYCLING.
- PROVIDE SYSTEMS WITH WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT AND SUB-BASE, SENSORS, AND WALL MOUNTED REMOTE TEMPERATURE SENSOR.
- PROVIDE CONDENSATE DRAIN "P" TRAP MINIMUM 2-1/2" DEEP, OR TWICE THE TOTAL STATIC PRESSURE, WHICHEVER IS GREATER. PROVIDE CODE COMPLIANT OVERFLOW SHUT-OFF SENSOR AND SWITCH.
- PROVIDE COORDINATION ON EXACT DIMENSIONS OF MANUFACTURER'S RECOMMENDED CLEARANCES AROUND UNIT.
- ALL COILS SHALL HAVE COPPER TUBES AND ALUMINUM FINS.
- COMPRESSOR SHALL HAVE A MINIMUM 5-YEAR WARRANTY ALL OTHER EQUIPMENT SHALL HAVE MINIMUM 1 YEAR WARRANTY.
- PROVIDE SINGLE POINT POWER CONNECTION, AND DUPLEX-6FI ELECTRICAL CONVENIENCE OUTLET WITHIN 25 FT.
- PROVIDE ONE SET OF ADDITIONAL AIR FILTERS.
- MUST MEET THE LATEST MINIMUM EER'S & SEER'S AS INDICATED BY EFFICIENCY CODE REQUIREMENTS.
- PROVIDE DUCT MOUNTED SMOKE DETECTORS WITH REMOTE INDICATING RESET AND AUDIO VISUAL ALARM INDICATOR.

MECHANICAL ABBREVIATION

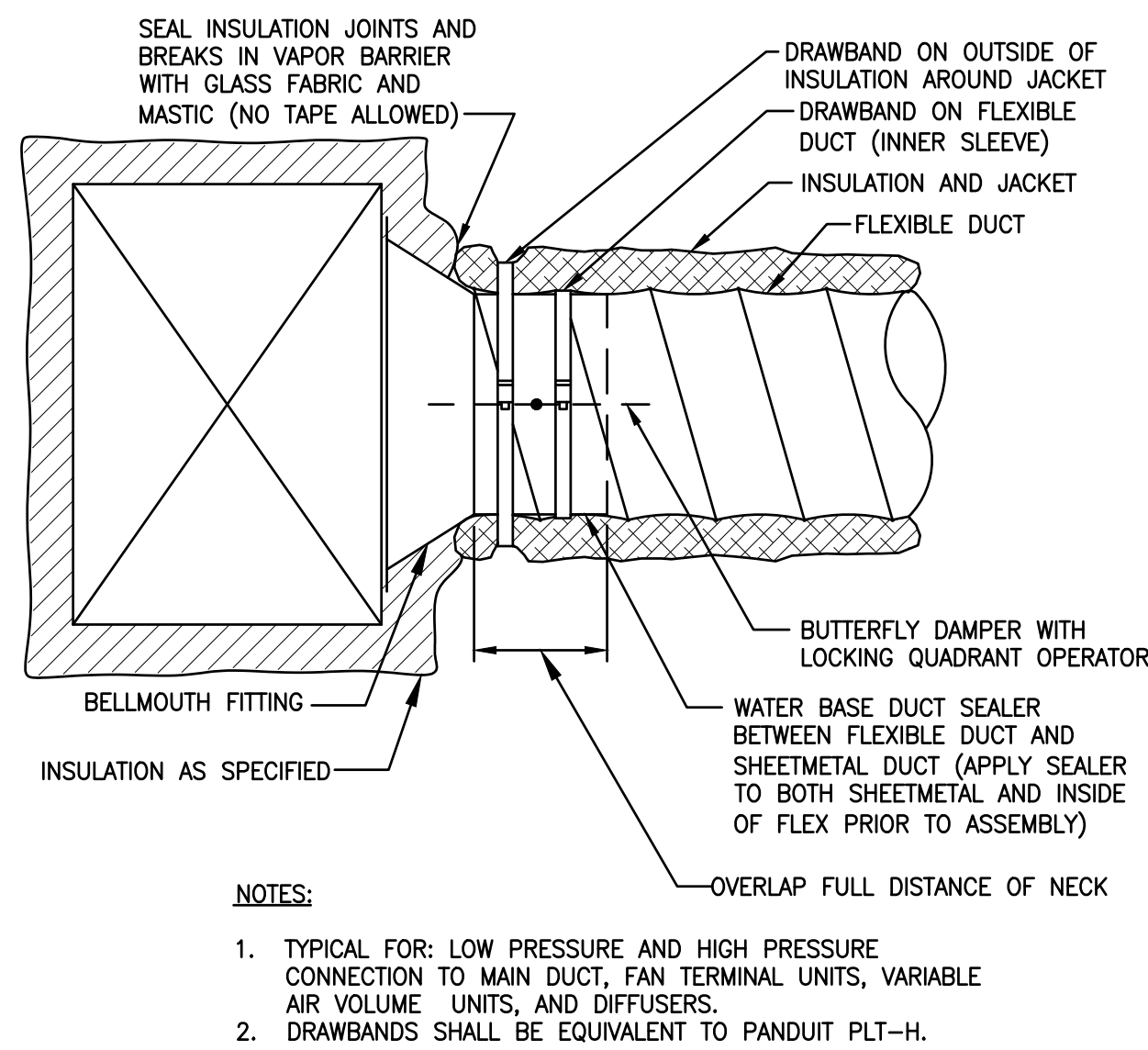
AC	AIR CONDITIONING	EG	EXHAUST GRILLE	MBH	1000xBTU
AFF	ABOVE FINISHED FLOOR	ELEC	ELECTRICAL	MCA	MINIMUM CIRCUIT AMPACITY
AFG	ABOVE GRADE	EX	EXHAUST	MISC	MISCELLANEOUS
AHU	AIR HANDLING UNIT	ENT	ENTERING	NTS	NOT TO SCALE
BOD	BOTTOM OF DUCT	ESP	EXTERNAL STATIC PRESSURE	OA	OUTSIDE AIR
BTU	BRITISH THERMAL UNIT	F	FAHRENHEIT	OAL	OUTSIDE AIR LOUVER
CAP	CAPACITY	FA	FILTER ACCESS	OC	ON CENTER
CD	CONDENSATE DRAIN	FACP	FIRE ALARM CONTROL PANEL	PC	PRESSURE DROP
CFM	CUBIC FEET PER MINUTE	FCO	FLOW CONTROL DAMPER	PH	PHASE
CMU	CONCRETE MASONRY UNIT	FD	FIRE DAMPER	PVC	POLYVINYLCHLORIDE
CONN	CONNECTION	FLA	FULL LOAD AMPACITY	RA	RETURN AIR
CU	CONDENSING UNIT	HP	HORSEPOWER	REF	REFRIGERANT
DB	DRY BULB	HZ	HERTZ	RG	RETURN GRILLE
DG	DOOR GRILLE	KW	KILOWATT	RLA	RUNNING LOAD AMPS
DI	DIGITAL INPUT	LAT	LEAVING AIR TEMPERATURE	RTU	ROOFTOP A/C UNIT
DN	DOWN	LAT	LATENT	SA	SUPPLY AIR
DO	DIGITAL OUTPUT	LD	LOUVERED DOOR	SD	SUPPLY DIFFUSER
EAT	ENTERING AIR TEMPERATURE	LRA	LOCKED ROTOR AMPS	FS	FIRE STAT
EER	ENERGY EFFICIENCY RATIO	LVG	LEAVING	SG	SUPPLY GRILLE
EF	EXHAUST FAN	LVG	LEAVING	SEN	SENSIBLE
		MAX	MAXIMUM		

ALL ABBREVIATIONS INDICATED ON THIS LIST MAY NOT NECESSARILY APPLY TO THIS PROJECT.

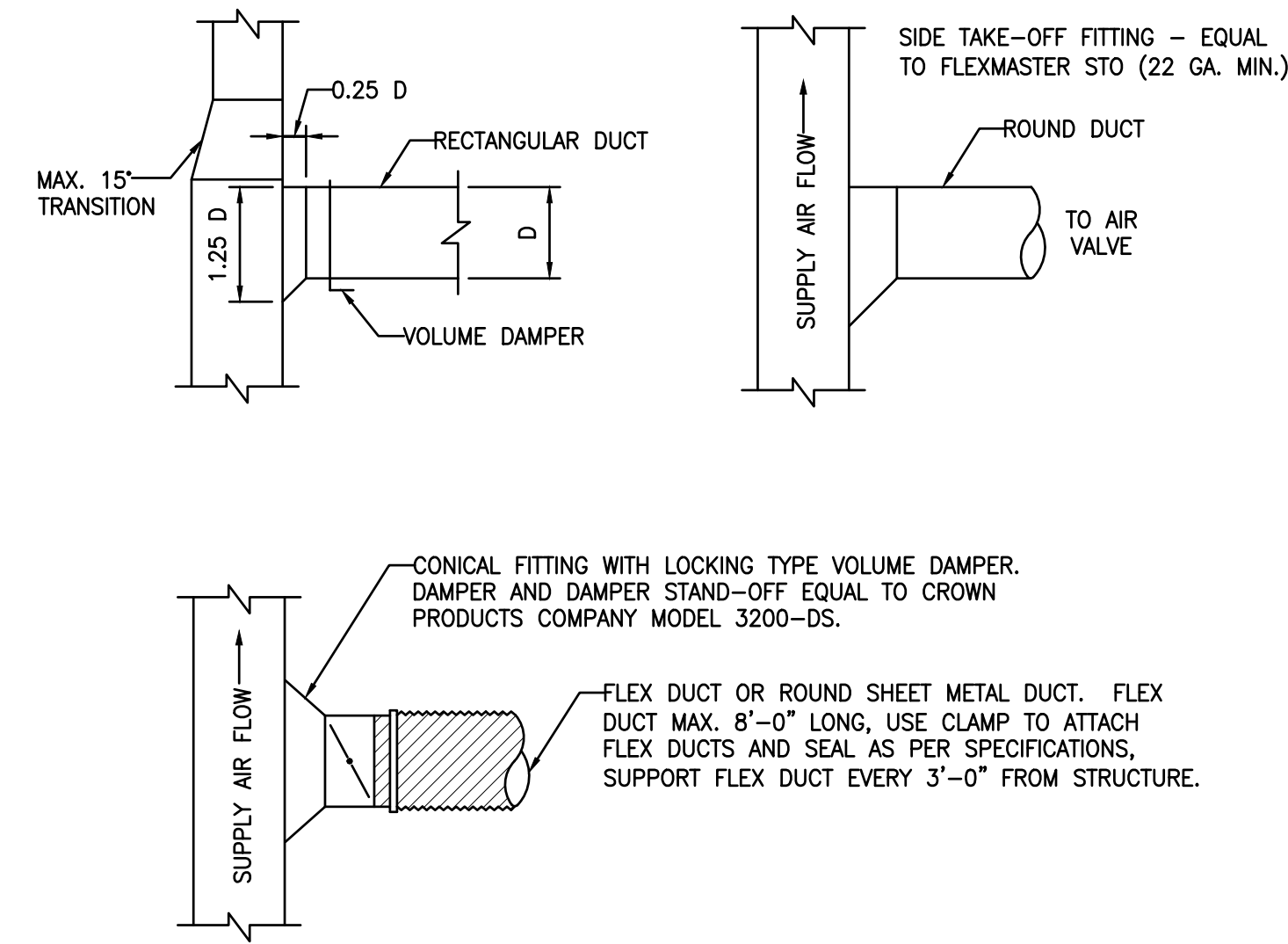


- DUCT MATERIALS, SUPPORT, AND R-VALVES**
- FLEXIBLE AND RIGID ROUND DUCT TAKE-OFFS FOR DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 12'-0". INSULATE RIGID ROUND DUCTS WITH 1-1/2" FOIL FACED FIBERGLASS DUCT WRAP, DUCT WRAP TO HAVE AN INSTALLED MINIMUM THERMAL RESISTANCE (R) VALUE OF 6.0.
 - SUPPLY AND RETURN AIR DUCTWORK SHALL BE CONSTRUCTED OF 1-1/2" THICK DUCT BOARD AND CONFORM WITH UL STANDARDS FOR SAFETY AIR DUCT, NO. 181, 1967 ESTABLISHED FOR CLASS 1 AIR DUCTS. CONSTRUCTION SHALL COMPLY WITH RECOMMENDATIONS AND DETAILS IN SMACNA BULLETIN 15, LATEST REVISION AND MANUFACTURER'S RECOMMENDATIONS. ALL JOINTS SHALL BE SECURELY TAPED WITH FASTON 0810 OR APPROVED EQUAL PRESSURE SENSITIVE TAPE. METAL TO FIBERGLASS CONNECTIONS TO BE MADE USING 3" WIDE GLASS FABRIC TAPE WITH FOSTER 30/35 MASTIC OR EQUAL. SUPPORT DUCTS WITH 1X2X1 22 GAUGE MINIMUM CHANNELS AND STRAP OR 12-GAUGE WIRE FROM BUILDING CONSTRUCTION. SUSPEND FROM JOINTS WITH BEAM CLAMPS. PROVIDE HOT DIPPED STEEL FASTENERS, ANCHORS, RODS, STRAPS, TRIM AND ANGLES FOR SUPPORT OF DUCTWORK.
 - ALL EXHAUST DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH LATEST SMACNA STANDARDS. ALL JOINTS SHALL BE SECURELY TAPED WITH 3" WIDE GLASS FABRIC TAPE WITH FOSTER 30/35 MASTIC OR EQUAL.
 - FLEXIBLE DUCTS: EITHER SPIRAL ROUND SPRING STEEL WITH FLAMEPROOF VINYL SHEATHING, OR CORRUGATED ALUMINUM; COMPLY WITH UL 181. PROVIDE 1-1/2" THICK CONTINUOUS FIBERGLASS SHEATH WITH VINYL VAPOR BARRIER JACKET. FLEX TO HAVE AN INSTALLED MINIMUM THERMAL RESISTANCE (R) VALUE OF 6.0.
 - DUCT SHALL BE SECURELY SUPPORTED, HUNG OR SUSPENDED IN ACCORDANCE WITH 2004 FLORIDA MECHANICAL BUILDING CODE. PROVIDE MINIMUM 1-1/2" WIDE 22 GA. STRAPS, 10 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER UP TO 30" AND ALL ROUND FLEX DUCT. PROVIDE 1" WIDE 22 GA. STRAPS, 5 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER FROM 31" TO 72" AND 1" WIDE 20 GA. STRAPS, 5 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER UP TO 96".

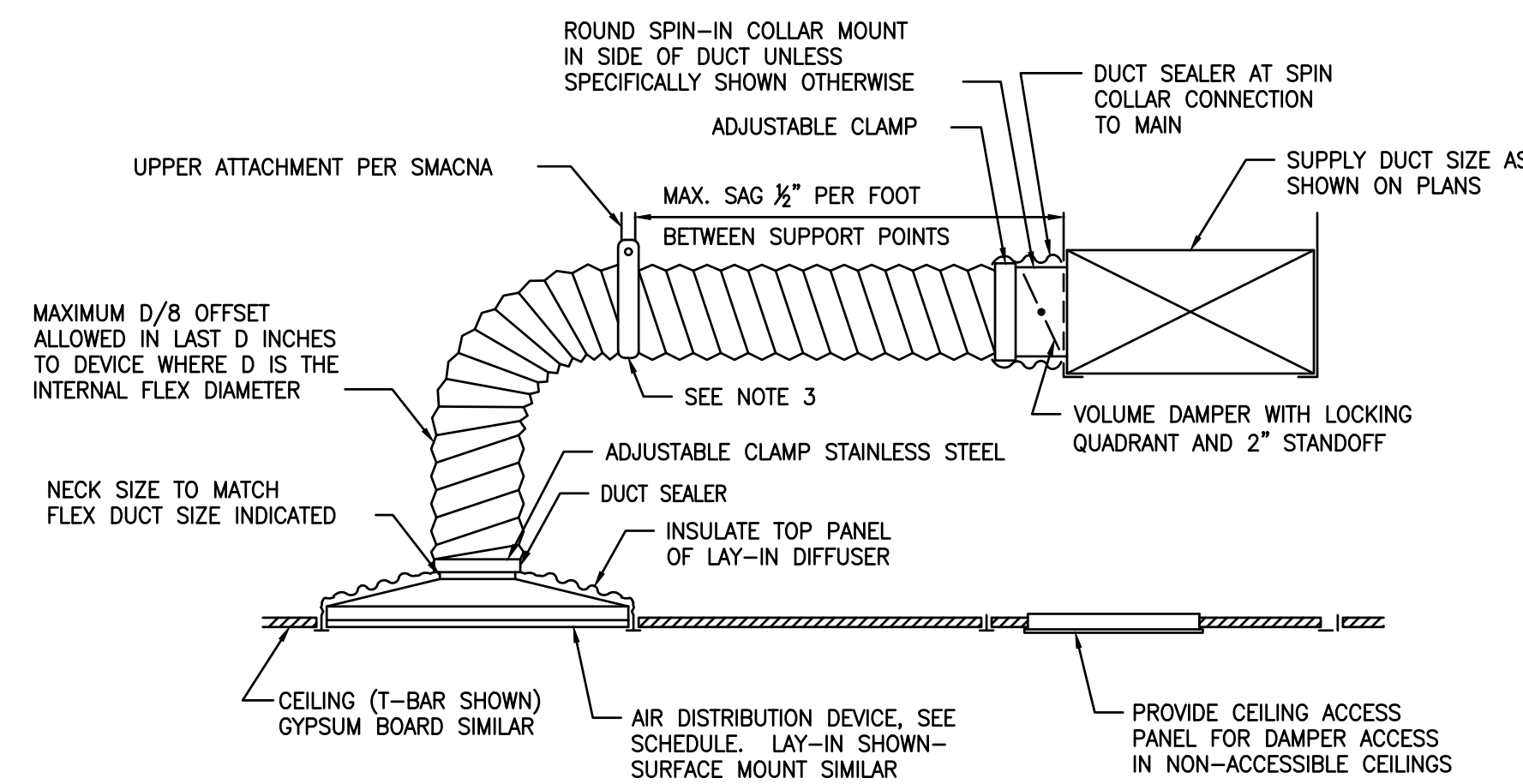
8 TYPICAL DUCT HANGING DETAIL
MO.2 SCALE: NONE



