

## GENERAL NOTES

- A. DO NOT SCALE DRAWINGS. IF DIMENSIONS CANNOT BE DETERMINED OR DOCUMENTS ARE IN CONFLICT (WITH THEMSELVES OR FIELD CONDITIONS), THE CONTRACTOR MUST OBTAIN CLARIFICATION FROM THE ARCHITECT PRIOR TO CONTINUATION OF WORK.
- B. CONTRACTOR(S) SHALL VISIT THE SITE TO ACQUAINT THEMSELVES WITH THE EXISTING OR NEWLY INSTALLED CONDITIONS. CONTRACTOR(S) SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, UTILITIES, AND EXISTING OR NEWLY INSTALLED CONDITIONS PRIOR TO CONSTRUCTION.
- C. THE CONSTRUCTION DOCUMENTS AND DRAWING NOTES / SPECIFICATIONS ARE INTENDED TO DESCRIBE AND PROVIDE FOR A FINISHED PIECE OF WORK. THE WORK SHALL BE COMPLETED IN EVERY DETAIL EVEN THOUGH EVERY ITEM NECESSARILY INVOLVED IS NOT PARTICULARLY MENTIONED OR SPECIFIED. ALL WORK SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS AND / OR MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS. IF ANY CONTRACTOR IS IN DOUBT AS TO THE TRUE MEANING OF ANY PART OF THE DOCUMENTS, OR FINDS DISCREPANCIES IN OR OMISSIONS FROM ANY PART OF THE DOCUMENTS, HE MUST CONTACT THE ARCHITECT FOR CLARIFICATION.
- D. ALL DIMENSIONS ARE TO FACE OF STUD, CONCRETE, MASONRY, OR CENTERLINE OF COLUMN, UNLESS NOTED OTHERWISE. WHEN EXISTING CONDITIONS ARE SHOWN, DIMENSIONS ARE TO FACE OF EXISTING FINISH, UNLESS NOTED OTHERWISE.
- E. FINISH FLOOR ELEVATIONS ARE FOR GENERAL REFERENCE. REFER TO CIVIL SHEETS FOR ACTUAL FINISH FLOOR ELEVATIONS.
- F. EQUIPMENT AND FURNITURE SHOWN IS FOR REFERENCE ONLY. EQUIPMENT AND FURNITURE PROVIDED BY OWNER (UNLESS NOTED OTHERWISE), COORDINATE EQUIPMENT AND FURNITURE INSTALLATION AND UTILITY CONNECTIONS WITH OWNER AND OWNER'S SUPPLIER.
- G. **DEFINITIONS:**  
**NECESSARY:** WORK NEEDED TO COMPLETE THE WORK TO "MAKE IT OPERATIONAL".  
**REQUIRED:** WORK NEEDED TO BE IN COMPLIANCE WITH BUILDING CODE, GOVERNING CODE, OR JURISDICTION HAVING AUTHORITY.  
**PROVIDE:** RESPONSIBLE FOR PURCHASE, DELIVERY, RECEIVING, INSPECTION, STORAGE, PREPARATION, AND INSTALLATION OF ITEM(S).  
**FURNISH:** RESPONSIBLE FOR PURCHASE AND DELIVERY OF ITEM(S).  
**INSTALL:** RESPONSIBLE FOR RECEIVING, INSPECTION, STORAGE, PREPARATION, AND INSTALLATION OF ITEM(S).  
**BASIS OF DESIGN:** AN ACCEPTABLE MANUFACTURER OR PRODUCT, DESIGNATED BY THE DESIGN PROFESSIONAL, WHICH EXHIBITS THE INTENDED STANDARDS AND DESIGN CRITERIA THAT MUST BE MET FOR PERFORMANCE. THE ITEM(S) INDICATED MAY BE PROVIDED OR AN ITEM OF EQUIVALENT APPEARANCE, AESTHETIC, QUALITY, MATERIAL, CONSTRUCTION, AND PERFORMANCE MAY BE SUBSTITUTED SUBJECT TO THE ARCHITECT'S OR DESIGN PROFESSIONAL'S APPROVAL. (REFER TO THE "SUBSTITUTIONS" SPECIFICATION FOR ADDITIONAL INFORMATION)  
**OR EQUAL:** MAY FOLLOW A "BASIS OF DESIGN" OR OTHER SPECIFIED MANUFACTURER OR PRODUCT AND INDICATES THAT AN ITEM OF EQUIVALENT APPEARANCE, AESTHETIC, QUALITY, MATERIAL, CONSTRUCTION, AND PERFORMANCE MAY BE SUBSTITUTED SUBJECT TO THE ARCHITECT'S OR DESIGN PROFESSIONAL'S APPROVAL. (REFER TO THE "SUBSTITUTIONS" SPECIFICATION FOR ADDITIONAL INFORMATION)

