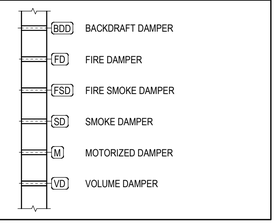
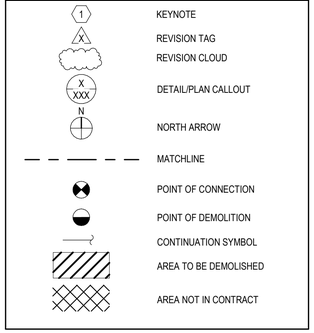
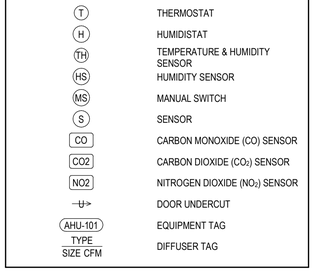
DUCT ACCESSORIES



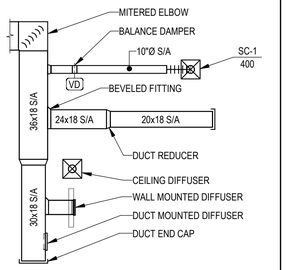
GENERAL SYMBOLS



HVAC SYMBOLS & TAGS



DUCTWORK LEGEND



DUCT SYSTEMS

DOWN	UP	
24x18 S/A	X	23 - SUPPLY AIR
24x18 S-O/A	X	23 - CONDITIONED OUTSIDE AIR
24x18 O/A	X	23 - OUTSIDE AIR
24x18 R/A	/	23 - RETURN AIR
24x18 T/A	/	23 - TRANSFER AIR
24x18 E/A	X	23 - EXHAUST AIR
24x18 L/A	X	23 - RELIEF AIR
24x18 G/A	X	23 - GREASE EXHAUST AIR
24x18 SE/A	X	23 - SMOKE EXHAUST AIR
24x18 FLUE	X	23 - FLUE GAS VENT
24"Ø C/A	⊗	23 - COMBUSTION AIR

ABBREVIATIONS

Ø	ROUND	MBH	ONE THOUSAND BTU PER HOUR
AC	AIR CONDITIONING	MCF	ONE THOUSAND CUBIC FEET
ADD	ADDENDUM	MD	MOTORIZED DAMPER
AFF	ABOVE FINISHED FLOOR	MECH	MECHANICAL
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	MFR	MANUFACTURER
ALT	ALTERNATE	MIN	MINIMUM
AP	ACCESS PANEL	MISC	MISCELLANEOUS
ARCH	ARCHITECT/ARCHITECTURAL	MUA	MAKE-UP/AIR
BFF	BELOW FINISHED FLOOR	NC	NOISE CRITERIA
BTU	BRITISH THERMAL UNITS	NC	NORMALLY CLOSED
BTUH	BRITISH THERMAL UNITS PER HOUR	NIC	NOT IN CONTRACT
CAP	CAPACITY	NO	NUMBER
CFM	CUBIC FEET PER MINUTE	NO	NORMALLY OPEN
CO	CLEAN OUT	NTS	NOT TO SCALE
D	DEGREE	O	OXYGEN
DB	DRY BULB	O/A	OUTSIDE AIR
DIA	DIAMETER	PD	PRESSURE DROP
DN	DOWN	PRESS	PRESSURE
EAT	ENTERING AIR TEMPERATURE	PRV	PRESSURE REDUCING VALVE
ELEC	ELECTRICAL	PSI	POUNDS PER SQUARE INCH
EQUIP	EQUIPMENT	PSIG	POUNDS PER SQUARE INCH GAUGE
EWC	ELECTRIC WATER COOLER	PWR	POWER
EWT	ENTERING WATER TEMPERATURE	(R)	RELOCATE
E/A	EXHAUST AIR	R/A	RETURN AIR
(E)	EXISTING	RCP	RADIANT CEILING PANEL
°F	DEGREES FAHRENHEIT	REC	RECESSED
FD	FIRE DAMPER	RED	REDUCER
FL	FLOOR	RH	RELATIVE HUMIDITY
FO	FUEL OIL	RL/A	RELIEF AIR
FOV	FUEL OIL VENT	RM	ROOM
FOR	FUEL OIL RETURN	RPM	REVOLUTIONS PER MINUTE
FOS	FUEL OIL SUPPLY	SF	SQUARE FOOT
FPM	FEET PER MINUTE	S/A	SUPPLY AIR
FS	FLOOR SINK	SF	SQUARE FOOT
FT	FOOT/FEET	SD	SMOKE DAMPER
GAL	GALLON	SM	SURFACE MOUNT
GC	GENERAL CONTRACTOR	SP	STANDPIPE
GPM	GALLONS PER MINUTE	SP	STATIC PRESSURE
HP	HORSE POWER	STM	STEAM
ID	INDIRECT	T	THERMOSTAT
IN	INCH	TD	TEMPERATURE DROP
INV	INVERT	TEMP	TEMPERATURE
LB	POUND	TYP	TYPICAL
LB/HR	POUNDS PER HOUR	UG	UNDERGROUND
LAT	LEAVING AIR TEMPERATURE	VAC	VACUUM
LP	LOW PRESSURE	V	VENT
LPG	LIQUEFIED PETROLEUM GAS	VAV	VARIABLE AIR VOLUME
LVR	LOUVER	VENT	VENTILATION
LWT	LEAVING WATER TEMPERATURE	WB	WET BULB
M/A	MIXED AIR	(X)	DEMOLISH
MAX	MAXIMUM		