7 FLEXIBLE DUCT TERMINATION DETAIL
MO.2 SCALE: NONE



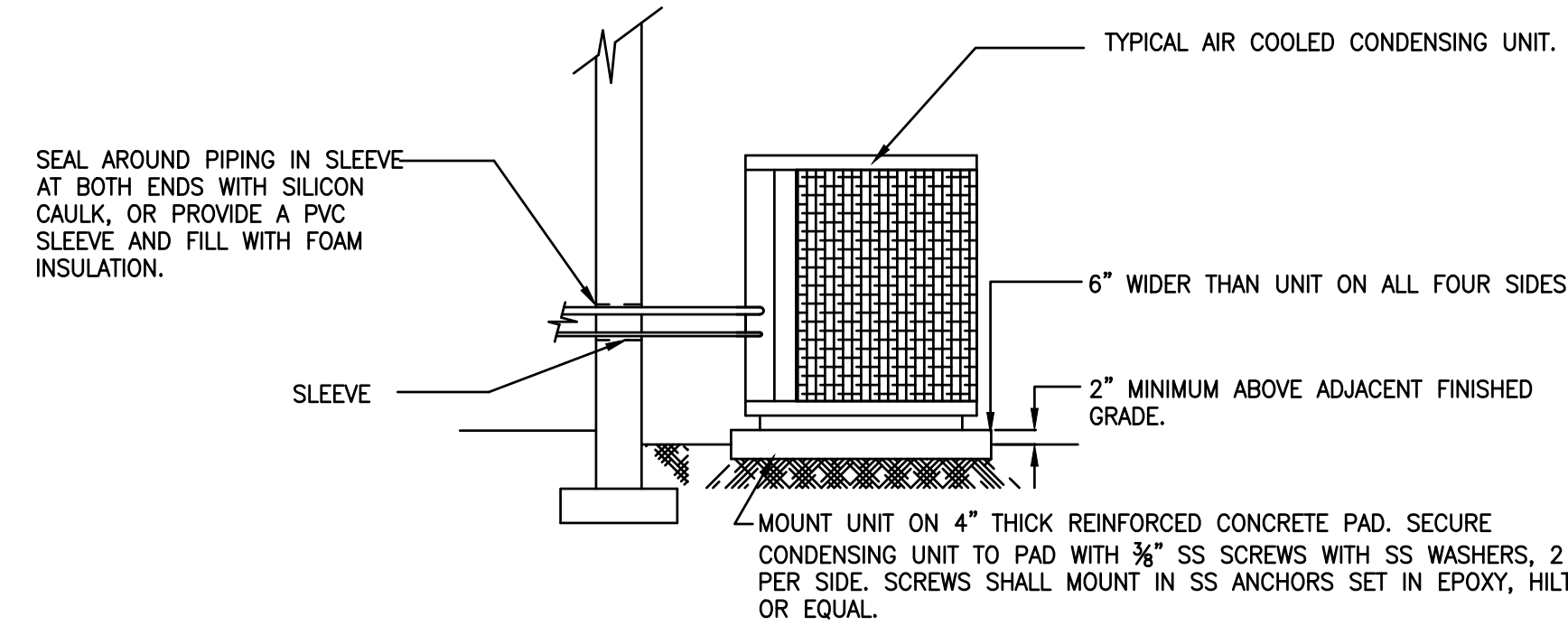
6 SUPPLY BRANCH DUCT DETAIL
MO.2 SCALE: NONE



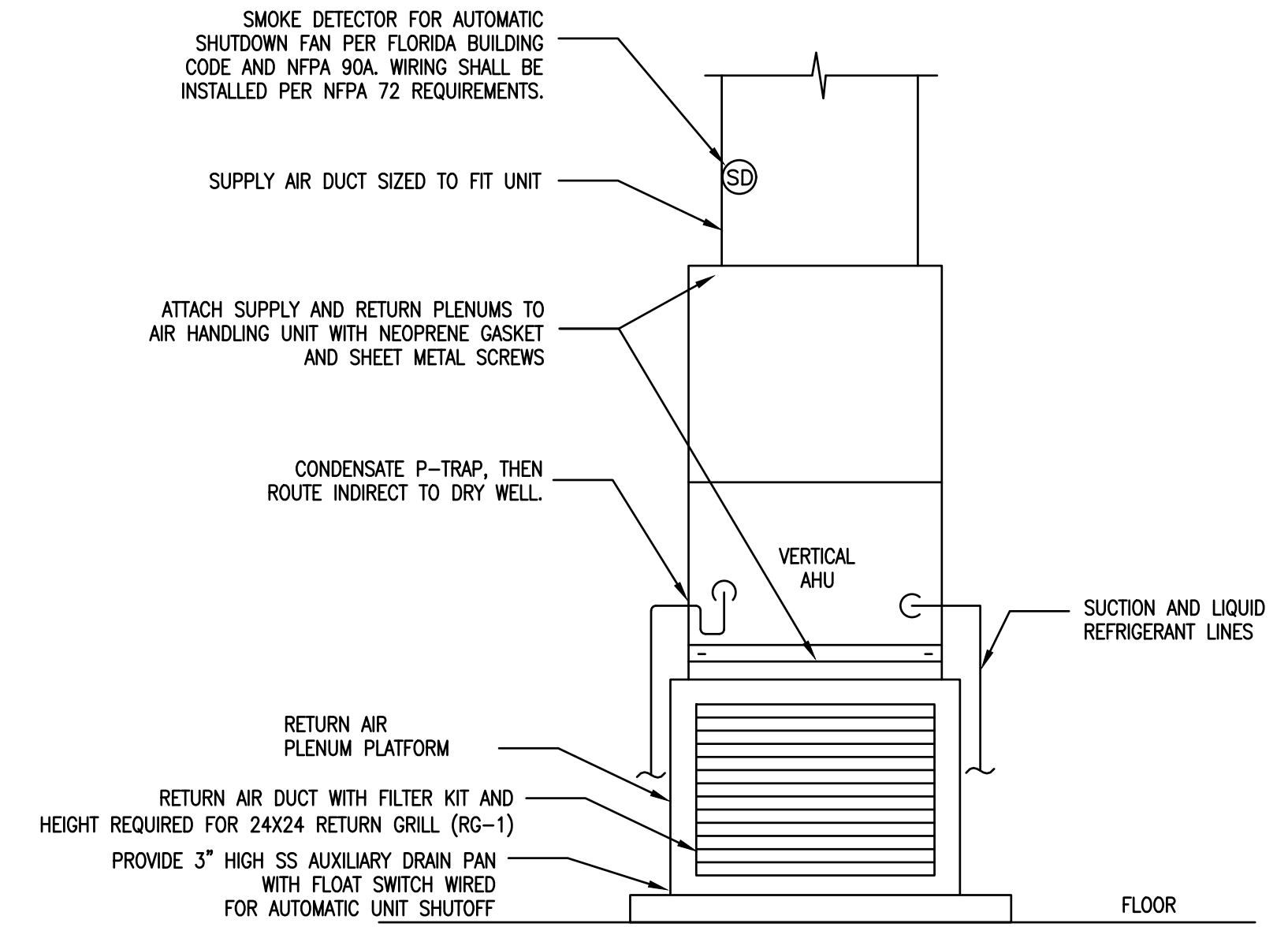
- NOTES**
- FLEXIBLE DUCTS SHALL BE ONE-PIECE AND SHALL NOT BE SPLICED TOGETHER.
 - EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL INSULATION AND SEAL WITH MASTIC.
 - MINIMUM 1-1/2" WIDE 22 GAUGE GALVANIZED STRAP HANGER WITH HEMMED EDGES PER SMACNA FIGURE 3-10.
 - FLEXIBLE AIR DUCT SHALL BE FULLY EXTENDED AND NO COMPRESSED WITH ELBOW RADIUS NO LESS THAN R/D=1.0.

5 FLEXIBLE DUCT DETAIL
MO.2 SCALE: NONE

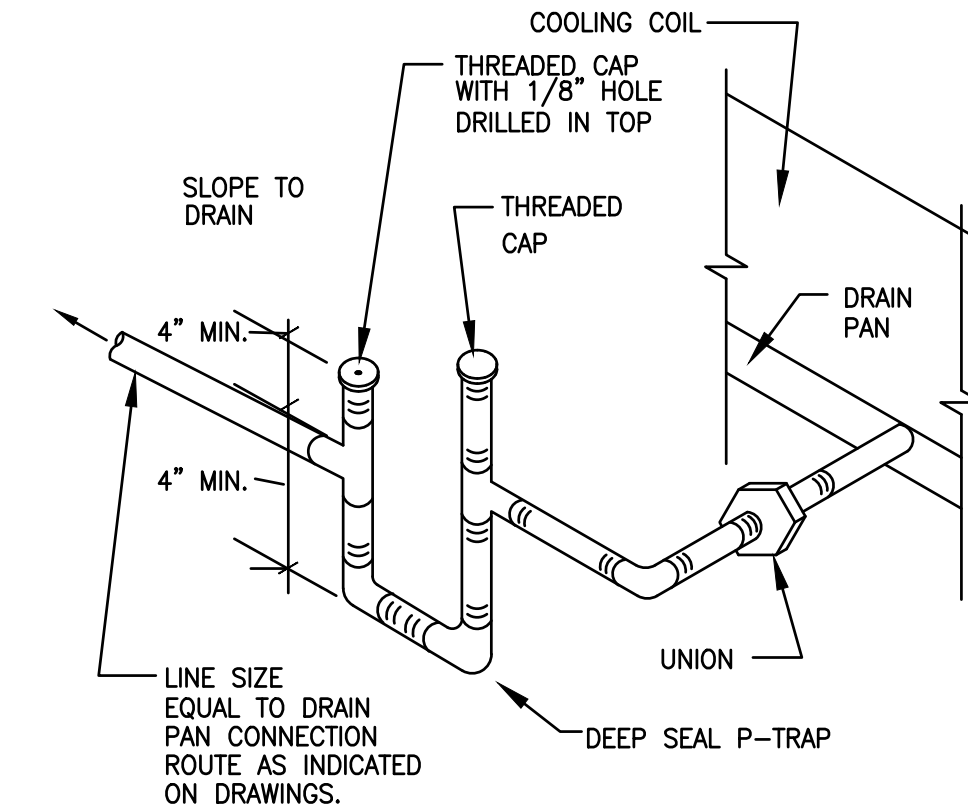
NOTE: ATTACHMENTS ARE IN ACCORDANCE WITH FLORIDA BUILDING CODE 2010 FIGURE 1609B, ATTACHEMENTS LISTED BELOW SHALL WITHSTAND 150 MPH WINDS.



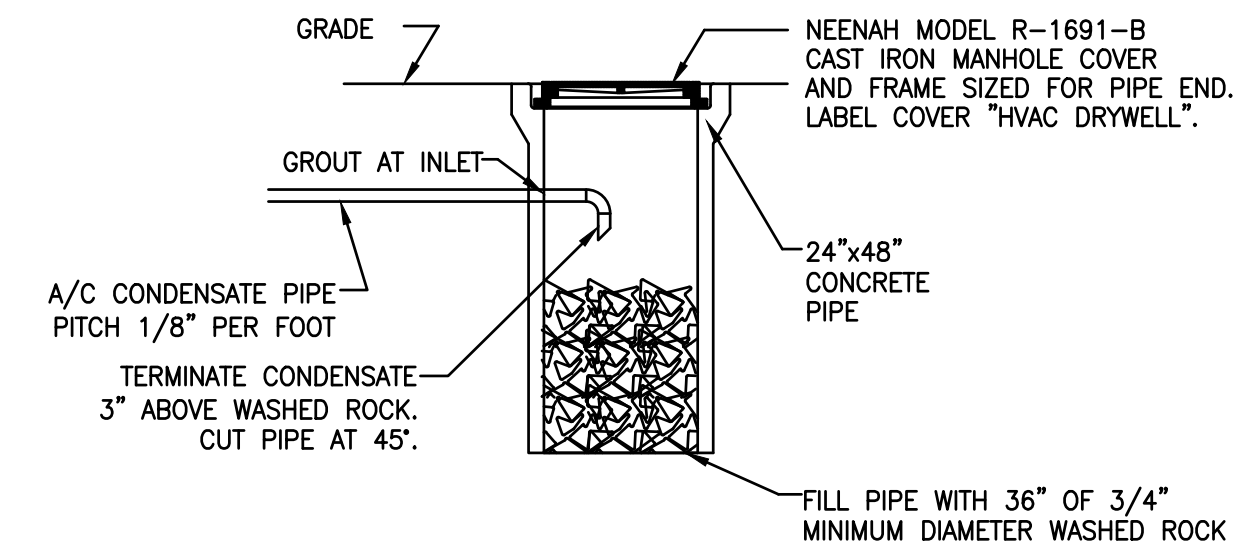
4 CONDENSER MOUNTING DETAIL
MO.2 SCALE: NONE



3 VERTICAL AHU MOUNTING DETAIL
MO.2 SCALE: NONE



2 CONDENSATE DRAIN DETAIL
MO.2 SCALE: NONE



1 DRY WELL DETAIL
MO.2 SCALE: NONE

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE (IF NOT SCALE ACCORDINGLY)



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MECHANICAL DETAILS - ADMINISTRATION BUILDING

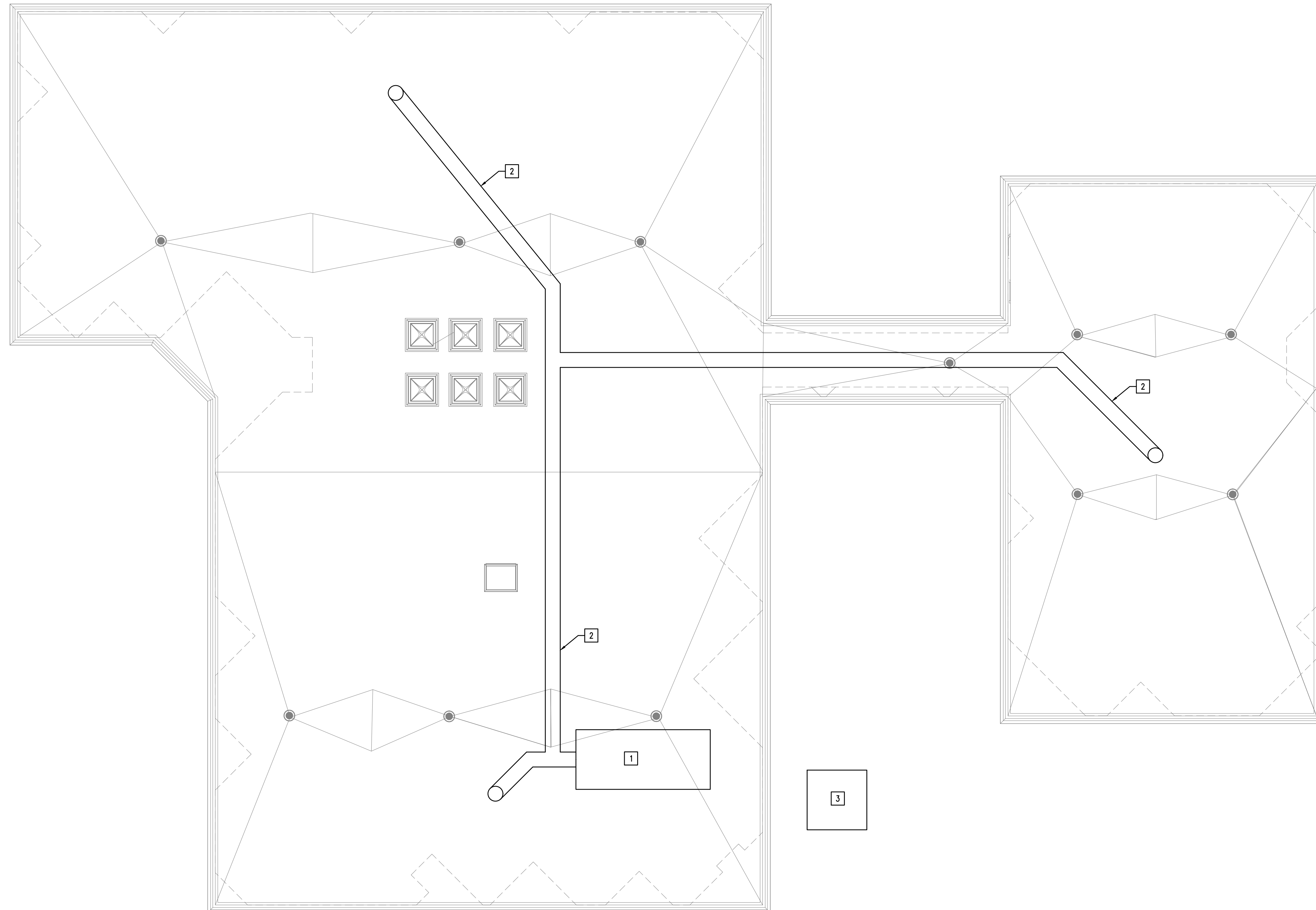
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DRAWING NO.: **M100.2**
SHEET: 15 OF 71

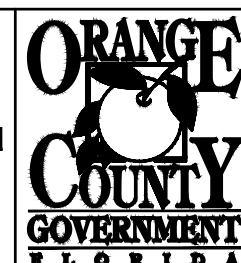
MECHANICAL PLAN NOTES:

- 1 REMOVE EXISTING ROOF MOUNTED AIR HANDLER.
- 2 REMOVE EXISTING ROOF MOUNTED DUCTWORK. PREPARE FOR INSTALLATION OF NEW ROOF MOUNTED, DOUBLE WALLED, SPIRAL DUCT. COORDINATE WITH ROOFING INSTALLER.
- 3 REMOVE EXISTING GROUND MOUNTED CONDENSING UNIT.



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ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION
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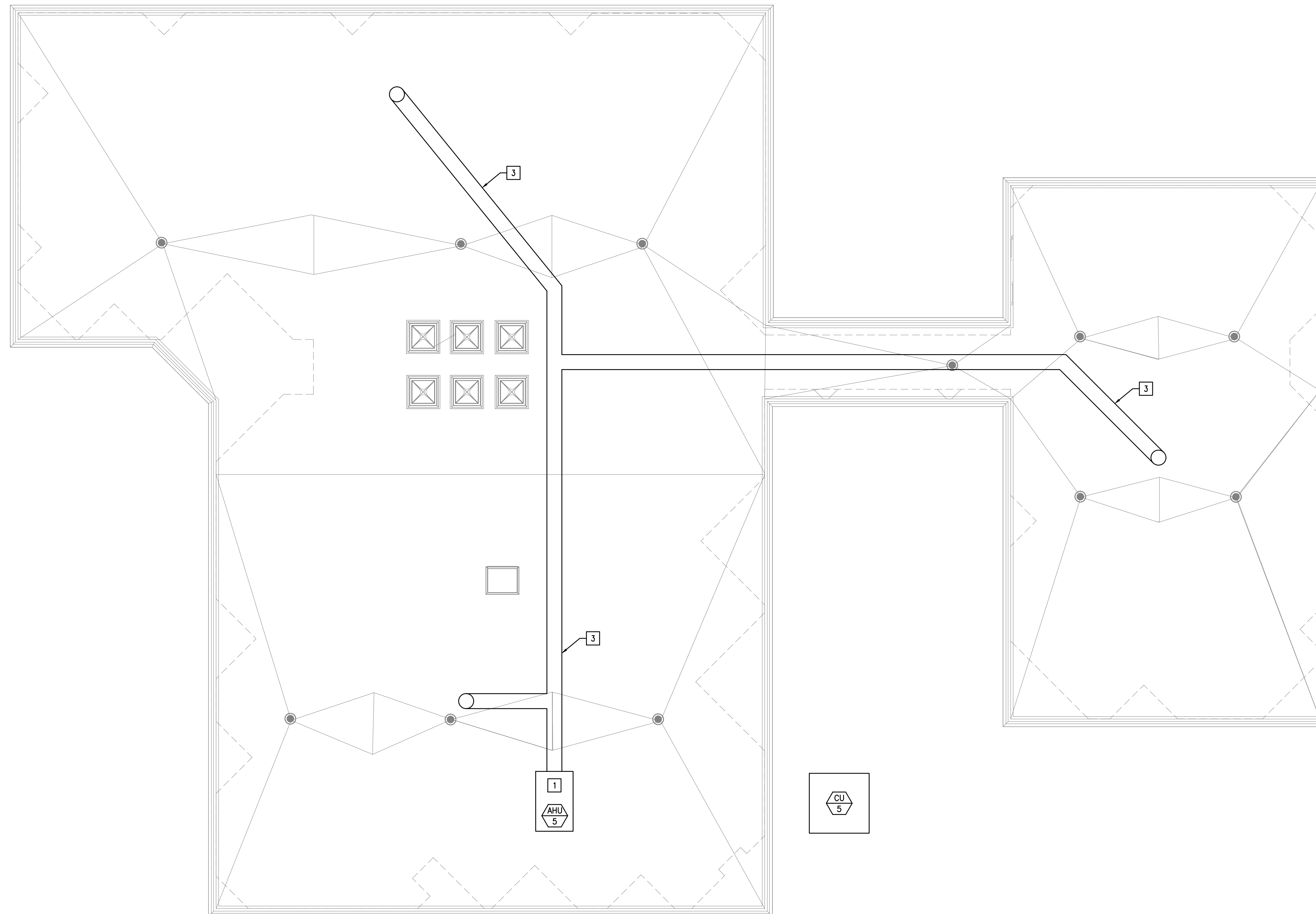
DEMOLITION ROOF PLAN -
ADMINISTRATION BUILDING

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DRAWN BY: JAD	SHEET: 16 OF 71
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DENNIS L. MATULA
REGISTERED ENGINEER
FLORIDA LICENSE # 55194

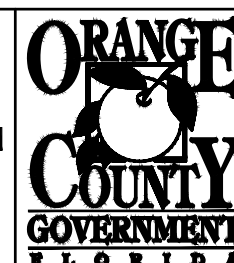
MECHANICAL PLAN NOTES:

- 1 REPLACE EXISTING ROOF MOUNTED AIR HANDLER. PROVIDE NEW CURB. CONNECT NEW ROOF MOUNTED AIR HANDLER TO NEW, ROUND, ROOF MOUNTED DUCTWORK. PRESSURE TEST EXTERIOR DUCTWORK AND SEAL ANY LEAKS. EXISTING STRUCTURAL CONDITIONS ARE UNKNOWN. CONTRACTOR SHALL REPORT TO ARCHITECT/STRUCTURAL ENGINEER ON EXISTING SITE CONDITIONS OF ROOF DECK & STRUCTURAL ROOF SYSTEM PRIOR TO INSTALLATION OF ROOF CURB.
- 2 NOT USED.
- 3 NEW ROOF MOUNTED, DOUBLE WALL, SPIRAL DUCTWORK. COORDINATE INSTALLATION WITH ROOF INSTALLER.



