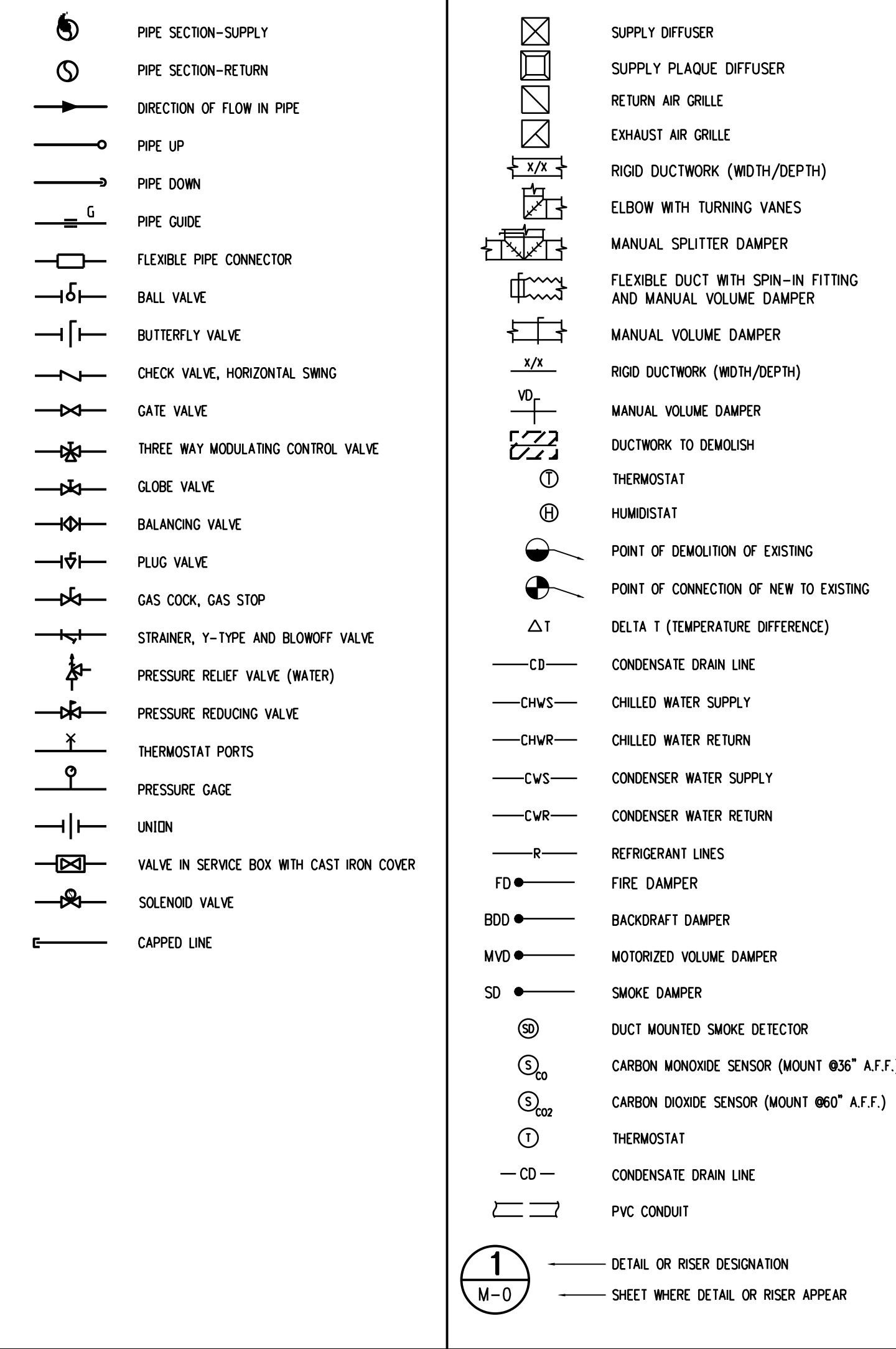


GENERAL LEGEND AND SYMBOLS



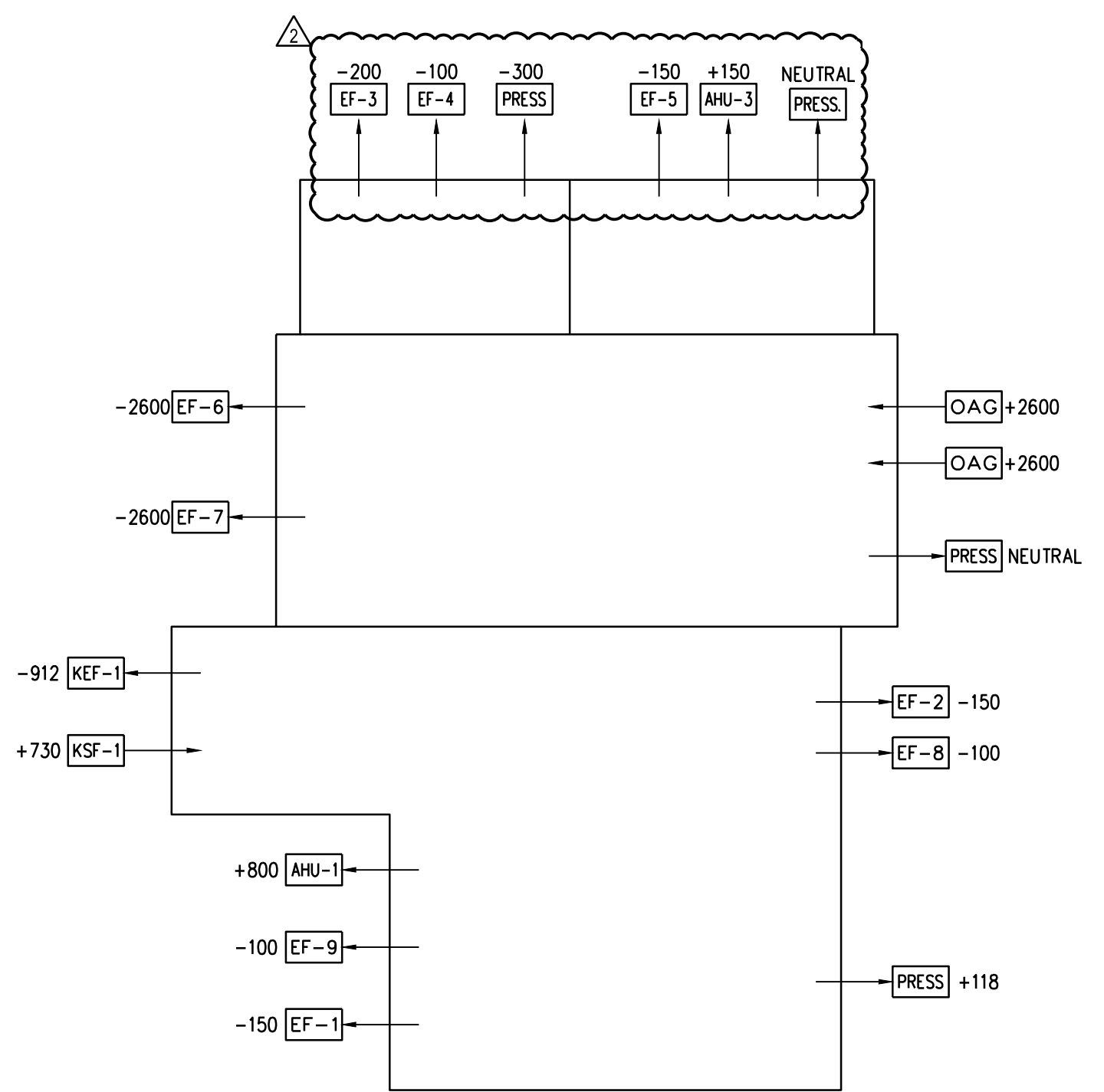
ABBREVIATIONS

AMP	AMPERES	EXP	EXPANSION	NC	NORMALLY CLOSED
AC	AIR CONDITIONING	ECW	EYE WASH/SHOWER	NIC	NOT IN CONTRACT
ACS	AUTOMATIC CONTROL SYSTEM	F	FIRE SPRINKLER PIPING	NO	NORMALLY OPEN
ACU	AIR CONDITIONING UNIT	*F	DEGREES FAHRENHEIT	ND	NUMBER
AD	ACCESS DOOR	AD	ACCESS DOOR	DA	OUTSIDE AIR
AFF	ABOVE FINISHED FLOOR	FA	FREE AREA (SQ. FT.) OR FACE AREA	DD	OUTSIDE DIAMETER
AHU	AIR HANDLING UNIT	FC	FLEXIBLE CONNECTION	DV	OUTLET VELOCITY
APPROX	APPROXIMATELY	FCD	FLOOR CLEANOUT	P	PRESSURE
AP	ACCESS PANEL	FCU	FAN COIL UNIT	PC	PLUMBING CONTRACTOR
ARCH	ARCHITECTURAL	FD	FLOOR DRAIN	PD	PRESSURE DROP
AUTO	AUTOMATIC	FDR	FIRE DAMPER	PSI	POUNDS PER SQUARE INCH
AUX	AUXILIARY	FG	FINISHED GRADE	PSIA	PSI ABSOLUTE
BHP	BRAKE HORSEPOWER	FHC	FIRE HOSE CABINET	PSIG	PSI GAUGE
BLDG	BUILDING	FIN FL	FINISHED FLOOR	PRESS	PRESSURE
BDD	BOTTOM OF DUCT	FLA	FULL LOAD AMPERES	PVC	POLYVINYL CHLORIDE
BTU	BRITISH THERMAL UNIT	FDB	FLAT ON BOTTOM	R	RISE
BTUH	BRITISH THERMAL UNITS PER HOUR	FDT	FLAT ON TOP	RA	RETURN AIR
BWV	BACK WATER VALVE	FPI	FINS PER INCH	RAF	RETURN AIR FAN
CAM	COMMON AREA MAINTENANCE	FPM	FEET PER MINUTE	REQ'D	REQUIRED
CC	COILING COIL	FPS	FEET PER SECOND	RHC	REHEAT COIL
CCP	CENTRAL CONTROL PANEL	FTB	FAN POWERED TERMINAL BOX	RHG	REFRIGERANT HOT GAS DISCHARGE
CD	CONDENSATE DRAIN	FV	FACE VELOCITY	RL	REFRIGERANT LIQUID
CFM	CUBIC FEET PER MINUTE	GA	GAUGE	RM	ROOM
CH	CHILLER	GAL	GALLONS	RPM	REVOLUTIONS PER MINUTE
CH	CHILLED WATER RETURN	GCHS	GLYCOL CHILLED WATER SUPPLY	R S	FLAT ON TOP
CHS	CHILLED WATER SUPPLY	GCHR	GLYCOL CHILLED WATER RETURN	RV	RELIEF VALVE
CHWP	CHILLED WATER PUMP	GPH	GALLONS PER HOUR	S/FDPR	COMBINED SMOKE AND FIRE DAMPER
CLG	CEILING	GPM	GALLONS PER MINUTE	SAN	SANITARY
CO	CLEAN-OUT	GO	GAS OUTLET	SAU	SOUND ATTENUATION UNIT
COMB	COMBINATION	HGT	HEIGHT	SGCHS	SECONDARY GLYCOL CHILLED WATER SUPPLY
COMPR	COMPRESSOR	HB	HOSE BIBB	SGCHR	SECONDARY GLYCOL CHILLED WATER RETURN
COND	CONDENSATE OR CONDENSER	H2O	WATER	SPDR	SMOKE DAMPER
CONT	CONTINUATION	HC	HEATING COIL	SMH	STORM MANHOLE
CMU	CONCRETE MASONRY UNIT	HD	HEAD	SP	STATIC PRESSURE
CU FT	CUBIC FEET	HORIZ	HORIZONTAL	SPEC	SPECIFICATION
CUH	CABINET UNIT HEATER	HP	HORSEPOWER	SCV	SOFT COLD WATER
CU IN	CUBIC INCHES	HW	DOMESTIC HOT WATER	ST	STORM
CW	DOMESTIC COLD WATER	HR	HOUR	TB	TERMINAL BOX
D	DRAIN LINE	HRR	HEAT RECOVERY RETURN	TD	TRENCH DRAIN
DB	DRY BULB	HRS	HEAT RECOVERY SUPPLY	TDH	TOTAL DYNAMIC HEAD
DG	DOOR GRILLE	HZ	FREQUENCY	TEMP	TEMPERATURE
DHC	DUCT HEATING COIL	IN	INCH OR INCHES	TES	THERMAL ENERGY STORAGE
DIA	DIAMETER	INSUL	INSULATION	TS	TIPSPEED
DN	DOWN	IPS	IRON PIPE SIZE	TYP	TYPICAL
DWG	DRAWING	IST	ICE STORAGE TANKS	TX	TOILET EXHAUST
DX	DIRECT EXPANSION	KW	KILLOWATT	UH	UNIT HEATER
EAT	ENTERING AIR TEMPERATURE	L	LENGTH	V	VENT LINE
EC	ELECTRIC CONVECTOR	LAT	LEAVING AIR TEMPERATURE	VAV	VARIABLE AIR VOLUME UNIT
ECD	EXTERIOR CLEANOUT	LBS/HR	POUNDS PER HOUR	VLV	VALVE
EDB	ENTERING DRY BULB TEMPERATURE	LBS	POUNDS	VTR	VENT THRU ROOF
EF	EXHAUST FAN	LCP	LOCAL CONTROL PANEL	W	WIDTH
EW	ELECTRIC WATER HEATER	LDB	LEAVING DRY BULB TEMPERATURE	W/	WITH
EL	ELEVATION	LIN FT	LINEAR FEET	W/O	WITHOUT
ELEC	ELECTRIC	LWB	LEAVING WET BULB	WB	WET BULB
EO	EQUAL	LVT	LEAVING WATER TEMPERATURE	WC	WATER COLUMN
EVAP	EVAPORATOR	MAX	MAXIMUM	WCD	WALL CLEANOUT
EWB	ENTERING WET BULB	MB	MIXING BOX	WG	WATER GAUGE
EWT	ENTERING WATER TEMPERATURE	MBH	THOUSANDS, BTUH	WP	WORKING PRESSURE
EXH	EXHAUST AIR	MC	MECHANICAL CONTRACTOR	WMS	WIRE MESH SCREEN
EXIST	EXISTING	MIN	MINIMUM	RD	ROOF DRAIN