## HVAC GENERAL SPECIFICATIONS

- A. UPON COMPLETION OF ALL HVAC WORK, THE CONTRACTOR SHALL SUBMIT (2) COPIES OF THE MANUFACTURER'S OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT TO THE OWNER. THE CONTRACTOR SHALL PROVIDE TO THE ARCHITECT A COMPLETE SET OF RECORD DRAWINGS WITH ANY AND ALL CHANGES OR MODIFICATIONS TO THE DESIGN, CONSTRUCTION, SYSTEMS, OR EQUIPMENT CLEARLY INDICATED; SHOP DRAWINGS; INFORMATION ON THE THERMOSTATS, CONTROL WIRING DIAGRAMS, AND OTHER PERTINENT INFORMATION.
- B. **HVAC EQUIPMENT:** ALL EQUIPMENT SHALL BE COMPLETE IN EVERY RESPECT WITH ALL DEVICES, APPURTENANCES, AND ACCESSORIES PROVIDED TO MEET THE DESIGN INTENT AND OPERATION OF THE SYSTEMS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL AIR CONDITIONING EQUIPMENT MUST HAVE A CONDENSATE DRAIN AND BE TRAPPED IN ACCORDANCE WITH MANUFACTURER'S DATA. ALL COMPRESSORS ARE TO INCLUDE A 5-YEAR EXTENDED WARRANTY.
- C. **GAS PIPING (IF INCLUDED IN THE PROJECT):** CONTRACTOR TO COORDINATE INCLUDING VERIFICATION OF EXISTING SYSTEM EQUIPMENT, MAINS, LINE SIZES, AND REQUIREMENTS; AND SIZE GAS PIPING PER MANUFACTURER'S RECOMMENDATIONS, LOCAL CODE, AND UTILITY COMPANY REQUIREMENTS, UNLESS PROVIDED OTHERWISE IN THE CONSTRUCTION DOCUMENTS - **ARCHITECT/ENGINEER TO REVIEW AND APPROVE GAS PIPING SIZING PRIOR TO INSTALLATION.** GAS PIPING TO BE INSTALLED PER NFPA 54. REFER TO PLUMBING GENERAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- D. **REFRIGERANT LINE SET:** HVAC CONTRACTOR TO SIZE REFRIGERANT LINE SET SIZES PER MANUFACTURER'S RECOMMENDATIONS AND FIELD CONDITIONS - **ARCHITECT/ENGINEER TO REVIEW AND APPROVE LINE SET SIZES PRIOR TO INSTALLATION.** LINES EXCEEDING 150 FEET IN LENGTH REQUIRE A PUMP (SIZED AND PROVIDED BY THE HVAC CONTRACTOR).
- E. **NOISE AND VIBRATION:** MECHANICAL AND ELECTRICAL EQUIPMENT IS TO OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION. ALL MOTOR OPERATED OR ROTATING EQUIPMENT IS TO BE VIBRATION ISOLATED OR FREE FROM ALL BEAMS, COLUMNS, FLOORS, CEILINGS, JOISTS, WALLS, AND OTHER PARTS OF THE BUILDING STRUCTURE. HANGER RODS FOR ALL PIPING, EQUIPMENT, AND DUCTWORK CONNECTED TO MOTOR OPERATED OR ROTATING EQUIPMENT IS TO BE PROVIDED WITH KINETICS OR APPROVED EQUAL FIBERGLASS ISOLATOR HANGERS. PROVIDE FLEXIBLE COLLARS IN ALL CONNECTIONS BETWEEN VIBRATING EQUIPMENT, FANS, ROOF TOP UNITS, ETC.) AND DUCTS. THE FLEXIBLE CONNECTION IS TO BE RATED FOR THE OPERATING PRESSURE OF THE SYSTEM.
- F. **CURBS AND STEEL FRAMING FOR SUPPORT:** PROVIDE ALL NECESSARY CURBS AND STEEL FRAMING REQUIRED TO INSTALL ALL HVAC EQUIPMENT AS DESCRIBED OR IMPLIED ON THE DRAWINGS. CURBS SHALL BE OF THE SAME MANUFACTURER OF THE EQUIPMENT SUPPORTED. INSULATE UNDER THE COMPRESSOR SECTION TO PREVENT CONDENSATION. ALL CURBS MUST BE INSTALLED SO THAT TOP OF CURBS ARE LEVEL.
- G. **DUCTWORK:** DUCTWORK IS TO BE FABRICATED WITH GALVANIZED SHEET STEEL (NO FIBERGLASS ALLOWED) IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE" AND NAIMA "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS," LATEST EDITIONS, CONFORMING TO THE REQUIREMENTS IN THE REFERENCED STANDARD FOR METAL THICKNESS, REINFORCEMENT TYPES AND INTERVALS, TIE ROD APPLICATIONS, AND JOINT TYPES AND INTERVALS. ALL JOINTS, SEAMS, AND CONNECTIONS MUST BE SECURELY FASTENED AND SEALED AIRTIGHT IN COMPLIANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE AND OHIO MECHANICAL CODE.
- H. **BRANCH DUCTWORK:** ALL DUCT BRANCHES TO DIFFUSERS ARE TO BE RECTANGULAR OR ROUND RIGID DUCT. ALL BRANCH TAKEOFFS FROM RECTANGULAR MAINS TO BE CONNECTED TO SPIN COLLARS WITH SCOOPS AND QUADRANT DAMPERS.
- I. **FLEXIBLE DUCTWORK:** FLEX DUCTWORK IS TO BE NFPA 90 AND 90A APPROVED INDICATING NO VINYL. TESTED IN ACCORDANCE WITH UL 181, AND LISTED AND LABELED AS CLASS 0 OR CLASS 1 DUCT. NO FLEX DUCT RUN TO EXCEED **8'-0"** MAXIMUM TOTAL LENGTH AT ANY ONE LOCATION. ALL FLEX CONNECTIONS TO BE TAPED AND STRAPPED PER MANUFACTURER'S INSTRUCTIONS. FLEXIBLE AIR DUCT MAY ONLY BE USED IN VERTICAL APPLICATIONS WITH PRIOR APPROVAL FROM THE ARCHITECT. **FLEXIBLE DUCTWORK IS NOT PERMITTED TO BE USED FOR RETURN DUCTWORK.**
- J. **DUCTWORK INSULATION:** INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES. INSULATION MUST COMPLY WITH NFPA 90A. DUCT SIZES SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. INSULATE DUCTWORK PER THE DUCT CONSTRUCTION SCHEDULE. PROVIDE DUCTWORK INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS, AND SIMILAR PENETRATIONS. ALL INSULATION SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NO HIGHER THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM C411, OR AS REQUIRED BY LOCAL CODES.
- K. WHERE ROUND DUCTWORK IS INDICATED ON PLANS, PROVIDE RECTANGULAR DUCTWORK. IF ROUND DUCTWORK CANNOT BE INSTALLED BECAUSE OF OBSTRUCTIONS, INSUFFICIENT CLEARANCES OR OTHER CAUSES DUE TO FIELD CONDITIONS, CONTRACTOR'S OPTION TO INSTALL RECTANGULAR DUCTWORK IN LIEU OF INDICATED ROUND DUCTWORK AT OTHER LOCATIONS. SIZE ALL RECTANGULAR DUCTWORK CONVERSIONS COMPARABLE TO INDICATED DUCTWORK SIZE PER SMACNA "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE," LATEST EDITION. SHOULD THE CONTRACTOR BE IN DOUBT OF THE REQUIREMENTS UNDER THIS SECTION, DUCTWORK SIZING, OR SHOULD ANY DISCREPANCY BE REVEALED BASED ON FIELD CONDITIONS, IMMEDIATELY CONTACT THE ARCHITECT FOR CLARIFICATION.
- L. PROVIDE A FLEXIBLE CONNECTION BETWEEN BONNET AND RIGID DUCT ON ALL SUPPLY AND RETURN DUCTWORK.
- M. **DIFFUSERS, GRILLES, REGISTERS, AND DAMPERS:** PROVIDE DIFFUSERS, GRILLES, AND REGISTERS AS SCHEDULED. DEVICES TO BE COMPLETE WITH BALANCING DAMPERS, FRAMES, AND ALL ACCESSORIES. FINISH AS INDICATED. PROVIDE UL LISTED (UL555) FIRE RATED DAMPERS AT ALL FIRE PARTITION OR FIRE BARRIER PENETRATIONS, WHETHER SHOWN OR NOT SHOWN ON THE PLANS. ALL GRAVITY DAMPERS REQUIRE SEALS.
- N. **SUPPORT AND BRACING:** INSTALL RIGID ROUND AND RECTANGULAR METAL DUCTWORK WITH APPROVED SUPPORT SYSTEMS INDICATED IN SMACNA STANDARDS AND STATE BUILDING CODE. SUPPORT HORIZONTAL DUCTS AT A MAXIMUM INTERVAL OF 10 FEET AND WITHIN 2 FEET OF EACH ELBOW AND WITHIN 4 FEET OF EACH BRANCH INTERSECTION USING DOUBLE STRAP HANGERS ON EACH SIDE OF FITTING. SUPPORT VERTICAL DUCTS AT A MAXIMUM INTERVAL OF 10 FEET AND AT EACH FLOOR. FLEXIBLE AND OTHER FACTORY MADE DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. NO WOOD SHALL BE USED TO SUPPORT OR BRACE DUCTS. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY STATE AND LOCAL CODES. PROVIDE FIXED ANCHORS AT EACH MECHANICAL DIFFUSER OR GRILLE TO CEILING GRID. CEILING GRID CONTRACTOR TO PROVIDE SUPPORT WIRES AT OPPOSITE CORNERS OF LIGHT FIXTURES, MECHANICAL DIFFUSERS, AND GRILLES TO STRUCTURE ABOVE.