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ROOF PLAN -
ADMINISTRATION BUILDING

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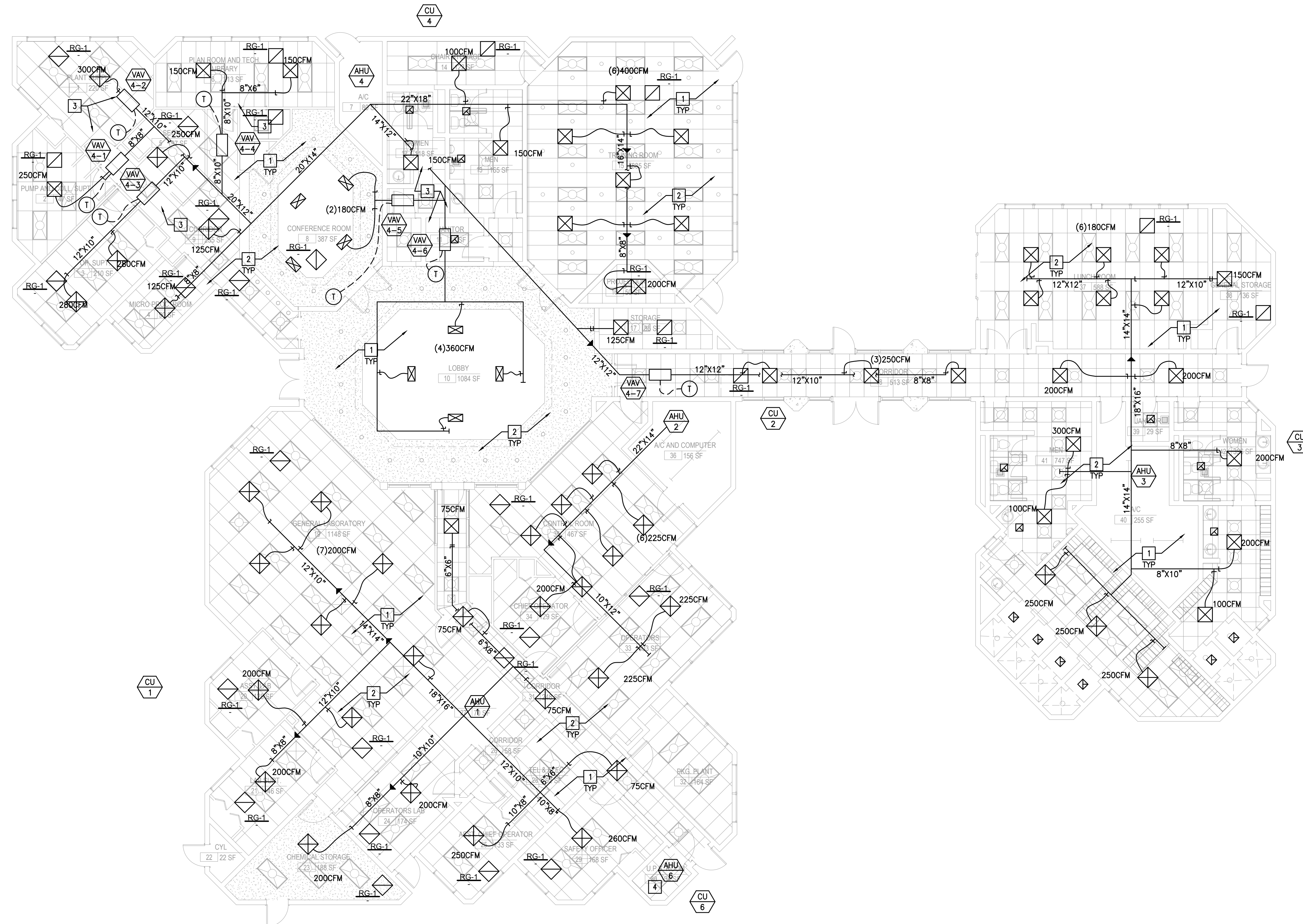
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REGISTERED ENGINEER
FLORIDA LICENSE # 55194

FLEXIBLE DUCT SIZING	
CFM	SIZE
0-100	6"
100-200	8"
200-380	10"
380-600	12"
600-900	14"

MECHANICAL PLAN NOTES:

- 1 REINSTALL DIFFUSERS AS SHOWN. COORDINATE INSTALLATION WITH NEW CEILING GRID. PROVIDE RECTANGULAR TO ROUND TRANSITION AS REQUIRED. PROVIDE NEW GRILLE TO MATCH EXISTING IF ORIGINAL IS DAMAGED.
- 2 REMOVE ALL OLD OR UNUSED THERMOSTATS. PATCH AND PAINT WALL TO MATCH EXISTING.
- 3 INSTALL NEW VAV.
- 4 INSTALL DUCTLESS SPLIT HIGH ON WALL PER MANUFACTURERS INSTRUCTIONS. ROUTE CONDENSATE THROUGH EXTERIOR WALL TO NEW DRYWELL.



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REFLECTED CEILING PLAN -
ADMINISTRATION BUILDING

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FLORIDA LICENSE # 55194

MECHANICAL GENERAL NOTES

- THE INTENT OF THESE NOTES AND MECHANICAL NOTES ON DRAWINGS IS TO CLARIFY THE SCOPE OF WORK AND ALERT CONTRACTOR OF EXISTING CONDITIONS. CONTRACTOR TO VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL, PLUMBING AND FIRE PROTECTION SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
- ALL SUPPLY AND RETURN DUCTWORK MAY BE R6 INSULATED ANTIMICROBIAL DUCTBOARD OR EXTERNALLY INSULATED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH LATEST SMACNA STANDARDS. INSULATION SHALL HAVE AN INSTALLED MINIMUM THERMAL RESISTANCE (R) VALUE OF 6.0. ALL EXHAUST DUCTWORK SHALL BE UNINSULATED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH LATEST SMACNA STANDARDS. ALL JOINTS SHALL BE SECURELY TAPED WITH 3" WIDE GLASS FABRIC TAPE WITH FOSTER 30/35 MASTIC OR EQUAL. FLEXIBLE DUCTS: EITHER SPIRAL ROUND SPRING STEEL WITH FLAMEPROOF VINYL SHEATHING, OR CORRUGATED ALUMINUM. COMPLY WITH UL 181. PROVIDE 1" THICK CONTINUOUS FLEXIBLE FIBERGLASS SHEATH WITH VINYL VAPOR BARRIER JACKET.
- DUCT SHALL BE SECURELY SUPPORTED, HUNG OR SUSPENDED IN ACCORDANCE WITH FL BUILDING CODE.
- OUTSIDE AIR INTAKE SHALL MAINTAIN A MINIMUM OF 10'-0" FROM ANY EXHAUST OR SANITARY VENT THROUGH ROOF PIPING.
- PROVIDE ALL AIR-CONDITIONING UNITS WITH MANUFACTURERS RECOMMENDED SERVICE AREA CLEARANCES AND ELECTRICAL CONVENIENCE OUTLETS.
- ALL TRANSFER DUCTWORK LEADING TO REST ROOMS (IF USED) SHALL HAVE A ZERO LEAKAGE BACK DRAFT DAMPER AS SHOWN ON THE MECHANICAL DRAWINGS.
- ALL AIR HANDLING UNITS TO HAVE SMOKE DETECTORS IF REQUIRED BY CODE. DETECTORS SHALL SHUT DOWN UNIT UPON ACTIVATION. SEE NOTE #13 FOR FURTHER DETAILS.
- IN GENERAL, PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED. HVAC CONTRACTOR IS RESPONSIBLE FOR ANY ADDED ELECTRICAL COSTS WHICH MAY RESULT FROM SUBSTITUTED EQUIPMENT.
- DUCTWORK INSULATION SHALL BE 1-1/2" FOIL FACED FIBERGLASS DUCT WRAP.
- COORDINATE AIR DISTRIBUTION DEVICE LOCATIONS WITH LIGHTING FIXTURES, SPRINKLER HEADS, AND SPEAKERS.
- TURNING VANES SHALL BE PROVIDED IN ALL SUPPLY DUCT RECTANGULAR ELBOWS WITH ANGLES BETWEEN 15 DEGREES AND LESS THAN 90 DEGREES PER FIG. 2-5 OF THE SMACNA MANUAL.
- DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, AND OTHER ITEMS OF THE AIR HANDLING SYSTEM SHALL NOT BE SUPPORTED BY THE CEILING OR CEILING SUSPENSION SYSTEM.
- SMOKE DETECTOR(S) SHALL BE INSTALLED IN AIR SYSTEMS WITH A DESIGN CAPACITY GREATER THAN 2000 CFM IN THE SUPPLY (AND RETURN AIR, IF REQUIRED BY CODE) DUCTWORK PRIOR TO MIXING WITH OUTSIDE AIR. FURTHERMORE, WHERE MULTIPLE AIR SYSTEMS SHARE COMMON SUPPLY OR RETURN AIR DUCTS OR PLENUMS WITH A COMBINED DESIGN CAPACITY GREATER THAN 2000 CFM, THE RETURN AIR AND SUPPLY AIR SYSTEM SHALL BE PROVIDED WITH SMOKE DETECTORS. IF THE BUILDING IS PROVIDED WITH A FULL FIRE ALARM SYSTEM, THE SMOKE DETECTOR(S) SHALL BE WIRED TO STOP THE FAN UPON DETECTION OF SMOKE, AND SIGNAL THE BUILDING FIRE ALARM CONTROL PANEL PER NFPA 72. IF THE BUILDING IS NOT PROVIDED WITH FULL FIRE ALARM SYSTEM, THE SMOKE DETECTOR(S) SHALL STOP THE FAN AND CAUSE A VISIBLE AND AUDIBLE ALARM SIGNAL IN A NORMALLY OCCUPIED AREA PER NFPA 90A. THE SMOKE DETECTOR(S) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR, WIRED BY THE ELECTRICAL OR FIRE ALARM CONTRACTOR, AND SHALL BE CONNECTED TO FIRE ALARM SYSTEM IN ACCORDANCE WITH REQUIREMENTS OF NFPA 72 NATIONAL FIRE ALARM CODE.
- ALL SUPPLY AIR DIFFUSERS SHALL BE 4-WAY DIRECTIONAL THROW UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE NOTED, INSTALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO BOTTOM OF STRUCTURE. COORDINATE DUCT ELEVATION WITH RAIN LEADERS, WATER PIPING, SANITARY DRAINS AND MAJOR ELECTRICAL CONDUITS.
- CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS. INSTALLATION OF THE EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATIONS AND CLEARANCE REQUIREMENTS FOR SERVICING OF EQUIPMENT.
- VERIFY SERVICE VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
- PROVIDE A TRAP IN ALL CONDENSATE PIPING LOCATED AT THE AHU UNIT. SLOPE CONDENSATE LINES 1/8" PER FOOT. CONDENSATE LINES SHALL BE PVC SCH. 40. ALL CONDENSATE DRAIN PIPING SHALL BE PROPERLY SUPPORTED.
- ALL MECHANICAL WORK SHALL MEET ALL THE REQUIREMENTS OF THE "FLORIDA BUILDING CODE 2010".
- GUARANTEE; FOR ONE YEAR AFTER DATE OF ACCEPTANCE BY THE OWNER, ALL EQUIPMENT, MATERIALS AND WORKMANSHIP TO BE FREE FROM ANY DEFECTS.
- DO NOT CUT STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR ARCHITECT. ARRANGE FOR REPAIRS REQUIRED TO RESTORE OTHER WORK, BECAUSE OF DAMAGE CAUSED AS A RESULT OF MECHANICAL INSTALLATIONS.
- FLEXIBLE AND RIGID ROUND DUCT TAKE-OFFS FOR DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 12'-0". FLEXIBLE DUCT SHALL BE THERMAFLEX TYPE M-KA OR EQUAL, AND BE UL LISTED AND COMPLY WITH NFPA STANDARD NO. 90A.
- ALL WALL MOUNTED THERMOSTATS SHALL BE INSTALLED AT AN ELEVATION OF 54" ABOVE FINISHED FLOOR TO THE TOP UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTAT SHALL BE COORDINATED WITH OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF THERMOSTAT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE IN THE FIELD.
- ALL UNITS SHALL BE BALANCED TO WITHIN 10 PERCENT OF THE DESIGN AIR QUANTITY. BALANCE DIFFUSERS AND REGISTERS TO WITHIN 10% OF QUANTITIES SHOWN ON DRAWINGS.
- PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS ON THE DISCHARGE AND ENTERING SIDES OF ALL VIBRATING EQUIPMENT TO WHICH DUCTWORK IS ATTACHED.
- CONTRACTOR SHALL PROVIDE A COPY OF A TEST AND BALANCE REPORT. AIR BALANCING SHALL BE PERFORMED BY AN INDEPENDENT TESTING AND BALANCING CONTRACTOR WHICH SHALL BE QUALIFIED AND CERTIFIED BY EITHER ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). THIS REPORT MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO THE FINAL INSPECTION.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TRADES INSTALLATION SCHEDULES. FIXED WORK SUCH AS DUCTWORK AND PLUMBING SHALL BE INSTALLED PRIOR TO ANY TRADE WORK THAT CAN BE EASILY RELOCATED OR OFFSET SUCH AS ELECTRICAL CONDUITS, SMALL WATER LINES ETC.
- WHEN THE INTENT OF ARCHITECT/ENGINEER WITH REGARD TO ANY DETAIL IS NOT CLEAR, OR IS CAPABLE OF MORE THAN ONE INTERPRETATION, SUCH MATTERS WILL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING BEFORE THE SUBMISSION OF BIDS, AND THE ARCHITECT/ENGINEER SHALL MAKE CORRECTION OR EXPLANATION IN WRITING. OTHERWISE, NO EXTRA CHARGE WILL BE ALLOWED FOR THE WORK OR MATERIAL WHICH THE ARCHITECT/ENGINEER WILL REQUIRE, PROVIDED THAT IT COMES WITHIN A REASONABLE INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS.
- PLANS AND SPECIFICATIONS ARE INTENDED AS A GENERAL DESCRIPTION OF THE WORK TO BE PERFORMED. ALL ITEMS NOT SPECIFICALLY MENTIONED OR SHOWN, BUT NECESSARY FOR THE COMPLETION OF THE INSTALLATION, SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MECHANICAL, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL PLANS BEFORE SUBMITTING HIS FINAL BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO THE CONTRACTOR'S FAILURE TO FAMILIARIZE HIMSELF/HERSELF WITH THE PLANS.

AIR HANDLING UNIT SCHEDULE																			
PLAN MARK	MODEL NUMBER	TONNAGE	COOLING PERFORMANCE				OUTDOOR AIR TEMPERATURE (95°F)				ELECTRICAL/ELECTRIC HEAT DATA			SUPPLY FAN				NOTES	
			GROSS COOLING CAPACITY(MBH)	ARI RATED AIR FLOW (CFM)	SOUND RATING NUMBER(db)	TOTAL UNIT POWER	EER (BTU/WATT)	ENTERING WET BULB TEMPERATURE(°F)	TOTAL COOLING CAPACITY(MBH)	SENSIBLE COOLING (MBH)	HEATING DATA (KW)	MCA/MOCP	VOLTS/ PHASE/HZ	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	BAROMETRIC RELIEF (CFM)	E.S.P. (IN. OF WG.)		UNIT WEIGHT (LBS)
AHU-1	MCCA08	10	117.06	3600	-	5 HP	11.0	67	117.06	91.37	10	21.7/30	460/3PH/60HZ	3600	-	-	-	981.1	1,2,3
AHU-2	MCCA08	12.5	147.0	3625	-	5 HP	11.0	67	147.0	99.52	16	28.9/40	460/3PH/60HZ	3625	-	-	-	981.1	1,2,3
AHU-3	MCCA08	10	130.0	3800	-	5 HP	11.3	67	130.0	91.77	19	27/45	460/3PH/60HZ	3800	-	-	-	981.1	1,2,3

NOTE:

- TRANE USED AS BASIS OF DESIGN. APPROVED EQUALS ARE CARRIER, LENNOX, AND YORK.
- CONTRACTOR TO VERIFY THE NEED FOR LONG LINE KIT
- CONTRACTOR TO PROVIDE AND INSTALL HONEYWELL ALERTON BMS. ALL HVAC EQUIPMENT TO BE WIRED AND CONTROLLABLE VIA WEB INTERFACE.

CONDENSING UNIT SCHEDULE														
PLAN MARK	MODEL NUMBER	TONNAGE	COOLING PERFORMANCE				OUTDOOR AIR TEMPERATURE (95°F)			ELECTRICAL/ELECTRIC HEAT DATA			UNIT WEIGHT (LBS)	NOTES
			GROSS COOLING CAPACITY(MBH)	SOUND RATING NUMBER(db)	TOTAL UNIT POWER	EER (BTU/WATT)	TOTAL COOLING CAPACITY(MBH)	SENSIBLE COOLING (MBH)	BLOWER DRIVE TYPE	MCA/MOCP	VOLTS/ PHASE/HZ			
CU-1	TTA120F4	10	117.06	-	-	11.7	117.06	91.37	DIRECT	24.1/30	460/3PH/60HZ	509	1,2,3,4	
CU-2	TTA150E4	12.5	147.0	-	-	11.7	147.0	99.52	DIRECT	26.4/30	460/3PH/60HZ	543	1,2,3,4	
CU-3	TTA120F4	10	130.0	-	-	11.3	130.0	91.77	DIRECT	24.1/30	460/3PH/60HZ	509	1,2,3,4	

NOTE:

- TRANE USED AS BASIS OF DESIGN. APPROVED EQUALS ARE CARRIER, LENNOX, AND YORK.
- CONTRACTOR TO VERIFY THE NEED FOR LONG LINE KIT
- PROVIDE FACTORY COATED CONDENSER COILS
- CONTRACTOR TO PROVIDE AND INSTALL HONEYWELL ALERTON BMS. ALL HVAC EQUIPMENT TO BE WIRED AND CONTROLLABLE VIA WEB INTERFACE.