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

MECHANICAL GENERAL NOTES

- ALL MECHANICAL WORK SHALL BE COVERED AND INSTALLED IN COMPLIANCE WITH THE LATEST EDITION AND APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS:
A. STATE REQUIREMENTS FOR LOCAL FACILITIES - SEC 453 OF FBC 2020.
B. FLORIDA BUILDING CODE - 2020.
C. FLORIDA MECHANICAL CODE - 2020.
D. FLORIDA PLUMBING CODE - 2020.
E. FLORIDA ENERGY EFFICIENCY CODE - 2020.
F. FLORIDA FIRE PREVENTION CODE - 2020.
G. FLORIDA EXISTING BUILDING CODE - 2020.
H. NATIONAL ELECTRICAL CODE (NEC) - 2014.
I. NFPA 90A - INSTALLATION OF AIR CONDITIONING & VENTILATING SYSTEMS.
J. NFPA 101 - LIFE SAFETY CODE.
K. ASHRAE STANDARDS (INCLUDING 15, 55, 62.1, 90.1 & 129).
L. ANSI.
M. SMACNA DUCTWORK STANDARDS.
N. AMERICANS WITH DISABILITIES ACT (ADA).
O. ALL OTHER APPLICABLE FEDERAL, COUNTY AND CITY CODES REQUIRED BY LOCAL JURISDICTIONS.
- COORDINATE LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN AND WORK OF ALL OTHER TRADES.
- ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL REQUIREMENTS WITH EQUIPMENT SUPPLIER.
- 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 NOTED IN FLORIDA BUILDING CODE. COORDINATE WIND LOAD CRITERIA WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS.
- FLEXIBLE DUCT CONNECTORS AND RIGID DUCT RUNOUTS SERVING SINGLE DIFFUSER SHALL BE THE SAME SIZE AS DIFFUSER NECK.
- ALL EQUIPMENT HOUSINGS AND COMPONENTS INSTALLED OUTDOORS OR WITH UNCONDITIONED VENTILATED SPACES THAT ARE EXPOSED TO THE ELEMENTS SHALL BE SUITABLE FOR ALL COORDINATION EFFORTS. ANY APPLIED CORROSION RESISTANT MATERIALS SHALL BE FACTORY APPLIED.
- PAINT INTERNAL DUCTWORK VISIBLE THROUGH DIFFUSERS, GRILLE OR LOUVER FACE FLAT BLACK.
- 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.
- EVERY PIECE OF MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH AN ENGRAVED NAMEPLATE WITH 1" LETTERS INDICATING EQUIPMENT DESIGNATION. ANY EQUIPMENT INSTALLED WHERE CONCEALED ABOVE CEILING SHALL BE NOTED WITH CLEAR ADHESIVE LABEL AT NEAREST T-GRID OR ON ACCESS PANEL.
- EVERY THERMOSTAT SHALL BE PROVIDED WITH AN ENGRAVED NAMEPLATE WITH 1/4" LETTERS INDICATING EQUIPMENT ASSOCIATION.
- ALL DOORS TO INDIVIDUAL TOILETS AND JANITOR CLOSETS ARE TO BE UNDERCUT MINIMUM 1/2". REFER TO ARCHITECTURAL DOOR SCHEDULE.
- ALL MANUAL DAMPERS SHALL BE TAGGED WITH A MINIMUM 12" LONG PIECE OF FLUORESCENT TAPE TO AID IN VISIBILITY IN NON-EXPOSED LOCATIONS ONLY.
- MOUNT SPACE TEMPERATURE OR OTHER SENSORS AT 60" A.F.F. TO THE CENTER IN PUBLIC AREAS. MOUNT SPACE TEMPERATURE OR OTHER SENSORS AT 48" A.F.F. TO THE CENTER FOR ALL OTHER AREAS. COORDINATE STYLE AND LOCATION WITH A/E/O PRIOR TO PURCHASE.
- ALL WALL MOUNTED SENSORS LOCATED IN PUBLIC SPACES SHALL BE PROVIDED WITH A LOCKABLE COVER. COVER SHALL BE TAMPER RESISTANT AND VENTED TO ALLOW FOR PROPER OPERATION. COORDINATE STYLE WITH A/E/O PRIOR TO PURCHASE.
- THE FINISH OF ALL MECHANICAL EQUIPMENT, DUCTWORK, FABRIC DUCT SYSTEMS, GRILLES, LOUVERS, CONDUIT, ETC. EXPOSED IN OCCUPIED SPACES OR ON THE EXTERIOR OF THE BUILDINGS SHALL BE PRIME AND PAINTED TO MATCH ADJACENT SURFACES. CONFIRM FINAL COLORS WITH THE A/E/O.
- ALL PIECES OF MECHANICAL EQUIPMENT REQUIRING ACCESS LOCATED ABOVE HARD CEILINGS SHALL BE PROVIDED WITH ACCESS PANELS SIZED PER DRAWINGS AND/OR MANUFACTURER'S RECOMMENDATIONS, WHICHEVER IS LARGER. COORDINATE STYLE/COLOR/LOCATIONS OF PANEL WITH A/E/O.
- OA INTAKES SHALL BE A MINIMUM OF 10 FEET HORIZONTAL DISTANCE FROM ANY VENTS.
- ATTIC VENTS MUST BE COVERED WITH CORROSION-RESISTANT WIRE CLOTH SCREENING, HARDWARE CLOTH, PERFORATED VINYL, OR SIMILAR MATERIAL. OPENING MUST BE A MINIMUM OF 1/8" AND A MAXIMUM OF 1/4".
- PROVIDE WITH 1/4" - 1/2" CORROSION-RESISTANT SCREENS ON ALL OUTDOOR AIR EXHAUST & INTAKE OPENINGS. EXCEPTION: CLOTHES DRYER EXHAUST.
- ALL HVAC ASSOCIATED WIRING SHALL BE ROUTED IN CONDUIT. ANY EXPOSED CONDUIT SHALL BE ROUTED IN A CLEAN INCONSPICUOUS MANNER. CONDUIT SHALL BE PRIME AND PAINTED TO MATCH ADJACENT SURFACE.
- ANY MANUAL VOLUME DAMPERS CONCEALED ABOVE PLASTER CEILINGS OR BEHIND DRY WALL CONSTRUCTION SHALL BE PROVIDED WITH ELECTRO-BALANCE BATTERY POWERED DAMPERS (OUT OF AIRSTREAM) EQUAL TO METROPOLITAN AIR TECHNOLOGY. ROUTE CONTROL POINT TO CLOSEST NON-PUBLIC ACoustICAL TILE CEILING LOCATION. PROVIDE ALL REQUIRED ACCESSORIES AND EXTENSION TO FACILITATE CONNECTIONS. NEAREST T-GRID SHALL BE PROVIDED WITH ENGRAVED LABEL INDICATING "D.B.C.P." DIFFUSER BALANCING CONTROL POINT.
- COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
- THE CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE MECHANICAL SYSTEMS.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DIFFUSERS.
- INSTALL ALL DUCT, PIPE, ETC. AS HIGH AS POSSIBLE.
- ALL MATERIAL EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
- ALL RECTANGULAR SUPPLY AND RETURN AIR METAL DUCTWORK SHALL BE GALVANIZED SHEET METAL, EXTERNALLY INSULATED WITH 2" THICK, 0.75 LB. DENSITY DUCT WRAP. SEAL ALL DUCTWORK JOINTS AND SEAMS WITH MEDIUM VELOCITY DUCT SEALANT AND SEAL ALL INSULATION JOINTS AND SEAMS WITH FAB AND MASTIC. FOIL TAPE IS NOT ACCEPTABLE.
- ALL ROUND NON-EXPOSED SUPPLY AIR DUCTWORK SHALL BE GALVANIZED SPIRAL SHEET METAL, EXTERNALLY INSULATED WITH 2" THICK, 0.75 LB. DENSITY DUCT WRAP. SEAL ALL DUCTWORK JOINTS AND SEAMS WITH MEDIUM VELOCITY DUCT SEALANT AND SEAL ALL INSULATION JOINTS AND SEAMS WITH FAB AND MASTIC. FOIL TAPE IS NOT ACCEPTABLE.
- ALL DUCTWORK WITHIN MECHANICAL ROOM SHALL BE EXTERNALLY INSULATED WITH 1-1/2" RIGID BOARD INSULATION. SEAL ALL JOINTS AND SEAMS WITH FAB AND MASTIC.
- EXHAUST DUCTWORK SHALL BE UN-INSULATED RIGID GALVANIZED SHEET METAL DUCT. SEAL ALL JOINTS AND SEAMS WITH MEDIUM PRESSURE DUCT SEALANT.
- OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL, EXTERNALLY INSULATED WITH 2" THICK, 0.75 LB. DENSITY DUCT WRAP. SEAL ALL DUCTWORK JOINTS AND SEAMS WITH MEDIUM VELOCITY DUCT SEALANT AND SEAL ALL INSULATION JOINTS AND SEAMS WITH FAB AND MASTIC. FOIL TAPE IS NOT ACCEPTABLE.
- ALL DUCTWORK SHALL BE FABRICATED, CONSTRUCTED, SUPPORTED AND INSULATED IN STRICT COMPLIANCE WITH SMACNA STANDARDS AND THE FLORIDA ENERGY EFFICIENCY CODE.
- ALL DUCT BENDS FROM THE VERTICAL TO THE HORIZONTAL AND ANGLED TURNS OF DUCTWORK SHALL HAVE TURNING VANES INSTALLED.
- DUCT SIZES SHOWN ARE MINIMUM INSIDE DIMENSIONS.
- CONTRACTOR SHALL INCLUDE IN THE BID THE NECESSARY PROGRAMMING, WIRING AND PROCEDURES FOR THE GRAPHICS AND COMMUNICATIONS AND ALL WORK AND MATERIALS REQUIRED TO INTERFACE ALL MECHANICAL EQUIPMENT FOR A COMPLETE AND FULLY OPERATIONAL TEMPERATURE AND BUILDING AUTOMATED CONTROL SYSTEM WHICH SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 15 - MECHANICAL OF THESE CONTRACT DOCUMENTS. PROVIDE A COMPLETE CONTROL SYSTEM WIRING SCHEMATIC, POINT TO POINT DIAGRAM AND SEQUENCE OF OPERATIONS. ALL CONTROL VOLTAGE WIRING IN EXPOSED AREAS SHALL BE IN CONDUIT.
- REVIEW DRAWINGS AND PROVIDE ALL WORK FOR A COMPLETE AND OPERABLE SYSTEM, INCLUDING ALL INCIDENTALS REQUIRED BY CODE AGENCIES AND LOCAL GOVERNING BODIES. ANY DISCREPANCY NOT BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO THE BID SHALL BE CONSIDERED CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT AND AS THE ARCHITECT DIRECTS.
- LOCATE AND ARRANGE EQUIPMENT INTO THE AVAILABLE SPACE IN A MANNER TO ALLOW FOR ALL WORKING PARTS TO BE ACCESSIBLE FOR MAINTENANCE AND SERVICE.
- FURNISH TO THE OWNER, TWO COPIES OF OPERATING INSTRUCTIONS, MANUFACTURER'S PARTS DATA AND SERVICE INSTRUCTIONS.
- PROVIDE THE NECESSARY REQUIRED NUMBER OF SUBMITTALS FOR ALL MECHANICAL EQUIPMENT, DUCTWORK, AIR DISTRIBUTION AND MATERIALS REQUIRED FOR THESE PLANS AND SPECIFICATIONS.
- ALL PIPING AND DUCTWORK SHALL BE NONCOMBUSTIBLE MATERIAL.
- ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. MANUFACTURER'S SERVICE CLEARANCE FOR ALL EQUIPMENT SHALL BE MAINTAINED.
- ALL EQUIPMENT, DUCTWORK, ETC., SHALL BE SUPPORTED FROM STRUCTURAL MEMBERS AS REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.
- COORDINATE ALL WALL, ROOF AND SLAB PENETRATIONS WITH GENERAL CONTRACTOR AND AS REQUIRED PER STRUCTURAL AND ARCHITECTURAL PLANS AND SPECIFICATIONS.
- STARTERS REQUIRED FOR THE MECHANICAL EQUIPMENT SHALL BE FURNISHED BY DIVISION 15 - MECHANICAL AND INSTALLED BY DIVISION 16 - ELECTRICAL. STARTERS SHALL BE COMBINATION DISCONNECT HAND-OFF AUTO TYPE WITH CONTROL TRANSFORMER AND AUXILIARY CONTACTS.
- DISCONNECT SWITCHES REQUIRED FOR THE MECHANICAL EQUIPMENT SHALL BE PROVIDED BY DIVISION 16 - ELECTRICAL UNLESS NOTED OTHERWISE.
- ALL DUCT AND PIPE PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE PROPERLY PROTECTED WITH A UL RATED FIRE-STOPPING SYSTEM.
- COORDINATE ALL DUCT MOUNTED SMOKE DETECTORS WITH DIVISION - 16 FIRE ALARM AND ELECTRICAL CONTRACTORS.



GENERAL NOTES - H.V.A.C.
SCALE: NTS

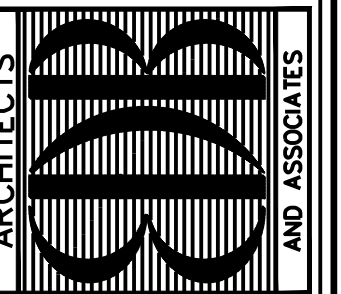
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COMM. NO: OC039/B
DATE: 16 MAY 2022
BY: MS
CHK'D: JS
SHEET NO. **M-O**
OF

PROJECT: STATION #7
FOR: INDIAN RIVER COUNTY FIRE DISTRICT
1840 25TH STREET
VERO BEACH, FL 32960

SEAL: [Professional Engineer Seal]

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NO.	DATE	OWNER CHANGES	REVISIONS
1	9/15/23		

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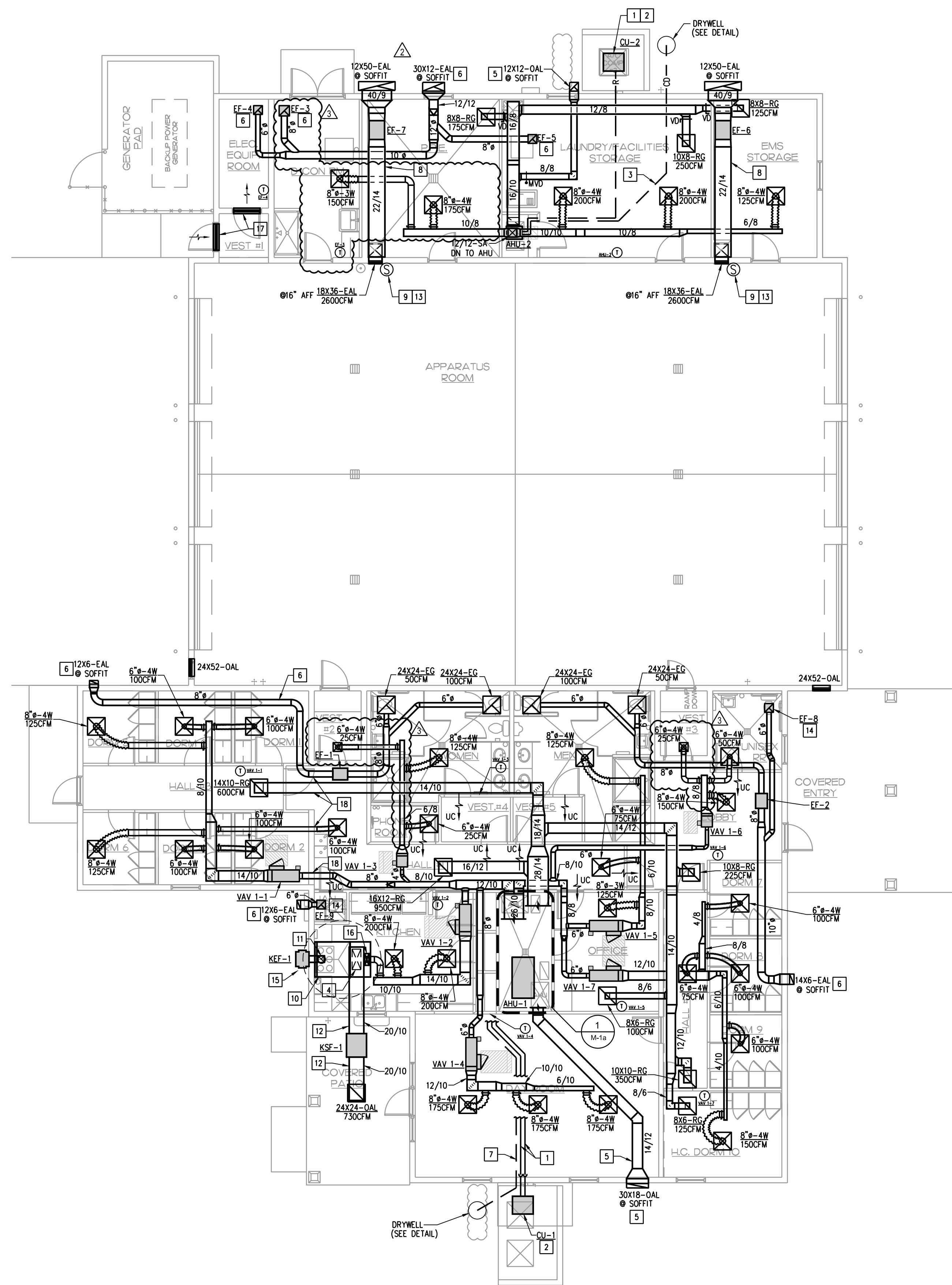
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GENERAL NOTES:

- LOUVER SIZES INDICATED ARE FOR MINIMUM FREE AREA REQUIRED. ACTUAL LOUVER SIZES SHALL BE AS INDICATED ON ARCHITECTURAL PLANS AND ELEVATIONS.
- COORDINATE LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN AND WORK OF ALL OTHER TRADES.
- 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 STANDARD BUILDING CODE.
- COORDINATE THE ELEVATION AND LOCATION OF ALL EXTERIOR WALL MOUNTED LOUVERS WITH ARCHITECTURAL DRAWINGS. ALL EXTERIOR LOUVERS SHALL BE PRIMED AND PREPARED FOR FINAL FINISH.
- COORDINATE DUCT ROUTING WITH LOCATION OF ELECTRICAL PANELS, LIGHT FIXTURES, PLUMBING PIPING, AND ALL OTHER TRADES.
- ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN ALL CLEARANCES REQUIREMENTS FOR SERVICE AND MAINTENANCE. COORDINATE WITH EQUIPMENT MANUFACTURER.
- ALL CONTROL WIRING AND CONDUIT SHALL COMPLY WITH NEC AND DIVISION 16 SPECIFICATIONS.
- DUCTWORK IS TO BE INSTALLED AND SUPPORTED PER SMACNA LOW PRESSURE DUCTWORK REQUIREMENTS.
- ALL DUCTWORK SHALL BE SHEET METAL EXTERNALLY INSULATED (SEE SPECIFICATIONS); ALL DUCTWORK SHALL MEET MINIMUM REQUIREMENTS OF THE FLORIDA ENERGY EFFICIENCY CODE. SEE SPECIFICATIONS.
- ALL DUCTWORK AND INSULATION SHALL BE SEALED WITH GLASS FAB AND MASTIC.
- CONTRACTOR SHALL NOT REDUCE DUCT SIZES.
- PAINT INSIDE OF DUCTS AND PORTIONS OF CEILING ASSEMBLY VISIBLE THROUGH GRILLES OR REGISTERS WITH FLAT BLACK PAINT.
- COORDINATE FINISH OF ALL EXTERIOR DISCHARGE CAPS/ LOUVERS WITH ARCHITECT. PRIME AND PAINT TO MATCH ADJACENT SURFACES. SEE ARCHITECT'S PLANS FOR COLOR TYPE.
- TEST AND BALANCE ALL AIR SYSTEMS IN ACCORDANCE WITH AABC AND/OR NEBB REQUIREMENTS. TEST AND BALANCE CONTRACTOR SHALL BE AABC, NEBB OR TABB CERTIFIED. ALL EQUIPMENT USED FOR TESTING SHALL BE UP TO DATE WITH CALIBRATION CERTIFICATIONS. THE CONTRACTOR SHALL REGULATE AND ADJUST ALL SPLITTERS, DEFLECTORS AND DAMPERS SO THAT THE INLET OR OUTLET SHALL DELIVER OR REMOVE THE REQUIRED NUMBER OF CUBIC FEET OF AIR PER MINUTE (CFM) AT THE RESPECTIVE OPENINGS. BALANCE BUILD TO MAINTAIN A POSITIVE PRESSURE WHILE IN OCCUPIED MODE. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE CONSTRUCTION SUPERINTENDENT, OR HIS REPRESENTATIVE.