## HVAC GENERAL SPECIFICATIONS CONT'D

- O. **CONTROLS:** EACH UNIT TO BE CONTROLLED BY THERMOSTAT WITH PROPER STAGES OF HEATING AND COOLING - MOUNTED AT 48" AFF (REFER TO MECHANICAL SHEETS FOR MODEL NO. AND LOCATION). CONTROL WIRING IS TO BE FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR. POWER WIRING IS TO BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. THERMOSTAT SHALL BE 7-DAY PROGRAMMABLE AND SHALL BE SET UP TO INCLUDE 5 DEGREE DEADBAND, TEMPERATURE OVERLAP RESTRICTION AND TEMPERATURE SETBACK DURING UNOCCUPIED HOURS.
- P. **POWER AND CONTROL WIRING:** ELECTRICAL CONTRACTOR TO PROVIDE ALL NECESSARY POWER WIRING FOR HVAC EQUIPMENT FROM SUITABLE FUSED DISCONNECT SOURCE TO UNIT WITH FUSED DISCONNECT TO MEET NATIONAL ELECTRIC CODE (NEC), STATE AND LOCAL CODES. HVAC CONTRACTOR TO PROVIDE 24 VOLT OR LESS CONTROL WIRING.
- Q. **STARTUP:** HVAC CONTRACTOR TO PROVIDE STARTUP PER MANUFACTURER'S WRITTEN RECOMMENDATIONS.
- R. **AIRFLOW AND TESTING:** ALL DUCT AS PER SMACNA GUIDELINES. THE SYSTEM TO BE BALANCED AND TESTED BY AN INDEPENDENT, "NEBB" CERTIFIED, BALANCING CONTRACTOR PER "NEBB".
- S. PROCEDURES. THE HVAC CONTRACTOR SHALL INCLUDE THE COST OF THE BALANCING AND TESTING IN HIS BID. THE BALANCING CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TRANSPORTATION, AND EQUIPMENT NECESSARY TO COMPLETELY BALANCE THE AIR FLOW FOR THE HVAC SYSTEMS AS SHOWN ON THE DRAWINGS. HVAC CONTRACTOR SHALL INSTALL NEW FILTERS IN ALL UNITS PRIOR TO THE AIR BALANCE. THE COMPLETE AIR BALANCE SHALL TAKE PLACE WITH OUTSIDE AIR DAMPERS IN MINIMUM POSITION. BALANCE THE SYSTEM TO WITHIN +/-5 PERCENT OF THE DESIGN REQUIREMENTS. THE HVAC CONTRACTOR AT NO ADDITIONAL COST SHALL PERFORM ANY REQUIRED CHANGES REQUIRED TO ACHIEVE SPECIFIED FLOW RATES. ALL CONTROL SEQUENCES SHALL BE TESTED (INTERLOCKED EQUIPMENT, SMOKE DETECTORS, SMOKE EVACUATION, ECONOMIZER, CO2 SENSORS, ETC.) AND OPERATING STATUS RECORDED IN THE REPORT. A DIGITAL OR THREE (3) PRINTED COPIES OF THE BALANCE AND TESTING REPORT SHALL BE PROVIDED TO THE OWNER, OWNER'S REPRESENTATIVE, OR ARCHITECT BEFORE PROJECT CLOSE OUT FOR REVIEW. THE BALANCING CONTRACTOR SHALL RECHECK ANY ITEMS THAT THE OWNER OR ARCHITECT DEEMS REASONABLY NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
- T. VENTILATION AND COMBUSTION AIR INTAKE: PROVIDE OUTSIDE VENTILATION AIR BY NATURAL VENTILATION OR MECHANICAL EQUIPMENT AS REQUIRED BY THE MECHANICAL CODE (REFER TO OUTSIDE AIR VENTILATION SCHEDULE). IF GAS-FIRED EQUIPMENT IS USED, VERIFY THAT THE MECHANICAL ROOM AND / OR MECHANICAL EQUIPMENT ARE PROVIDED WITH ADEQUATE COMBUSTION AND DILUTION AIR IN COMPLIANCE WITH THE MECHANICAL CODE. PROVIDE ADDITIONAL AIR AS REQUIRED. PROVIDE A VENT DESIGNED FOR THE TYPE OF APPLIANCE BEING VENTED FOR ALL GAS-FIRED EQUIPMENT TO THE EXTERIOR. PROVIDE VENTS DIRECTLY TO THE EXTERIOR FOR ALL EXHAUST FANS. ALL EXHAUST AND INTAKE OPENINGS MUST BE LOCATED A MINIMUM OF 10 FEET FROM LIT LINES OR BUILDINGS ON THE SAME LOT.
- U. PROVIDE A SMOKE DETECTOR IN RETURN AIR SYSTEMS WITH A DESIGN CAPACITY GREATER THAN 2,000 CFM IN THE RETURN AIR DUCT OR PLENUM UPSTREAM OF ANY FILTERS, EXHAUST AIR CONNECTIONS, OUTDOOR AIR CONNECTIONS, OR DECONTAMINATION EQUIPMENT AND APPLIANCES (PER OMC SECTION 606.2.1). WHERE TWO OR MORE UNITS SHARE THE SAME RETURN, THE COMBINED AMOUNT OF CFM SHALL BE USED IN DETERMINING WHETHER A DUCT SMOKE DETECTOR IS REQUIRED. COORDINATE THESE REQUIREMENTS BETWEEN THE HVAC AND THE ELECTRICAL OR FIRE ALARM CONTRACTORS.
- V. PROVIDE ACCESS TO ALL DAMPERS, CONTROLS, AND OTHER ITEMS IN DUCTWORK THAT REQUIRE SERVICE OR INSPECTION. IF THE ACCESS PANEL LOCATION IS EXPOSED, THE OWNER OR THE ARCHITECT MUST APPROVE IT PRIOR TO INSTALLATION. ACCESS PANELS ARE NOT REQUIRED ABOVE LAY-IN GRID TYPE CEILINGS.
- W. ALL HVAC EVAPORATORS AND COOLING COILS REQUIRE A CONDENSATE DRAIN, WHICH IS CONVEYED TO AN APPROPRIATE PLACE OF DISPOSAL (TYPICALLY INDIRECTLY INTO A FLOOR DRAIN). A SECONDARY DRAIN OR AUXILIARY DRAIN PAN (WITH A SEPARATE DRAIN OR A WATER LEVEL DETECTION DEVICE CONFORMING TO UL 508 THAT WILL SHUT OFF THE EQUIPMENT SERVED PRIOR TO OVERFLOW OF THE AUXILIARY DRAIN PAN) IS REQUIRED FOR ANY EQUIPMENT THAT PRODUCES CONDENSATE AND WHERE DAMAGE MAY OCCUR AS A RESULT OF OVERFLOW FROM THE EQUIPMENT DRAIN PAN OR STOPPAGE IN THE CONDENSATE DRAIN (PER OMC SECTION 307.2.3). COORDINATE THESE REQUIREMENTS BETWEEN THE HVAC AND PLUMBING CONTRACTORS AND THE ARCHITECT.
- X. ALL ROOF AND/OR EXTERIOR WALL PENETRATIONS ARE TO BE SEALED AIR AND WATER TIGHT. COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS. ALL EQUIPMENT, PIPES, DUCTS, ETC. ARE TO BE INSTALLED CONCEALED ABOVE THE CEILING UNLESS SHOWN OTHERWISE.
- Y. VERIFY ALL SUSPENDED MECHANICAL LOADS WITH ARCHITECT PRIOR TO ORDERING NEW MECHANICAL EQUIPMENT.
- Z. HVAC CONTRACTOR TO COORDINATE ROUTING AND LOCATION OF ALL DEVICES WITH BUILDING STRUCTURE AND OTHER CEILING MOUNTED DEVICES.
- AA. HVAC CONTRACTOR TO REVIEW DRAWINGS FOR COMPLIANCE WITH LOCAL CODES AND WITH AUTHORITIES HAVING JURISDICTION OVER THIS PROJECT. CONTACT ARCHITECT WITH ANY QUESTIONS OR CONCERNS.

DUCTWORK SYMBOL LEGEND			
	SUPPLY OR OUTSIDE AIR DUCT UP		RADIUS RECTANGULAR ELBOW
	RETURN OR EXHAUST AIR DUCT UP		SUPPLY OR OUTSIDE AIR ROUND DUCT UP
	SUPPLY OR OUTSIDE AIR DUCT DOWN		RETURN OR EXHAUST AIR ROUND DUCT UP
	RETURN OR EXHAUST AIR DUCT DOWN		ROUND DUCT DOWN
	SUPPLY OR OUTSIDE AIR DUCT OFFSET		ROUND OFFSET
	RETURN AIR DUCT OFFSET		ROUND ELBOW
	MANUAL BALANCING DAMPER		ROUND WYE
	MOTORIZED DAMPER		RECTANGULAR BRANCH TAKEOFF
	FIRE DAMPER		RECTANGULAR DUCT TERMINATION
	RECTANGULAR TO ROUND TRANSITION		ROUND DUCT TERMINATION
	RECTANGULAR TRANSITION		
	STANDARD RECTANGULAR ELBOW		

ANNOTATION SYMBOL LEGEND			
	THERMOSTAT OR TEMP. SENSOR		SECTION SYMBOL
	HUMIDISTAT		
	SWITCH		
	KEYED NOTE SYMBOL		EQUIPMENT PLAN MARK
	CONNECT TO EXISTING		
	VAV TERMINAL UNIT MARK		
	AHU-1 EQUIPMENT MARK		DETAIL SYMBOL
	AIR DEVICE MARK - NECK SIZE		
	ROUND DUCT SIZE		
	RECTANGULAR DUCT SIZE		

AIR DEVICE AND DUCT ACCESS. LEGEND			
	RETURN AIR GRILLE		SUPPLY AIR DIFFUSER (HARD CONNECTION)
	SUPPLY AIR DIFFUSER WITH FLEXIBLE RUNOUT AND DAMPER		RETURN OR EXH. GRILLE (HARD CONNECTION)
	SIDEWALL DIFFUSER		14X14 TRANSFER OPENING IN WALL
	SUPPLY AIR DIFFUSER (HARD CONNECTION)		TRANSFER OPENING IN WALL
	RETURN OR EXH. GRILLE (HARD CONNECTION)		

PIPE SYMBOL LEGEND	
	PIPE DOWN
	PIPE UP
	TEE DOWN
	TEE UP
	PIPE BREAK (FOR CLARITY)
	CAPPED PIPE
	REFRIGERANT SUCTION PIPE
	REFRIGERANT HOT GAS PIPE

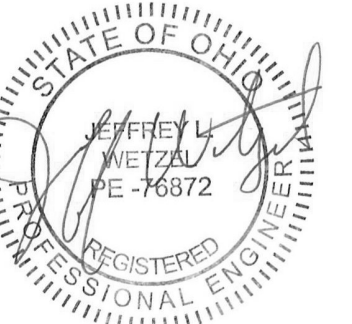
MECHANICAL INDEX OF DRAWINGS	
SHEET NUMBER	SHEET NAME
M-001	MECHANICAL LEGEND AND GENERAL NOTES
M-002	MECHANICAL SCHEDULES
M-003	MECHANICAL DETAILS
M-101	MECHANICAL FLOOR PLAN - DEMOLITION
M-102	MECHANICAL DUCTWORK PLAN - NEW WORK
M-103	MECHANICAL PIPING PLAN - NEW WORK



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Rehab Project for:  
**DAYTON PUBLIC RADIO**  
130 W. Second St., Suite 250  
Dayton, Ohio 45402

MT STUDIO PROJECT NUMBER: 24094

ISSUED / REVISED FOR PERMIT	DATE
	06.25.2025

MECHANICAL LEGEND AND GENERAL NOTES

M-001

VRF OUTDOOR UNIT SCHEDULE														
PLAN MARK	BASIS OF DESIGN		NOM. COOL. MBH	NOM. HEAT. MBH	EER	COP	ELECTRICAL				DIMENSIONS (IN.)			NOTES
	MFR	MODEL					# CONN.	VOLT/PH	MCA	REC. BKR	L	W	H	
HP-1	DAIKIN	FXDQ140TNU-A	144	160	10.8	3.45	2	208/3	54	60	100"	30"	72"	1,2

NOTES:  
A. NOMINAL COOLING CONDITIONS (TEST CONDITIONS ARE BASED ON AHRI 1230) INDOOR: 80° FD.B./67°FW.B./26.7°CD.B./19.4°CW.B./ OUTDOOR: 95°FD.B./35°CD.B./  
B. NOMINAL HEATING CONDITIONS (TEST CONDITIONS ARE BASED ON AHRI 1230) INDOOR: 70° FD.B./ (21.1°CD.B.), OUTDOOR: 47°FD.B./43°FW.B./ (8.3°CD.B./6.1°CW.B.)