ROOF TOP UNIT SCHEDULE																				
PLAN MARK	MODEL NUMBER	TONNAGE	COOLING PERFORMANCE				OUTDOOR AIR TEMPERATURE (95°F)				ELECTRICAL/ELECTRIC HEAT DATA				SUPPLY FAN				NOTES	
			GROSS COOLING CAPACITY(MBH)	ARI RATED AIR FLOW (CFM)	SOUND RATING NUMBER(db)	TOTAL UNIT POWER	IEER (BTU/WATT)	EER (BTU/WATT)	ENTERING AIR TEMPERATURE dB/WB(°F)	TOTAL COOLING CAPACITY(MBH)	SENSIBLE COOLING (MBH)	HEATING DATA (KW)	MCA/MOCP	VOLTS/ PHASE/HZ	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	BAROMETRIC RELIEF (CFM)	E.S.P. (IN. OF WG.)		UNIT WEIGHT (LBS)
RTU-1	TRANE THC060	5	58.24	2000	87	1 HP	-	15.0	77/64	58.24	44.91	-	13.8/20	460/3PH/60HZ	2000	160	-	0.75	679	1,2,3,4,5,6

NOTE:

- TRANE USED AS BASIS OF DESIGN. APPROVED EQUALS ARE CARRIER, LENNOX, AND YORK.
- PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT. LOCATE PER OWNERS DIRECTION.
- PROVIDE 2 POSITION MOTORIZED DAMPER.
- PROVIDE ROOF CURB/ADAPTER.
- PROVIDE FACTORY COATED CONDENSER COILS.
- CONTRACTOR TO PROVIDE AND INSTALL HONEYWELL ALERTON BMS. ALL HVAC EQUIPMENT TO BE WIRED AND CONTROLLABLE VIA WEB INTERFACE.

TAG	QUANTITY	MODEL NUMBER	PRIMARY INLET	DESIGN COOLING AIRFLOW CFM	MIN COOLING AIRFLOW CFM	APD @ COOLING AIRFLOW IN H2O	VALVE HEATING AIRFLOW CFM	ELECTRIC HEATER KILOWATT	ELECTRIC HEATER VOLTAGE	ELECTRIC HEATER STAGE	FULL LOAD AMPS	MIN CIRCUIT AMPACITY	MAX FUSE SIZE	NOTES
VAV 1-1	1	VCEF06	6" (152mm)	450	150	0.184	150	1.5	208/1	1	7.21	9.01	15	1
VAV 1-2	1	VCEF06	6" (152mm)	400	150	0.144	150	1.5	208/1	1	7.21	9.01	15	1
VAV 2-1	1	VCEF06	6" (152mm)	500	150	0.229	150	1.5	208/1	1	7.21	9.01	15	1
VAV 2-2	1	VCEF12	12" (305mm)	1500	400	0.045	525	5.0	208/1	2	24.04	30.05	35	1
VAV 3-1	1	VCEF08	8" (203mm)	800	250	0.09	250	3.0	208/1	1	14.42	18.03	20	1
VAV 3-2	1	VCEF08	8" (203mm)	600	200	0.051	200	1.5	208/1	1	7.21	9.01	15	1
VAV 3-3	1	VCEF05	5" (127mm)	300	100	0.018	100	1.0	208/1	1	4.81	6.01	15	1
VAV 3-4	1	VCEF08	8" (203mm)	800	250	0.09	250	2.0	208/1	1	9.62	12.02	15	1

NOTE:

- CONTRACTOR TO PROVIDE AND INSTALL HONEYWELL ALERTON BMS. ALL HVAC EQUIPMENT TO BE WIRED AND CONTROLLABLE VIA WEB INTERFACE.
- MECHANICAL CONTRACTOR TO PROVIDE FACTORY FUSED OVERLOAD PROTECTION. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECTS.

MECHANICAL NOTES

- AIR CONDITIONING UNITS ARE BASED ON ARI STANDARD CONDITIONS OF 80°F DB, 67° WB, INDOOR ENTERING AIR TEMPERATURE AND 95° DB ENTERING AIR OUTDOOR DESIGN.
- PROVIDE WITH MOTORIZED AIR DAMPERS, FILTERS AND PROTECTION AGAINST COMPRESSOR SHORT CYCLING.
- PROVIDE SYSTEMS WITH WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT AND SUB-BASE, SENSORS, AND WALL MOUNTED REMOTE TEMPERATURE SENSOR.
- PROVIDE CONDENSATE DRAIN "P" TRAP MINIMUM 2-1/2" DEEP, OR TWICE THE TOTAL STATIC PRESSURE, WHICHEVER IS GREATER. PROVIDE CODE COMPLIANT OVERFLOW SHUT-OFF SENSOR AND SWITCH.
- PROVIDE COORDINATION ON EXACT DIMENSIONS OF MANUFACTURER'S RECOMMENDED CLEARANCES AROUND UNIT.
- ALL COILS SHALL HAVE COPPER TUBES AND ALUMINUM FINS.
- COMPRESSOR SHALL HAVE A MINIMUM 5-YEAR WARRANTY ALL OTHER EQUIPMENT SHALL HAVE MINIMUM 1 YEAR WARRANTY.
- PROVIDE SINGLE POINT POWER CONNECTION, AND DUPLEX-GFI ELECTRICAL CONVENIENCE OUTLET WITHIN 25 FT.
- PROVIDE ONE SET OF ADDITIONAL AIR FILTERS.
- MUST MEET THE LATEST MINIMUM EER'S & SEER'S AS INDICATED BY EFFICIENCY CODE REQUIREMENTS.
- PROVIDE DUCT MOUNTED SMOKE DETECTORS WITH REMOTE INDICATING RESET AND AUDIO VISUAL ALARM INDICATOR.

MECHANICAL ABBREVIATION

AC	AIR CONDITIONING	EG	EXHAUST GRILLE	MBH	1000-BTU
AFF	ABOVE FINISHED FLOOR	ELCC	ELECTRICAL	MCA	MINIMUM CIRCUIT AMPACITY
AFG	ABOVE GRADE	EX	EXHAUST	MISC	MISCELLANEOUS
AHU	AIR HANDLING UNIT	ENT	ENTERING	NTS	NOT TO SCALE
BOD	BOTTOM OF DUCT	ESP	EXTERNAL STATIC PRESSURE	OA	OUTSIDE AIR
BTU	BRITISH THERMAL UNIT	F	FAHRENHEIT	OAL	OUTSIDE AIR LOUVER
CAP	CAPACITY	FA	FILTER ACCESS	OC	ON CENTER
CD	CONDENSATE DRAIN	FACP	FIRE ALARM CONTROL PANEL	PD	PRESSURE DROP
CFM	CUBIC FEET PER MINUTE	FCD	FLOW CONTROL DAMPER	PH	PHASE
CMU	CONCRETE MASONRY UNIT	FD	FIRE DAMPER	PVC	POLYVINYLCHLORIDE
CONN	CONNECTION	FLA	FULL LOAD AMPACITY	RA	RETURN AIR
CU	CONDENSING UNIT	HP	HORSEPOWER	REF	REFRIGERANT
DB	DRY BULB	HZ	HERTZ	RG	RETURN GRILLE
DC	DOOR GRILLE	KW	KILOWATT	RLA	RUNNING LOAD AMPS
DI	DIGITAL INPUT	LAT	LEAVING AIR TEMPERATURE	RTU	ROOFTOP A/C UNIT
DN	DOWN	LAT	LATENT	SA	SUPPLY AIR
DO	DIGITAL OUTPUT	LD	LOUVERED DOOR	SD	SUPPLY AIR DIFFUSER
EAT	ENTERING AIR TEMPERATURE	LRA	LOCKED ROTOR AMPS	FS	FIRE STAT
EER	ENERGY EFFICIENCY RATIO	LVC	LEAVING	SG	SUPPLY GRILLE
EF	EXHAUST FAN	MAX	MAXIMUM	SEN	SENSIBLE

ALL ABBREVIATIONS INDICATED ON THIS LIST MAY NOT NECESSARILY APPLY TO THIS PROJECT.

SHEET INDEX - MAINTENANCE BUILDING

M200.1	SYMBOLS, ABBREV., GENERAL NOTES
M200.2	DETAILS
MD201.1	DEMO ROOF PLAN
MD201.2	DEMO REFLECTED CEILING PLAN
M201.1	ROOF PLAN
M201.2	REFLECTED CEILING PLAN

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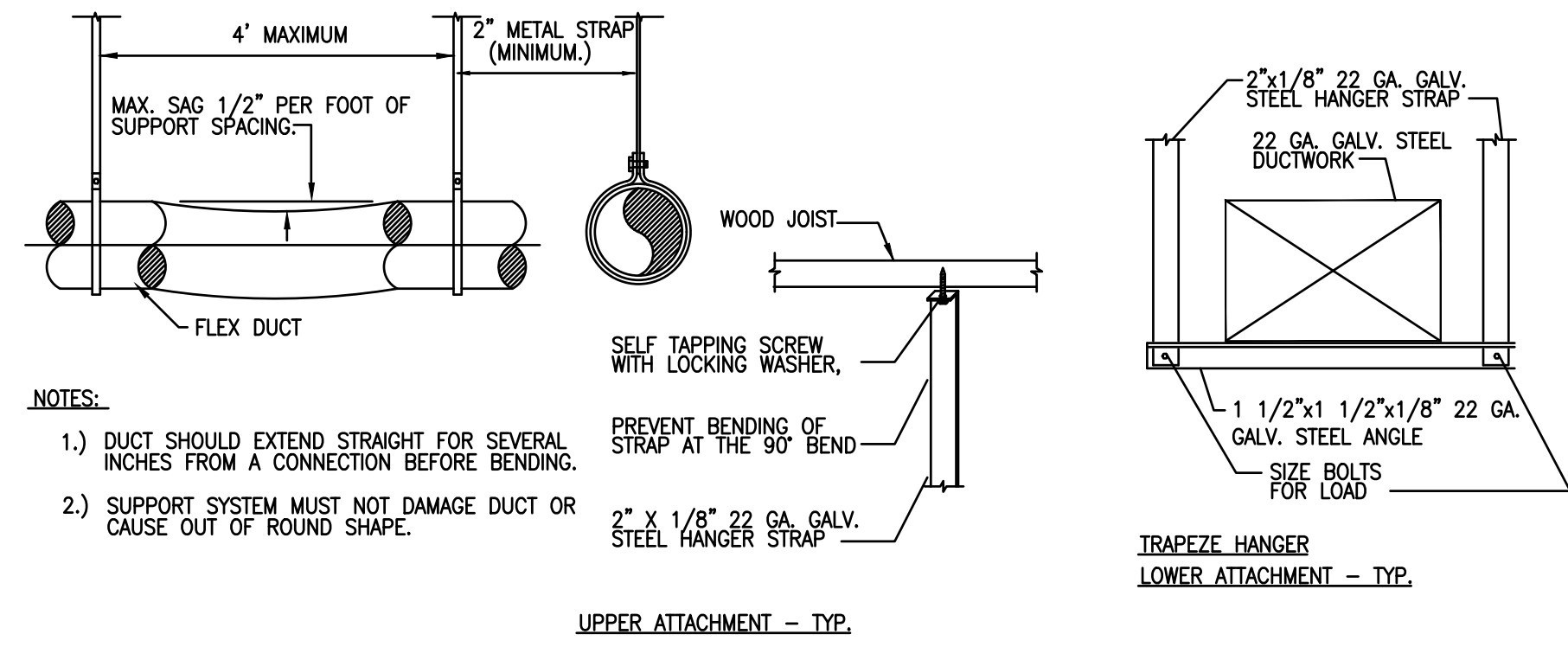
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MECHANICAL SYMBOLS, ABBREVIATIONS, & GENERAL NOTES - MAINTENANCE BUILDING

OCU FILE NO.: 78466	SCALE: As Shown
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NOTES:

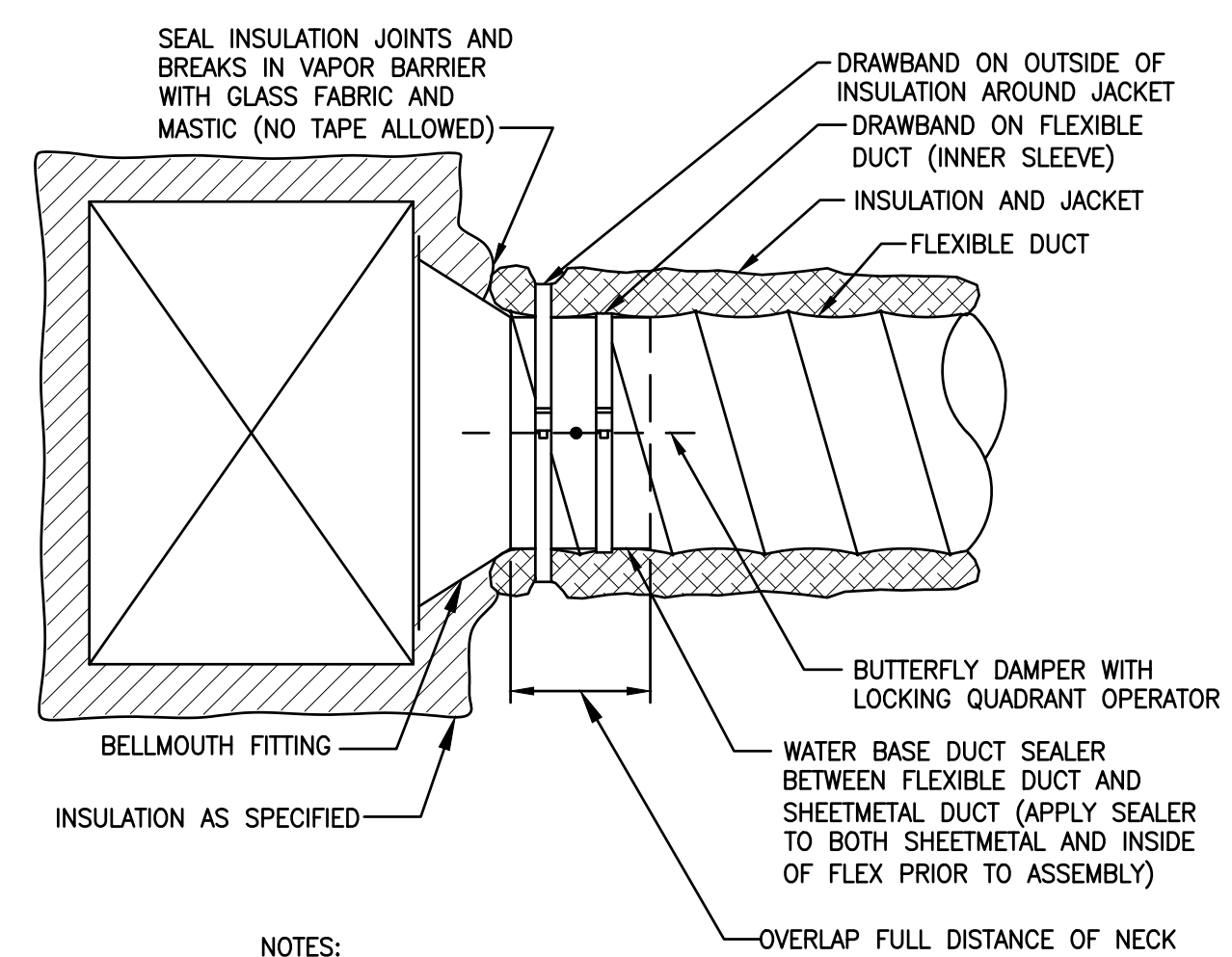
- 1.) DUCT SHOULD EXTEND STRAIGHT FOR SEVERAL INCHES FROM A CONNECTION BEFORE BENDING.
- 2.) SUPPORT SYSTEM MUST NOT DAMAGE DUCT OR CAUSE OUT OF ROUND SHAPE.

UPPER ATTACHMENT - TYP.

DUCT MATERIALS, SUPPORT, AND R-VALVES

1. FLEXIBLE AND RIGID ROUND DUCT TAKE-OFFS FOR DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 12'-0". INSULATE RIGID ROUND DUCTS WITH 1-1/2" FOIL FACED FIBERGLASS DUCT WRAP, DUCT WRAP TO HAVE AN INSTALLED MINIMUM THERMAL RESISTANCE (R) VALUE OF 6.0.
2. SUPPLY AND RETURN AIR DUCTWORK SHALL BE CONSTRUCTED OF 1-1/2" THICK DUCT BOARD AND CONFORM WITH UL STANDARDS FOR SAFETY AIR DUCT, NO. 181, 1967 ESTABLISHED FOR CLASS 1 AIR DUCTS. CONSTRUCTION SHALL COMPLY WITH RECOMMENDATIONS AND DETAILS IN SMACNA BULLETIN 15, LATEST REVISION AND MANUFACTURER'S RECOMMENDATIONS. ALL JOINTS SHALL BE SECURELY TAPED WITH FASTON 0810 OR APPROVED EQUAL PRESSURE SENSITIVE TAPE. METAL TO FIBERGLASS CONNECTIONS TO BE MADE USING 3" WIDE GLASS FABRIC TAPE WITH FOSTER 30/35 MASTIC OR EQUAL. SUPPORT DUCTS WITH 1X2X1 22 GAUGE MINIMUM CHANNELS AND STRAP OR 12-GAUGE WIRE FROM BUILDING CONSTRUCTION. SUSPEND FROM JOINTS WITH BEAM CLAMPS. PROVIDE HOT DIPPED STEEL FASTENERS, ANCHORS, RODS, STRAPS, TRIM AND ANGLES FOR SUPPORT OF DUCTWORK.
3. ALL EXHAUST DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH LATEST SMACNA STANDARDS. ALL JOINTS SHALL BE SECURELY TAPED WITH 3" WIDE GLASS FABRIC TAPE WITH FOSTER 30/35 MASTIC OR EQUAL.
4. FLEXIBLE DUCTS: EITHER SPIRAL ROUND SPRING STEEL WITH FLAMEPROOF VINYL SHEATHING, OR CORRUGATED ALUMINUM; COMPLY WITH UL 181. PROVIDE 1-1/2" THICK CONTINUOUS FLEXIBLE FIBERGLASS SHEATH WITH VINYL VAPOR BARRIER JACKET. FLEX TO HAVE AN INSTALLED MINIMUM THERMAL RESISTANCE (R) VALUE OF 6.0.
5. DUCT SHALL BE SECURELY SUPPORTED, HUNG OR SUSPENDED IN ACCORDANCE WITH 2004 FLORIDA MECHANICAL BUILDING CODE. PROVIDE MINIMUM 1-1/2" WIDE 22 GA. STRAPS, 10 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER UP TO 30" AND ALL ROUND FLEX DUCT. PROVIDE 1" WIDE 22 GA. STRAPS, 5 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER FROM 31" TO 72" AND 1" WIDE 20 GA. STRAPS, 5 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER UP TO 96".