H.V.A.C. KEYNOTES [X]:

- ROUTE REFRIGERANT LINES FROM AHU, UP INTO CEILING SPACE AND TERMINATE AT ASSOCIATED CU. CONTRACTOR TO COORDINATE EXACT ROUTING FOR PIPING, SIZE AND INSULATE PER MANUFACTURER'S RECOMMENDATIONS.
- CONCRETE HOUSEKEEPING PAD. PLACE CU AWAY FROM ROOF DRIP LINE. PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCES. COORDINATE LOCATION WITH ARCHITECTURAL AND LANDSCAPE ARCHITECTURAL DRAWINGS. MAXIMUM LENGTH OF REFRIGERANT PIPING SHALL NOT EXCEED 75 FEET OR MANUFACTURER'S RECOMMENDATIONS. SECURE CONDENSING UNIT TO PAD WITH #14 SCREWS WITH GASKETED WASHERS LOCATED 12 INCHES ON CENTER MAXIMUM AROUND CONDENSING UNIT. CONDENSING UNIT TO BE TIED DOWN AS REQUIRED FOR WIND LOAD.
- ROUTE FULL SIZE CONDENSATE DRAIN FROM AHU WITH P-TRAP AND TERMINATE IN DRYWELL BELOW FINISHED GRADE.
- TRANSITION AND CONNECT MAKE-UP AIR DUCT TO EXHAUST HOOD SUPPLY PLENUM PER THE MANUFACTURERS. SEE SHEET M5.1 FOR CONNECTION SIZE AND SUPPLY CFM.
- ROUTE OUTSIDE AIR DUCT WITH MVO TO LOUVER AT EXTERIOR WALL. PRIME AND PAINT LOUVER TO MATCH ADJACENT SURFACES. SEE ARCHITECT'S PLANS FOR COLOR TYPE. MAINTAIN 10' FROM EXHAUST AIR OUTLETS. LOUVER TO BE A RATED WIND DRIVEN LOUVER PROVIDED BY GREENHECK MODEL EWH-501 OR OTHER MANUFACTURER EQUIVALENT.
- ROUTE EXHAUST DUCT FROM EXHAUST FAN TO LOUVER AT EXTERIOR SOFFIT. PRIME AND PAINT LOUVER TO MATCH ADJACENT SURFACES. SEE ARCHITECT'S PLANS FOR COLOR TYPE. MAINTAIN 10' FROM OUTDOOR AIR INTAKES. LOUVER TO BE A RATED WIND DRIVEN LOUVER PROVIDED BY GREENHECK MODEL EWH-501 OR OTHER MANUFACTURER EQUIVALENT.
- ROUTE FULL SIZE CONDENSATE DRAIN FROM AHU TO CU UNDERGROUND IN PVC CHASE TO EXTERIOR OF THE BUILDING. SEAL ENDS OF CHASE WITH FOAM AND TERMINATE IN DRYWELL BELOW GRADE. (SEE DETAIL).
- ROUTE EXHAUST DUCT FROM GRILLE IN APPARATUS BAY TO LOUVER AT EXTERIOR SOFFIT. PRIME AND PAINT LOUVER TO MATCH ADJACENT SURFACES. SEE ARCHITECT'S PLANS FOR COLOR TYPE. MAINTAIN 10' FROM OUTDOOR AIR INTAKES.
- PROVIDE WITH MANUAL OVERRIDE SWITCH.
- REFER TO M5.1 AND M5.2 FOR KITCHEN HOOD DETAILS AND SPECIFICATIONS.
- ROUTE 9x9 WELDED STAINLESS STEEL EXHAUST DUCT TO FAN AT EXTERIOR WALL. WRAP DUCT WITH FIRE WRAP EQUAL TO 3M FIREMASTER. INSTALL IN ACCORDANCE WITH MFG. REQUIREMENTS TO ACHIEVE 1 HR RATING. BOTTOM OF FAN MOUNTED A MINIMUM OF 10' ABOVE GRADE. MAINTAIN MINIMUM 10 FT HORIZONTALLY FROM ADJACENT STRUCTURE.
- ROUTE SUPPLY DUCT TO IN-LINE SUPPLY FAN. SEE ARCHITECTURAL DRAWINGS FOR CEILING ACCESS PANEL AND LOCATION.
- PROVIDE DIESEL EXHAUST AND CO DETECTION SYSTEM FOR APPARATUS BAY. FUEL DETECTION SYSTEM SHALL HAVE OVERRIDE CONTROL ON APPARATUS BAY EXHAUST FANS EF-6&7. SENSOR SHALL BE COMPLETELY WATER RESISTANT. MOUNT SENSOR 48" A.F.F.
- PROVIDE WITH OCCUPANCY SENSOR AND TIME DELAY SWITCH.
- SEE DETAIL OF HORIZONTAL FAN KEF-1 INSTALLATION.
- TRANSITION AND CONNECT SUPPLY AIR DUCT TO EXHAUST HOOD SUPPLY AIR SUPPLY PLENUM PER THE MANUFACTURERS REQUIREMENTS. SEE SHEET M5.1 FOR DETAILS AND CONNECTION SIZE AND TOTAL SUPPLY AIR 240 CFM.
- DOOR LOUVER TO BE PROVIDED.
- CONTRACTOR TO FIELD COORDINATE DUCTWORK ROUTING WITH STRUCTURAL BEAMS & DUCT PENETRATIONS AT FULL HEIGHT WALLS.



BUILDING PLAN - H.V.A.C.
SCALE: 1/8" = 1'-0"

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COMM. NO: C50239/B
DATE: 16 MAY 2022
BY: MS
CHK'D: JS
SHEET NO. **M-1**
OF

PROJECT: STATION #7
FOR: INDIAN RIVER COUNTY FIRE DISTRICT
1840 25TH STREET
VERO BEACH, FL 32960

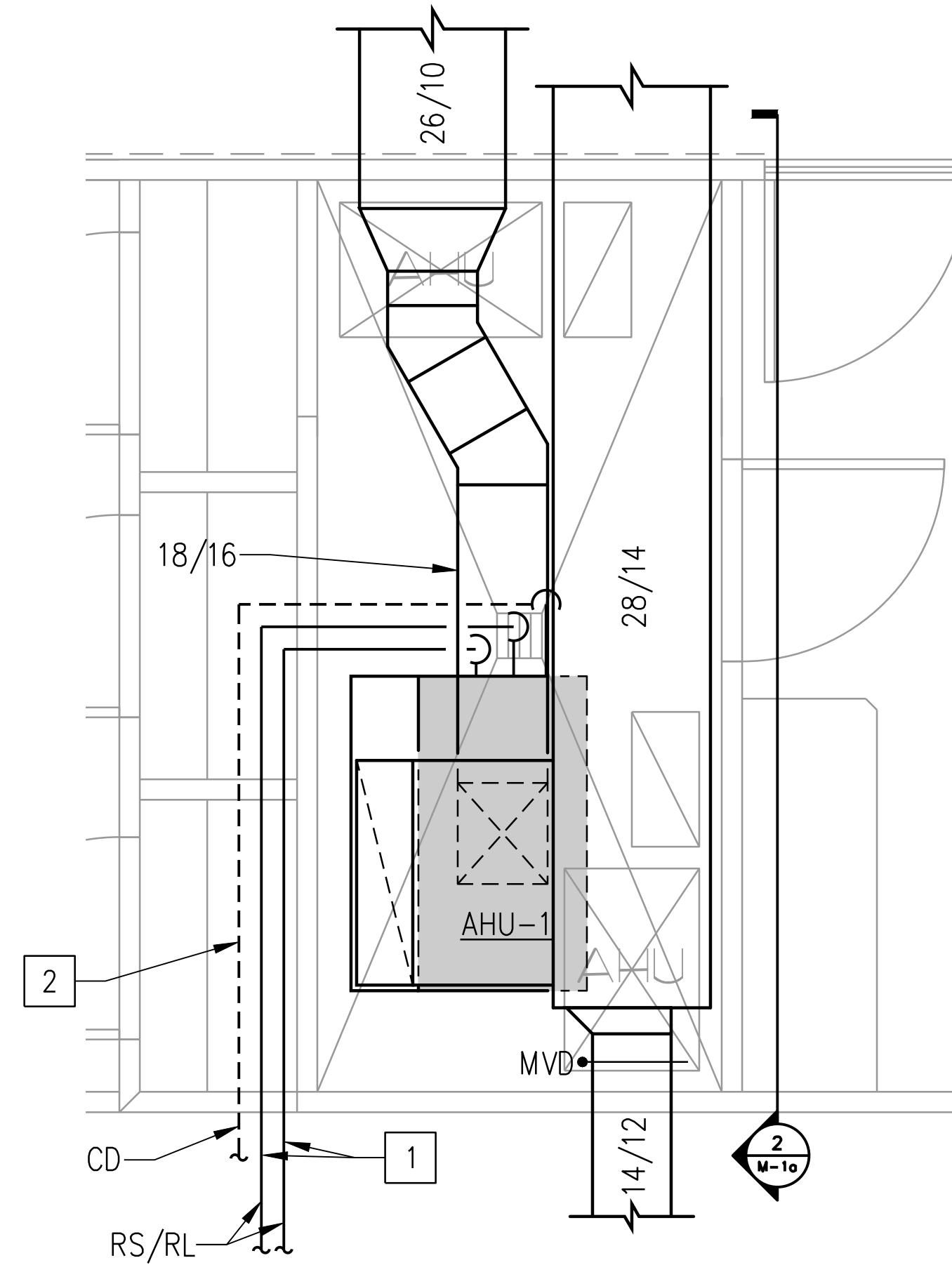
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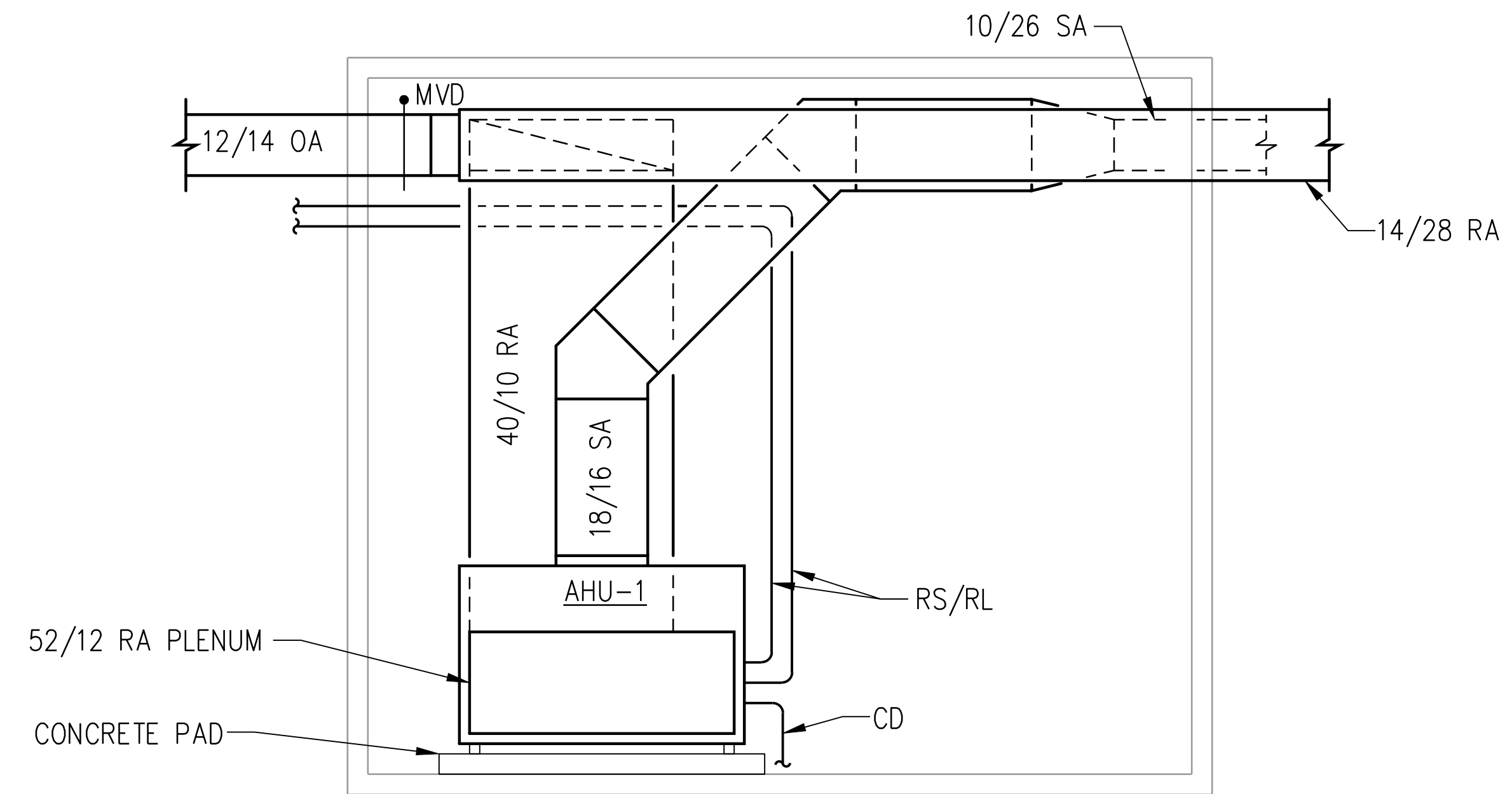
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1 ENLARGED MECH ROOM PLAN
M-1a SCALE: 1/2"=1'-0"



1 ENLARGED MECH ROOM PLAN
M-1a SCALE: 1/2"=1'-0"

ENLARGED MECH ROOM PLANS - H.V.A.C.
SCALE: 1/2"=1'-0"

H.V.A.C. KEYNOTES X:

- ROUTE REFRIGERANT LINES FROM AHU, UP INTO CEILING SPACE AND TERMINATE AT ASSOCIATED CU. CONTRACTOR TO COORDINATE EXACT ROUTING FOR PIPING. SIZE AND INSULATE PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE FULL SIZE CONDESATE DRAIN PIPING FROM AHU TO CU UNDERGROUND IN PVC CHASE WITH FOAM AND TERMINATE IN DRYWELL BELOW GRADE. (SEE DETAIL).

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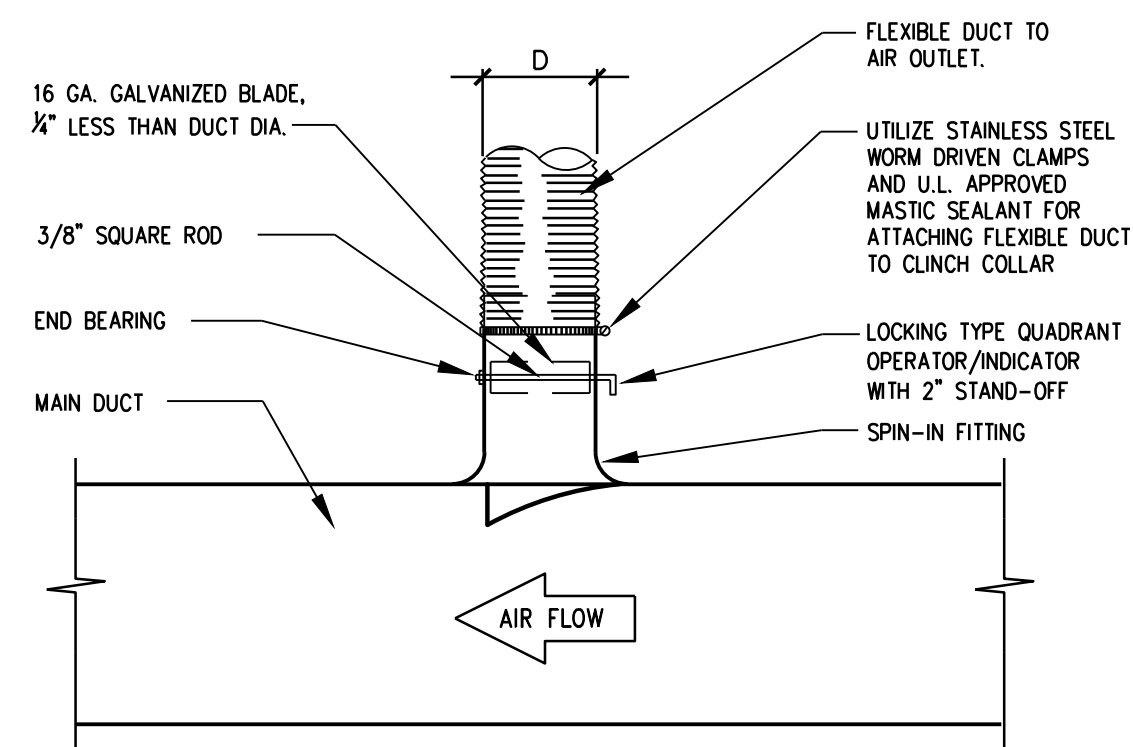
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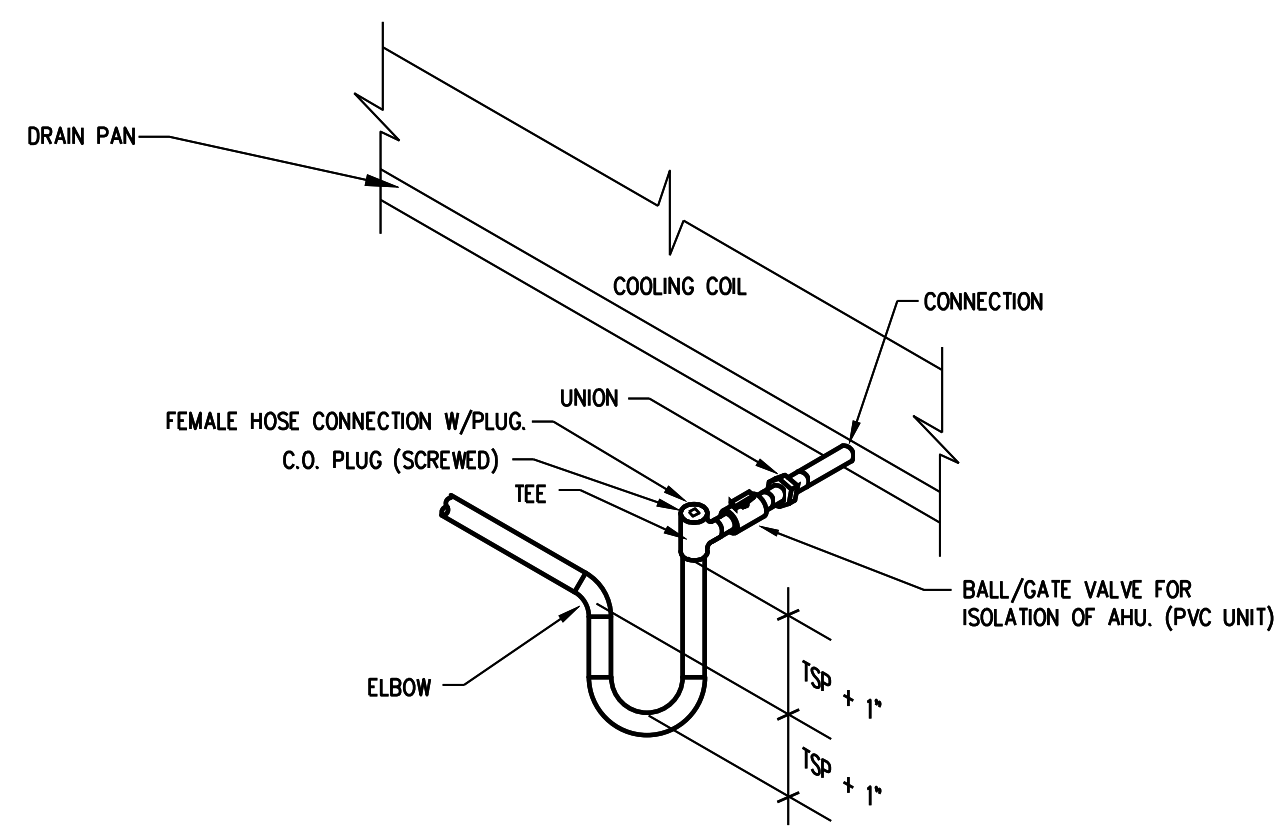
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SHEET NO.
M-1A
OF