2021 WSEC NOTES

- C403.1.2: LOAD CALCULATIONS PERFORMED PER ASHRAE STD 183 OR EQUIVALENT, USING DESIGN PARAMETERS PER C302 AND APPENDIX C; INCLUDE LOAD ADJUSTMENTS TO ACCOUNT FOR ENERGY RECOVERY.
- C403.3.1: EQUIPMENT AND SYSTEM SIZING: OUTPUT CAPACITIES OF HEATING AND COOLING EQUIPMENT AND SYSTEMS ARE NO GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE CALCULATED LOADS. NO EXCEPTIONS APPLIED.
- C403.3.2 ECONOMIZERS DO NOT INCREASE THE BUILDING HEATING ENERGY USAGE DURING NORMAL OPERATION.
- C403.4.2: AUTOMATIC SETBACK AND SHUTDOWN: INDICATE ZONE THERMOSTATIC CONTROLS CONFIGURED WITH REQUIRED AUTOMATIC SETBACK AND MANUAL OVERRIDE FUNCTIONS, SETBACK TEMPERATURES, AND CONTROL METHOD (AUTOMATIC TIME CLOCK OR 7 DAY PROGRAMMABLE CONTROLS).
- C403.4.2.3: OPTIMUM START AND STOP: INDICATE ALL HVAC SYSTEMS ARE PROVIDED WITH AUTOMATIC START AND STOP CONTROLS; INDICATE START CONTROLS ARE CONFIGURED TO ADJUST THE EQUIPMENT START TIME AS REQUIRED TO BRING EACH AREA SERVED UP TO DESIGN TEMPERATURE JUST PRIOR TO SCHEDULED OCCUPANCY; INDICATE STOP CONTROLS ARE CONFIGURED TO REDUCE HEATING SETPOINT AND INCREASE COOLING SETPOINT BY AT LEAST 2°F PRIOR TO SCHEDULED UNOCCUPIED PERIODS.

CONTROL SEQUENCE OF OPERATION

HEAT PUMP UNIT/ENERGY RECOVERY UNIT SYSTEMS

SYSTEMS COMPRISED OF HEAT PUMPS AND ENERGY RECOVERY VENTILATORS SHALL OPERATE AS FOLLOWS:

1. VENTILATION: ENERGY RECOVERY VENTILATORS SHALL BE INTERLOCKED TO OPERATE IN CONJUNCTION WITH THE HEAT PUMP. HEAT PUMP THERMOSTAT SHALL BE CAPABLE OF OPERATING VIA AN OCCUPANCY SENSOR AND/OR TIME CLOCK. THE ERV SHALL PROVIDE CONTINUOUS VENTILATION DURING OCCUPIED TIMES AND SHALL REHEAT THE AIR IF THE DISCHARGE TEMPERATURE IS TOO LOW.
2. CONDITIONING: CONDITIONING OF AIR TO BE ACCOMPLISHED VIA A ZONE THERMOSTAT. THERMOSTAT SHALL INCLUDE CODE REQUIRED DEAD BAND BETWEEN SETPOINTS. UPON A CALL FOR HEATING OR COOLING, THE HEAT PUMP WILL BE ENERGIZED AND OPERATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.

GENERAL NOTES

1. REMOVE ALL UNUSED PIPING, DUCTWORK AND ACCESSORIES.
2. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS WITHIN TENANT SPACE AND WITHIN CLOSE PROXIMITY OF TENANT SPACE.
3. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. FINAL LOCATIONS OF EQUIPMENT SHALL BE FIELD DETERMINED. ALL DISCREPANCIES IN THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO SUBMISSION.
4. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.
5. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
6. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.
7. EQUIPMENT FOR OTHER DISCIPLINES MAY BE SHOWN FOR REFERENCE ONLY. REFER TO OTHER DISCIPLINES' DRAWINGS FOR MORE DETAIL REGARDING EQUIPMENT SPECIFICATIONS AND INFORMATION.
8. ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.
9. LOCATE DUCTWORK, PIPING AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.
10. PROVIDE FIRE PROOFING FOR ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. FIRE PROOFING MUST BE EQUIVALENT OR HIGHER TO THAT OF THE PENETRATED ASSEMBLY. REFER TO ARCHITECTURAL PLANS.
11. PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF. CONSULT STRUCTURALLY ENGINEER OF RECORD FOR ALL STRUCTURAL PENETRATIONS. PROVIDE WATER-PROOFING AS NEEDED FOR ALL EXTERIOR PENETRATIONS.
12. ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT.
13. PIPE AND DUCTWORK SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
14. FOR DETAILS, EQUIPMENT CONNECTIONS, DUCT AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS.
15. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
16. LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWINGS, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
17. INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL IN ROOMS WITHOUT CEILINGS.
18. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY CONDUIT, WIRING, CONTROLS, AND APPURTENANCES FOR A COMPLETE AND OPERABLE HVAC SYSTEM.
19. INSULATE DUCTWORK AND PIPING SYSTEMS TO MEET LOCAL ENERGY CODE REQUIREMENTS. INSULATION MATERIAL TO MEET FLAME SPREAD AN SMOKE DEVELOPMENT RATING OF 25/50 OR LESS. WHERE SYSTEMS ARE EXPOSED TO DAMAGE THE INSULATION SHALL BE PROTECTED WITH A SHEET METAL OR PLASTIC COVER. WHERE DUCTWORK IS INSTALLED EXPOSED TO THE OUTSIDE, INSULATION IS TO BE EXECUTED USING LINED DUCTWORK.
20. SEISMIC ANCHORAGE AND RESTRAINTS MUST BE COORDINATED WITH STRUCTURAL ENGINEER AND AUTHORITY HAVING JURISDICTION.
21. LOCATE THERMOSTATS AND TEMPERATURE SENSORS A MINIMUM OF 8" AWAY FROM LIGHT SWITCHES. MOUNTING HEIGHT SHALL BE PER ARCHITECT AND IN CONFORMANCE WITH ADA GUIDELINES.
22. CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONTROL WIRING.
23. CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING AND GAS EQUIPMENT. CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE AS REQUIRED BY FEDERAL, STATE, AND LOCAL CODES. CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC.
24. ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE.
25. CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH.
26. PROVIDE ACCESS PANELS FOR SERVICING, ADJUSTING, AND REPLACING EQUIPMENT. INCLUDING BUT NOT LIMITED TO DAMPERS AND VALVING.
27. THERMOSTATS TO BE PROGRAMMABLE, HAVE 5°F DEADBAND, AUTOMATIC TIME-CLOCK, 2-HOUR OCCUPANT OVERRIDE, 10-HOUR BACKUP, SETBACKS TO 55°F (HEATING) AND 85°F (COOLING).
28. CONTRACTOR TO PROVIDE OPERATION & MAINTENANCE MANUALS AND AS-BUILT DRAWINGS FOR NEW SYSTEMS AND EQUIPMENT WITHIN 90 DAYS OF COMPLETION
29. CONDENSATE DRAIN LINES SHALL BE CONFIGURED OR PROVIDED WITH CLEANOUT TO PERMIT THE CLEARING OF BLOCKAGES AND FOR MAINTENANCE WITHOUT REQUIRING THE DRAIN LINE TO BE CUT

* NOTE *

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

AHJ

MECHANICAL BASIS OF DESIGN

BUILDING DESCRIPTION

REMODEL CONSTRUCTION OF EXISTING COMMERCIAL BUILDING. THE PROJECT IS LOCATED IN VANCOUVER, WA.