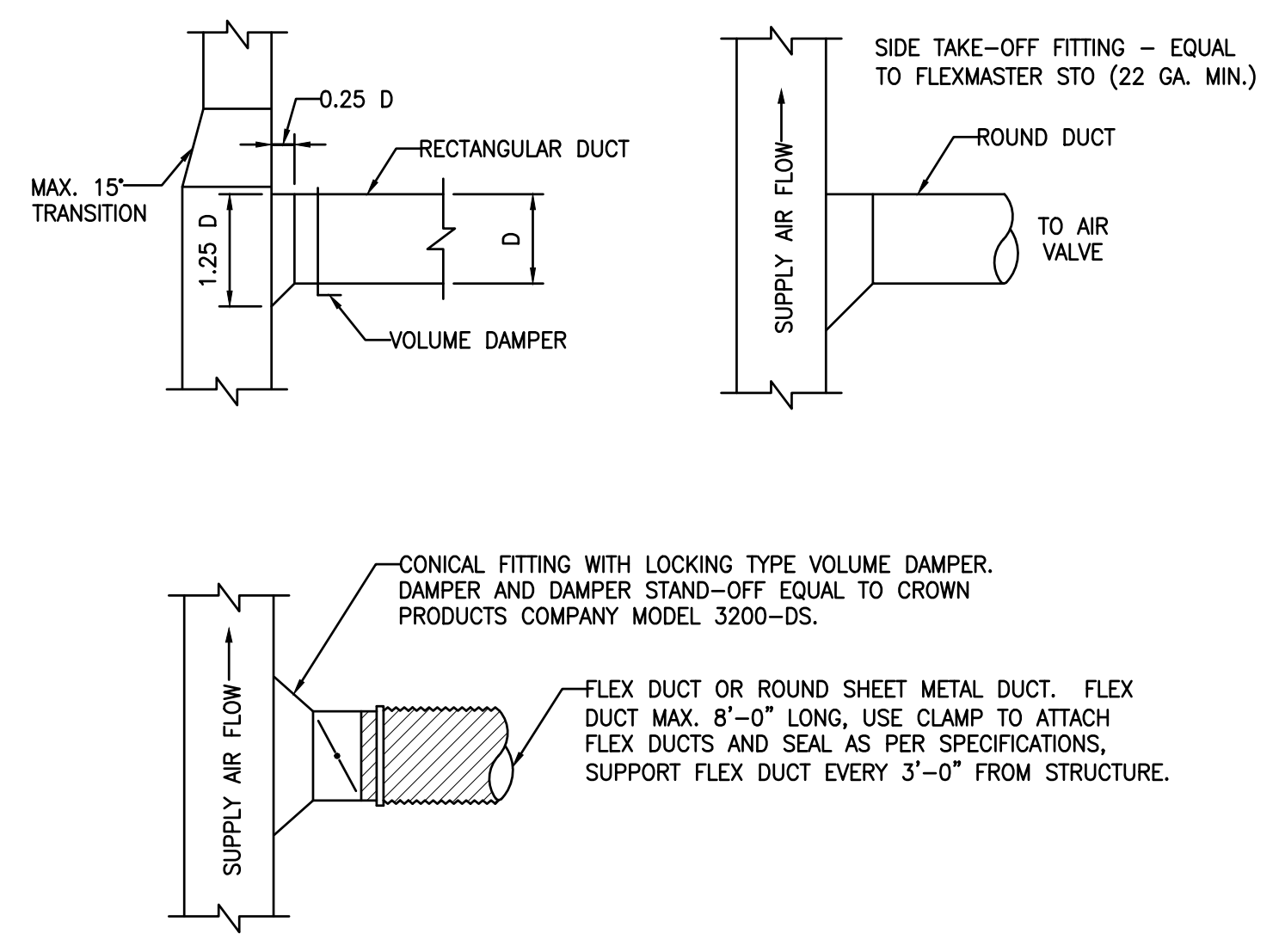
8 TYPICAL DUCT HANGING DETAIL
MO.2 SCALE: NONE



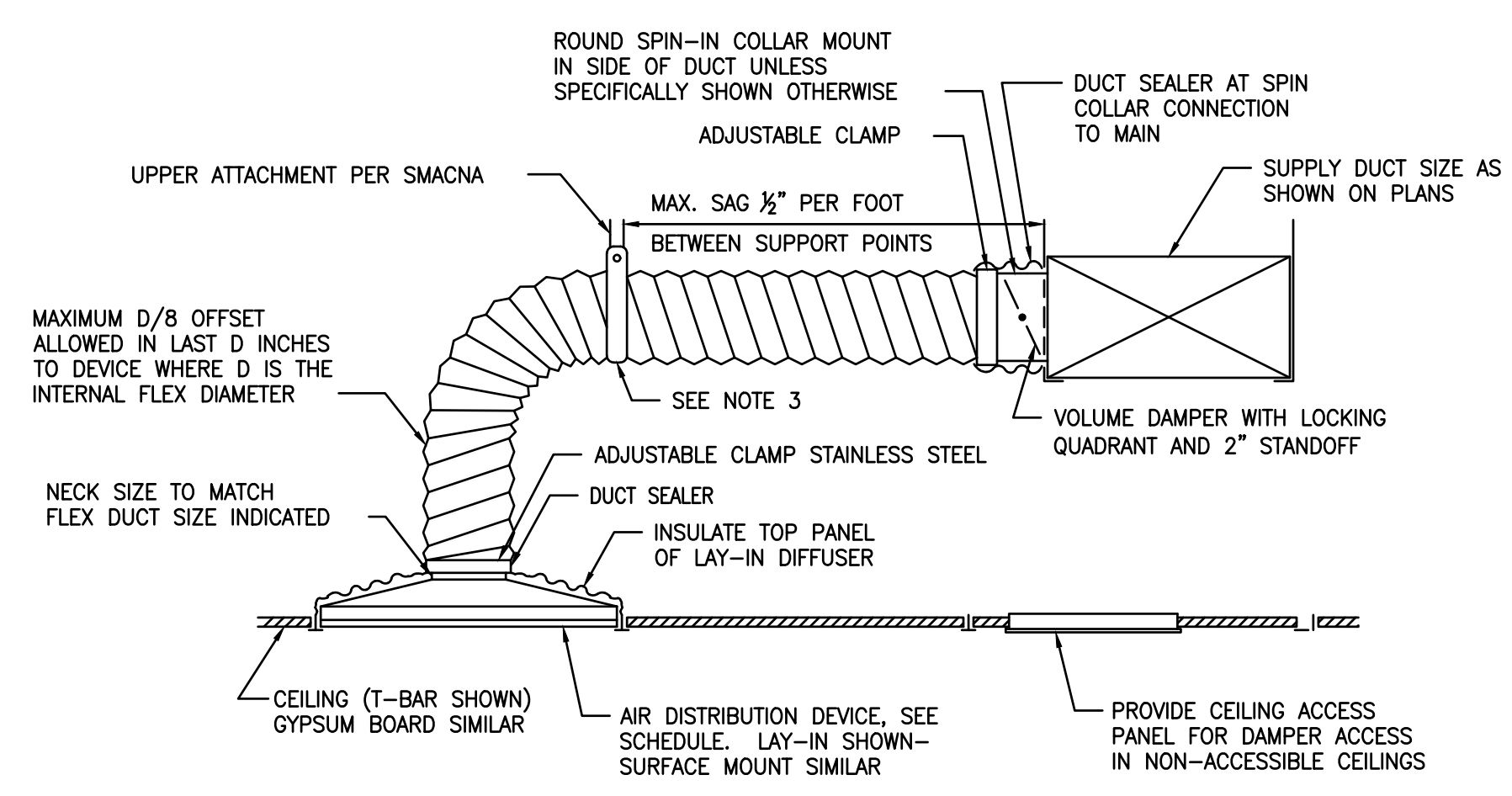
NOTES:

1. TYPICAL FOR: LOW PRESSURE AND HIGH PRESSURE CONNECTION TO MAIN DUCT, FAN TERMINAL UNITS, VARIABLE AIR VOLUME UNITS, AND DIFFUSERS.
2. DRAWBANDS SHALL BE EQUIVALENT TO PANDUIT PLT-H.

7 FLEXIBLE DUCT TERMINATION DETAIL
MO.2 SCALE: NONE



6 SUPPLY BRANCH DUCT DETAIL
MO.2 SCALE: NONE

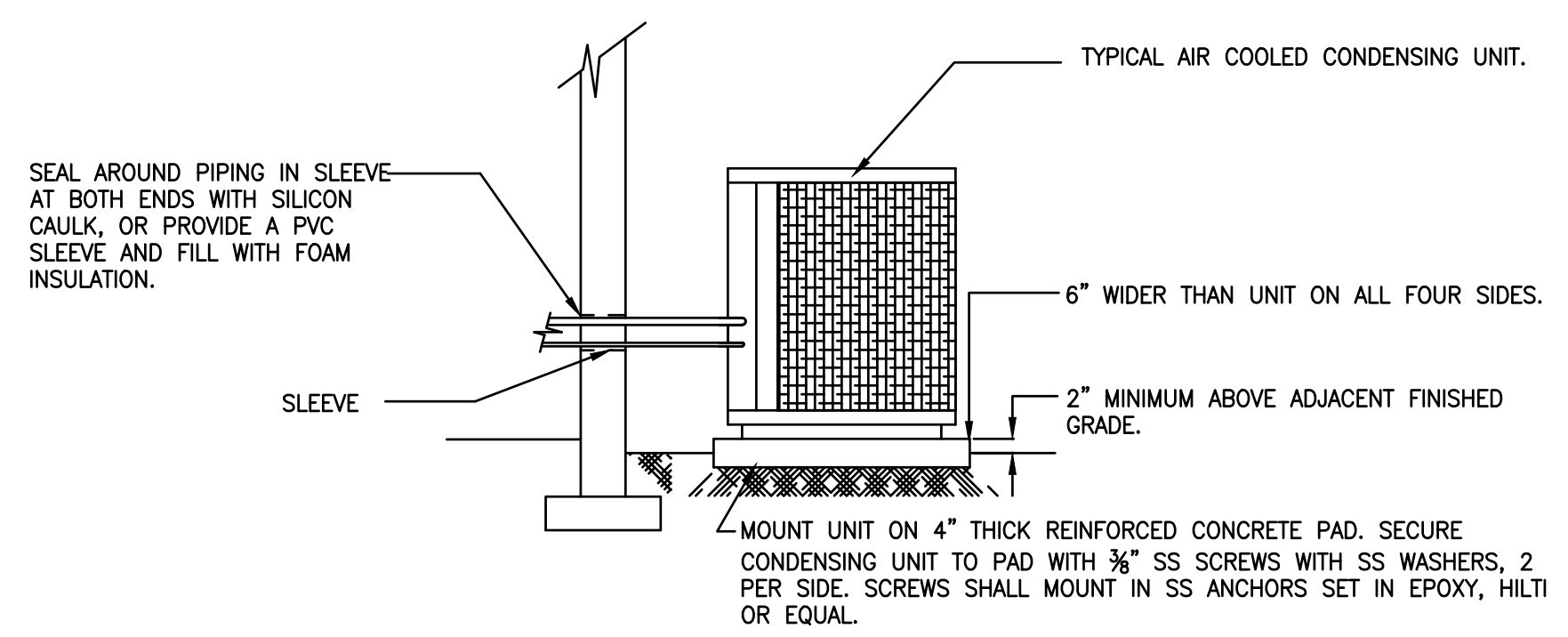


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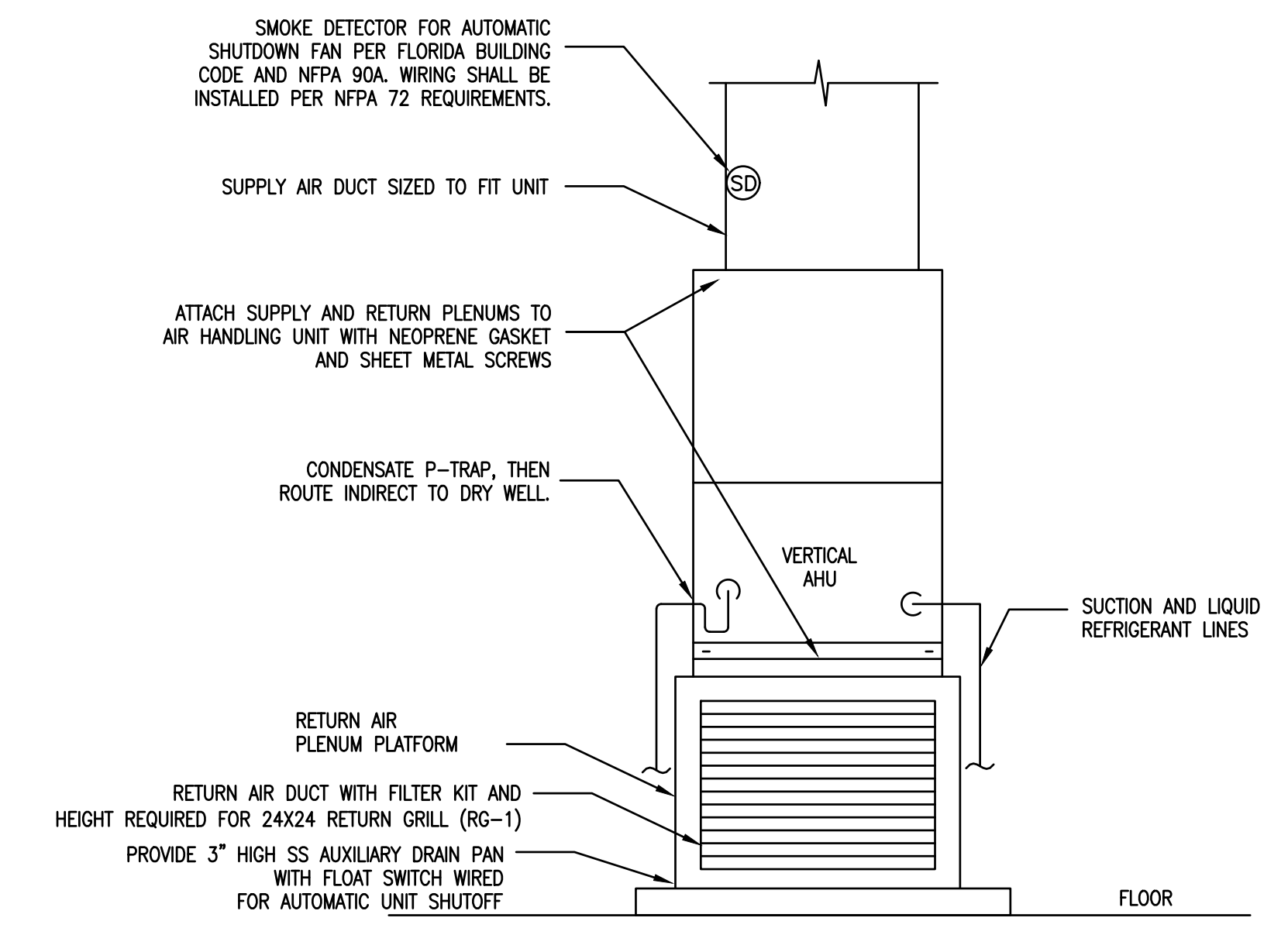
1. FLEXIBLE DUCTS SHALL BE ONE-PIECE AND SHALL NOT BE SPLICED TOGETHER.
2. EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL INSULATION AND SEAL WITH MASTIC.
3. MINIMUM 1-1/2" WIDE 22 GAUGE GALVANIZED STRAP HANGER WITH HEMMED EDGES PER SMACNA FIGURE 3-10.
4. FLEXIBLE AIR DUCT SHALL BE FULLY EXTENDED AND NO COMPRESSED WITH ELBOW RADIUS NO LESS THAN R/D=1.0.

5 FLEXIBLE DUCT DETAIL
MO.2 SCALE: NONE

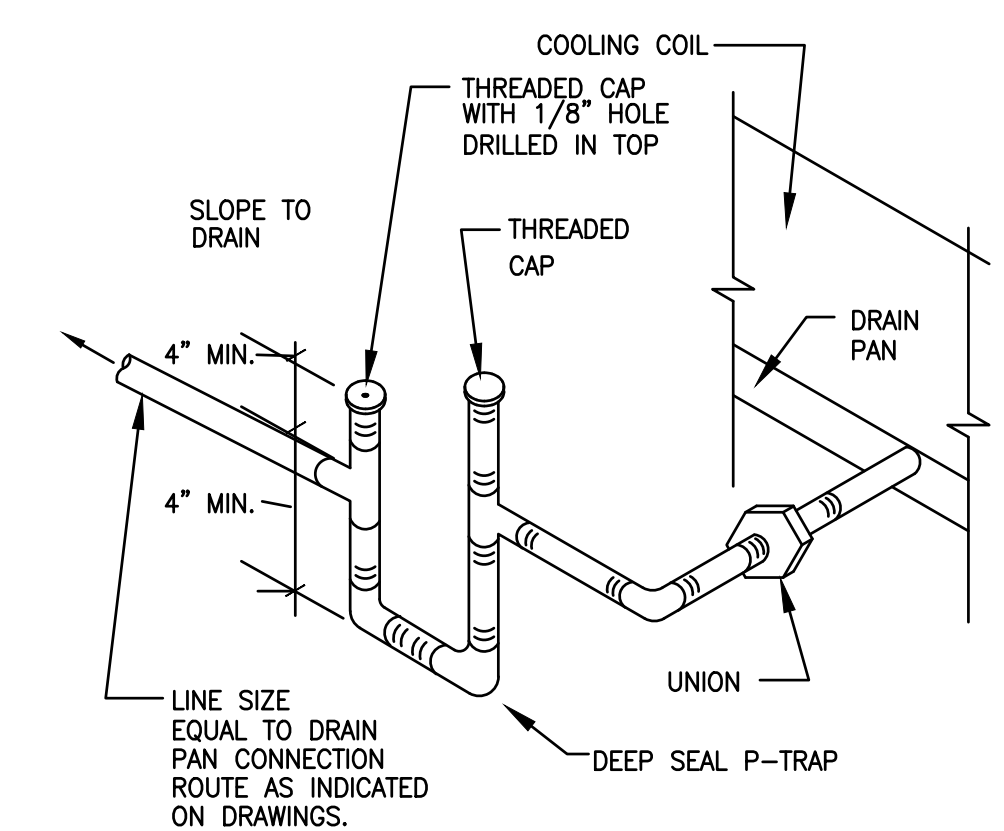
NOTE: ATTACHMENTS ARE IN ACCORDANCE WITH FLORIDA BUILDING CODE 2010 FIGURE 1609B. ATTACHEMENTS LISTED BELOW SHALL WITHSTAND 150 MPH WINDS.