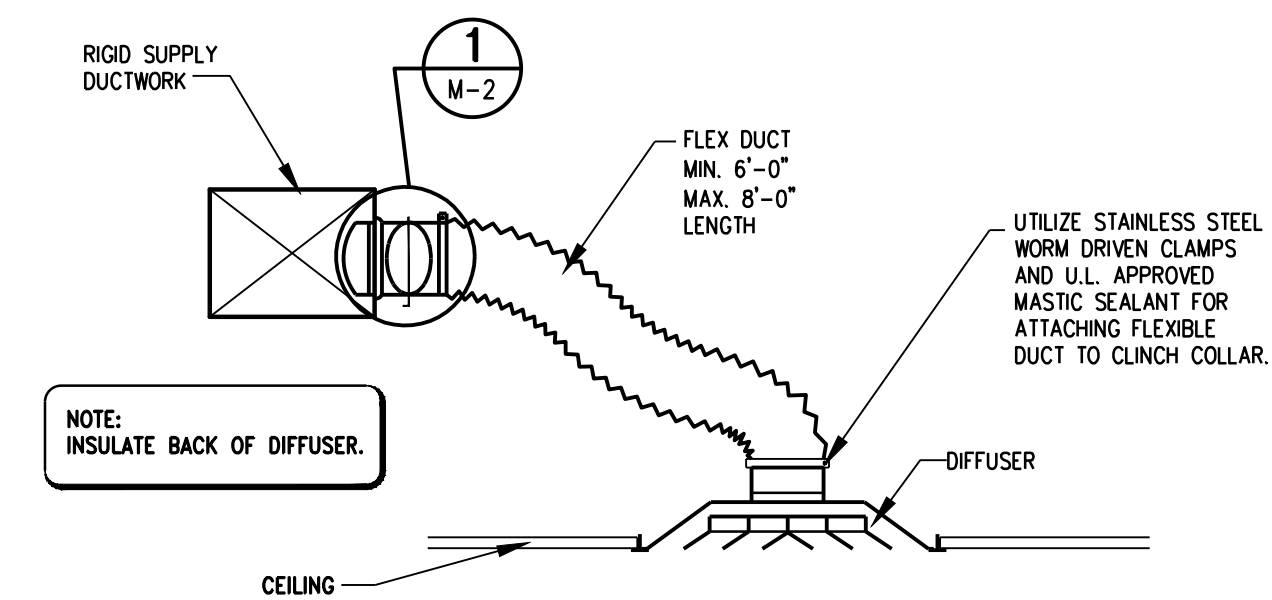
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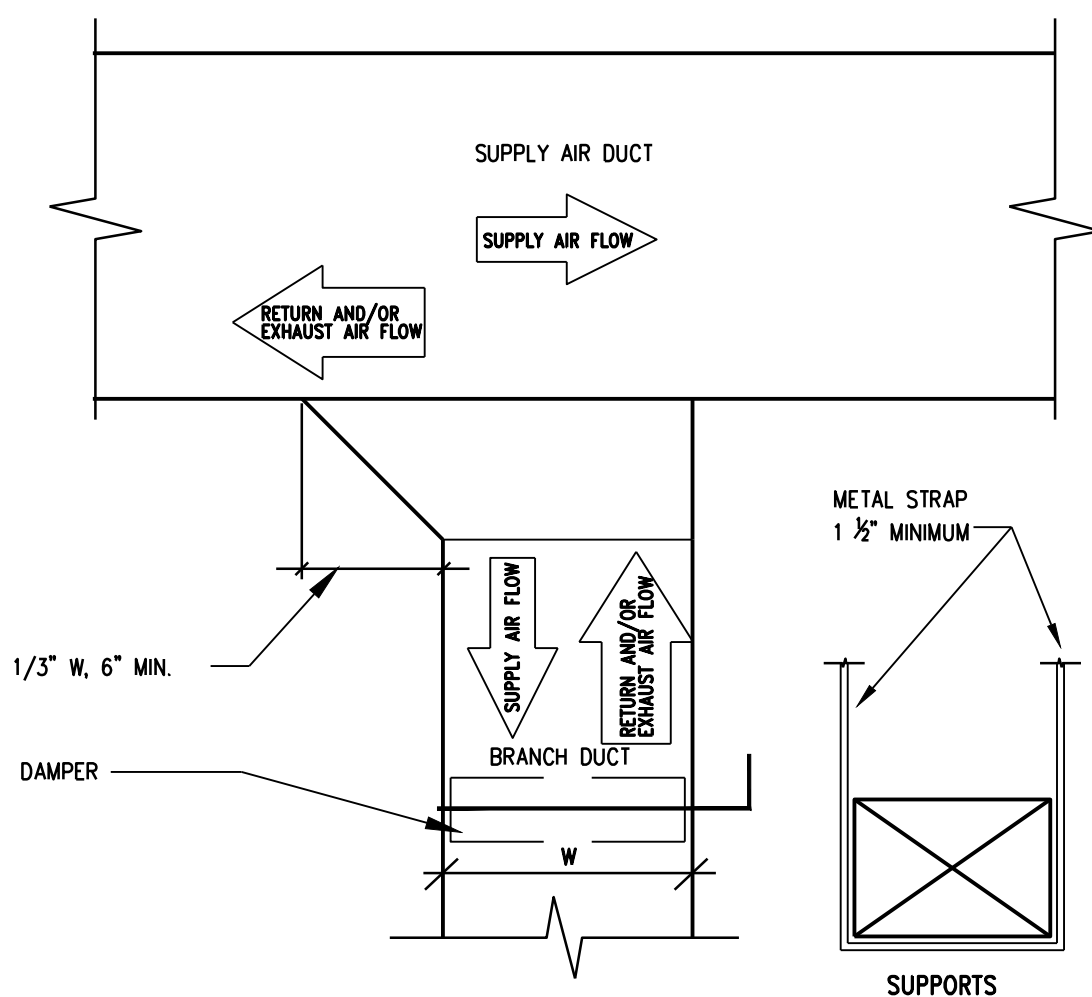
1 SPIN-IN BRANCH CONNECTION TO SINGLE AIR OUTLET
M-2.1 NTS



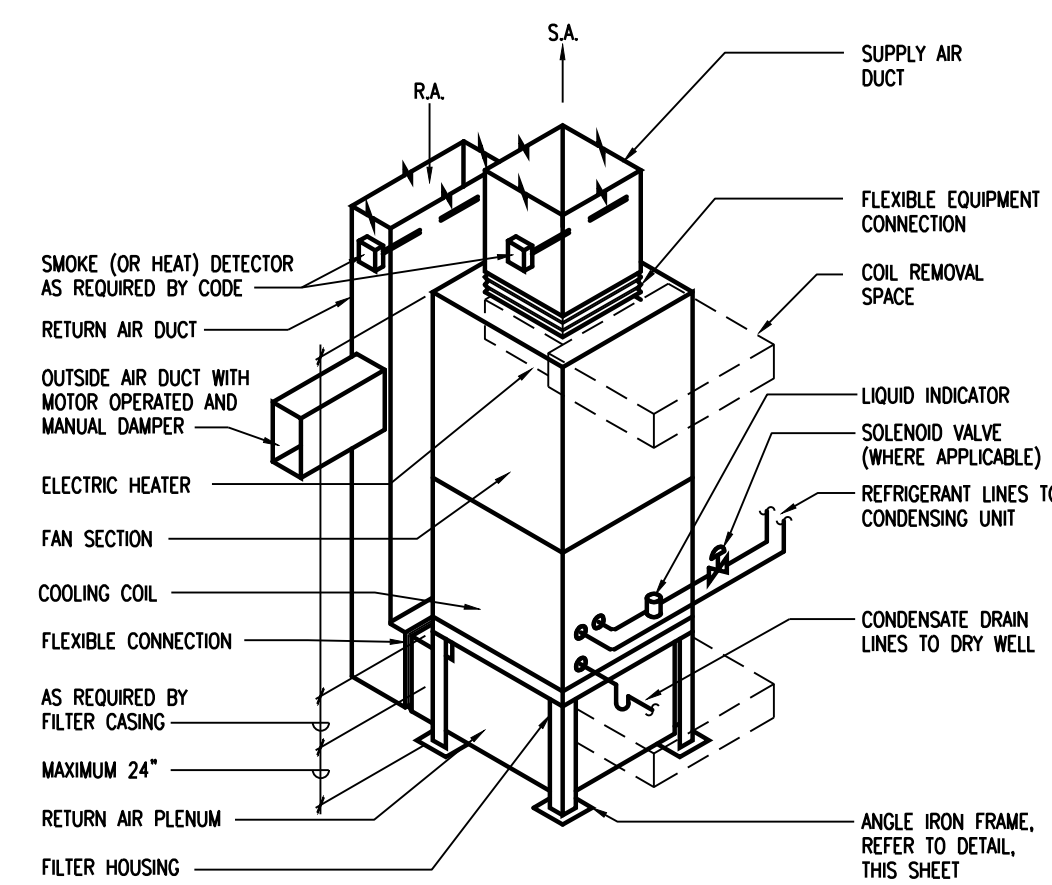
2 CONDENSATE DRAIN DETAIL
M-2.1 NTS



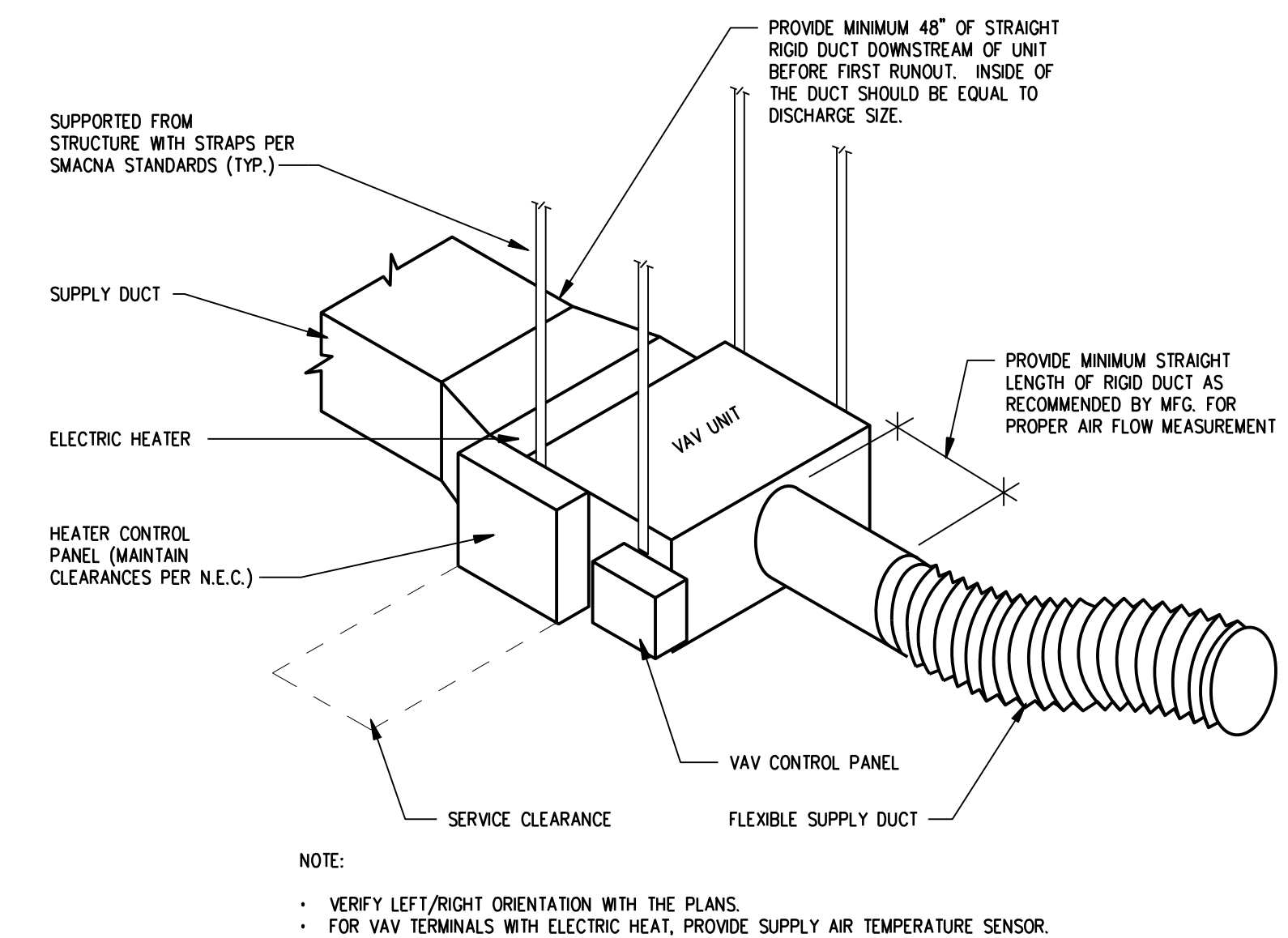
3 DIFFUSER AND FLEX DUCT DETAIL
M-2.1 NTS



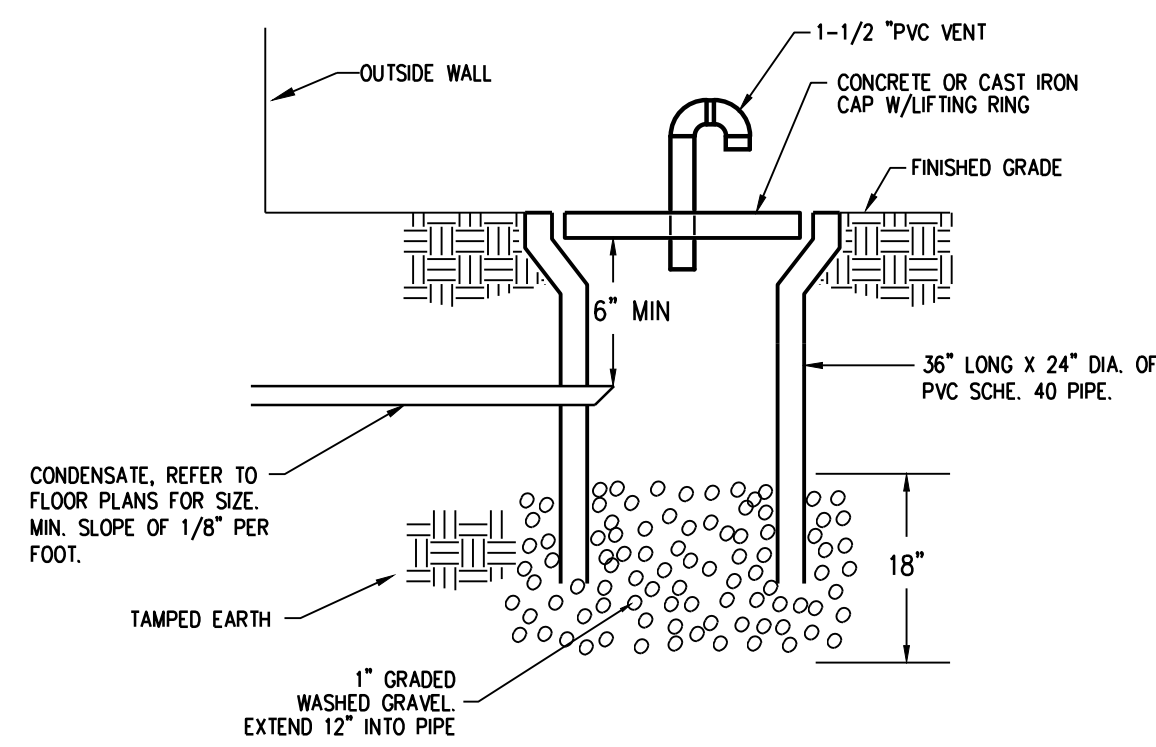
4 DUCT WITH SPLITTER DAMPER AT SINGLE BRANCH
M-2.1 NTS