NOTABLE MECHANICAL DESIGN APPROACHES

INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

AMENITY SPACES:
- VENTILATION: HEAT RECOVERY VENTILATOR
- HEATING AND COOLING: HEAT PUMP

CODES AND STANDARDS

BUILDING MECHANICAL SYSTEMS ARE DESIGN IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:
- 2021 WASHINGTON STATE BUILDING CODE
- 2021 WASHINGTON STATE MECHANICAL CODE
- 2021 WASHINGTON STATE COMMERCIAL ENERGY CODE
- 2021 WASHINGTON STATE PLUMBING CODE
- 2021 WASHINGTON STATE FIRE CODE

HVAC DESIGN CRITERIA

VANCOUVER PEARSON 727918

ASHRAE FUNDAMENTALS 2021

ELEVATION: 30'
LAT: 45.621 N
LONG: 122.657 W

OUTDOOR DESIGN CONDITIONS

WINTER: 24.4°F DB (99.6%)
SUMMER: 97.0°F DB (0.4%)
68.8°F WB (0.4%)

INDOOR DESIGN CONDITIONS

COOLING: 75°F +/- 2°F
HEATING: 70°F +/- 2°F

VENTILATION CRITERIA

COMPLY WITH 2021 WASHINGTON STATE MECHANICAL CODE CHAPTER 4.

EXHAUST CRITERIA (MINIMUM RATES)

PUBLIC RESTROOMS: PER WATER CLOSET / URINAL AS PER IMC

BUILDING ENVELOPE

EXISTING ROOF: R-38 CI (U-0.027)
6" WOOD FRAMED WALLS: R-23 BATT (U-0.043)

DUCTWORK DESIGN CRITERIA

DUCT STATIC PRESSURE FRICTION LOSS SHALL NOT EXCEED THE FOLLOWING:
- LOW PRESSURE SUPPLY: 0.08" W.C. PER 100 FEET
- MEDIUM PRESSURE SUPPLY: 0.1" W.C. PER 100 FEET
- LOW PRESSURE RETURN AND EXHAUST: 0.06" W.C. PER 100 FEET
- MECHANICAL ROOMS AND SHAFTS: 0.2" W.C. PER 100 FEET

SUPPLY, RETURN AND EXHAUST DUCT AIRFLOW VELOCITIES SHALL NOT EXCEED THE FOLLOWING:
- MAINS ABOVE CEILING: 1,750 FPM
- MAINS ABOVE OPEN OCCUPIED SPACES: 1450 FPM
- BRANCHES ABOVE OPEN OCCUPIED SPACES: 1150 FPM
- RUN-OUTS TO DIFFUSERS: 725 FPM
- IN SHAFTS: 2,500 FPM
- IN MECHANICAL ROOMS: 3,000 FPM

HVAC SHEET INDEX

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STATE OF WASHINGTON
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REGISTERED
PROFESSIONAL ENGINEER
03/30/2026
SEAL

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ESD 112 THERAPY/OFFICE TI

COVER SHEET

MARK	DESCRIPTION	DATE
	PERMIT SET	2026.03.17

APPROVAL

SATISFACTORY DATE

PRINT:

PROJECT NO.: 25468

M001

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3/30/2026 2:31:02 PM M001
Autodesk Docs://25468 ESD 112 Renovations/MEP26 ESD 112 - 2400 NE 65th St.rvt

VENTILATION AND EXHAUST CALCULATION (BASED ON THE 2021 IMC)

SPACE NAME	OCCUPANCY TYPE	AREA (FT2)	OCCUPANT DENSITY #/1000 SQ FT	NUMBER OF PEOPLE	OSA AIRFLOW PER PERSON (CFM)	OSA AIRFLOW PER UNIT AREA (CFM/FT2)	EFFECTIVENESS	REQUIRED OSA AIRFLOW (CFM)	TOTAL SUPPLIED OSA AIRFLOW (CFM)	UNIT EXHAUST (CFM/UNIT)	UNITS	EXHAUST AIRFLOW PER UNIT AREA (CFM/FT2)	MINIMUM EXHAUST AIRFLOW (CFM)	DESIGN EXHAUST AIRFLOW (CFM)
102 | STAFF BREAK	BREAKROOMS	335.7	50	10	5	0.12	0.8	113	120	-	-	-	0	0
100 | THERAPY	OFFICE SPACE	708.2	5	14	5	0.06	0.8	141	150	-	-	-	0	0
101 | TRANSITION	BREAKROOMS	706	50	14	5	0.12	0.8	193	200	-	-	-	0	0
108 | CORRIDOR	CORRIDORS	848.4	0	0	0	0.06	0.8	64	70	-	-	-	0	0
117 | JANITOR	JANITOR CLOSETS, TRASH ROOMS, RECYCLING	40.8	0	0	0	0	0.8	0	0	-	-	1	41	45
114 | OFFICE	OFFICE SPACE	126.6	5	2	5	0.06	0.8	22	30	-	-	-	0	0
111 | OFFICE	OFFICE SPACE	123.8	5	2	5	0.06	0.8	22	30	-	-	-	0	0
109 | OFFICE	OFFICE SPACE	125.2	5	2	5	0.06	0.8	22	30	-	-	-	0	0
115 | OFFICE	OFFICE SPACE	129	5	2	5	0.06	0.8	22	30	-	-	-	0	0
110 | QUIET	OFFICE SPACE	125.5	5	2	5	0.06	0.8	22	30	-	-	-	0	0
112 | QUIET	OFFICE SPACE	123.5	5	2	5	0.06	0.8	22	30	-	-	-	0	0
113 | STORAGE	OCCUPIABLE STORAGE ROOMS FOR DRY MATERIALS	338.5	2	2	5	0.06	0.8	38	40	-	-	0.12	41	45
107 | ACCESSIBLE RR	BATHROOM	50.1	0	0	8	0.03	0.8	2	10	50	1	0	50	50
104 | ACCESSIBLE RR	BATHROOM	49.7	0	0	8	0.03	0.8	2	10	50	1	0	50	50
105 | RR	BATHROOM	37.7	0	0	8	0.03	0.8	1	10	50	1	0	50	50
106 | RR	BATHROOM	36.9	0	0	8	0.03	0.8	1	10	50	1	0	50	50
103 | STAFF RR (ACC.)	BATHROOM	49.7	0	0	8	0.03	0.8	2	10	50	1	0	50	50
TOTAL (ALL FLOORS)		3955.3		52					810					340