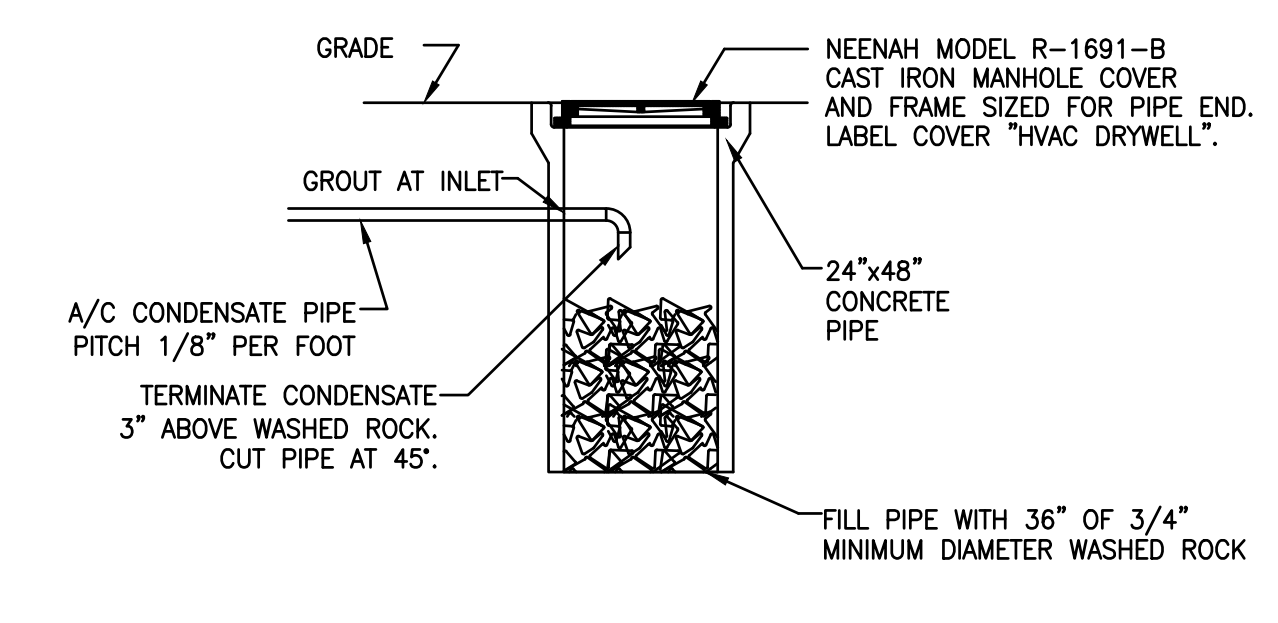
4 CONDENSER MOUNTING DETAIL
MO.2 SCALE: NONE



3 VERTICAL AHU MOUNTING DETAIL
MO.2 SCALE: NONE



2 CONDENSATE DRAIN DETAIL
MO.2 SCALE: NONE



1 DRY WELL DETAIL
MO.2 SCALE: NONE

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE (IF NOT SCALE ACCORDINGLY)

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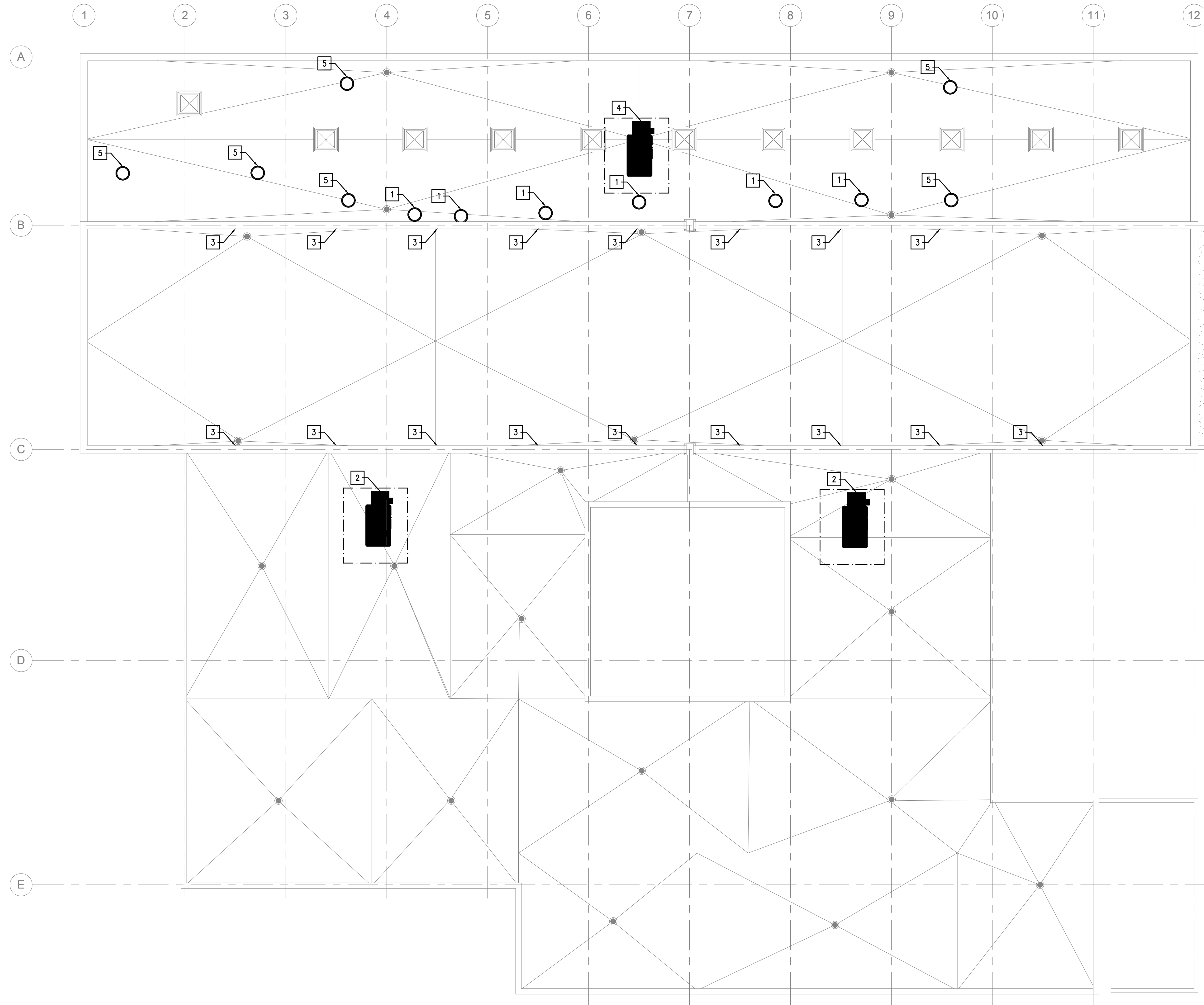
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MECHANICAL DETAILS - MAINTENANCE BUILDING
Licenses: Eng. C.O.A. No. 3215 Survey L.B. No. 7143 Arch. Lic. No. AA2609226 Lndscp. Lic. No. LC0000298

OCU FILE NO.: 78466
DESIGNED BY: JAD
DRAWN BY: JAD
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CADD FILE:
SCALE: As Shown
DRAWING NO.: **M200.2**
SHEET: 21 OF 71
DENNIS L. MATULA REGISTERED ENGINEER FLORIDA LICENSE # 55194

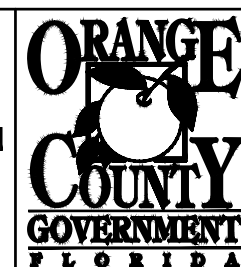
MECHANICAL PLAN NOTES:

- 1 REMOVE EXHAUST VENT. PATCH AND SEAL ROOF TO MATCH EXISTING. ENSURE NO LEAKS. ALL DUCTWORK TO BE CAPPED BELOW CEILING. ALL DUCTWORK AND EXHAUST EQUIPMENT BELOW CEILING TO REMAIN.
- 2 REMOVE RTU AND ALL ASSOCIATED DUCTWORK AND DISTRIBUTION DEVICES. PATCH AND SEAL DUCTWORK PENETRATIONS TO MATCH EXISTING. ENSURE NO LEAKS.
- 3 EXISTING MOTORIZED LOUVERS IN MAINTENANCE BAY TO REMAIN.
- 4 REMOVE EXISTING RTU AND CURB. CONTRACTOR TO PROVIDE NEW CURB FOR NEW RTU.
- 5 EXHAUST VENT TO REMAIN.



REV	DATE	DESCRIPTION

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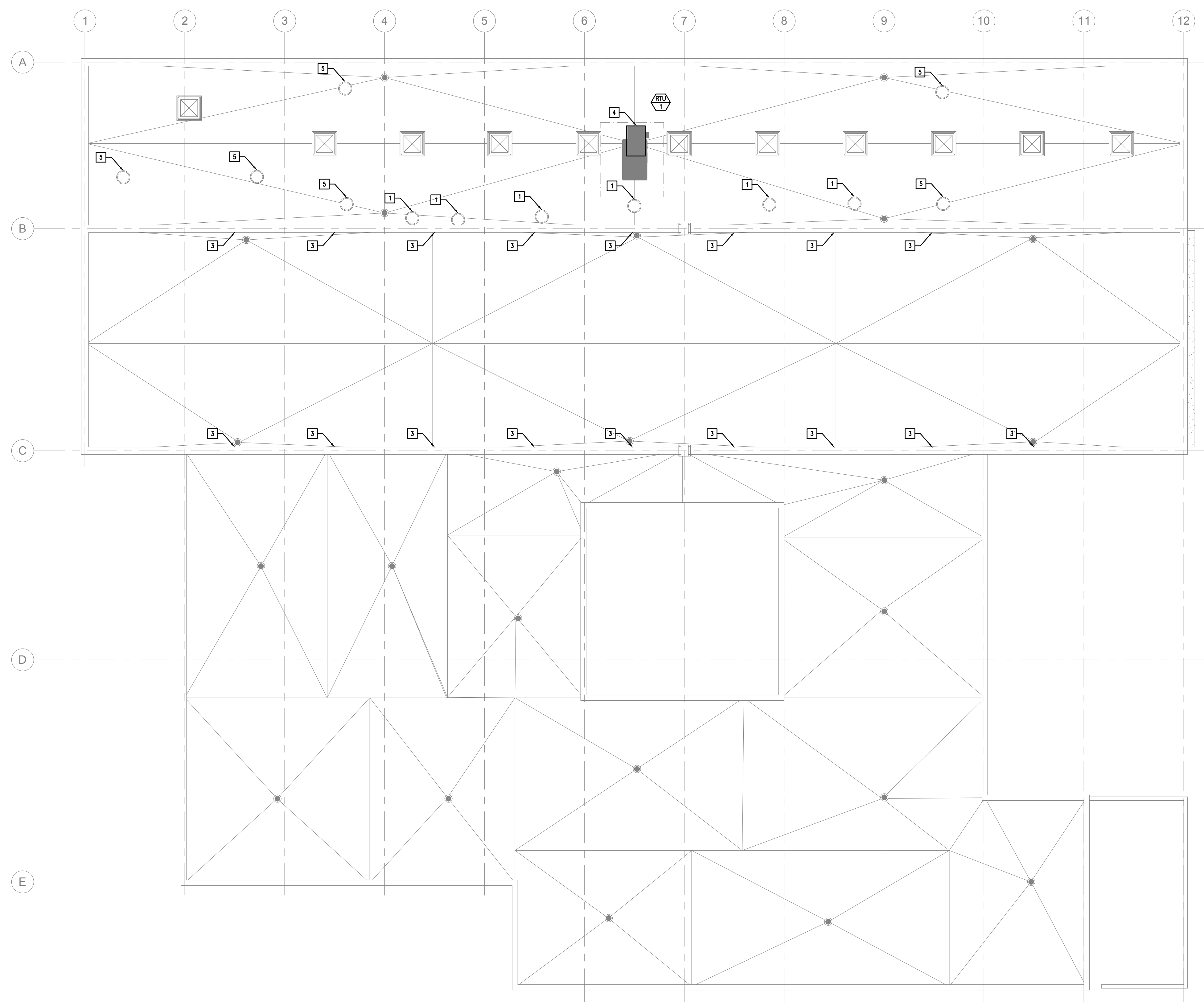
DEMOLITION ROOF PLAN - MAINTENANCE BUILDING

OCU FILE NO.: 78466	SCALE: As Shown
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DRAWN BY: JAD	CHECKED BY: DLM
CADD FILE:	SHEET: 22 OF 71

DENNIS L. MATULA
REGISTERED ENGINEER
FLORIDA LICENSE # 55194

MECHANICAL PLAN NOTES:

- 1 REMOVE EXHAUST VENT. PATCH AND SEAL ROOF TO MATCH EXISTING. ENSURE NO LEAKS. ALL DUCTWORK TO BE CAPPED BELOW CEILING. ALL DUCTWORK AND EXHAUST EQUIPMENT BELOW CEILING TO REMAIN.
- 2 REMOVE RTU AND ALL ASSOCIATED DUCTWORK AND DIR DISTRIBUTION DEVICES. PATCH AND SEAL DUCTWORK PENETRATIONS TO MATCH EXISTING. ENSURE NO LEAKS.
- 3 FRESH AIR LOUVERS IN MAINTENANCE BAY TO REMAIN. ENSURE OPERATION OF DAMPER MOTORS. REPLACE ALL DEFECTIVE MOTORS.
- 4 REPLACE EXISTING RTU WITH NEW. PROVIDE NEW CURB ADAPTER. CONNECT TO EXISTING SUPPLY AND RETURN DUCTS BELOW ROOF DECK.
- 5 EXHAUST VENT TO REMAIN.



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ROOF PLAN - MAINTENANCE BUILDING

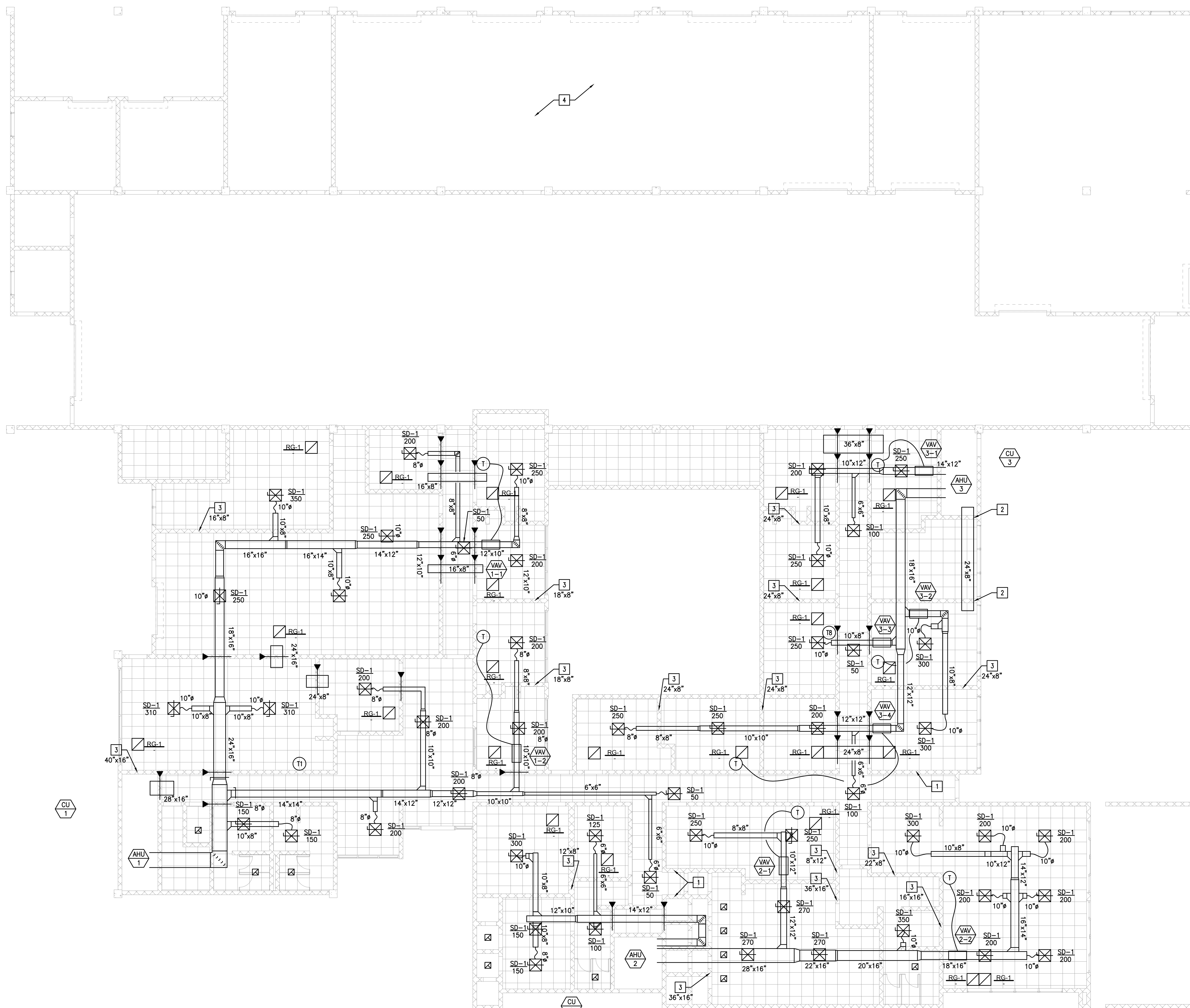
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DRAWN BY: JAD
CHECKED BY: DLM
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SCALE: As Shown
DRAWING NO.: M201.1
SHEET: 24 OF 71

DENNIS L. MATULA
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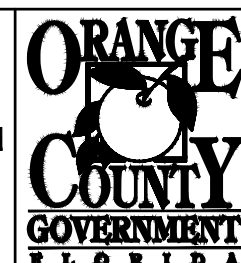
MECHANICAL PLAN NOTES:

- 1 CLOSE OPENING IN FIRE RATED WALL. CONTRACTOR TO PATCH WALL TO MATCH EXISTING FIRE RATING.
- 2 SEAL WALL AROUND RETURN DUCT AIR TIGHT.
- 3 CONTRACTOR TO VERIFY RETURN OPENING IN WALL ABOVE CEILING. INSTALL RETURN OPENING IF NOT EXISTING. SIZE INDICATED ON DRAWING.
- 4 CONNECT NEW RTU DROPS TO EXISTING SUPPLY AND RETURN DUCTWORK. CONTRACTOR TO SEAL JOINTS IN EXISTING EXPOSED DUCTWORK.