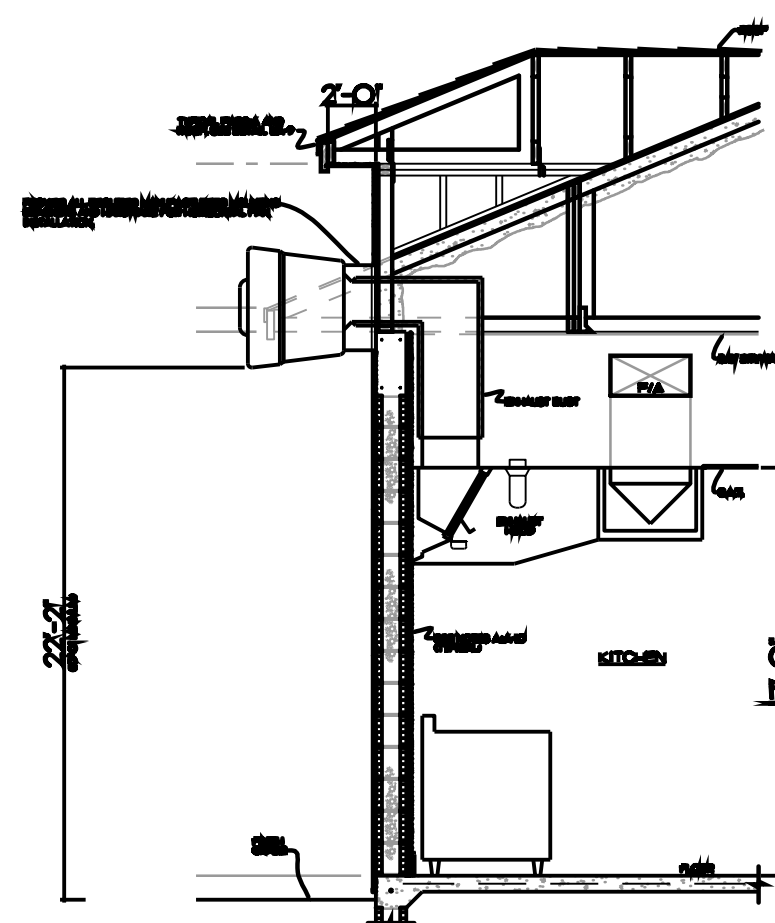
5 TYPICAL VERTICAL AHU DETAIL
M-2.1 NTS



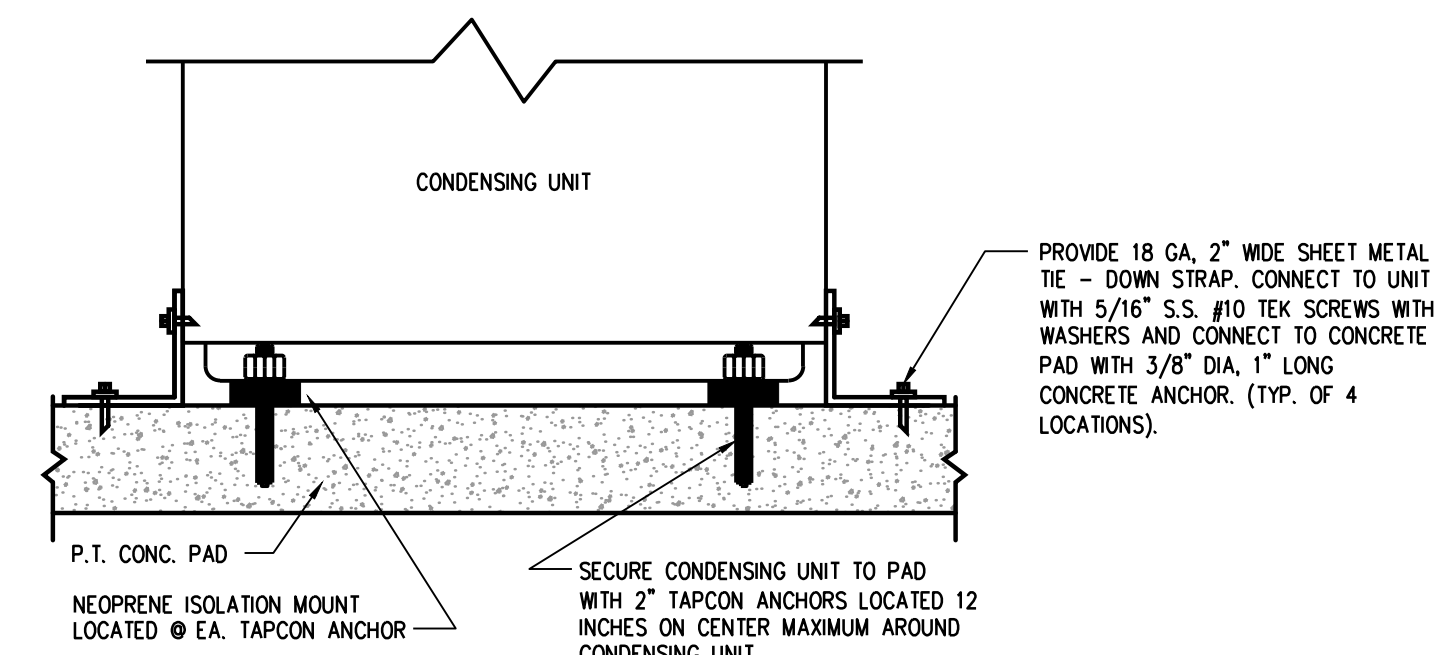
6 VAV TERMINAL UNIT DETAIL
M-2.1 NTS



7 DRYWELL DRAIN DETAIL
M-2.1 NTS



8 KITCHEN HOOD FAN KEF-1 DETAIL
M-2.1 NTS



9 CONDENSING UNIT AT PAD DETAIL
M-2.1 NTS

DETAILS - H.V.A.C.
SCALE: NTS

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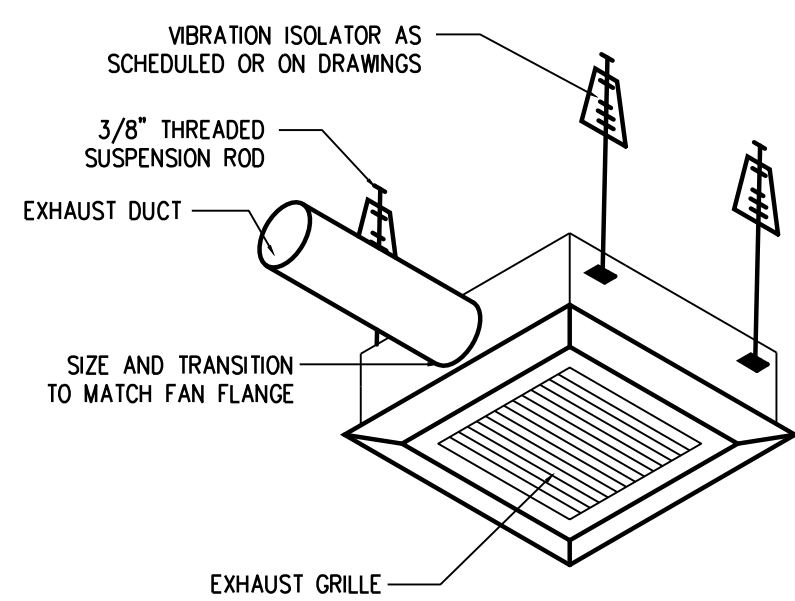
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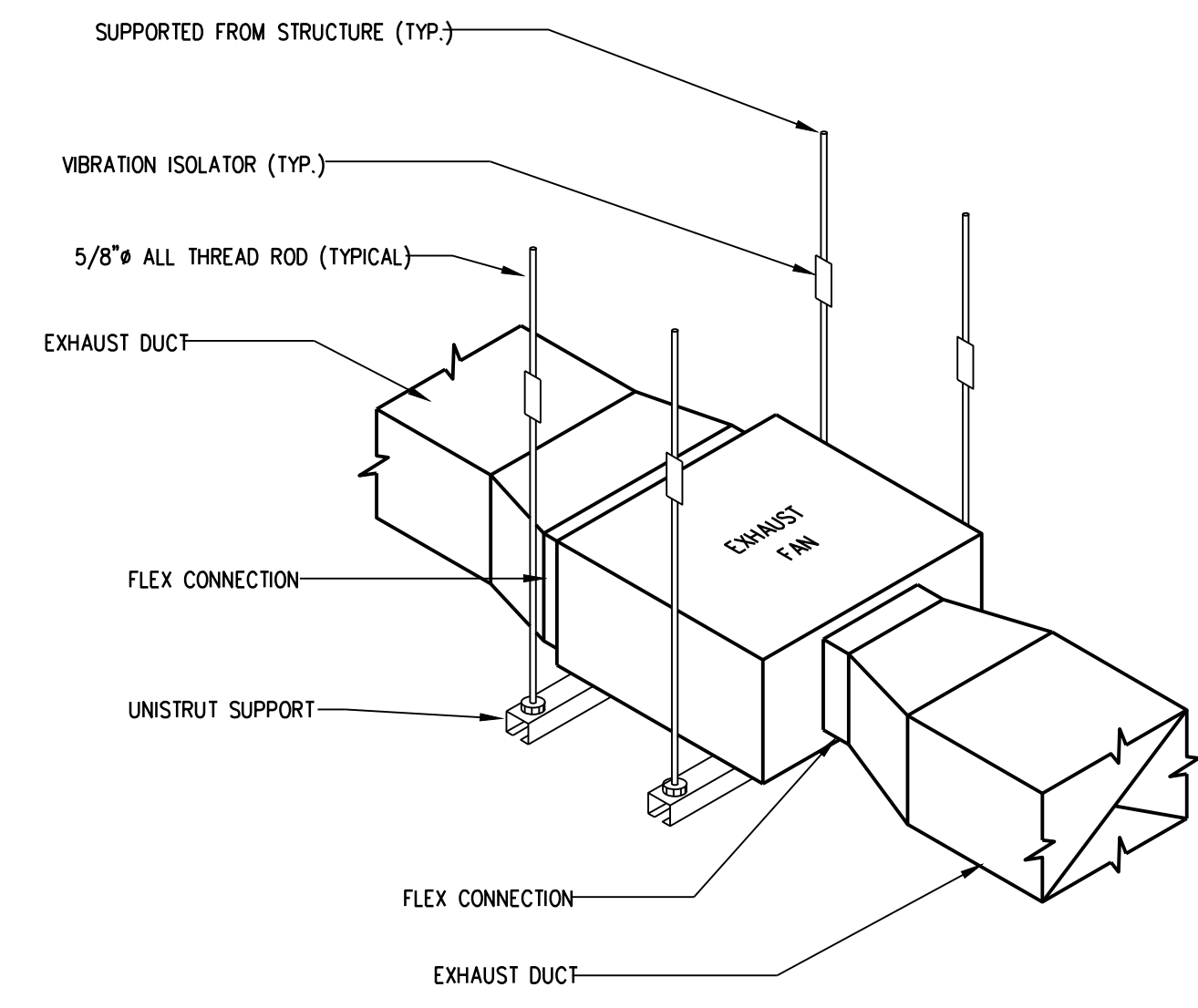
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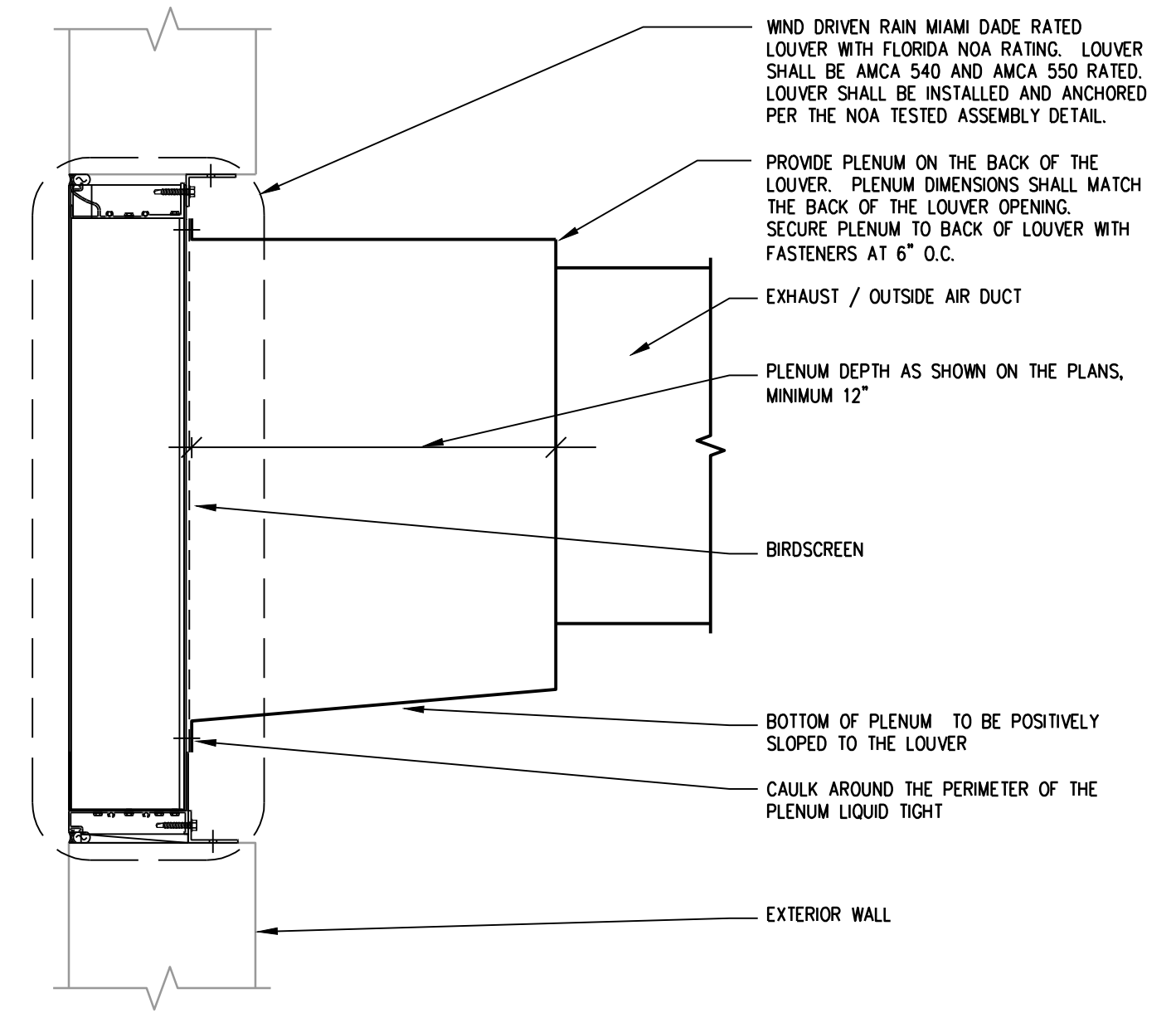


NOTE: CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ANY CEILING ACCESS OPENINGS, WITH MANUFACTURER.

1 CEILING EXHAUST FAN DETAIL
M-2.2 NTS



2 IN-LINE EXHAUST FAN DETAIL
M-2.2 NTS

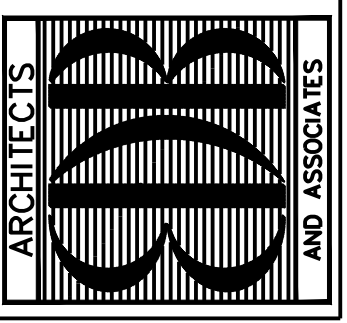


3 TYPICAL LOUVER DETAIL
M-2.2 NTS

DETAILS - H.V.A.C.
SCALE: NTS

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SHEET NO.
M-2.2
OF

VAV UNIT SCHEDULE

MARK	MFG.	MODEL NO.	SIZE	COOLING AIR CFM		HEATING AIR CFM	ΔP'S	ELECTRIC HEATING COIL			NOTES
				MAX.	MIN.			KW	V/PH	NO. OF STEPS	
VAV 1-1	JCI	TSS-EH	08	750	30%	50%	0.18	3.0	208/1	1	(1)(2)(3)
VAV 1-2	JCI	TSS-EH	08	600	30%	50%	0.18	2.0	208/1	1	(1)(2)(3)
VAV 1-3	JCI	TSS-EH	04	175	30%	50%	0.18	1.0	208/1	1	(1)(2)(3)
VAV 1-4	JCI	TSS-EH	06	525	30%	50%	0.18	2.0	208/1	1	(1)(2)(3)
VAV 1-5	JCI	TSS-EH	06	325	30%	50%	0.18	2.0	208/1	1	(1)(2)(3)
VAV 1-6	JCI	TSS-EH	04	225	30%	50%	0.18	1.0	208/1	1	(1)(2)(3)
VAV 1-7	JCI	TSS-EH	06	525	30%	50%	0.18	2.0	208/1	1	(1)(2)(3)

NOTES: (1) PROVIDE WITH INTEGRAL STEP DOWN TRANSFORMER FOR CONTROL POWER. COORDINATE VOLTAGE WITH ELECTRICAL CONTRACTOR.
 (2) PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
 (3) VAV BOXES SHALL BE PRESSURE INDEPENDENT WITH DDC CONTROLS (FACTORY INSTALLED)

SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE

MARK	AREA SERVED	INDOOR UNIT										COOLING CAPACITY		OUTDOOR UNIT						EQUAL TO		NOTES						
		FAN					ELECTRIC HEATER					TC (MBH)	SC (MBH)	CONDENSER FAN(S)			COMPRESSOR(S)			MFG.	MODEL							
		CFM	O/A	E.S.P. (IN.)	HP	V/φ	KW	# OF STEPS	V/φ	MCA	MOCP			WEIGHT (LBS.)	QTY.	V/φ	FLA (EA.)	QTY.	V/φ				RLA	LRA	MCA	MOCP	WEIGHT (LBS.)	EER [SEER]
AHU-1/CU-1	DORM ROOMS	3150	800	1.0	3.0	208/3	-	-	-	10.4	15	573	122.7	86.7	1	208/3	2.8	2	208/3	15.7	110	50.9	60	433	11.2	YORK	J10NLC0002BEJ4/J10YCC00A2QLM5	(1)(2)(3)(4)(5)(6)
AHU-2/CU-2	STORAGE	850	150	0.5	1/3	208/1	3.66	1	208/1	3.5	15	113	30.0	18.7	1	208/1	-	1	208/1	12.8	67.8	18.8	30	165	[17.5]	YORK	AE30B21/YCG30B21S	(1)(2)(3)(4)(5)(6)

NOTES: (1) PROVIDE WITH WALL MOUNTED ELECTRONIC DIGITAL THERMOSTAT, TO BE TIED INTO CENTRAL BCU SYSTEM.
 (2) COORDINATE REFRIGERANT PIPING LENGTH WITH MANUFACTURER.
 (3) PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.
 (4) PROVIDE WITH SINGLE POINT CONNECTION FOR ELECTRIC HEATER AND FAN FOR INDOOR UNIT.
 (5) PROVIDE SMOKE DETECTORS IN THE SUPPLY DUCTWORK TO SHUT THE UNIT DOWN UNDER ALARM CONDITION AS REQUIRED BY LOCAL/STATE CODES.
 (6) PROVIDE 4" MERV 11 FILTER.