VRF FAN COILS

TAG		SERVES	INDOOR UNIT TYPE	REQUIRED COIL CAPACITY		REFRIG. TYPE	EFFICIENCY (80°F DB/65°F WB)		ELECTRICAL				WEIGHT		BASIS OF DESIGN			NOTES
INDOOR	OUTDOOR			COOLING	HEATING		REQUIRED	ACTUAL	MCA	MOCP	VOLT	PH	INDOOR (LBS)	OUTDOOR (LBS)	MANUFACTURER	INDOOR	OUTDOOR	
FCU-01	HP-01	STAFF BREAK ROOM	CASSETTE	12000 BTU/H	10000 BTU/H	R-32	11.0 EER / 2.25 COP	12.2 EER / 2.3 COP	0.3	15.0 A	208 / 230	1 Ø	42	725	DAIKIN	FXZQ18TAVJU	REYA96AATJA	1
FCU-02	HP-01	TRANSITION 101	CASSETTE	24000 BTU/H	14500 BTU/H	R-32	11.0 EER / 2.25 COP	12.2 EER / 2.3 COP	0.5	15.0 A	209 / 230	1 Ø	51	725	DAIKIN	FXZQ24TAVJU	REYA96AATJA	1
FCU-03	HP-01	THERAPY 100	CASSETTE	19000 BTU/H	13000 BTU/H	R-32	11.0 EER / 2.25 COP	12.2 EER / 2.3 COP	0.5	15.0 A	210 / 230	1 Ø	51	725	DAIKIN	FXZQ24TAVJU	REYA96AATJA	1
FCU-04	HP-01	OFFICES / BOH	DUCTED CEILING	25900 BTU/H	24000 BTU/H	R-32	11.0 EER / 2.25 COP	12.2 EER / 2.3 COP	1.8	15.0 A	211 / 230	1 Ø	84	725	DAIKIN	FXSQ30TAVJU	REYA96AATJA	1

NOTES:
1. PROVIDE LITTLE GIANT CONDENSATE PUMP (OR EQUAL). 208V, 1Ø, 1/30 HP, 1.5 FLA.

VRF CONDENSING UNITS

TAG	DESCRIPTION	COIL CAPACITY		REFRIG. TYPE	EFFICIENCY (80°F DB/65°F WB)		WEIGHT	ELECTRICAL				BASIS OF DESIGN		NOTES
		COOLING	HEATING		REQUIRED	ACTUAL		MCA	MOCP	VOLTAGE	PHASE	MANUFACTURER	MODEL	
HP-01	OUTDOOR, MULTI-SPLIT HEAT PUMP UNIT	96000 BTU/H	102600 BTU/H	R32	11.0 EER / 2.25 COP	12.2 EER / 2.3 COP	725 LBS	34.9	40	208 / 230 V	3 Ø	DAIKIN	REYA96AATJA	ALL

NOTES:
1. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR PIPING LIMITATIONS.
2. PROVIDE BIGFOOT VRF/VRV 990 RISER KIT FOR OUTDOOR UNIT.

VRF BRANCH SELECTOR BOX

TAG	AREA SERVED	STYLE	FINISH	NUMBER OF PORTS	ELECTRICAL				WEIGHT	BASIS OF DESIGN		NOTES
					MCA	MOP	FLA	VOLT		MANUFACTURER	MODEL	
BSB-01	ESD 2400 VRF	RECESSED	WHITE	4	1.2	15	0.9	208	75 LBS	DAIKIN	BSF4	

NOTES:
N/A

ENERGY RECOVERY VENTILATORS

TAG	AREA SERVED	SUPPLY FAN			EXHAUST FAN			TYPE	ENERGY RECOVERY CORE - SUMMER			ENERGY RECOVERY CORE - WINTER			FILTER	WEIGHT	ELECTRICAL			BASIS OF DESIGN		NOTES
		AIRFLOW	ESP	POWER	AIRFLOW	ESP	POWER		EFFICIVENESS	EAT	LAT	EFFICIVENESS	EAT	LAT			FLA	VOLTAGE	PHASE	MANUFACTURER	MODEL	
ERV-01	ALL SPACES	810 CFM	0.5 W.C.	0.5 HP	810 CFM	0.5 W.C.	0.5 HP	FIXED PLATE	54.10%	90.9 °F	80.3 °F	62.20%	24.9 °F	55.0 °F	MERV-8	204 LBS	1.73	208 / 230	1 Ø	RENEWAIRE	HE10	ALL

NOTES:
1. PROVIDE CLASS 1 ISOLATION DAMPERS.

DIFFUSERS, REGISTERS AND GRILLES

TAG	TYPE	FACE	MIN CFM	MAX CFM	NECK SIZE	T-BAR	HARDLID	NC	THROW	FRAME	DEFLECTION	BASIS OF DESIGN	NOTES
SC-1	CEILING SUPPLY	SQUARE FOUR-WAY	0	120	6	24x24	12x12	-	2-3-7	SURFAC	4-WAY	TITUS TMS	ALL
			121	200	8	24x24	12x12	12	3-5-9	E MOUNT	4-WAY		ALL
RC-1	PASSIVE CEILING RETURN GRILLE	PERFORATED, EGG CRATE	0	75	6x6	24x24	12x12				-	TITUS PAR	ALL
			76	300	12x12	24x24	12x12				-	TITUS PAR	ALL
SW-1	SIDEWALL SUPPLY DIFFUSER	DOUBLE DEFLECTION - VERT. FRONT BLADES	0	100	6x6	6x6	6x6	-	6-10-14	SURFAC E MOUNT	22.5°	TITUS 300RL	ALL
			101	200	8x6	8x6	8x6	23	12-15-20		22.5°		ALL
			201	300	12x6	12x6	12x6	25	14-17-25		22.5°		ALL
			301	600	12x12	12x12	12x12	25	19-25-34		22.5°		ALL
			600	900	18x12	18x12	18x12	27	23-31-43		22.5°		ALL
RW-1	SIDEWALL RETURN/EXHAUST GRILLE	0 DEGREE DEFLECTION	0	100	6x6	6x6	6x6	-	-	SURFAC E MOUNT	-	TITUS 350RS	ALL
			101	200	8x6	8x6	8x6	24	-		-		ALL
			201	300	12x6	12x6	12x6	27	-		-		ALL
			301	600	12x12	12x12	12x12	24	-		-		ALL
			601	900	18x12	18x12	18x12	25	-		-		ALL
			901	1500	30x12	30x12	30x12	26	-		-		ALL
SD-1	DUCT-MOUNTED SUPPLY DIFFUSER	DOUBLE DEFLECTION	0	100	12x3	12x3	12x3	13	6-7-10	DUCT MOUNT	22.5°	TITUS S300FL	ALL
			101	200	10x6	10x6	10x6	21	8-10-14		22.5°		ALL
			201	600	18x8	18x8	18x8	25	14-18-24		22.5°		ALL
			601	900	12x18	12x18	12x18	27	17-21-30		22.5°		ALL