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REFLECTED CEILING PLAN - MAINTENANCE BUILDING

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DESIGNED BY: JAD
DRAWN BY: JAD
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CADD FILE:

SCALE: As Shown
DRAWING NO.: **M201.2**
SHEET: 25 OF 71

DENNIS L. MATULA
REGISTERED ENGINEER
FLORIDA LICENSE # 55194

MECHANICAL GENERAL NOTES

- THE INTENT OF THESE NOTES AND MECHANICAL NOTES ON DRAWINGS IS TO CLARIFY THE SCOPE OF WORK AND ALERT CONTRACTOR OF EXISTING CONDITIONS. CONTRACTOR TO VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL, PLUMBING AND FIRE PROTECTION SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
- ALL SUPPLY AND RETURN DUCTWORK MAY BE R6 INSULATED ANTIMICROBIAL DUCTBOARD OR EXTERNALLY INSULATED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH LATEST SMACNA STANDARDS. INSULATION SHALL HAVE AN INSTALLED MINIMUM THERMAL RESISTANCE (R) VALUE OF 6.0. ALL EXHAUST DUCTWORK SHALL BE UNINSULATED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH LATEST SMACNA STANDARDS. ALL JOINTS SHALL BE SECURELY TAPED WITH 3" WIDE GLASS FABRIC TAPE WITH FOSTER 30/35 MASTIC OR EQUAL. FLEXIBLE DUCTS: EITHER SPIRAL ROUND SPRING STEEL WITH FLAMEPROOF VINYL SHEATHING, OR CORRUGATED ALUMINUM. COMPLY WITH UL 181. PROVIDE 1" THICK CONTINUOUS FLEXIBLE FIBERGLASS SHEATH WITH VINYL VAPOR BARRIER JACKET.
- DUCT SHALL BE SECURELY SUPPORTED, HUNG OR SUSPENDED IN ACCORDANCE WITH FL BUILDING CODE.
- OUTSIDE AIR INTAKE SHALL MAINTAIN A MINIMUM OF 10'-0" FROM ANY EXHAUST OR SANITARY VENT THROUGH ROOF PIPING.
- PROVIDE ALL AIR-CONDITIONING UNITS WITH MANUFACTURERS RECOMMENDED SERVICE AREA CLEARANCES AND ELECTRICAL CONVENIENCE OUTLETS.
- ALL TRANSFER DUCTWORK LEADING TO REST ROOMS (IF USED) SHALL HAVE A ZERO LEAKAGE BACK DRAFT DAMPER AS SHOWN ON THE MECHANICAL DRAWINGS.
- ALL AIR HANDLING UNITS TO HAVE SMOKE DETECTORS IF REQUIRED BY CODE. DETECTORS SHALL SHUT DOWN UNIT UPON ACTIVATION. SEE NOTE #13 FOR FURTHER DETAILS.
- IN GENERAL, PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED. HVAC CONTRACTOR IS RESPONSIBLE FOR ANY ADDED ELECTRICAL COSTS WHICH MAY RESULT FROM SUBSTITUTED EQUIPMENT.
- DUCTWORK INSULATION SHALL BE 1-1/2" FOIL FACED FIBERGLASS DUCT WRAP.
- COORDINATE AIR DISTRIBUTION DEVICE LOCATIONS WITH LIGHTING FIXTURES, SPRINKLER HEADS, AND SPEAKERS.
- TURNING VANES SHALL BE PROVIDED IN ALL SUPPLY DUCT RECTANGULAR ELBOWS WITH ANGLES BETWEEN 15 DEGREES AND LESS THAN 90 DEGREES PER FIG. 2-5 OF THE SMACNA MANUAL.
- DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, AND OTHER ITEMS OF THE AIR HANDLING SYSTEM SHALL NOT BE SUPPORTED BY THE CEILING OR CEILING SUSPENSION SYSTEM.
- SMOKE DETECTOR(S) SHALL BE INSTALLED IN AIR SYSTEMS WITH A DESIGN CAPACITY GREATER THAN 2000 CFM IN THE SUPPLY (AND RETURN AIR, IF REQUIRED BY CODE) DUCTWORK PRIOR TO MIXING WITH OUTSIDE AIR. FURTHERMORE, WHERE MULTIPLE AIR SYSTEMS SHARE COMMON SUPPLY OR RETURN AIR DUCTS OR PLENUMS WITH A COMBINED DESIGN CAPACITY GREATER THAN 2000 CFM, THE RETURN AIR AND SUPPLY AIR SYSTEM SHALL BE PROVIDED WITH SMOKE DETECTORS. IF THE BUILDING IS PROVIDED WITH A FULL FIRE ALARM SYSTEM, THE SMOKE DETECTOR(S) SHALL BE WIRED TO STOP THE FAN UPON DETECTION OF SMOKE, AND SIGNAL THE BUILDING FIRE ALARM CONTROL PANEL PER NFPA 72. IF THE BUILDING IS NOT PROVIDED WITH FULL FIRE ALARM SYSTEM, THE SMOKE DETECTOR(S) SHALL STOP THE FAN AND CAUSE A VISIBLE AND AUDIBLE ALARM SIGNAL IN A NORMALLY OCCUPIED AREA PER NFPA 90A. THE SMOKE DETECTOR(S) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR, WIRED BY THE ELECTRICAL OR FIRE ALARM CONTRACTOR, AND SHALL BE CONNECTED TO FIRE ALARM SYSTEM IN ACCORDANCE WITH REQUIREMENTS OF NFPA 72 NATIONAL FIRE ALARM CODE.
- ALL SUPPLY AIR DIFFUSERS SHALL BE 4-WAY DIRECTIONAL THROW UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE NOTED, INSTALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO BOTTOM OF STRUCTURE. COORDINATE DUCT ELEVATION WITH RAIN LEADERS, WATER PIPING, SANITARY DRAINS AND MAJOR ELECTRICAL CONDUITS.
- CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS. INSTALLATION OF THE EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATIONS AND CLEARANCE REQUIREMENTS FOR SERVICING OF EQUIPMENT.
- VERIFY SERVICE VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
- PROVIDE A TRAP IN ALL CONDENSATE PIPING LOCATED AT THE AHU UNIT. SLOPE CONDENSATE LINES 1/8" PER FOOT. CONDENSATE LINES SHALL BE PVC SCH. 40. ALL CONDENSATE DRAIN PIPING SHALL BE PROPERLY SUPPORTED.
- ALL MECHANICAL WORK SHALL MEET ALL THE REQUIREMENTS OF THE "FLORIDA BUILDING CODE 2010".
- GUARANTEE: FOR ONE YEAR AFTER DATE OF ACCEPTANCE BY THE OWNER, ALL EQUIPMENT, MATERIALS AND WORKMANSHIP TO BE FREE FROM ANY DEFECTS.
- DO NOT CUT STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR ARCHITECT. ARRANGE FOR REPAIRS REQUIRED TO RESTORE OTHER WORK, BECAUSE OF DAMAGE CAUSED AS A RESULT OF MECHANICAL INSTALLATIONS.
- FLEXIBLE AND RIGID ROUND DUCT TAKE-OFFS FOR DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 12'-0". FLEXIBLE DUCT SHALL BE THERMAFLEX TYPE M-KA OR EQUAL, AND BE UL LISTED AND COMPLY WITH NFPA STANDARD NO. 90A.
- ALL WALL MOUNTED THERMOSTATS SHALL BE INSTALLED AT AN ELEVATION OF 54" ABOVE FINISHED FLOOR TO THE TOP UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTAT SHALL BE COORDINATED WITH OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF THERMOSTAT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE IN THE FIELD.
- ALL UNITS SHALL BE BALANCED TO WITHIN 10 PERCENT OF THE DESIGN AIR QUANTITY. BALANCE DIFFUSERS AND REGISTERS TO WITHIN 10% OF QUANTITIES SHOWN ON DRAWINGS.
- PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS ON THE DISCHARGE AND ENTERING SIDES OF ALL VIBRATING EQUIPMENT TO WHICH DUCTWORK IS ATTACHED.
- CONTRACTOR SHALL PROVIDE A COPY OF A TEST AND BALANCE REPORT. AIR BALANCING SHALL BE PERFORMED BY AN INDEPENDENT TESTING AND BALANCING CONTRACTOR WHICH SHALL BE QUALIFIED AND CERTIFIED BY EITHER ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). THIS REPORT MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO THE FINAL INSPECTION.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TRADES INSTALLATION SCHEDULES. FIXED WORK SUCH AS DUCTWORK AND PLUMBING SHALL BE INSTALLED PRIOR TO ANY TRADE WORK THAT CAN BE EASILY RELOCATED OR OFFSET SUCH AS ELECTRICAL CONDUITS, SMALL WATER LINES ETC.
- WHEN THE INTENT OF ARCHITECT/ENGINEER WITH REGARD TO ANY DETAIL IS NOT CLEAR, OR IS CAPABLE OF MORE THAN ONE INTERPRETATION, SUCH MATTERS WILL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING BEFORE THE SUBMISSION OF BIDS, AND THE ARCHITECT/ENGINEER SHALL MAKE CORRECTION OR EXPLANATION IN WRITING. OTHERWISE, NO EXTRA CHARGE WILL BE ALLOWED FOR THE WORK OR MATERIAL WHICH THE ARCHITECT/ENGINEER WILL REQUIRE, PROVIDED THAT IT COMES WITHIN A REASONABLE INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS.
- PLANS AND SPECIFICATIONS ARE INTENDED AS A GENERAL DESCRIPTION OF THE WORK TO BE PERFORMED. ALL ITEMS NOT SPECIFICALLY MENTIONED OR SHOWN, BUT NECESSARY FOR THE COMPLETION OF THE INSTALLATION, SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MECHANICAL, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL PLANS BEFORE SUBMITTING HIS FINAL BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO THE CONTRACTOR'S FAILURE TO FAMILIARIZE HIMSELF/HERSELF WITH THE PLANS.

MECHANICAL NOTES

- AIR CONDITIONING UNITS ARE BASED ON ARI STANDARD CONDITIONS OF 80°F DB, 67° WB, INDOOR ENTERING AIR TEMPERATURE AND 95° DB ENTERING AIR OUTDOOR DESIGN.
- PROVIDE WITH MOTORIZED WALL DAMPERS, FILTERS AND PROTECTION AGAINST COMPRESSOR SHORT CYCLING.
- PROVIDE SYSTEMS WITH WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT AND SUB-BASE, SENSORS, AND WALL MOUNTED REMOTE TEMPERATURE SENSOR.
- PROVIDE CONDENSATE DRAIN "P" TRAP MINIMUM 2-1/2" DEEP, OR TWICE THE TOTAL STATIC PRESSURE, WHICHEVER IS GREATER. PROVIDE CODE COMPLIANT OVERFLOW SHUT-OFF SENSOR AND SWITCH.
- PROVIDE COORDINATION ON EXACT DIMENSIONS OF MANUFACTURER'S RECOMMENDED CLEARANCES AROUND UNIT.
- ALL COILS SHALL HAVE COPPER TUBES AND ALUMINUM FINNS.
- COMPRESSOR SHALL HAVE A MINIMUM 5-YEAR WARRANTY ALL OTHER EQUIPMENT SHALL HAVE MINIMUM 1 YEAR WARRANTY.
- PROVIDE SINGLE POINT POWER CONNECTION, AND DUPLEX-GFI ELECTRICAL CONVENIENCE OUTLET WITHIN 25 FT.
- PROVIDE ONE SET OF ADDITIONAL AIR FILTERS.
- MUST MEET THE LATEST MINIMUM EER'S & SEER'S AS INDICATED BY EFFICIENCY CODE REQUIREMENTS.
- PROVIDE DUCT MOUNTED SMOKE DETECTORS WITH REMOTE INDICATING RESET AND AUDIO VISUAL ALARM INDICATOR.

MECHANICAL ABBREVIATION

AC	AIR CONDITIONING	EG	EXHAUST GRILLE	MBH	1000xBTU
AFF	ABOVE FINISHED FLOOR	ELEC	ELECTRICAL	MCA	MINIMUM CIRCUIT AMPACITY
AFG	ABOVE GRADE	EX	EXHAUST	MISC	MISCELLANEOUS
AHU	AIR HANDLING UNIT	ENT	ENTERING	NTS	NOT TO SCALE
BOD	BOTTOM OF DUCT	ESP	EXTERNAL STATIC PRESSURE	OA	OUTSIDE AIR
BTU	BRITISH THERMAL UNIT	F	FAHRENHEIT	OAL	OUTSIDE AIR LOUVER
CAP	CAPACITY	FA	FILTER ACCESS	OC	ON CENTER
CD	CONDENSATE DRAIN	FACP	FIRE ALARM CONTROL PANEL	PD	PRESSURE DROP
CFM	CUBIC FEET PER MINUTE	FCD	FLOW CONTROL DAMPER	PH	PHASE
CMU	CONCRETE MASONRY UNIT	FD	FIRE DAMPER	PVC	POLYVINYLCHLORIDE
CONN	CONNECTION	FLA	FULL LOAD AMPACITY	RA	RETURN AIR
CU	CONDENSING UNIT	HP	HORSEPOWER	REF	REFRIGERANT
DB	DRY BULB	HZ	HERTZ	RG	RETURN GRILLE
DG	DOOR GRILLE	KW	KILOWATT	RLA	RUNNING LOAD AMPS
DI	DIGITAL INPUT	LAT	LEAVING AIR TEMPERATURE	RTU	ROOFTOP A/C UNIT
DN	DOWN	LAT	LATENT	SA	SUPPLY AIR
DO	DIGITAL OUTPUT	LD	LOUVERED DOOR	SD	SUPPLY DIFFUSER
EAT	ENTERING AIR TEMPERATURE	LRA	LOCKED ROTOR AMPS	FS	FIRE STAT
EER	ENERGY EFFICIENCY RATIO	LVG	LEAVING	SG	SUPPLY GRILLE
EF	EXHAUST FAN	MAX	MAXIMUM	SEN	SENSIBLE

ALL ABBREVIATIONS INDICATED ON THIS LIST MAY NOT NECESSARILY APPLY TO THIS PROJECT.

AIR HANDLING UNIT SCHEDULE

PLAN MARK	MODEL NUMBER	TONNAGE	COOLING PERFORMANCE						OUTDOOR AIR TEMPERATURE (75°F)			ELECTRICAL/ELECTRIC HEAT DATA			SUPPLY FAN			UNIT WEIGHT (LBS)	NOTES
			GROSS COOLING CAPACITY(MBH)	ARI RATED AIR FLOW (CFM)	SOUND RATING NUMBER(db)	TOTAL UNIT POWER	SEER (BTU/WATT)	EER (BTU/WATT)	ENTERING WET BULB TEMPERATURE(°F)	TOTAL COOLING CAPACITY(MBH)	SENSIBLE COOLING (MBH)	HEATING DATA	MCA/MOCP	VOLTS/ PHASE/HZ	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	E.S.P. (IN. OF WG.)		
AHU-1 AHU-2	SEE BOOK SPECS	5.0	60	2000	-	1 HP	-	-	67	60.2	43.8	-	3/15	460/3PH/60HZ	1800	-	0.25	200	1,2

NOTES:

- PROVIDE FARR 30/30 OR EQUAL 1" THICK PLEATED FILTERS.
- PROVIDE A PROGRAMMABLE ELECTRONIC THERMOSTAT WITH LOCKING METAL COVER.

CONDENSING UNIT SCHEDULE

PLAN MARK	MODEL NUMBER	TONNAGE	COOLING PERFORMANCE						OUTDOOR AIR TEMPERATURE (75°F)			ELECTRICAL/ELECTRIC HEAT DATA			SUPPLY FAN			UNIT WEIGHT (LBS)	NOTES
			GROSS COOLING CAPACITY(MBH)	ARI RATED AIR FLOW (CFM)	SOUND RATING NUMBER(db)	TOTAL UNIT POWER	SEER (BTU/WATT)	EER (BTU/WATT)	ENTERING WET BULB TEMPERATURE(°F)	TOTAL COOLING CAPACITY(MBH)	SENSIBLE COOLING (MBH)	BLOWER DRIVE TYPE	MCA/MOCP	VOLTS/ PHASE/HZ	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	E.S.P. (IN. OF WG.)		
CU-1 CU-2	SEE BOOK SPECS	5	60	-	80	0.2 HP	13	10.5	-	-	-	DIRECT	10.7/15	460/3PH/60HZ	-	-	-	300	1,2,3

NOTES:

- PROVIDE UNIT WITH LOW AMBIENT COOLING KIT.
- PROVIDE CONDENSER COIL GUARDS
- PROVIDE UNIT WITH A FACTORY APPLIED ADSIL AD-35 OR EQUAL CORROSION RESISTANT COATING ON THE ENTIRE UNIT INCLUDING ALL PIPING, COILS, AND CABINETRY.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

PLAN MARK	TYPE	NECK SIZE (L"xW")	FACE SIZE (L"xW")	FRAME TYPE	FINISH	NOISE CRITERIA	NOTES
SD-1	SUPPLY	22"x22"	24"x24"	SURFACE MOUNT	WHITE	<35	1
RG-1	RETURN	22"x22"	24"x24"	SURFACE MOUNT	WHITE	<35	1

NOTES:

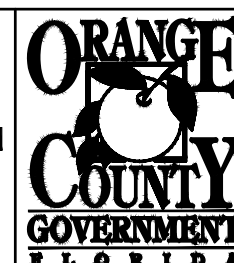
- ALUMINUM CONSTRUCTION. BLADES PARALLEL TO LONG DIMENSION

SHEET INDEX - GENERATOR BUILDING

- M300.1 SYMBOLS, ABBREV., GENERAL NOTES
- M300.2 DETAILS
- M301.2 REFLECTED CEILING PLAN

REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE
(IF NOT SCALE ACCORDINGLY)



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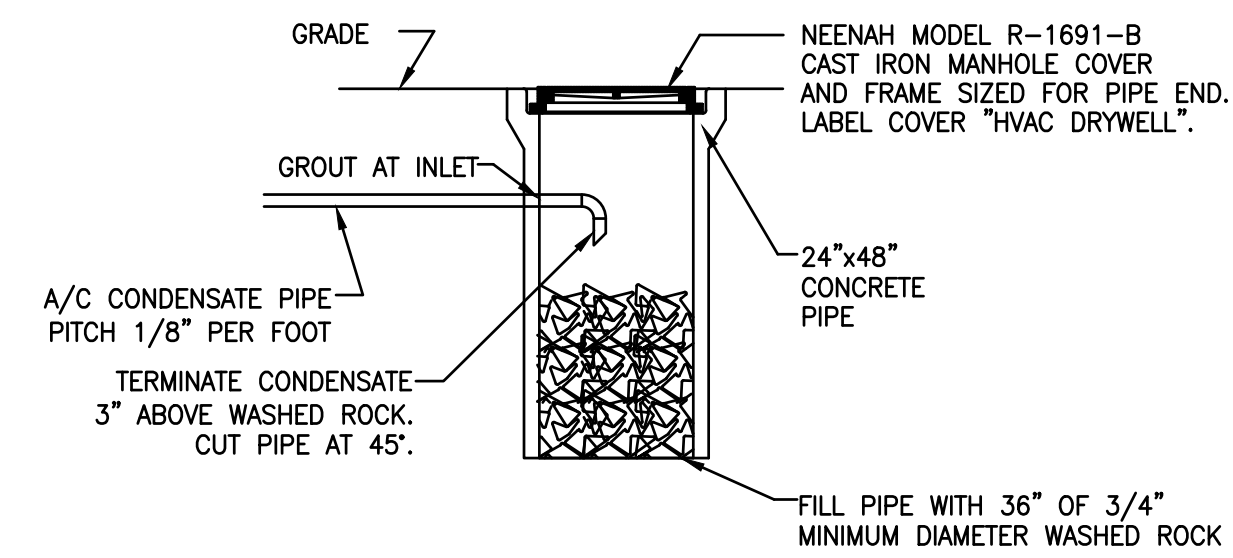
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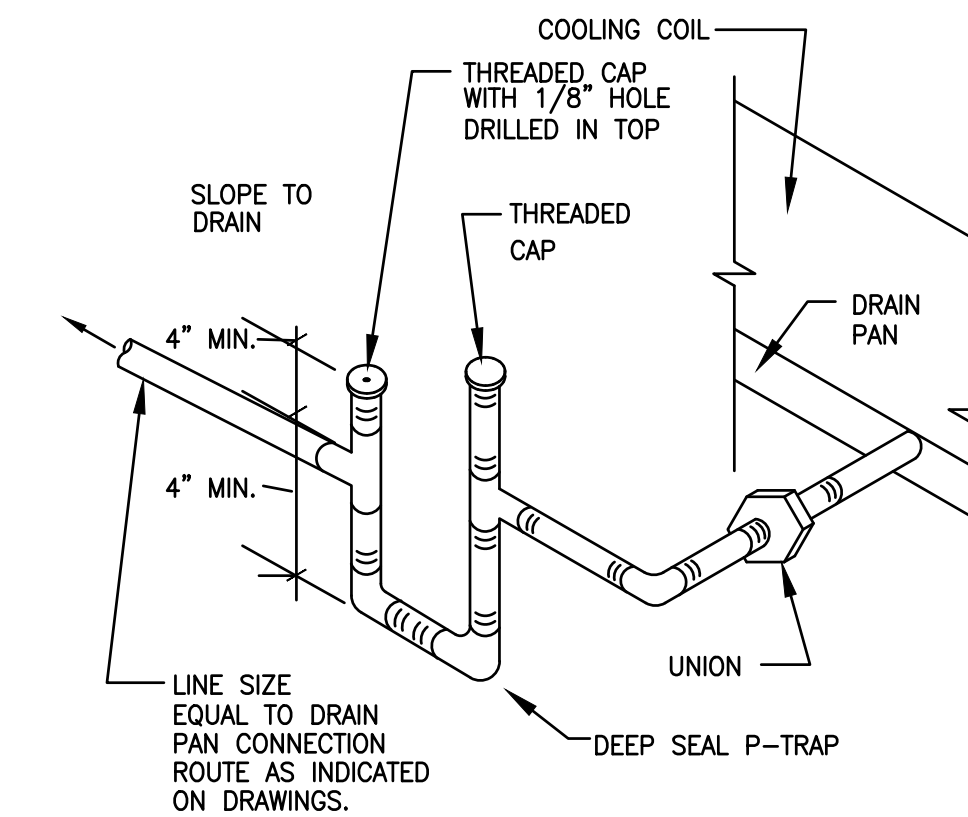
MECHANICAL SYMBOLS, ABBREVIATIONS, & GENERAL NOTES - WEST ELECTRICAL BUILDING