GENERAL NOTES: (1) EACH AIR HANDLER AND ASSOCIATED CONDENSING UNIT SHALL BE PROVIDED WITH AN ENGRAVED NAMEPLATE SHOWING SPECIFIC UNIT DESIGNATION.
 (2) PROVIDE WITH FACTORY INSTALLED THERMAL EXPANSION VALVE.
 (3) PROVIDE WITH FACTORY INSTALLED CONDENSATE FLOAT SWITCHES.

BIPOLAR ION GENERATOR SCHEDULE

UNIT No.	MAX TREATED AIRFLOW	QTY	ELECTRODE PAIRS	DRY CONTACTS	POWER (VA) (EACH)	VARIABLE OUTPUT	MFG.	MODEL	NOTES
AHU-1	3150	1	2	INCLUDED	1.6	INTEGRAL	PLASMA AIR	NP7300	(1)(2)(3)(4)
AHU-2	700	1	1	INCLUDED	0.8	INTEGRAL	PLASMA AIR	NP100	(1)(2)(3)(4)

NOTES: (1) ION GENERATORS SHALL HAVE AUTOMATIC FAULT RESET. MANUAL FUSE REPLACEMENT IS NOT ALLOWED.
 (2) INSTALL "NP" ION GENERATORS IN AHU OR SUPPLY DUCT IN AN ACCESSIBLE LOCATION.
 (3) ION GENERATORS SHALL BE POWERED FROM 24V FAN CONTROL CIRCUIT.
 (4) ION GENERATING NEEDLES SHALL BE RECESSED. EXPOSED NEEDLES WILL NOT BE ACCEPTED.

FAN SCHEDULE

MARK	SERVICE	TYPE	FAN		MOTOR		EQUAL TO		NOTES	
			TOTAL EXHAUST CFM	FAN RPM	BHP [WATTS]	V/φ	E.S.P.	MFG.		MODEL
EF-1	WOMENS	IN-LINE	150	1725	0.03	120/1	0.20	GREENHECK	SO-60A	(1)(2)(3)(4)(5)
EF-2	MENS	IN-LINE	150	1725	0.03	120/1	0.20	GREENHECK	SO-60A	(1)(2)(3)(4)(5)
EF-3	D-CON ROOM	CEILING	200	836	[43]	120/1	0.25	GREENHECK	SP-A200	(1)(2)(3)(4)
EF-4	ELEC ROOM	CEILING	100	1053	[18]	120/1	0.25	GREENHECK	SP-A125	(1)(2)(3)(4)
EF-5	LAUNDRY	CEILING	150	708	[26]	120/1	0.25	GREENHECK	SP-A200	(1)(2)(3)(6)
EF-6	BAY	IN-LINE	2600	1090	0.48	120/1	0.50	GREENHECK	SO-160-VG	(1)(2)(3)
EF-7	BAY	IN-LINE	2600	1090	0.48	120/1	0.50	GREENHECK	SO-160-VG	(1)(2)(3)
EF-8	LOBBY RR	CEILING	100	950	[100]	120/1	0.25	GREENHECK	SP-110B	(1)(2)(3)(5)
EF-9	JANITOR	CEILING	100	950	[100]	120/1	0.25	GREENHECK	SP-110B	(1)(2)(3)(5)

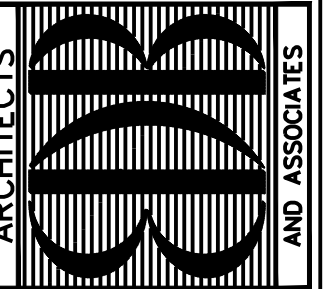
NOTES: (1) PROVIDE DISCONNECT SWITCH MOUNTED AT THE UNIT.
 (2) PROVIDE WITH BACKDRAFT DAMPER.
 (3) PROVIDE WITH SOLID STATE VARIABLE SPEED CONTROLLER MOUNTED AT THE UNIT.
 (4) PROVIDE REVERSE ACTING LINE VOLTAGE THERMOSTAT TO CONTROL FAN OPERATION.
 (5) FAN SHALL BE CONTROLLED VIA OCCUPANCY SENSOR AND TIME DELAY SWITCH.
 (6) FAN SHALL RUN CONTINUOUSLY.

AIR DISTRIBUTION DEVICE SCHEDULE

MARK / LEGEND	TYPE	MFG.	MODEL	NOTES
GRILLE SIZE → 8X8-EG AIR QUANTITY → 200CFM	CEILING OR SIDEWALL EXHAUST AIR GRILLE	PRICE	630	(1)(5)(6)
GRILLE SIZE → 8X8-RG AIR QUANTITY → 200CFM	SIDEWALL MOUNTED RETURN AIR GRILLE	PRICE	630FF	(2)(3)(5)(6)
NECK SIZE → 10"ø-4W ← THROW AIR QUANTITY → 300CFM	CEILING MOUNTED SQUARE SUPPLY DIFFUSER	PRICE	ASDA -3 CONE	(1)(5)(6)(7)
NECK SIZE → 10"ø-PD AIR QUANTITY → 300CFM	CEILING MOUNTED PLAQUE SUPPLY DIFFUSER	PRICE	ASPD	(2)(4)(5)(6)(7)
REGISTER SIZE → 8X8-SW AIR QUANTITY → 200CFM	SIDEWALL MOUNTED SUPPLY AIR REGISTER	PRICE	620D	(6)
LOUVER SIZE → 24X24-OAL	SOFFIT OR WALL MOUNTED OUTSIDE AIR INTAKE LOUVER	GREENHECK	EHH-501X	(8)(9)
LOUVER SIZE → 24X24-EAL	SOFFIT OR WALL MOUNTED EXHAUST AIR LOUVER	GREENHECK	EVH-501	(8)(9)
GRILLE SIZE → 8X8-IG AIR QUANTITY → 200CFM	CEILING OR SIDEWALL TRANSFER AIR GRILLE	PRICE	630	(1)(5)(6)

NOTES: (1) PROVIDE WITH OPPOSED BLADE DAMPER.
 (2) ALL DIFFUSERS/GRILLES INSTALLED IN LAY-IN TILE CEILING SHALL HAVE LAY-IN STYLE BORDERS WITH FULL 24X24 MODULES.
 (3) GRILLES LOCATED IN PARTIAL TILE SPACES SHALL BE PROVIDED WITH 24X12 MODULES SIZES.
 (4) ALL RETURN GRILLES ARE 22X22 FULLY LOUVERED FACE UNLESS NOTED OTHERWISE ON THE PLANS.
 (5) PROVIDE SQUARE TO ROUND NECK TRANSITION WHERE APPLICABLE.
 (6) COORDINATE BORDER TYPES WITH ARCHITECTURAL FLOOR PLAN AND REFLECTED CEILING PLAN.
 (7) COORDINATE THROW PATTERN WITH FLOOR PLANS.
 (8) PROVIDE COMPLETE WITH WALL SLEEVE AND BIRDSCREEN.
 (9) PRIME AND PAINT TO MATCH ADJACENT SPACES.

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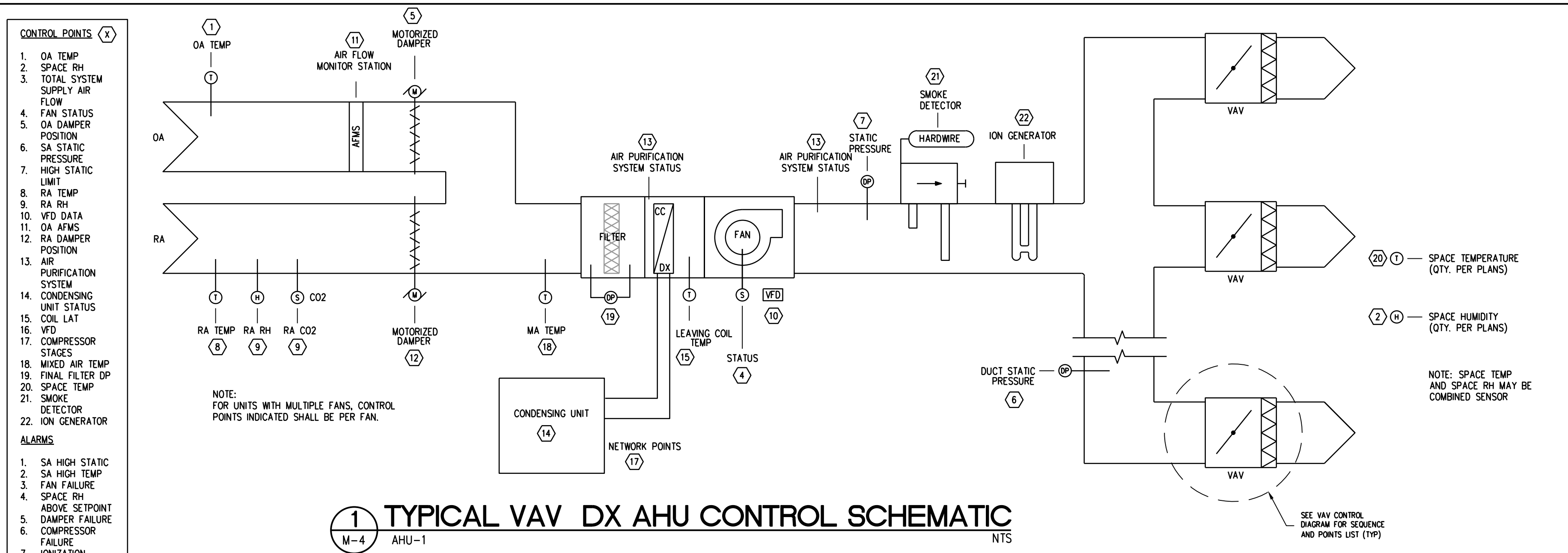
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SHEET NO.
M-3
 OF

SCHEDULES - H.V.A.C.
 SCALE 1/8" = 1'-0"





1 TYPICAL VAV DX AHU CONTROL SCHEMATIC
M-4 AHU-1 NTS

CONTROL POINTS

- OA TEMP
- SPACE RH
- TOTAL SYSTEM SUPPLY AIR FLOW
- FAN STATUS
- OA DAMPER POSITION
- SA STATIC PRESSURE
- HIGH STATIC LIMIT
- RA TEMP
- RA RH
- VFD DATA
- OA AFMS
- RA DAMPER POSITION
- AIR PURIFICATION SYSTEM UNIT STATUS
- CONDENSING UNIT STATUS
- COIL LAT
- VFD
- COMPRESSOR STAGES
- MIXED AIR TEMP
- FINAL FILTER DP
- SPACE TEMP
- SMOKE DETECTOR
- ION GENERATOR

ALARMS

- SA HIGH STATIC
- SA HIGH TEMP
- FAN FAILURE
- SPACE RH ABOVE SETPOINT
- DAMPER FAILURE
- COMPRESSOR FAILURE
- IONIZATION SYSTEM FAILURE
- OA MINIMUM AIRFLOW
- FREZE PROTECTION

SEQUENCE OF OPERATIONS:

THE SYSTEM OCCUPANCY MODE WILL BE DETERMINED BY A TIME OF DAY SCHEDULE WHICH WILL BE ADJUSTABLE VIA BAS USER INTERFACE.

OCCUPIED MODE:

DURING OCCUPIED PERIODS, THE SUPPLY FAN WILL RUN CONTINUOUSLY. THE SYSTEM WILL OPERATE IN HEATING MODE OR COOLING MODE IN ACCORDANCE WITH CALLS FOR HEATING OR COOLING FROM THE ASSOCIATED VAV TERMINAL UNITS.

UNOCCUPIED MODE:

DURING UNOCCUPIED PERIODS, THE SUPPLY FAN AND COOLING WILL BE DISABLED. IF AN OCCUPIED OVERRIDE IS INITIATED, THE SYSTEM WILL OPERATE IN THE OCCUPIED MODE UNTIL THE OVERRIDE EXPIRES OR IS CANCELED.

TEMPERATURE CONTROL:

THE BAS WILL SCAN THE UNIT CONTROLLERS OF THE ASSOCIATED TERMINAL UNITS TO DETERMINE THE DEVIATIONS FROM THE TEMPERATURE SET POINT, TIME OF DEVIATION, TIME FROM LAST CHANGEOVER, AND NUMBER OF ZONES REQUIRING HEATING OR COOLING. BASED UPON THIS INFORMATION, THE SYSTEM HEAT/COOL MODE AND SUPPLY AIR TEMPERATURE SET POINT WILL BE SELECTED. THE BAS WILL ALSO MONITOR THE SYSTEM SUPPLY AIR TEMPERATURE TO DETERMINE CAPACITY STAGING REQUIREMENTS AND TO ENSURE THAT HIGH AND LOW TEMPERATURE LIMITS ARE NOT VIOLATED.

FAN CONTROL:

WHEN THE FAN IS INDEXED TO START VIA THE OPERATIONAL MODE SELECTION, THE VARIABLE FREQUENCY DRIVE SHALL INCREASE THE SUPPLY FAN(S) SPEED SLOWLY OVER A PERIOD OF 1 MINUTE (ADJ.) TO ACHIEVE THE DUCT STATIC PRESSURE SETPOINT. THE VARIABLE FREQUENCY DRIVE SHALL CONTINUE TO MODULATE THE FAN SPEED AS REQUIRED TO MAINTAIN THE CURRENT STATIC PRESSURE SETPOINT.

FAN STATIC PRESSURE SETPOINT RESET:

THE BAS 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 AHU GRAPHICS SCREEN SHALL INCLUDE THE CURRENT STATIC PRESSURE SETPOINT AND CURRENT STATIC PRESSURE READING 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.

COOLING COIL CONTROL:

WHEN SYSTEM IS ENABLED, THE COMPRESSOR(S) SHALL STAGE TO MAINTAIN THE LEAVING AIR TEMPERATURE SETPOINT.

SUPPLY AIR TEMPERATURE RESET:

THE BAS SHALL CONTINUOUSLY MONITOR THE ZONE SPACE TEMPERATURES, RETURN AIR TEMPERATURE, RETURN AIR HUMIDITY AND ZONE SPACE HUMIDITY (WHERE APPLICABLE). THE SYSTEM SHALL EVALUATE THE SUPPLY AIR LEAVING CONDITIONS EVERY 5 MINUTES (ADJ.).

THE SYSTEM SHALL HAVE A MINIMUM AND MAXIMUM SETTINGS FOR THE SUPPLY AIR LEAVING TEMPERATURE SETPOINT. THE MINIMUM SETTING SHALL BE AS SCHEDULED (ADJ.) AND THE MAXIMUM SHALL BE 65F (ADJ.). UPON INITIAL STARTUP THE MINIMUM SETPOINT SHALL BE THE STARTING POINT FOR THE LEAVING AIR TEMPERATURE SETPOINT.

IF THERE ARE NO RELATIVE HUMIDITY ALARMS IN EXCESS OF 65% (ADJ.) AND ALL ZONE SPACE TEMPERATURES ARE WITHIN 1/2F (ADJ.) ABOVE THE SPACE TEMPERATURE SETPOINT, THE SUPPLY AIR LEAVING TEMPERATURE SETPOINT SHALL INCREASE BY 1F.

IF THERE ARE ANY RELATIVE HUMIDITY ALARMS IN EXCESS OF 65% (ADJ.) OR ANY ZONE SPACE TEMPERATURES THAT ARE MORE THAN 1/2F (ADJ.) ABOVE THE SPACE TEMPERATURE SETPOINT, THE SUPPLY AIR LEAVING AIR TEMPERATURE SETPOINT SHALL BE DECREASED BY 1F.

THE ABILITY SHALL BE PROVIDED TO BLACKLIST ANY PROBLEM ZONE THAT WILL NOT BE CONSIDERED IN THE LEAVING AIR TEMPERATURE

SETPOINT ADJUSTMENT:

THE AHU GRAPHICS SCREEN SHALL INCLUDE THE CURRENT SUPPLY AIR TEMPERATURE SETPOINT AND CURRENT SUPPLY AIR TEMPERATURE READING AS WELL AS IDENTIFY ANY ZONES THAT ARE NOT SATISFIED IN TERMS OF SPACE TEMPERATURE.

OUTSIDE AIR FLOW CONTROL:

WHEN ENABLED, THE OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE TO MAINTAIN THE OUTDOOR AIR FLOW SETPOINT PER THE FOLLOWING: THE RETURN DAMPER SHALL REMAIN FULLY OPEN WHILE THE OUTSIDE AIR DAMPER IS MODULATED TO MAINTAIN THE SETPOINT. IN THE EVENT THAT THE OUTSIDE AIR DAMPER IS FULLY OPEN AND THE OUTSIDE AIR IS BELOW THE SETPOINT, THEN THE RETURN AIR DAMPER SHALL MODULATE CLOSED AS REQUIRED TO MAINTAIN THE OUTSIDE AIR FLOW SETPOINT. THE SEQUENCE WILL OCCUR IN REVERSE ORDER AS THE RETURN AIR MODULATES OPEN. AT NO TIME ARE THE OUTSIDE AIR DAMPER AND RETURN DAMPER TO MODULATE AT THE SAME TIME. A RETURN AIR MINIMUM DAMPER POSITION OF 30% (ADJ.) SHALL BE MAINTAINED AND THE RETURN AIR DAMPER SHALL NEVER BE ABLE TO GO FULLY CLOSED.