NOTES:
1. APPEARANCE SHALL BE APPROVED BY ARCHITECT PRIOR TO PURCHASING DIFFUSER OR GRILLE.
2. DIFFUSER, GRILLE, OR REGISTER TO BE SIZED AS LISTED ON SCHEDULE UNLESS OTHERWISE DIRECTED ON FLOOR PLAN.
3. NOISE CRITERIA (NC) BASED ON ROOM ABSORPTION OF 10 DB, MEASURED PER ANSI/ASHRAE STANDARD 70.
4.THROW VALUES GIVEN FOR TERMINAL VELOCITIES 150, 100, AND 50 FPM FOR ISOTHERMAL CONDITIONS.

AHJ

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03/30/2026
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ESD 112 THERAPY/OFFICE TI

SCHEDULES

MARK	DESCRIPTION	DATE
	PERMIT SET	2026.03.17

APPROVAL

SATISFACTORY DATE

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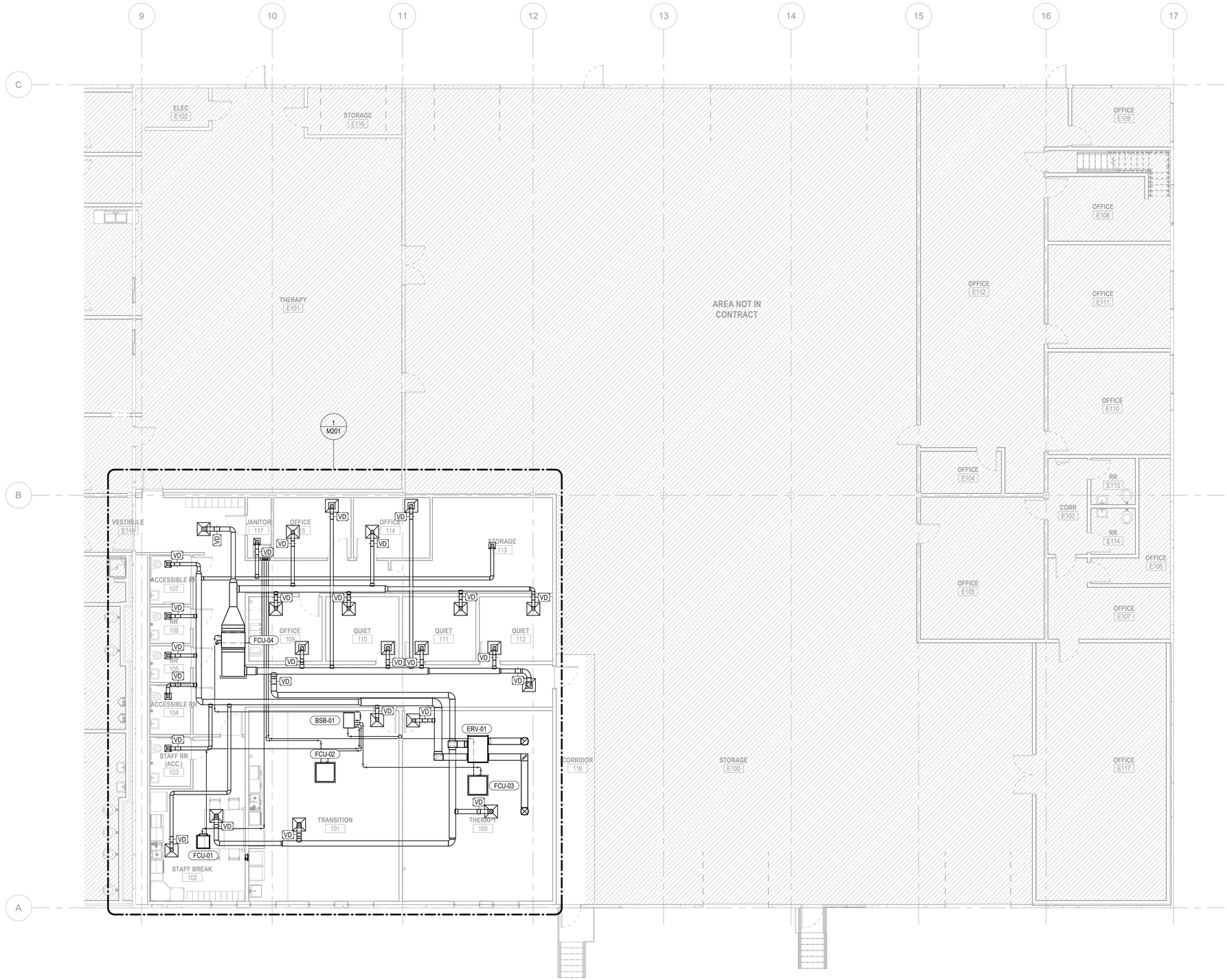