NOTES:  
1. UNIT IS A TWINNED ARRANGEMENT WITH 2 SEPARATE ELECTRIC FEEDS.  
2. PROVIDE WITH MANUFACTURER EQUIPMENT SUPPORT FRAME STANDS WITH FEET AND ADJUSTABLE HEIGHT EQUAL TO MITSUBISHI BIG FOOT MODEL BASE FRAME.

VRF BRANCH CONTROL BOX SCHEDULE							
PLAN MARK	MANUFACTURER	MAX MBH PER PORT	# OF BRANCHES	ELECTRICAL			NOTES
				VOLT/PH	MCA	MOCP	
BC-1	MITSUBISHI	54	8	208/1	0.4	15	1

NOTES:  
1. BRANCH CONTROLLER IS THE MAIN CONTROLLER.

VRF INDOOR UNIT SCHEDULE												
PLAN MARK	DESCRIPTION	BASIS OF DESIGN		AIRFLOW (CFM)	OA AIRFLOW (CFM)	ESP (WC.)	COOL. MBH	HEAT. MBH	ELECTRICAL			NOTES
		MFR	MODEL						VOLT/PH	MCA	MOCP	
AC-1	CONCEALED - DUCTED - MED. STATIC	MITSUBISHI	PEFY-P18NMAU-E	742	55	0.4"	18	20	208/1	2.9	15	1
AC-2	CONCEALED - DUCTED - MED. STATIC	MITSUBISHI	PEFY-P18NMAU-E	742	35	0.4"	18	20	208/1	2.9	15	1
AC-3	CONCEALED - DUCTED - MED. STATIC	MITSUBISHI	PEFY-P36NMAU-E	1,077	50	0.4"	36	40	208/1	2.9	15	1
AC-4	CEILING CASSETTE - 33x33	MITSUBISHI	PLFY-EP24NEMU	670	25	0.4"	18	20	208/1	0.4	15	1
AC-5	MULTI-POSITION AIR HANDLER	MITSUBISHI	PVFX-P24NAMU	625	36	0.4"	24	27	208/1	3.0	15	2
AC-6	MULTI-POSITION AIR HANDLER	MITSUBISHI	PVFX-P24NAMU	625	30	0.4"	24	27	208/1	3.0	15	2
AC-7	MULTI-POSITION AIR HANDLER	MITSUBISHI	PVFX-P18NAMU	495	30	0.4"	18	20	208/1	3.0	15	2

GENERAL NOTES:  
A. AIRFLOW BASED ON HIGH SPEED FAN SETTING.

NOTES:  
1. PROVIDE WITH WALL MOUNTED SIMPLE MA CONTROLLER #PAC-YT53 AND INTEGRAL CONDENSATE PUMP.  
2. PROVIDE WITH WIRELESS REMOTE CONTROLLER AND ASSOCIATED RECEIVER(S) AND WIRING.

FAN SCHEDULE											
PLAN MARK	DESCRIPTION	BASIS OF DESIGN		CFM	E.S.P. (IN.WC)	DRIVE	HP	VOLTAGE	PHASE	APPROX. ROOF/ WALL OPENING (IN.)	NOTES
		MANUF.	MODEL								
VF-1	INLINE CENTRIFUGAL	GREENHECK	SQ-7-M1-VG	265	0.75	DIRECT	0.5	120 V	1		1

GENERAL NOTES:  
A. ACCEPTABLE ALTERNATE MANUFACTURERS: COOK, CARNES & PENNBARRY

NOTES:  
1. PROVIDE WITH INTEGRAL DISCONNECT SWITCH, SOLID STATE SPEED CONTROLLER AND GRAVITY BACKDRAFT DAMPER.  
2. FAN CONTROLLED BY TIME CLOCK.

PLUMBING FIXTURE SCHEDULE							
PLAN MARK	FIXTURE TYPE	DESCRIPTION	CONNECTION SIZE (IN.)				NOTES
			SAN	VENT	CW	HW	
B1	DOUBLE BOWL SINK	AMERICAN STANDARD MODEL COLONY #22DB.6332283S.075, STAINLESS STEEL, COUNTERTOP MOUNT, DOUBLE BOWL, 3 HOLES, 4" CENTER FAUCET HOLES, DRAINS INCLUDED; AMERICAN STANDARD MODEL COLONY PRO #7074500.002 W/ 4" CENTER, LESS DRAIN, 3/8" SUPPLY AND STOP (TWO REQUIRED); 1-1/2" PVC "P" TRAP.	1.5	1.5	0.5	0.5	1

NOTES:  
1. PROVIDE INSINKERATOR BADGER 1 GARBAGE DISPOSAL, 1/3 HP.

AIR INLETS AND OUTLETS SCHEDULE								
PLAN MARK	DESCRIPTION	BASIS OF DESIGN		MOUNTING	FINISH	MATERIAL	ACCESSORIES	NOTES
		MANUF.	MODEL					
A1	SQUARE FACE CEILING DIFFUSER, 24X24 FACE	TITUS	OMNI	LAY-IN	WHITE	STEEL	-	
B1	EGGGRATE RETURN GRILLE	TITUS	50F	LAY-IN	WHITE	ALUM.	-	
B2	EGGGRATE RETURN GRILLE	TITUS	50F	SURFACE	WHITE	ALUM.	OPP. BLADE DMPR.	
B3	EGGGRATE RETURN GRILLE, 24X24 OR 24X12 FACE	TITUS	50F	LAY-IN	WHITE	ALUM.	ROUND ADAPTER	
E1	LINEAR BAR DIFFUSER	TITUS	FL-20	SURFACE	WHITE	ALUM.	PLENUM	

GENERAL NOTES:  
A. LAY-IN AIR DEVICES SHALL BE DESIGNED TO INSTALL INTO A 24"x24" OR 24"x48" ACT CEILING SYSTEM  
B. ACCEPTABLE ALTERNATE MANUFACTURERS: PRICE, KREUGER AND TUTTLE & BAILEY  
C. PROVIDE AUXILIARY MOUNTING FRAME FOR DEVICES INSTALLED WITHIN GYPSUM, PLASTER, TILE OR OTHER SIMILAR SURFACE  
D. UNLESS OTHERWISE DESIGNATED ON PLANS, SUPPLY DIFFUSERS SHALL BE 4-WAY DIRECTIONAL DISCHARGE.

NOTES:  
1.

DUCTWORK CONSTRUCTION SCHEDULE											
DUCT SYSTEM	SHAPE	PRESS. CLASS W.G.	MATERIAL	LINER			INSULATION			NOTES	
				THK.	TYPE	D	THK.	TYPE	D		JACKET
CONCEALED SUPPLY	RND/RECT	-/42"	GS	-	-	-	1.5"	FGW	-	FFJ	2
CONCEALED RETURN	RND/RECT	-/42"	GS	-	-	-	1.5"	FGW	-	FFJ	
CONCEALED RETURN IN PLENUMS	RND/RECT	-/42"	GS	-	-	-	-	-	-	-	
CONCEALED SUPPLY AIR DEVICE RUNOUT	RND	+1"	IFD	-	-	-	1.5"	IFD	-	FFJ	1
OUTSIDE AIR	RND/RECT	-1"	GS	-	-	-	1.5"	FGW	-	FFJ	
EXHAUST	RND/RECT	-1"	GS	-	-	-	-	-	-	-	
SOUND BOOTH/PERFORMANCE ROOMS	RND/RECT	-/42"	GS	1"	PFL	-	-	-	-	-	

GENERAL NOTES:  
A. ALL PAINTING BY GENERAL CONTRACTOR.  
B. ALL DUCT JOINTS AND SEAMS SHALL BE SEALED PER OMC CHAPTER 5.

SCHEDULE NOTES:  
1. ROUND RUNOUTS TO AIR DEVICES SHALL BE EXTERNALLY INSULATED.  
2. INCLUDES DUCTWORK ROUTED IN ABOVE CEILING PLENUM SPACES.