AIR PURIFICATION SYSTEM CONTROL:

THE AIR PURIFICATION SYSTEM SHALL BE ENABLED WHEN THE SUPPLY FAN IS ENERGIZED.

SAFETIES / ALARMS:

MINIMUM SYSTEM FLOW VAV OVERRIDE:

THE BAS SHALL MONITOR TOTAL SYSTEM AIRFLOW CONTINUOUSLY VIA AIRFLOW MONITORING STATION. UPON A DROP IN TOTAL SYSTEM AIRFLOW BELOW THE MANUFACTURER RECOMMENDED MINIMUM, THE VAV TERMINALS FED FROM THE AHU SHALL OVERRIDE THE VAV MINIMUM SETPOINTS TO THE PERCENT OF MINIMUM AIRFLOW TO TOTAL AIRFLOW. ONCE THE TOTAL AIRFLOW EXCEEDS THE MINIMUM AIRFLOW REQUIREMENT BY 10% (ADJ.), THE OVERRIDE SHALL BE RELEASED.

FIRE PROTECTION:

DUCT SMOKE DETECTORS SHALL BE LOCATED IN THE SUPPLY AND RETURN DUCTS IN ACCORDANCE WITH NFPA 72. UPON SENSING SMOKE A DETECTOR SHALL SHUT OFF THE UNIT FAN AND THE ASSOCIATED EXHAUST FAN(S), IF ANY. THE SMOKE DETECTORS SHALL BE MANUALLY RESET FROM THE FIRE ALARM PANEL.

FAN FAILURE:

ANYTIME A UNIT FAN OR EXHAUST FAN FAILS TO RUN AFTER 5 MINUTES OF BEING COMMANDED 'ON' BY THE BAS AN ALARM SHALL BE GENERATED AT THE BCS FRONT END COMPUTER. LIKEWISE, ANYTIME A

UNIT FAN OR EXHAUST FAN CONTINUES TO RUN AFTER BEING COMMANDED OFF BY THE BAS AN ALARM SHALL BE GENERATED AT THE BCS FRONT END COMPUTER.

HUMIDITY ALARM:

AN ALARM SHALL BE GENERATED AT THE BAS FRONT END COMPUTER ANYTIME THE ZONE RETURN AIR RELATIVE HUMIDITY EXCEEDS THE HUMIDITY HIGH LIMIT OF 60% RH DURING OCCUPIED TIMES.

FREZE PROTECTION:

IF THE OUTDOOR AIR TEMP AFTER THE PREHEATING COIL DROPS BELOW 35 DEG F, THEN THE OUTSIDE AIR DAMPER SHALL CLOSE. IF THIS OCCURS, AND ALARM WILL BE GENERATED AT THE BCS FRONT END COMPUTER AND THE DAMPER SHALL REMAIN CLOSED UNTIL THE NEXT TIME OF DAY PROGRAM OR MANUAL RESET.

HIGH STATIC ALARM:

AN ALARM SHALL BE GENERATED IN THE EVENT THE HIGH DUCT STATIC PRESSURE SWITCH IS TRIPPED (WITH MANUAL RESET).

AIR PURIFICATION SYSTEM FAILURE:

ALARM SHALL BE GENERATED IF THE AIR PURIFICATION SYSTEM IS NOT FUNCTIONING.

DAMPER FAILURE:

AN ALARM SHALL BE GENERATED IF ANY CONTROL DAMPER POSITION FEEDBACK IS NOT WITH 5% (ADJ.) OF THE DAMPER POSITION SIGNAL FOR A PERIOD OF 5 MINUTES (ADJ.).

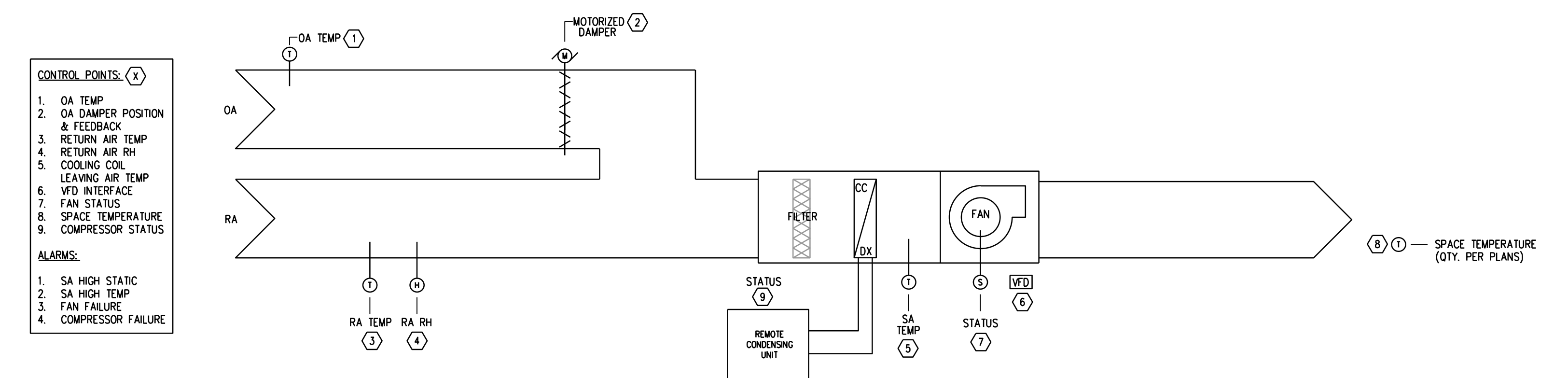
OUTSIDE AIR MINIMUM FLOW:

IF OUTSIDE AIR IS NOT MAINTAINED WITHIN 10% OF THE MINIMUM SETPOINT FOR A PERIOD OF 10 MINUTES (ADJ.) AN ALARM SHALL BE GENERATED.

INDOOR AIR QUALITY AIR CLEANING:

AHU SHALL BE ADAPTED WITH NEEDLE POINT BI-POLAR IONIZATION GENERATOR AND SHALL BE INSTALLED IN THE MAIN SUPPLY AIR STREAM OF THE AHU. IONIZATION GENERATOR TO BE INTERLOCKED WITH THE AHU AND SHALL ONLY OPERATE WHILE THE UNIT IS RUNNING.

3 CONSTANT VOLUME AHU CONTROL SCHEMATIC
M-4 AHU-2 NTS



CONTROL POINTS

- OA TEMP
- OA DAMPER POSITION & FEEDBACK
- RETURN AIR TEMP
- RETURN AIR RH
- COOLING COIL LEAVING AIR TEMP
- VFD INTERFACE
- FAN STATUS
- SPACE TEMPERATURE
- COMPRESSOR STATUS

ALARMS:

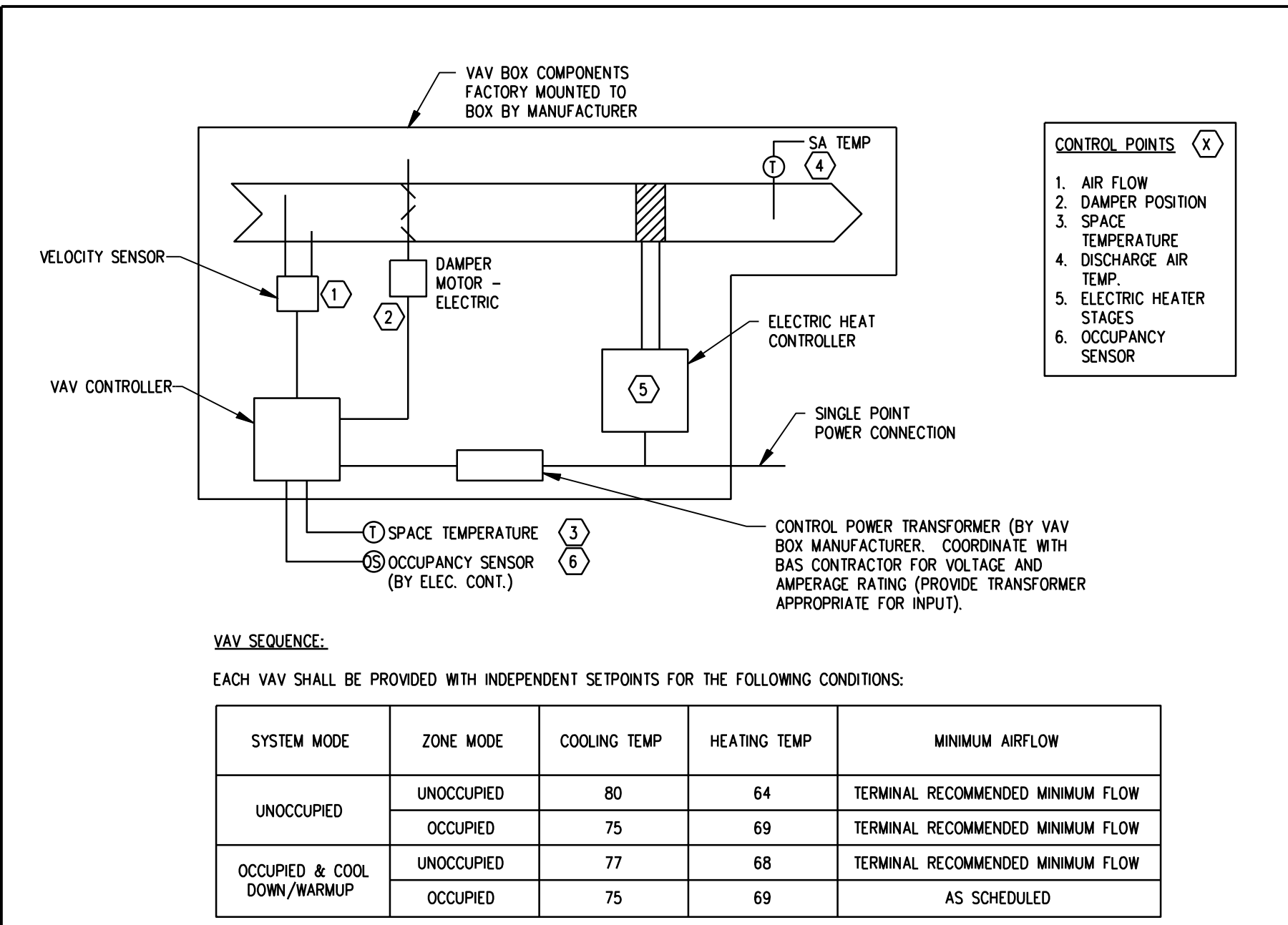
- SA HIGH STATIC
- SA HIGH TEMP
- FAN FAILURE
- COMPRESSOR FAILURE

SEQUENCE OF OPERATIONS:

THE SYSTEM OCCUPANCY MODE WILL BE DETERMINED BY A TIME OF DAY SCHEDULE WHICH WILL BE ADJUSTABLE VIA BAS USER INTERFACE.

OCCUPIED MODE:

DURING OCCUPIED PERIODS, THE SUPPLY FAN WILL RUN CONTINUOUSLY. THE COMPRESSOR SHALL LOAD/UNLOAD IN ACCORDANCE WITH CALLS FOR COOLING FROM THE ASSOCIATED THERMOSTAT. THE HEATING COIL SHALL ENERGIZE/DE-ENERGIZE IN ACCORDANCE WITH CALLS FOR HEATING FROM THE ASSOCIATED THERMOSTAT. SYSTEM WILL OPERATE IN HEATING OR COOLING MODE IN ACCORDANCE WITH CALLS FOR HEATING OR COOLING FROM THE ASSOCIATED THERMOSTAT.



CONTROL POINTS

- AIR FLOW
- DAMPER POSITION
- SPACE TEMPERATURE
- DISCHARGE AIR TEMP
- ELECTRIC HEATER STAGES
- OCCUPANCY SENSOR

ALARMS

- FAN STATUS
- START/STOP

VAV SEQUENCE:

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

SYSTEM MODE	ZONE MODE	COOLING TEMP	HEATING TEMP	MINIMUM AIRFLOW
UNOCCUPIED	UNOCCUPIED	80	64	TERMINAL RECOMMENDED MINIMUM FLOW
	OCCUPIED	75	69	TERMINAL RECOMMENDED MINIMUM FLOW
OCCUPIED & COOL DOWN/WARMUP	UNOCCUPIED	77	68	TERMINAL RECOMMENDED MINIMUM FLOW
	OCCUPIED	75	69	AS SCHEDULED

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

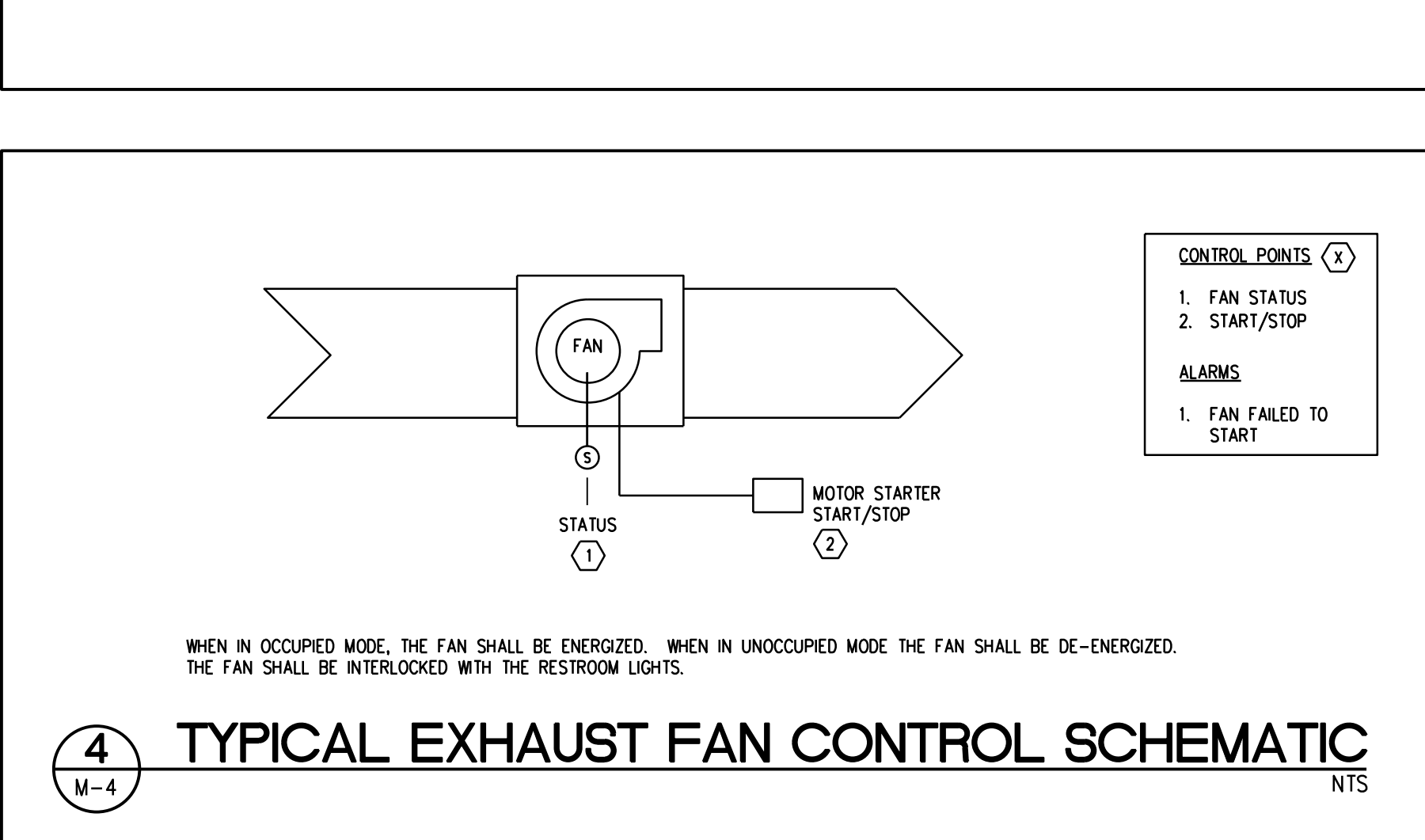
UPON RISE IN SPACE TEMPERATURE ABOVE THE SPACE COOLING SETPOINT, AIR VALVE SHALL OPEN TO INCREASE SUPPLY AIR FLOW. UPON FALL IN SPACE TEMPERATURE THE REVERSE SHALL OCCUR UNTIL THE AIR VALVE REACHES THE MINIMUM AIRFLOW SETPOINT. IF SPACE TEMPERATURE CONTINUES TO FALL BELOW THE SPACE HEATING SETPOINT THE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

THE SYSTEM OCCUPIED / UNOCCUPIED MODE SHALL BE DETERMINED BY THE MODE IN WHICH THE ASSOCIATED AHU IS OPERATING IN.

FOR VAV'S SERVING LARGE ZONES WITH OCCUPANCY SENSORS SUCH AS CLASSROOMS AND CONFERENCE ROOMS, THE ZONE OCCUPIED / UNOCCUPIED MODE SHALL BE DETERMINED BY THE SPACE MOUNTED OCCUPANCY SENSOR. FOR ALL OTHER SPACES THE ZONE SETTINGS WOULD MATCH THE SYSTEM SETTINGS.

THE ZONE OCCUPIED / UNOCCUPIED MINIMUM AIRFLOW SETPOINTS SHALL BE DETERMINED BY SIGNAL FROM OCCUPANCY SENSOR (BY ELECTRICAL CONTRACTOR). COORDINATE AND PROVIDE ALL REQUIRED CONTROL INTERFACE, 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.