1 FLOOR PLAN - OVERALL - MECHANICAL
SCALE: 1/8" = 1'-0"

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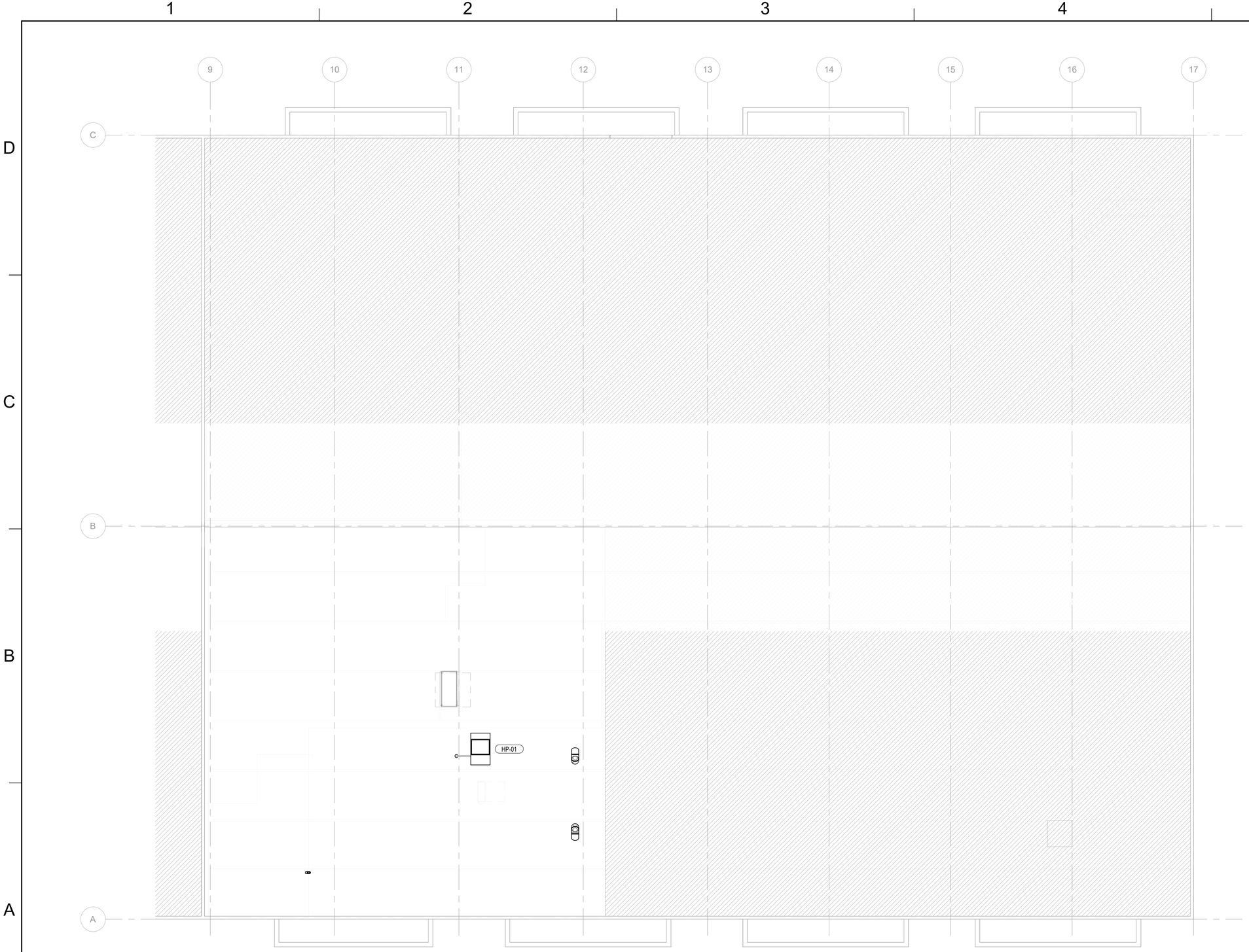

1 ROOF PLAN - OVERALL - MECHANICAL
SCALE: 1/8" = 1'-0"

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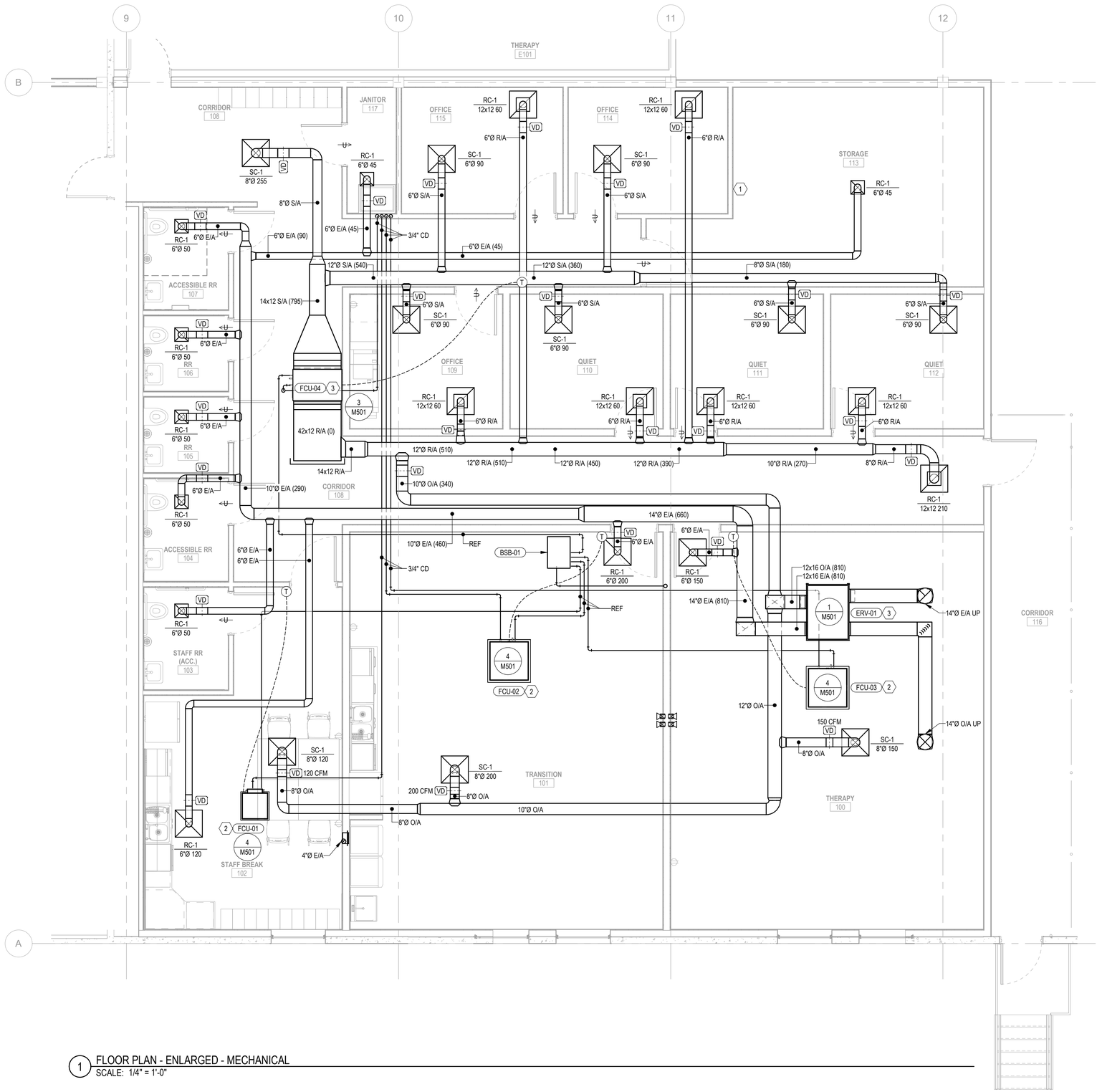