ABBREVIATIONS:  
AIFD ACoustical INSulated FLEX-DUCT FFG FOIL FACED JACKET PGGS PAINTGRIP GALVANIZED STEEL  
ALUM ALUMINUM FGW FIBERGLASS WRAP PVCOS PVC COATED GALVANIZED STEEL  
ABA ADHESIVE BACKED ALUMINUM FPW FIRE WRAP RECT RECTANGULAR  
ASJ ALL SERVICE JACKET GS GALVANIZED STEEL RND ROUND  
CS CARBON STEEL GSSP GALVANIZED STEEL SPIRAL PIPE SS STAINLESS STEEL  
D DENSITY (PCF) IFD INSULATED FLEXIBLE DUCT TH THICKNESS  
DWI DOUBLEWALL INSULATED MFF MATT FACED FIBERGLASS UFD UNISULATED FLEXIBLE DUCT  
ETPS EXTRUDED POLYSTYRENE PFD PERFORATED FABRIC DUCT  
FB FIBERGLASS BOARD PFL PREFORMED LINER

VENTILATION SCHEDULE								
ROOM NUMBER	ROOM NAME	OCCUPANCY TYPE	AREA (SF)	OCCUPANT DENSITY (#/1000SF)	PEOPLE AIR RATE (CFM/PERSON)	AREA AIR RATE (CFM/SF)	NUMBER OF PEOPLE	MINIMUM OA AIRFLOW (CFM)
104	PERFORMANCE STUDIO	OFFICE	300	5	5	0.06	2	28
104A	MECH. ROOM		115					
105	AIR STUDIO	OFFICE	276	5	5	0.06	2	27
106	PRODUCTION STUDIO	OFFICE	271	5	5	0.06	2	26
107	EDIT BOOTH	OFFICE	78	5	5	0.06	1	10
108	TECH CENTER	OFFICE	246	5	5	0.06	2	25
109	CORRIDOR	CORRIDOR	182	0	0	0.06	0	11
110	CORRIDOR	CORRIDOR	301	0	0	0.06	0	18
111	BREAK ROOM	BREAK	179	25	5	0.06	5	36
113	OFFICE	OFFICE	99	5	5	0.06	1	11
114	OFFICE	OFFICE	99	5	5	0.06	1	11
115	OFFICE	OFFICE	148	5	5	0.06	1	14
116	OFFICE	OFFICE	103	5	5	0.06	1	11
117	OFFICE	OFFICE	114	5	5	0.06	1	12
118	OFFICE	OFFICE	109	5	5	0.06	1	12
			2619					252

HVAC DESIGN CRITERIA	
<b>GENERAL DESIGN INFORMATION</b>	<b>OUTDOOR DESIGN INFORMATION</b>
BUILDING LOCATION: DAYTON, OH	SUMMER DRY BULB: 90.3°F (ASHRAE 0.4%) SUMMER WET BULB: 73.8°F (ASHRAE 0.4%) WINTER DRY BULB: 0.6°F (ASHRAE 99.6%)
<b>INDOOR DESIGN INFORMATION</b>	<b>APPLICABLE CODES</b>
INDOOR SUMMER DRY BULB: 75°F INDOOR SUMMER RH%: 60% MAX. INDOOR WINTER DRY BULB: 70°F INDOOR WINTER RH%: AMBIENT	MECHANICAL: OHIO MECHANICAL CODE 2024 PLUMBING: OHIO PLUMBING CODE 2024 ENERGY: ASHRAE 90.1-2019 VENTILATION: ASHRAE 62.1-2019



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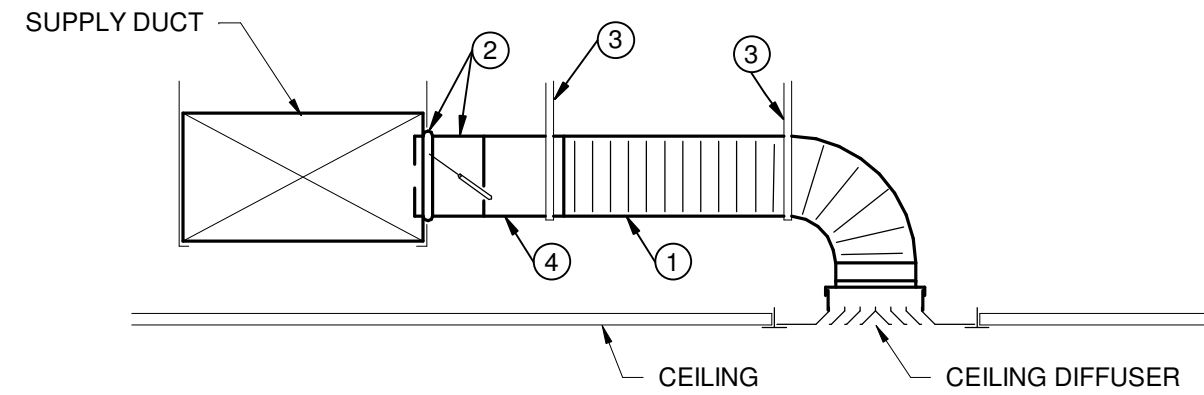
Rehab Project for:  
**DAYTON PUBLIC RADIO**  
130 W. Second St., Suite 250  
Dayton, Ohio 45402

MT STUDIO PROJECT NUMBER: 24094

ISSUED / REVISED DATE  
FOR PERMIT 06.25.2025

MECHANICAL SCHEDULES

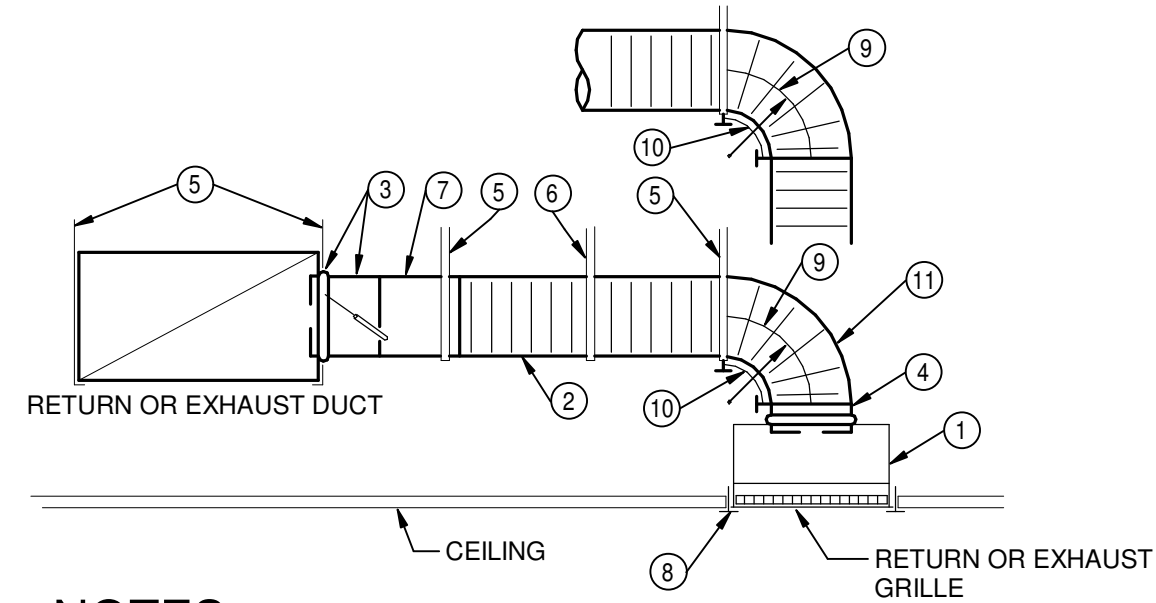
M-002



NOTES

1. INSULATED FLEXIBLE DUCT SAME DIAMETER AS BRANCH DUCT, 6 FT. MAXIMUM TOTAL LENGTH PER AIR DEVICE. STRETCH FLEXIBLE DUCT TO AT LEAST 90% OF FULLY EXTENDED LENGTH.
2. SPIN-IN BRANCH TAP FITTING, STRAIGHT SIDE WITH MANUAL DAMPER. DAMPER SHAFT IN HORIZONTAL. INTEGRAL INSULATION GUARD SLEEVE REQUIRED FOR TAP FITTING TO MAIN DUCT WITH INTERNAL INSULATION, AND EXTENDED DAMPER SHAFT AND HANDLE WITH STAND-OFF TO ACCOMMODATE EXTERNAL INSULATION.
3. DUCT STRAP HANGER. ATTACH TO STRUCTURE.
4. ROUND SHEET METAL BRANCH DUCT, SAME SIZE AS DIFFUSER INLET UNLESS NOTED OTHERWISE.