OCU FILE NO.: 78466	SCALE: As Shown
DESIGNED BY: JAD	DRAWING NO.:
DRAWN BY: JAD	M300.1
CHECKED BY: DLM	SHEET: 26 OF 71
CADD FILE:	

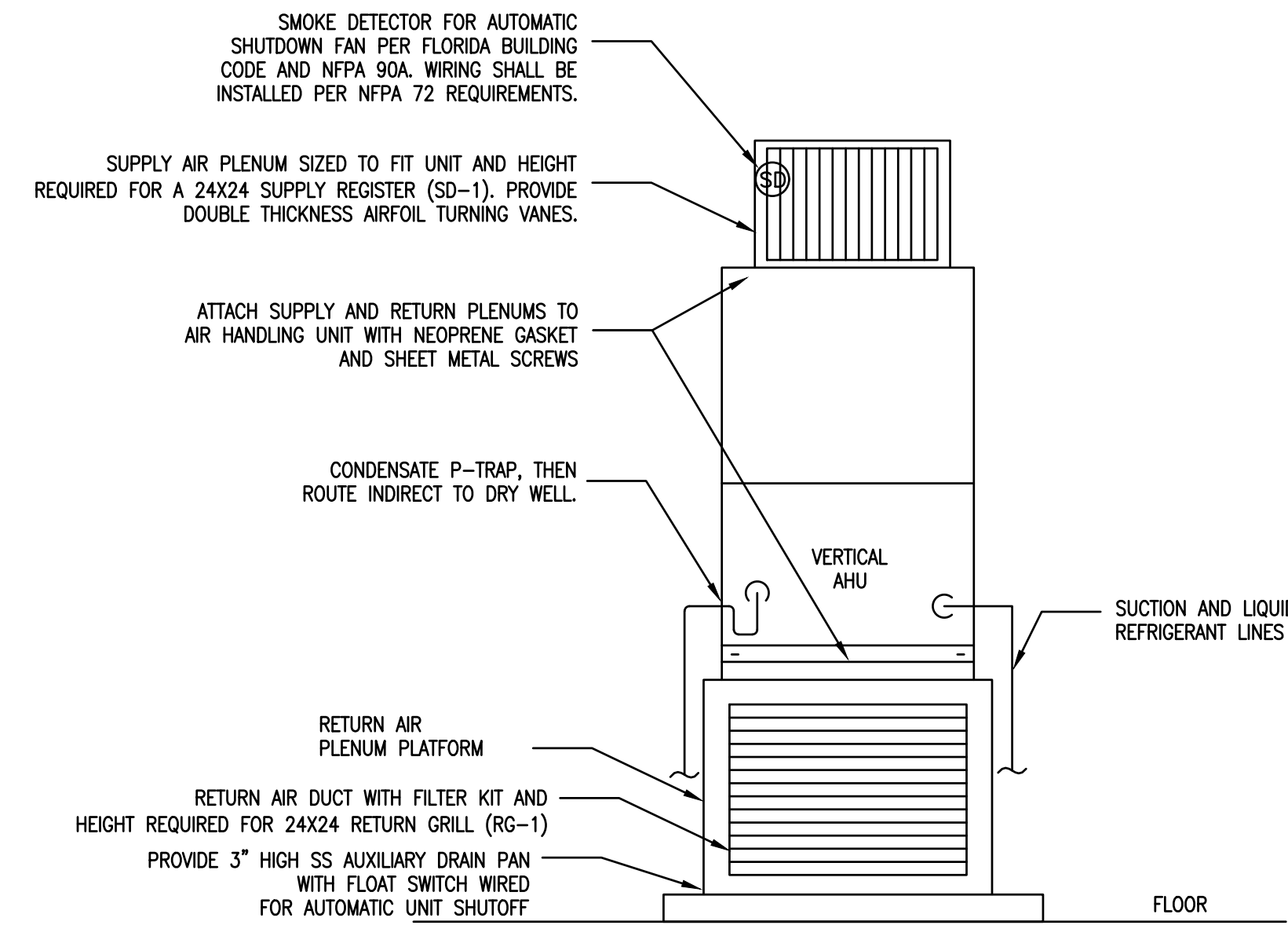
DENNIS L. MATULA
REGISTERED ENGINEER
FLORIDA LICENSE # 55194



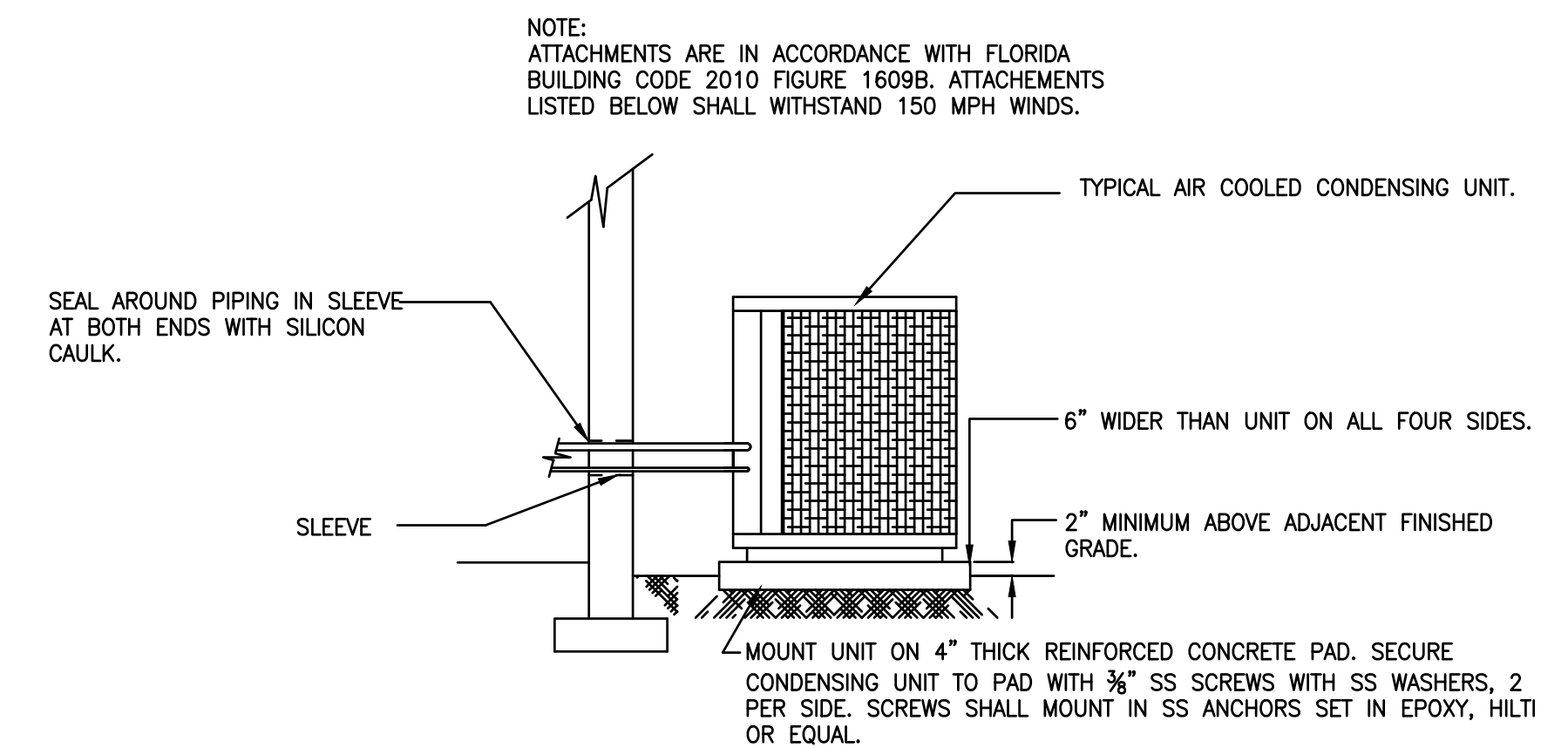
1 DRY WELL DETAIL
MO.2 SCALE: NONE



2 CONDENSATE DRAIN DETAIL
MO.2 SCALE: NONE



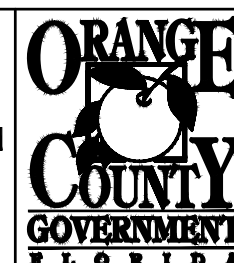
3 VERTICAL AHU MOUNTING DETAIL
MO.2 SCALE: NONE



4 CONDENSER MOUNTING DETAIL
MO.2 SCALE: NONE

REV	DATE	DESCRIPTION

LINE IS 2 INCHES
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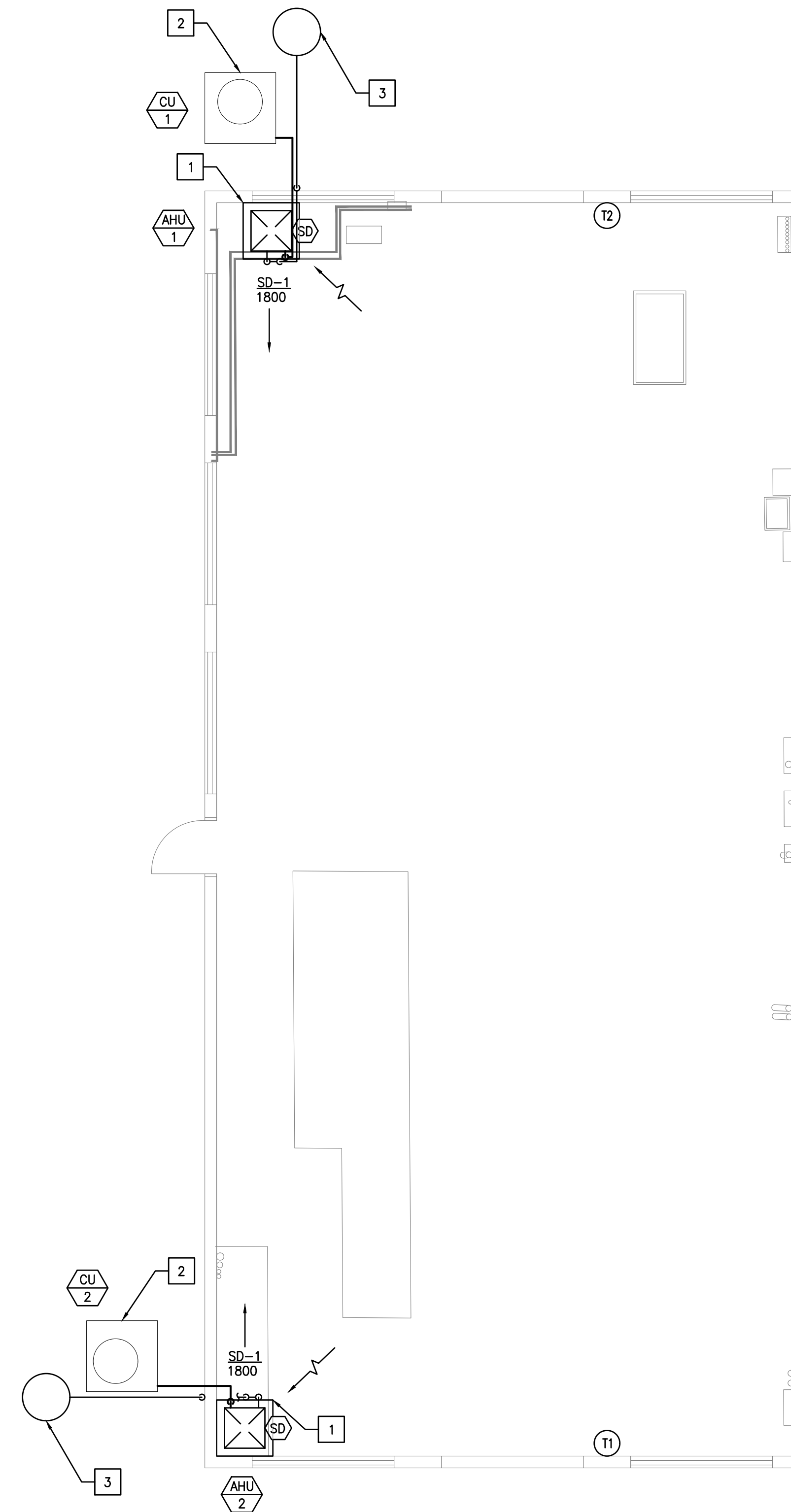
MECHANICAL DETAILS -
WEST ELECTRICAL BUILDING

OCU FILE NO.: 78466	SCALE: As Shown
DESIGNED BY: JAD	DRAWING NO.: M300.2
DRAWN BY: JAD	CHECKED BY: DLM
CADD FILE:	SHEET: 27 OF 71

DENNIS L. MATULA
REGISTERED ENGINEER
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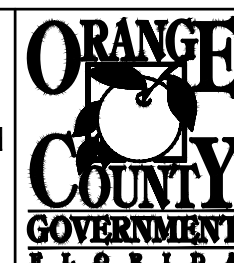
MECHANICAL PLAN NOTES:

- 1] INSTALL NEW VERTICAL AIR HANDLER. ROUTE CONDENSATE UNDERGROUND TO EXTERIOR DRYWELL.
- 2] INSTALL NEW CONDENSER. CONDENSER TO HAVE FACTORY COATED COILS.
- 3] INSTALL NEW DRYWELL.



REV	DATE	DESCRIPTION

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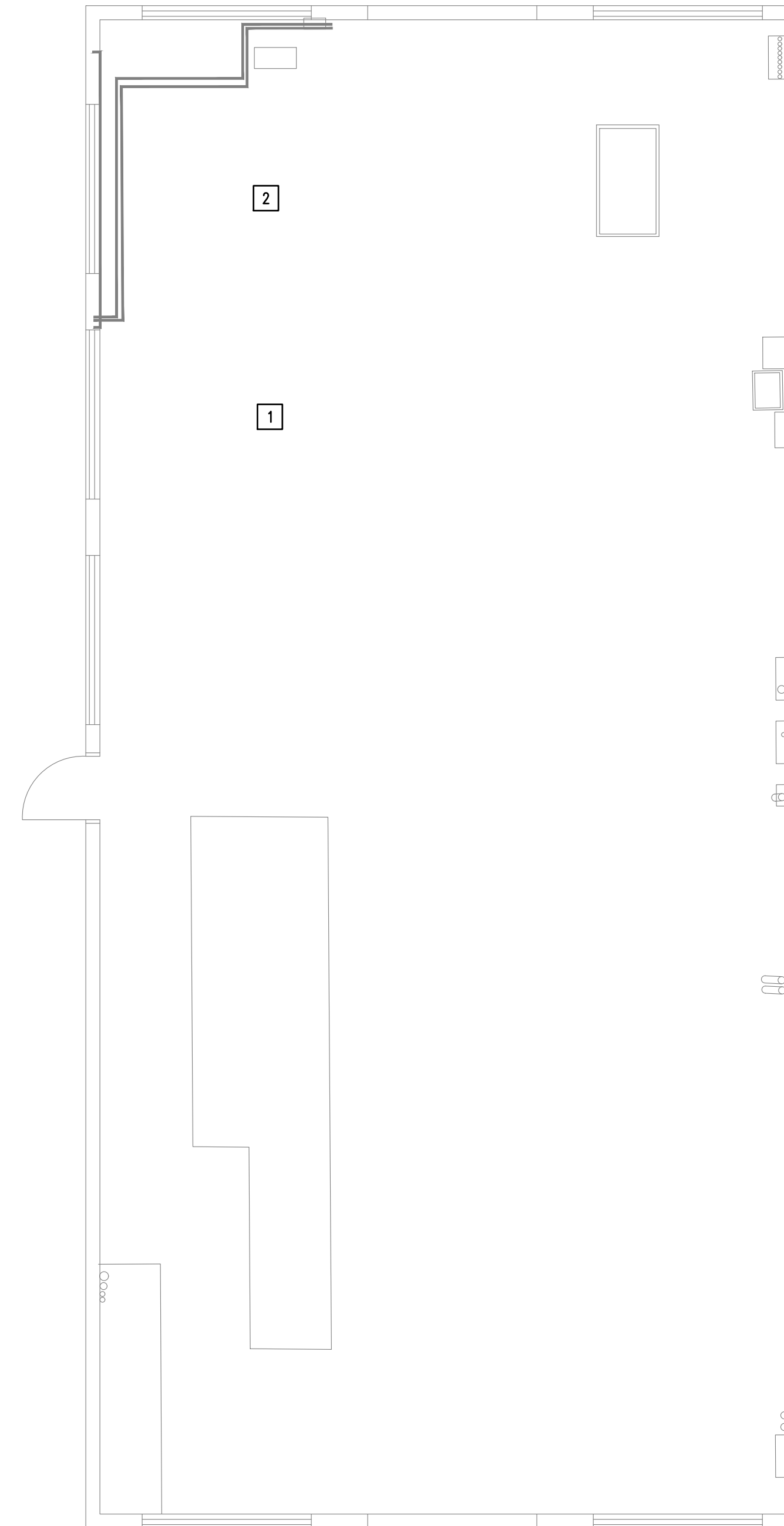
REFLECTED CEILING PLAN -
WEST ELECTRICAL BUILDING

OCU FILE NO.: 78466	SCALE: As Shown
DESIGNED BY: JAD	DRAWING NO.: M301.2
DRAWN BY: JAD	SHEET: 28 OF 71
CHECKED BY: DLM	
CADD FILE:	

DENNIS L. MATULA
REGISTERED ENGINEER
FLORIDA LICENSE # 55194

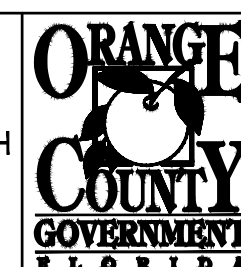
PLUMBING DEMO NOTES:

- 1 DEMO FLOOR DRAIN. REMOVE FLOOR DRAIN, TRAP AND ASSOCIATED HARDWARE. CAP AND SEAL LINE UNDER SLAB AND ABANDON. PATCH AND LEVEL CONCRETE TO MATCH SURROUNDING.
- 2 REMOVE 3 INTERIOR HOSES BIBBS IN NORTHWEST CORNER OF BUILDING. CUT AND CAP LINE ON EXTERIOR OF BUILDING.



REV	DATE	DESCRIPTION

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AT FULL SIZE
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**DEMOLITION FLOOR PLAN-
WEST ELECTRICAL BUILDING**

DENNIS L. MATULA
REGISTERED ENGINEER
FLORIDA LICENSE # 55194

OCU FILE NO.: 78466
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DRAWN BY: JAD
CHECKED BY: DLM
CADD FILE:

SCALE: As Shown
DRAWING NO.: **PD301.2**
SHEET: 29 OF 71