1 FLOOR PLAN - ENLARGED - MECHANICAL
SCALE: 1/4" = 1'-0"

AHJ

GENERAL SHEET NOTES:

A. SENSOR LOCATIONS ARE DIAGRAMMATIC. CONTROLS CONTRACTOR TO SUBMIT SHOP DRAWING INDICATING ALL SENSOR LOCATIONS INCLUDING ELEVATION REFERENCE AND MODEL #. SUBMIT TO ARCHITECT AND ENGINEER FOR REVIEW.

B. ALL DUCT AND EQUIPMENT TO BE ROUTED AND INSTALLED IN EXISTING MEZZANINE AREA UNLESS OTHERWISE NOTED.

KEYNOTES:

1 SPACE TO BE HEATED WITH MIN .5 KW ELECTRIC UNIT HEATER. HEATER TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2 FANCOIL TO BE MOUNTED TO STRUCTURE WITHIN T-GRID DROP CEILING.
3 MECHANICAL EQUIPMENT TO BE MOUNTED TO MEZZANINE STRUCTURE.

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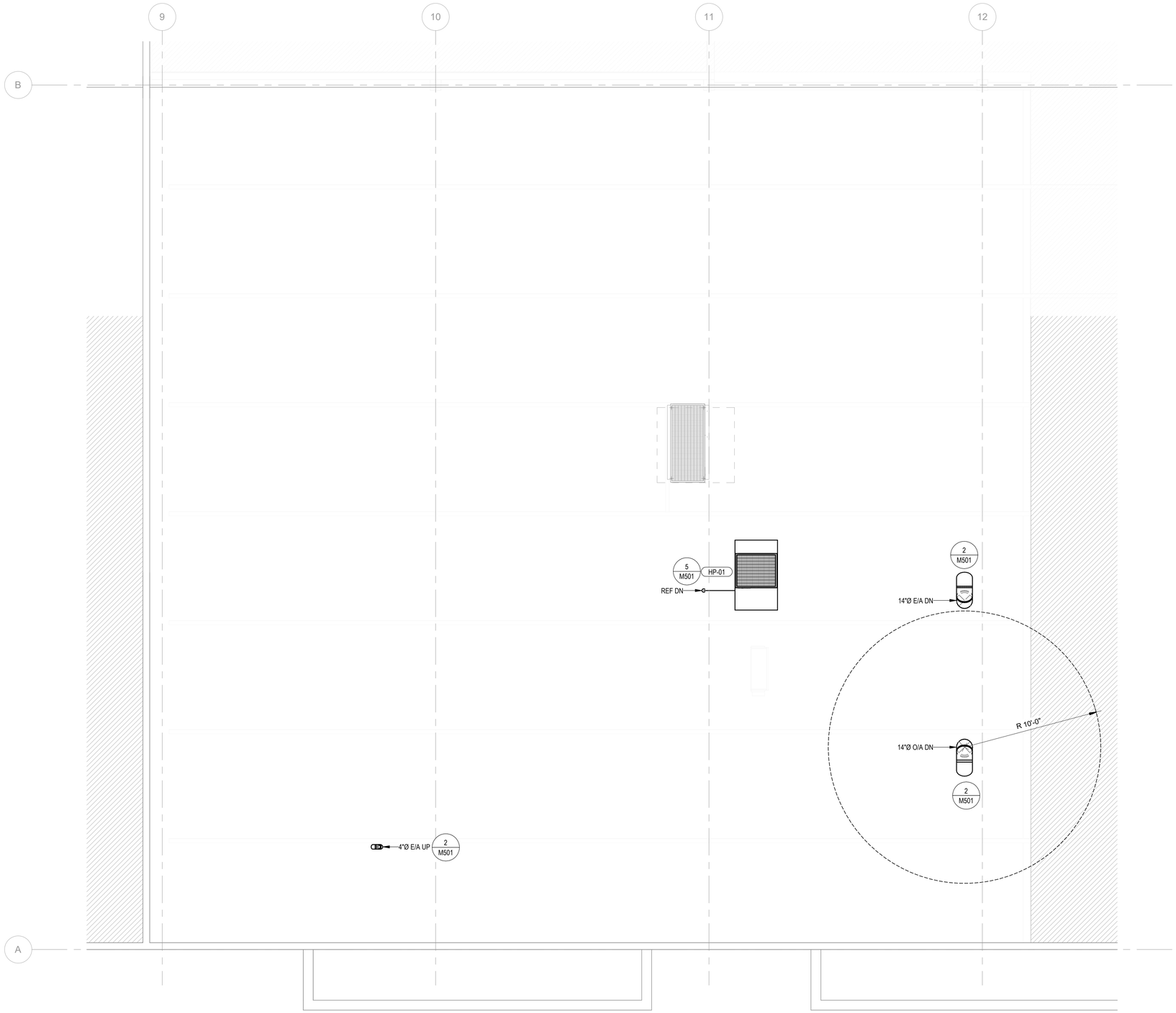