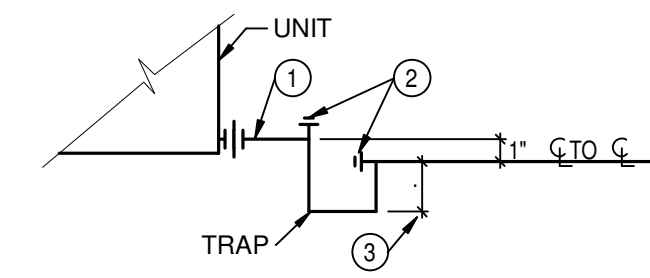
1 CEILING DIFFUSER CONNECTION  
NTS



NOTES

1. SHEET METAL PLENUM, FULL SIZE OF GRILLE NECK. MINIMUM 6" TALL WITH SAME INTERNAL OR EXTERNAL INSULATION AS RETURN OR EXHAUST DUCT. CONNECT TO GRILLE. SEAL PLENUM AND CONNECTION TO GRILLE, SEAL CLASS A.
2. FLEXIBLE DUCT, SAME DIAMETER AS BRANCH DUCT, 7 FT. MAXIMUM TOTAL LENGTH PER AIR DEVICE. STRETCH FLEXIBLE DUCT TO AT LEAST 90% OF FULLY EXTENDED LENGTH.
3. SPIN-IN BRANCH TAP FITTING, STRAIGHT SIDE WITH MANUAL DAMPER. DAMPER SHAFT IN HORIZONTAL. INTEGRAL INSULATION GUARD SLEEVE REQUIRED FOR TAP FITTING TO MAIN DUCT WITH INTERNAL INSULATION, AND EXTENDED DAMPER SHAFT AND HANDLE WITH STAND-OFF REQUIRED FOR EXTERNALLY INSULATED DUCTWORK.
4. SPIN-IN TAP FITTING SIMILAR TO 3 EXCEPT NO DAMPER.
5. DUCT STRAP HANGER. ATTACH TO STRUCTURE.
6. STRAP HANGER REQUIRED IF LENGTH OF FLEXIBLE DUCT IS LONGER THAN 4 FT.
7. ROUND SHEET METAL BRANCH DUCT
8. CEILING T-BAR SUPPORT (FOR LAY-IN APPLICATIONS). COORDINATE AND VERIFY T-BAR TYPE FOR COMPATIBILITY WITH GRILLE.
9. MINIMUM CENTERLINE RADIUS EQUAL TO DUCT DIAMETER.
10. FLEXIBLE DUCT ELBOW SUPPORT, INSTALLED WITH NYLON BANDING PER MANUFACTURER'S INSTRUCTIONS.
11. A RADIUS SHEET METAL ELBOW MAY BE USED IN LIEU OF A FLEXIBLE ELBOW SUPPORT WHEN CONNECTED DIRECTLY TO AIR DEVICE.

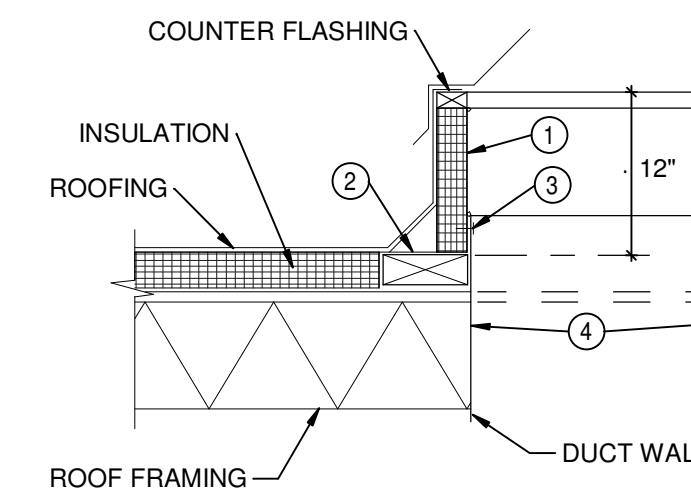
2 RETURN/EXHAUST GRILLE DUCT CONNECTION  
NTS



NOTES

1. DRAIN PIPE SAME SIZE AS UNIT DRAIN PAN CONNECTION.
2. TEE WITH CLEANOUT PLUG.
3. CENTERLINE DIMENSION NOT LESS THAN SUPPLY FAN T.S.P. (INCH W.G.) + 2".

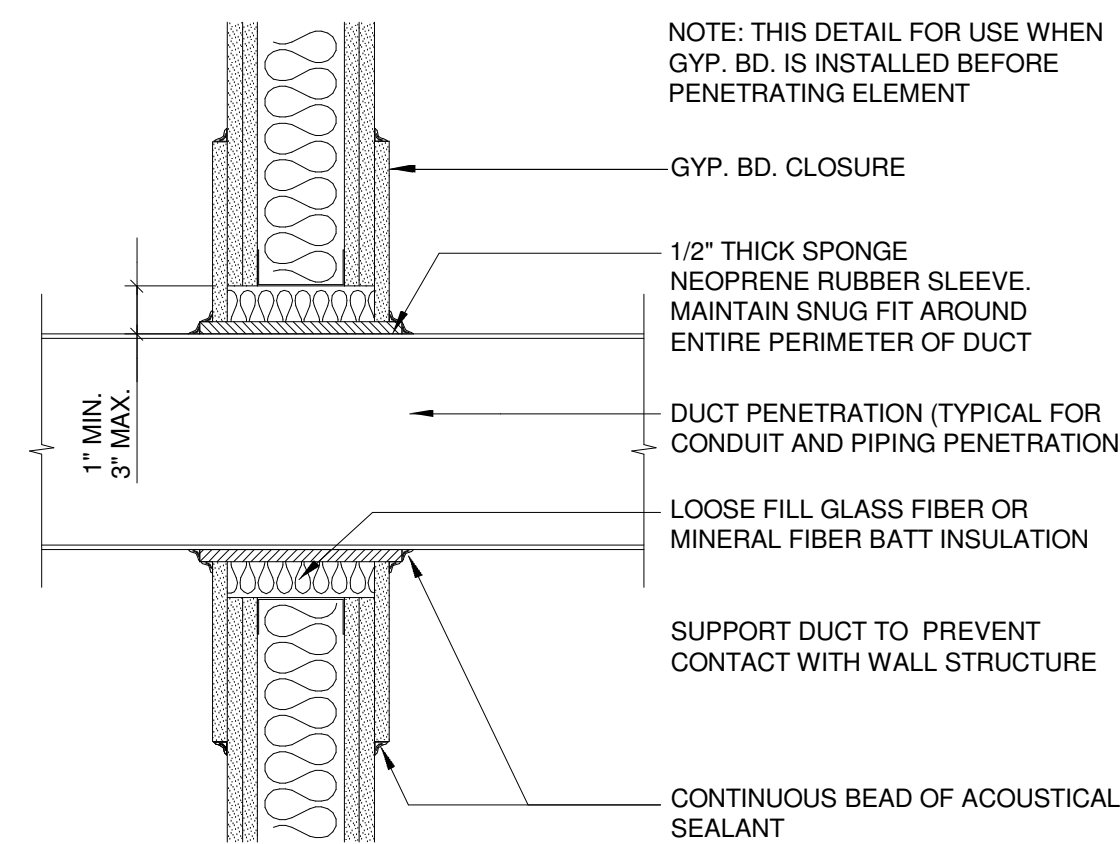
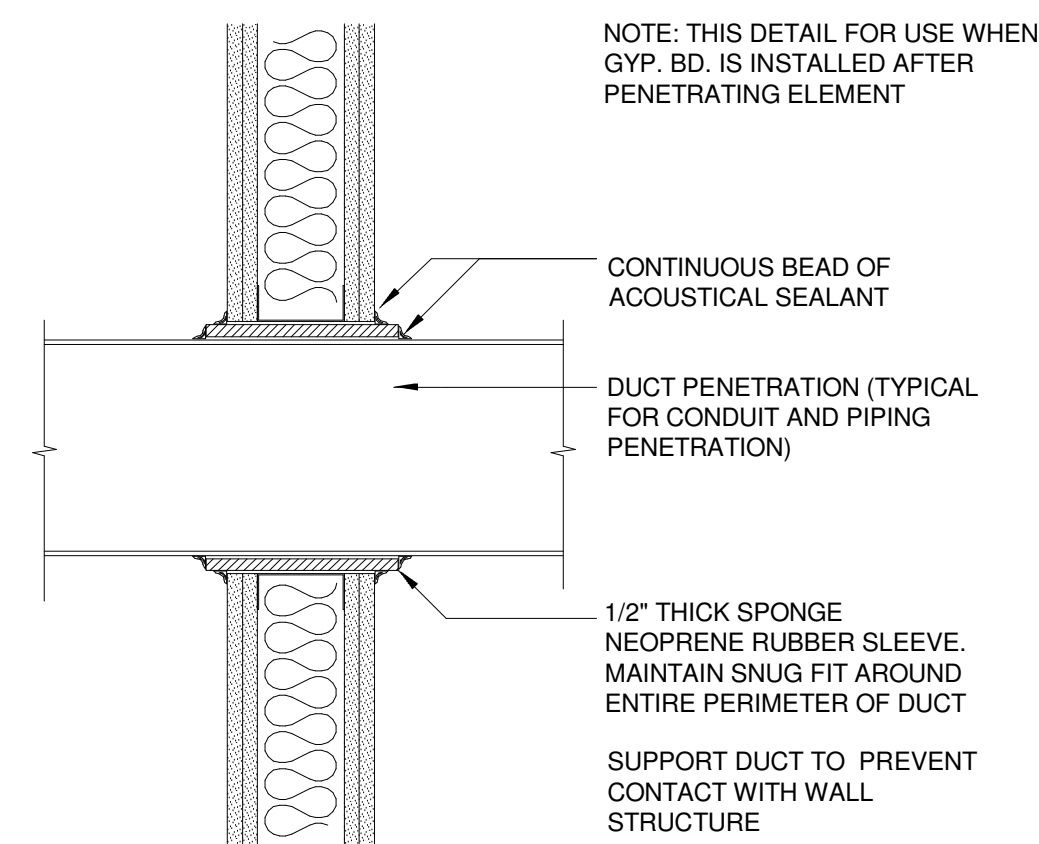
3 FAN COIL UNIT DRAIN PIPING - SUSPENDED UNIT  
NTS