CONTROL POINTS

- FAN STATUS
- START/STOP

ALARMS

- FAN FAILED TO START

WHEN IN OCCUPIED MODE, THE FAN SHALL BE ENERGIZED. WHEN IN UNOCCUPIED MODE THE FAN SHALL BE DE-ENERGIZED. THE FAN SHALL BE INTERLOCKED WITH THE RESTROOM LIGHTS.

4 TYPICAL EXHAUST FAN CONTROL SCHEMATIC
M-4 NTS

SCALE: NTS

CONTROLS - H.V.A.C.

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PROJECT: STATION #7

FOR: INDIAN RIVER COUNTY FIRE DISTRICT
1840 25TH STREET
VERO BEACH, FL 32960

NO.	DATE	REVISIONS

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COMM. NO: C50239/B
DATE: 16 MAY 2022
BY: MS
CHKD: JS

SHEET NO. M-4 OF

FOR QUESTIONS, CALL THE
Broward-Palm Beach Mechanical
RECORD #
PHONE: (561) 70-6110
EMAIL: rpeg@cpative.com

PATENT NUMBERS
AC-PSP (UNITED STATES) - US PATENT 7963830 B2
AC-PSP WALL (CANADA) - CA PATENT 2802009
AC-PSP ISLAND (CANADA) - CA PATENT 2520330

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT ²	TOTAL EXH CFM	EXHAUST PLENUM (RISERS)	WIA CFM	AC CFM	HOOD CONSTRUCTION	HOOD END TO END	RDV	
1		4812	ESX-2-ACPSP-F	4' 0"	430 DEG	1	MEDIUM	228	912	4" 10" 912	1672	-0.564"	730	224	430 SS WHERE EXPOSED	ALDNE

HOOD NO	TAG	TYPE	DTH HEIGHT	LENGTH	EFFICIENCY # 7 MICRONS	DTH	TYPE	W/RC GUARD	LOCATION	SIZE	TYPE	SIZE	ELECTRICAL	SWITCHES	FIRE STOP/HANGING PIPING	HOOD WEIGHT
1		CAPT RATE SOLID FILTER	2'	20"	85% SEE FILTER SPEC	1	RECESSED ROUND	NO	WALL MNT	12"x42"x24"	TANK FS	4.0	SC-111109A	1 LIGHT 1 FAN	YES	293 LBS

HOOD NO	TAG	OPTION
1		BACKSPLASH 68.00" HIGH X 48.00" LONG 430 SS VERTICAL RIGHT QUARTER END PANEL 27" TOP WIDTH, 0" BOTTOM WIDTH, 27" HIGH 430 SS LEFT QUARTER END PANEL 27" TOP WIDTH, 0" BOTTOM WIDTH, 27" HIGH 430 SS RISER SENSOR INSTALL SON PLEN

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	WIDTH	LENGTH	DIA	CFM	SP	
1		Front	48"	30"	6"	AC	12"	28"	730	0.299"	224	0.077"

HOOD NO	LOCATION	SIZE	TYPE	SIZE	MODEL #	QUANTITY	WEIGHT
1	WALL MNT	12"x42"x24"	TANK FS	4.0	SC-111109A	1 LIGHT 1 FAN	240.00 LBS

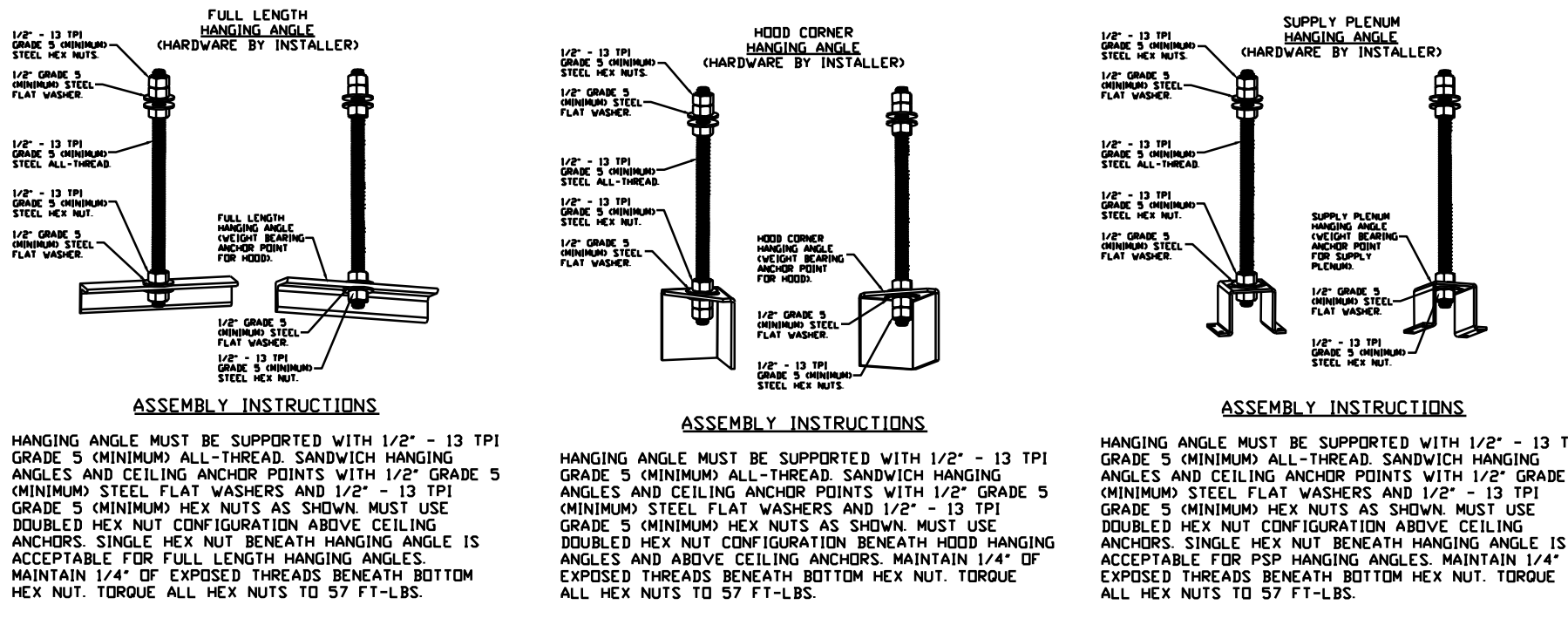
GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURER'S INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURER'S LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12', HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12'. DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.
IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE
HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORMED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT
HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

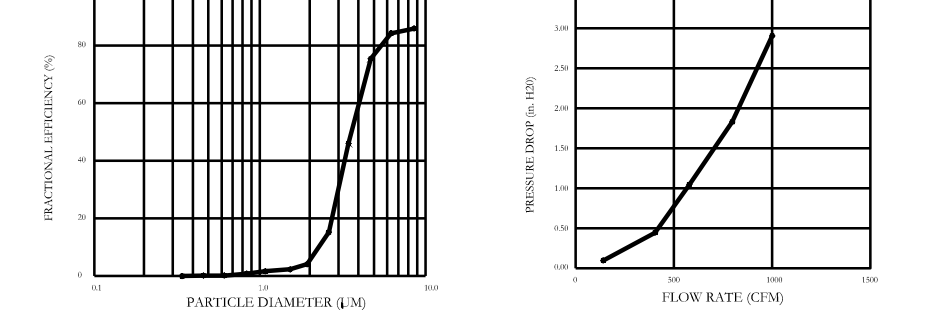
CUSTOMER APPROVAL TO MANUFACTURE:
APPROVED AS NOTED
APPROVED WITH NO EXCEPTION TAKEN
REVISE AND RESUBMIT
SIGNATURE _____
YOUR TITLE _____ DATE _____



SYSTEM DESIGN VERIFICATION (SDV)

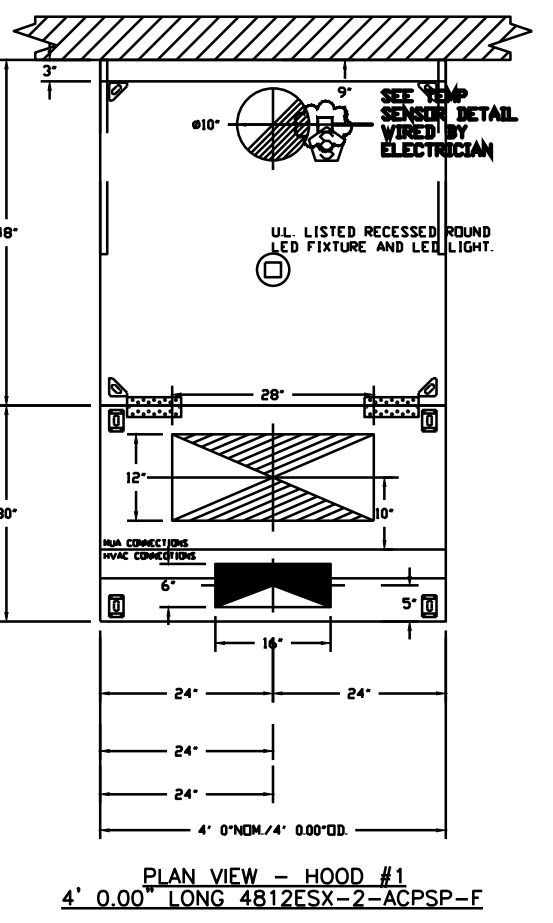
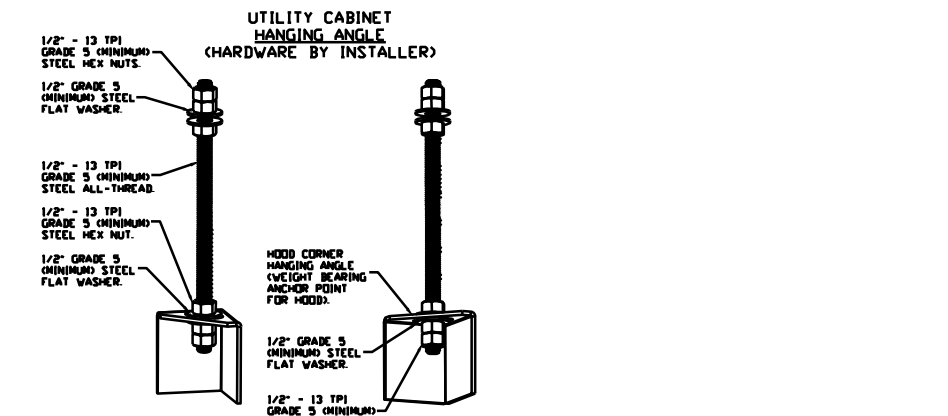
IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.
ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.
DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLID FILTER
THE CAPTRATE GREASE-STOP SOLID FILTER IS A SINGLE-STAGE FILTER FEATURING A SINGLE, 5-BAFFLE DESIGN IN COMBINATION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 8" INCH DEEP HOOD CHIMNELS.
UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE. THE CAPTRATE GREASE-STOP SOLID WAS TESTED TO ASTM STANDARD ASTM F2919-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.
EFFICIENCY VS PARTICLE DIAMETER
PRESSURE DROP VS FLOW RATE

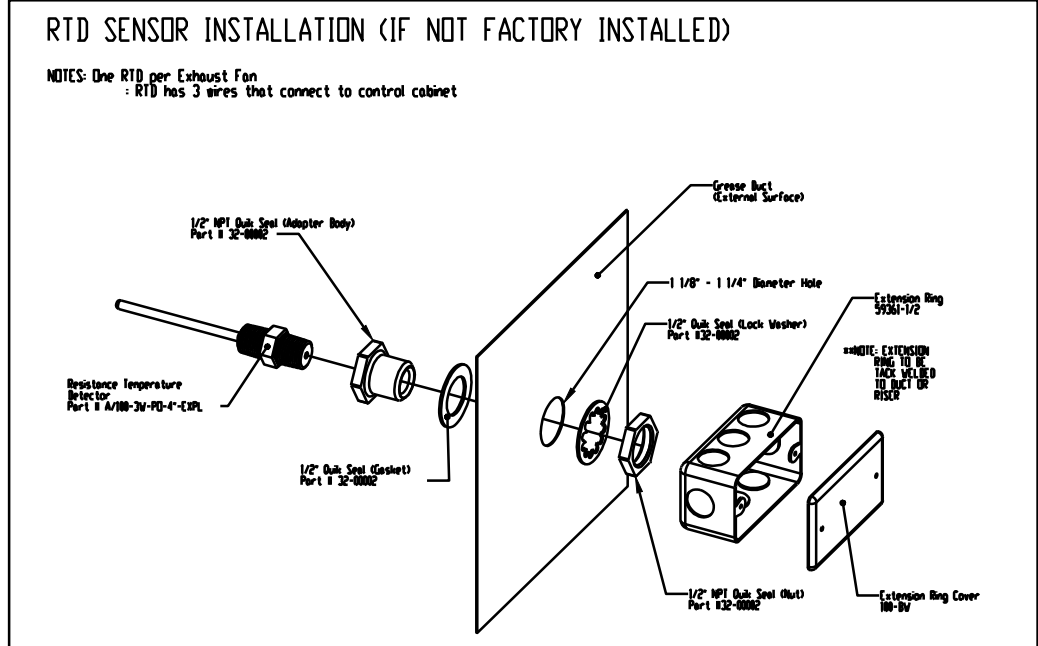
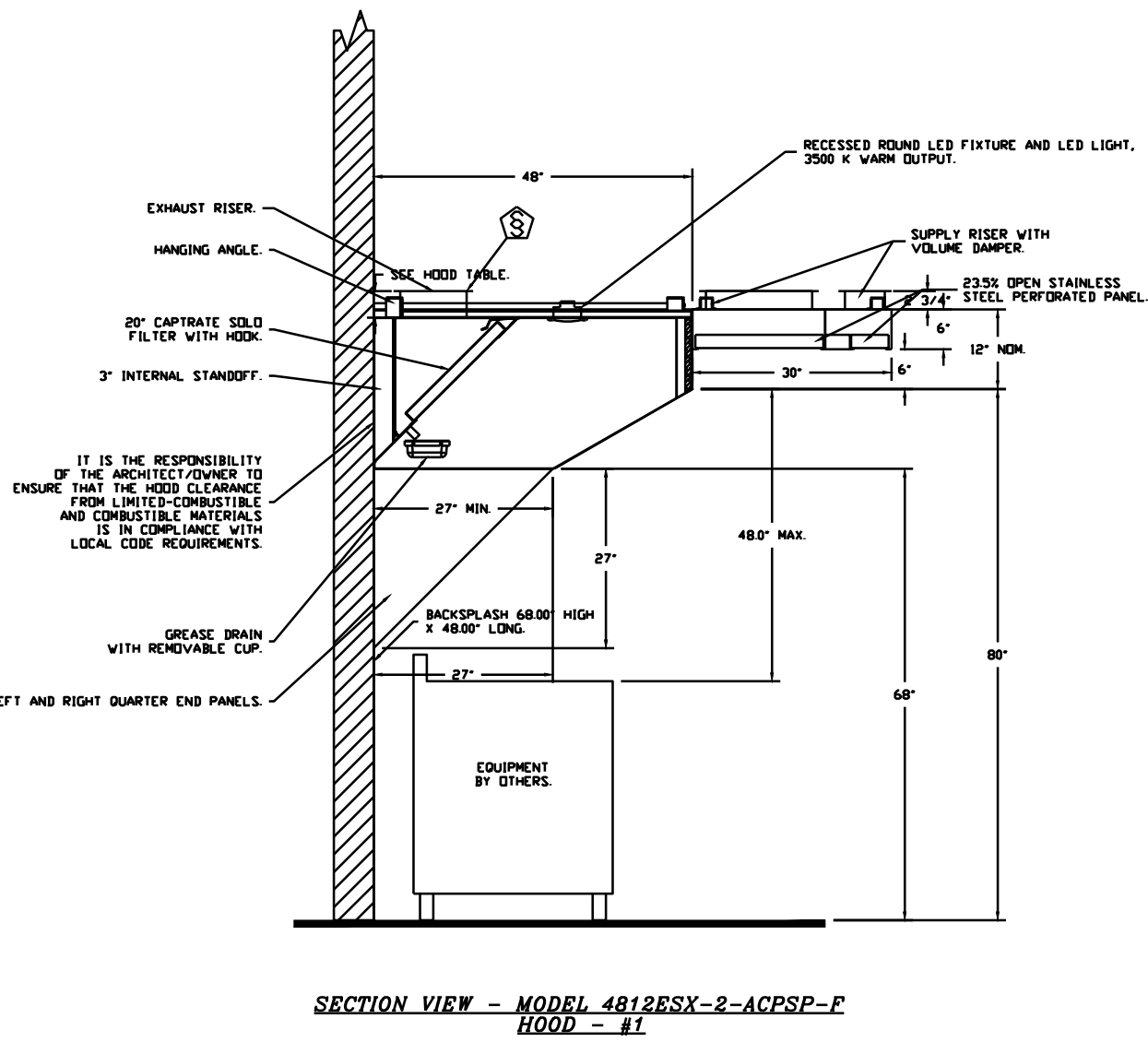


CAPTIVEAIRE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA 896
NSF STANDARD #2
UL STANDARD #1846
INT. MECH. CODE (IMC)
ULC-S649

WALL-MOUNT UTILITY CABINET ASSEMBLY INSTRUCTIONS
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH UTILITY CABINET HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



ACPSP SHIPS LOOSE FOR FIELD INSTALLATION



REVISIONS

NO.	DATE	DESCRIPTION

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Broward-Palm Beach Mechanical
11735 82nd Lane North, Lutz, FL 33470
PHONE: (888) 716-6110 FAX: (813) 947-5023 EMAIL: rpeg@cpative.com

Vero Beach Fire Station
VERO BEACH, FL, 32960

DATE: 4/4/2022
DWG.#: 5411363
DRAWN: RDC-17
BY: JLS
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 1

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COMM. NO: C50239/B
DATE: 16 MAY 2022
BY: MS
CHK'D: JLS

SHEET NO. M-5.1
OF

KITCHEN EQUIPMENT PLANS - H.V.A.C.
SCALE: NTS

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