1 ROOF PLAN - ENLARGED - MECHANICAL
SCALE: 1/4" = 1'-0"

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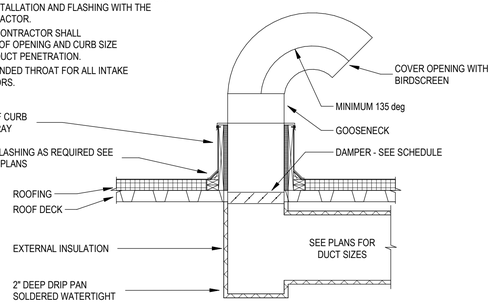
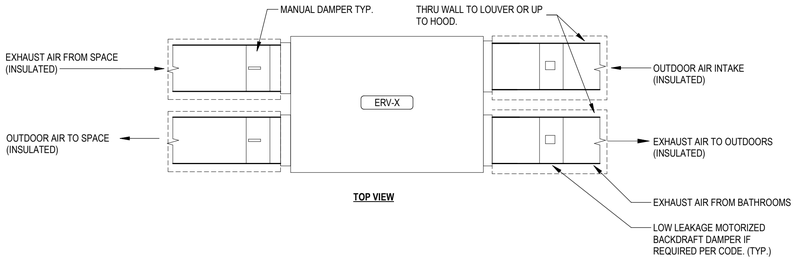
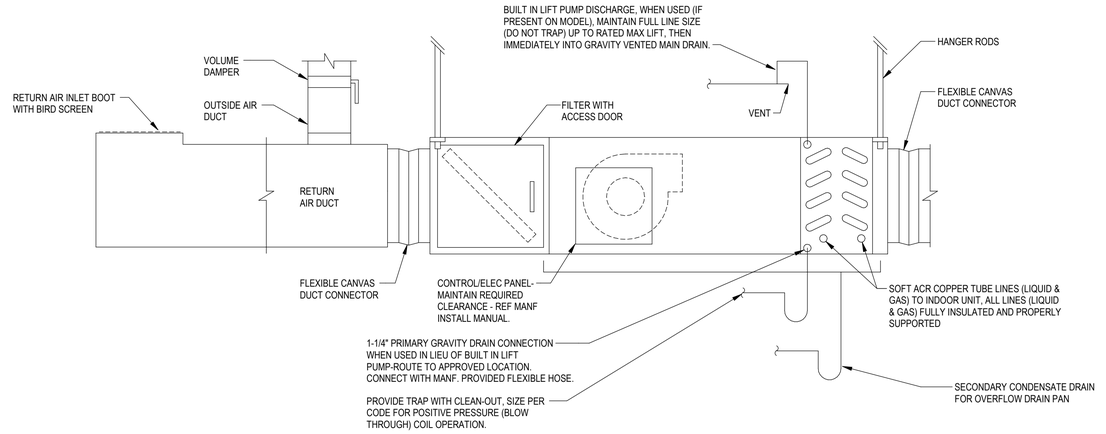
NOTE:
1. ROOF CURB PROVIDED BY MECHANICAL CONTRACTOR. COORDINATE INSTALLATION AND FLASHING WITH THE GENERAL CONTRACTOR.
2. MECHANICAL CONTRACTOR SHALL COORDINATE ROOF OPENING AND CURB SIZE REQUIRED FOR DUCT PENETRATION.
3. PROVIDE EXTENDED THROAT FOR ALL INTAKE ROOF VENTILATORS.



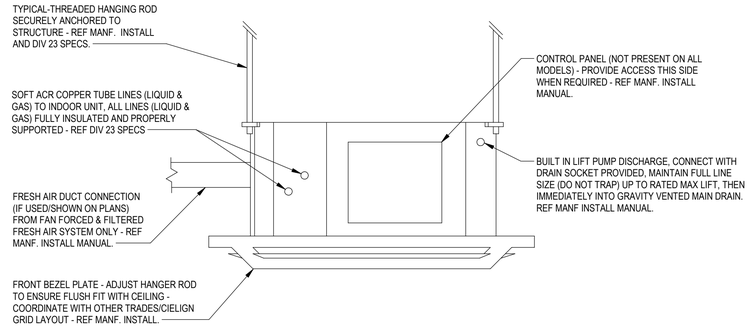
2 GOOSENECK - INTAKE OR EXHAUST
NOT TO SCALE



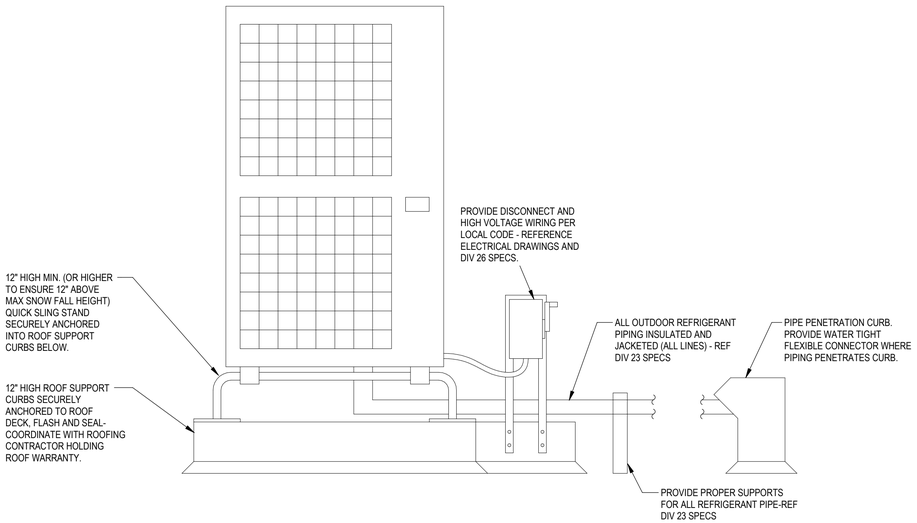
1 EXHAUST RECOVERY VENTILATOR
NOT TO SCALE



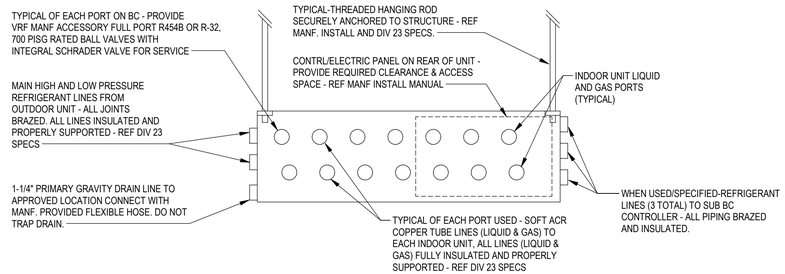
3 VRF DUCTED INDOOR UNIT
NOT TO SCALE



4 MITSUBISHI VRF CASSETTE INDOOR UNIT 2D
NOT TO SCALE



5 VRF HEAT PUMP ROOF MOUNTED 2D
NOT TO SCALE



6 HEAT RECOVERY BRANCH CIRCUIT (BC) CONTROLLER
NOT TO SCALE

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