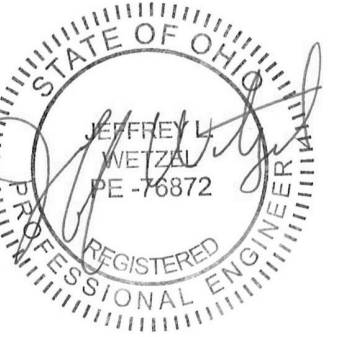
NOTES

1. INSULATED STEEL CURB.
2. PROVIDE PRESSURE TREATED RIGID WOOD BLOCK FRAME SAME THICKNESS AS ROOF INSULATION. BOLT TO ROOF DECK.
3. SHEET METAL SCREW.
4. ROOF DECK OPENING, COORDINATE REQUIRED OPENING SIZE.

4 GRAVITY VENTILATOR CURB  
NTS



5 ACOUSTICAL ASSEMBLY PENETRATION  
NTS



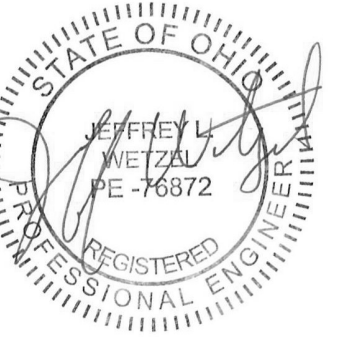
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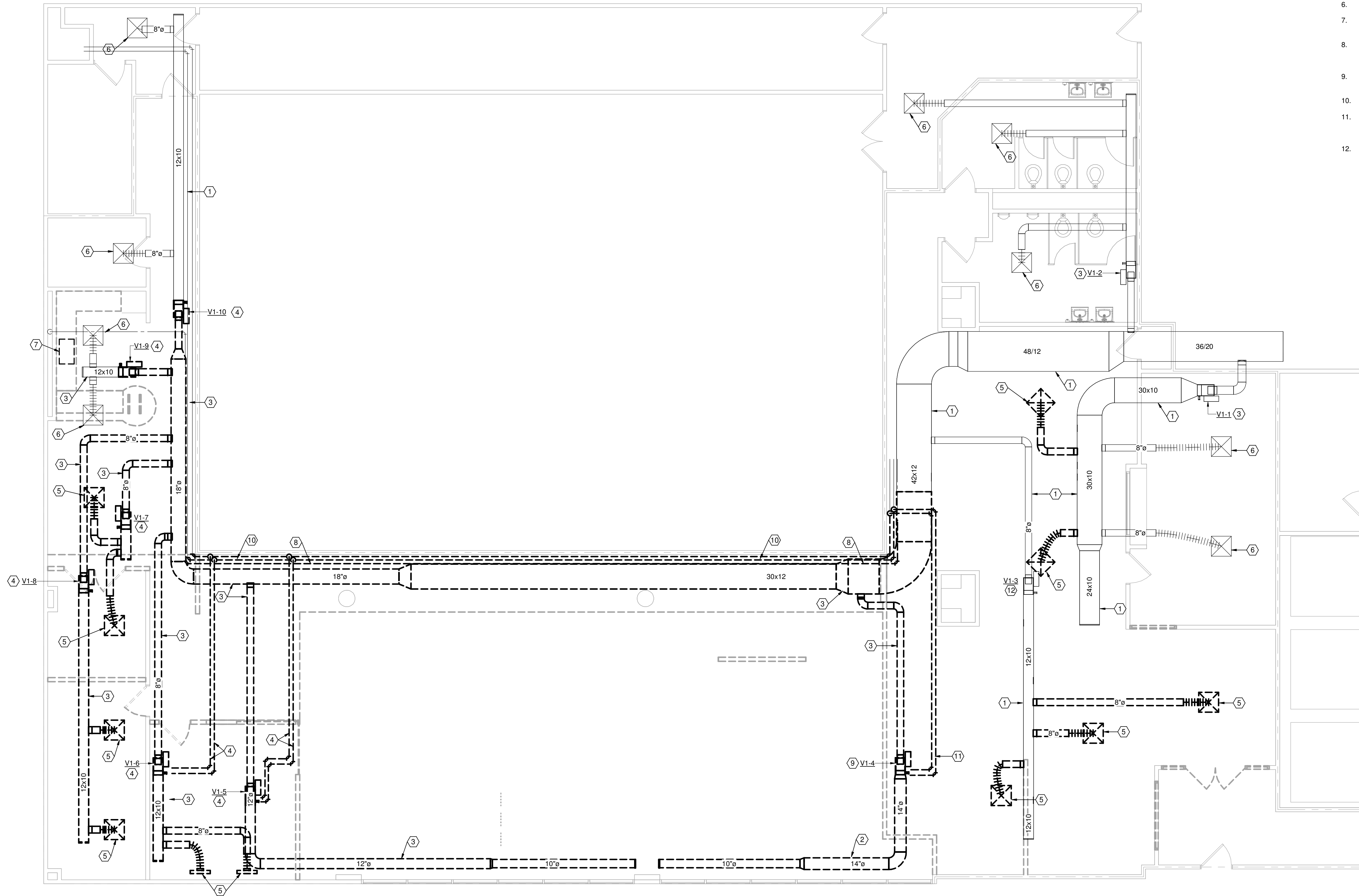
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MECHANICAL  
FLOOR PLAN  
-  
DEMOLITION  
M-101

**DRAWING NOTES**

- EXISTING DUCTWORK TO REMAIN.
- EXISTING DUCTWORK TO BE REMOVED AS INDICATED.
- EXISTING VAV TERMINAL BOX TO REMAIN.
- EXISTING VAV TERMINAL BOX AND ASSOCIATED HOT WATER PIPING, COIL CONNECTION ACCESSORIES AND THERMOSTAT TO BE REMOVED. REMOVE PIPING BACK TO MAIN AND CAP.
- EXISTING AIR DEVICE AND ASSOCIATED BRANCH DUCT TO BE REMOVED AS INDICATED.
- EXISTING AIR DEVICE TO REMAIN.
- EXISTING SINK TO BE REMOVED. ASSOCIATED UTILITIES AND POINT OF USE WATER HEATER LOCATED IN CABINET TO REMAIN.
- EXISTING DOMESTIC COLD WATER LINE ROUTED NEXT TO DUCT MAIN TO BE REMOVED AND RELOCATED TIGHT TO UNDERSIDE OF STRUCTURE.
- EXISTING VAV TERMINAL BOX TO BE RELOCATED. REFER TO NEW WORK PLAN FOR NEW LOCATION.
- EXISTING HEATING HOT WATER PIPING TO BE REMOVED AS INDICATED.
- EXISTING VAV TERMINAL BOX REHEAT PIPING TO BE REMOVED AS INDICATED. EXISTING COIL CONNECTION ACCESSORIES SHALL BE RELOCATED FOR INSTALLATION UNDER NEW WORK.
- EXISTING VAV TERMINAL BOX TO REMAIN. EXISTING HYDRONIC SUPPLY AND RETURN PIPING TO MAINS TO BE REMOVED. EXISTING COIL CONNECTION ACCESSORIES TO REMAIN FOR RECONNECTION UNDER NEW WORK.



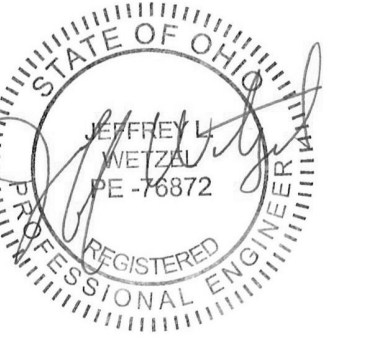
① SECOND FLOOR PLAN - DEMOLITION  
3/16" = 1'-0"



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**MECHANICAL DUCTWORK PLAN - NEW WORK**

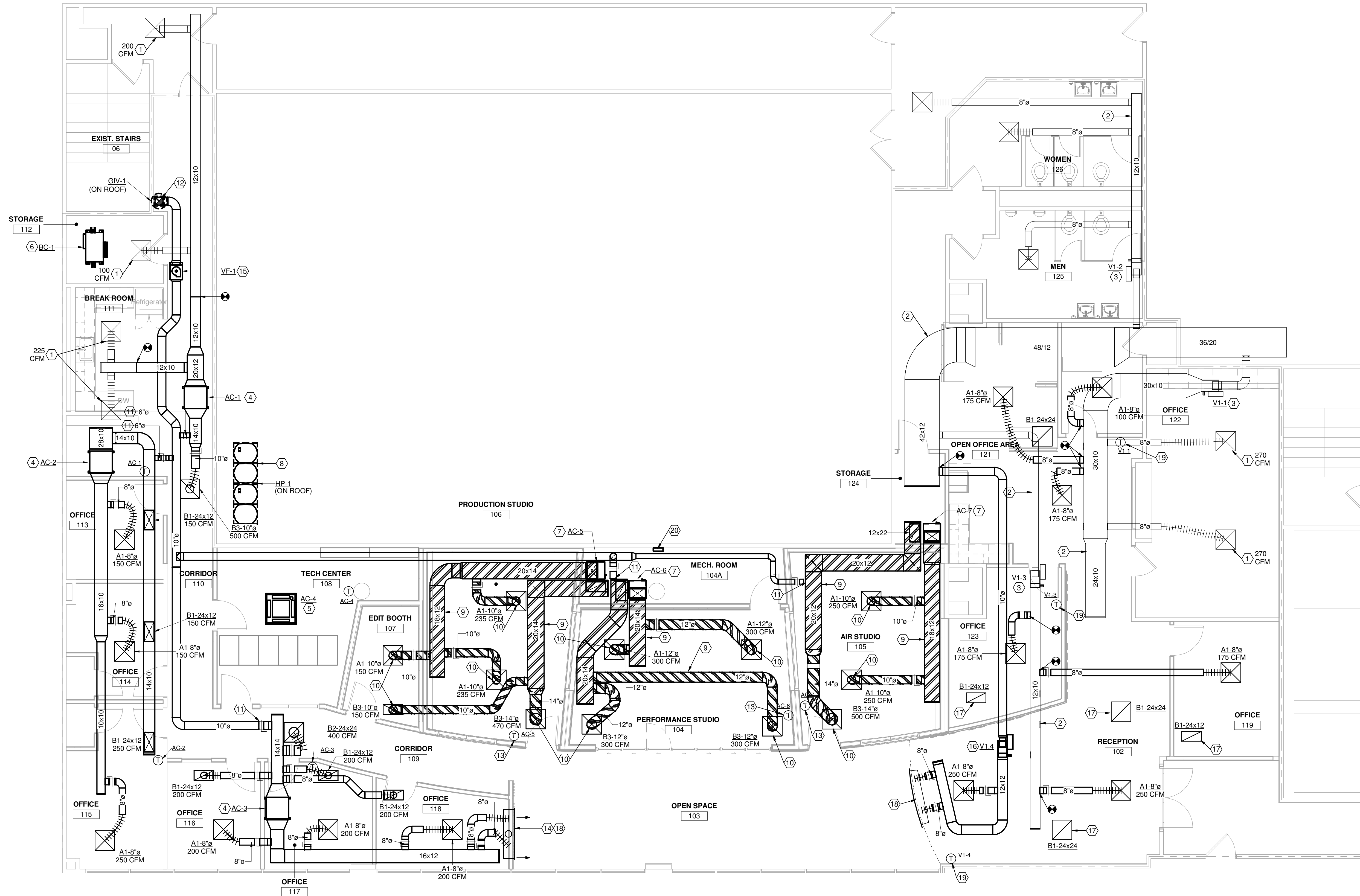
**M-102**

**GENERAL NOTES**

- A. ALL DUCTWORK SERVING SOUND SENSITIVE STUDIOS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE UTILIZING EITHER SPRING OR ELASTOMERIC VIBRATION ISOLATION HANGERS.

**DRAWING NOTES**

1. EXISTING AIR DEVICE TO REMAIN. REBALANCE TO AIRFLOW INDICATED.
2. EXISTING DUCTWORK TO REMAIN.
3. EXISTING VAV TERMINAL BOX TO REMAIN.
4. PROVIDE NEW VRF INDOOR CONCEALED DUCTED UNIT LOCATED ABOVE CEILING.
5. PROVIDE NEW VRF INDOOR CEILING CASSETTE UNIT. COORDINATE LOCATION WITH CEILING GRID AND LIGHT FIXTURES.
6. PROVIDE NEW VRF BRANCH BOX CONTROLLER MOUNTED ABOVE CEILING. PROVIDE REFRIGERANT PIPING FROM CONTROLLER TO ASSOCIATED INDOOR VRF UNITS. PIPING SHALL BE SIZED BY THE MANUFACTURER.
7. PROVIDE NEW VRF INDOOR VERTICAL AIR HANDLER WITH BOTTOM STRUCTURAL RETURN AIR PLENUM. PLENUM AND UNIT SHALL BE MOUNTED ON VIBRATION ISOLATION MAT AND FREE STANDING SPRING ISOLATOR. ISOLATOR EQUAL TO KINETICS MODEL FDS WITH 1" DEFLECTION RATED FOR 50 POUNDS. SUPPLY CONNECTION TO UNIT AND RETURN MAIN PRIOR TO PLENUM CONNECTION SHALL UTILIZE FLEXIBLE CONNECTORS.
8. PROVIDE NEW OUTDOOR VRF HEAT RECOVERY HEAT PUMP UNIT ON ROOF ABOVE. LOCATION SHOWN ON PLAN IS APPROXIMATE AND SHALL BE FIELD VERIFIED. UNIT SHALL BE SUPPORTED USING MANUFACTURER SUPPORT FRAME EQUAL TO "BIGFOOT MULTI-FRAME XL" UNIT SHALL BE SECURED TO ROOF STRUCTURE USING CONCRETE EXPANSION ANCHOR EYELETS AND GUY WIRE. ALL ROOFING WORK SHALL BE COORDINATED WITH OWNER'S ROOFING COMPANY.
9. HATCHED DUCTWORK INDICATES INTERNAL LINER. DUCTWORK LOCATED ABOVE SOUND RATED ASSEMBLY. DUCT SIZES SHOWN ARE INSIDE CLEAR. REFER TO DUCT CONSTRUCTION SCHEDULE FOR ADDITIONAL INFORMATION.
10. DUCT DROP DOWN THROUGH SOUND ENCLOSURE ASSEMBLY TO AIR DEVICE LOCATED IN ACT GRID. REFER TO DETAIL FOR ADDITIONAL INFORMATION.
11. PROVIDE VENTILATION AIR DUCT TO EACH UNIT RETURN AIR MAIN. PROVIDE WITH MANUAL BALANCING DAMPER AND BALANCE TO AIRFLOW INDICATED IN VRF INDOOR EQUIPMENT SCHEDULE. NOT ALL DUCTWORK REQUIRED SHOWN FOR CLARITY.
12. VENTILATION AIR DUCT UP THROUGH THIRD FLOOR WITHIN CLOSET SPACE TO GRAVITY INTAKE VENTILATOR ON ROOF. VENTILATOR SHALL BE LOCATED UNDER RAISED MECHANICAL PENTHOUSE STRUCTURAL FRAMING. WORK ON THIRD FLOOR SHALL BE COORDINATED WITH OWNER PRIOR TO COMMENCING. ALL ROOFING WORK SHALL BE COORDINATED WITH OWNER'S ROOFING COMPANY. INTAKE VENTILATOR EQUAL TO GREENHECK MODEL #GRS1, 8" CONNECTION SIZE, 21" DIAMETER, 9" HIGH. PROVIDE WITH 12" HIGH ROOF CURB AND FLASHING.
13. PROVIDE WIRELESS VRF TEMPERATURE CONTROLLER AND ASSOCIATED RECEIVER AND WIRING.
14. DIFFUSER SHALL BE LOCATED BETWEEN GYPSUM CEILING AND HORIZONTAL WOOD FEATURE. COORDINATE EXACT PLACEMENT IN FIELD PRIOR TO ROUGH-IN.
15. PROVIDE INLINE VENTILATION AIR FAN. REFER TO FAN SCHEDULE FOR ADDITIONAL INFORMATION. FAN SHALL RUN DURING OCCUPIED HOURS SET BY THE OWNER UTILIZING A TIME CLOCK. TIME CLOCK TO BE LOCATED IN THE MECHANICAL CLOSET.
16. EXISTING RELOCATED VAV TERMINAL UNIT AND REHEAT COIL PIPING ASSEMBLY. EXTEND NEW HEATING HOT WATER PIPING TO RELOCATED COIL PIPING ASSEMBLY.
17. GRILLE OPEN TO PLENUM SPACE ABOVE.
18. PROVIDE LINEAR SLOT DIFFUSER, 6FT IN LENGTH. 2" SLOT EQUAL TO TITUS TYPE "FL-20" WITH REAR PLENUM.
19. EXISTING RELOCATED THERMOSTAT. EXTEND CONTROL WIRING AS REQUIRED.
20. VRF SYSTEM CONTROLLER LOCATION.



**1 SECOND FLOOR PLAN - NEW WORK**  
3/16" = 1'-0"

