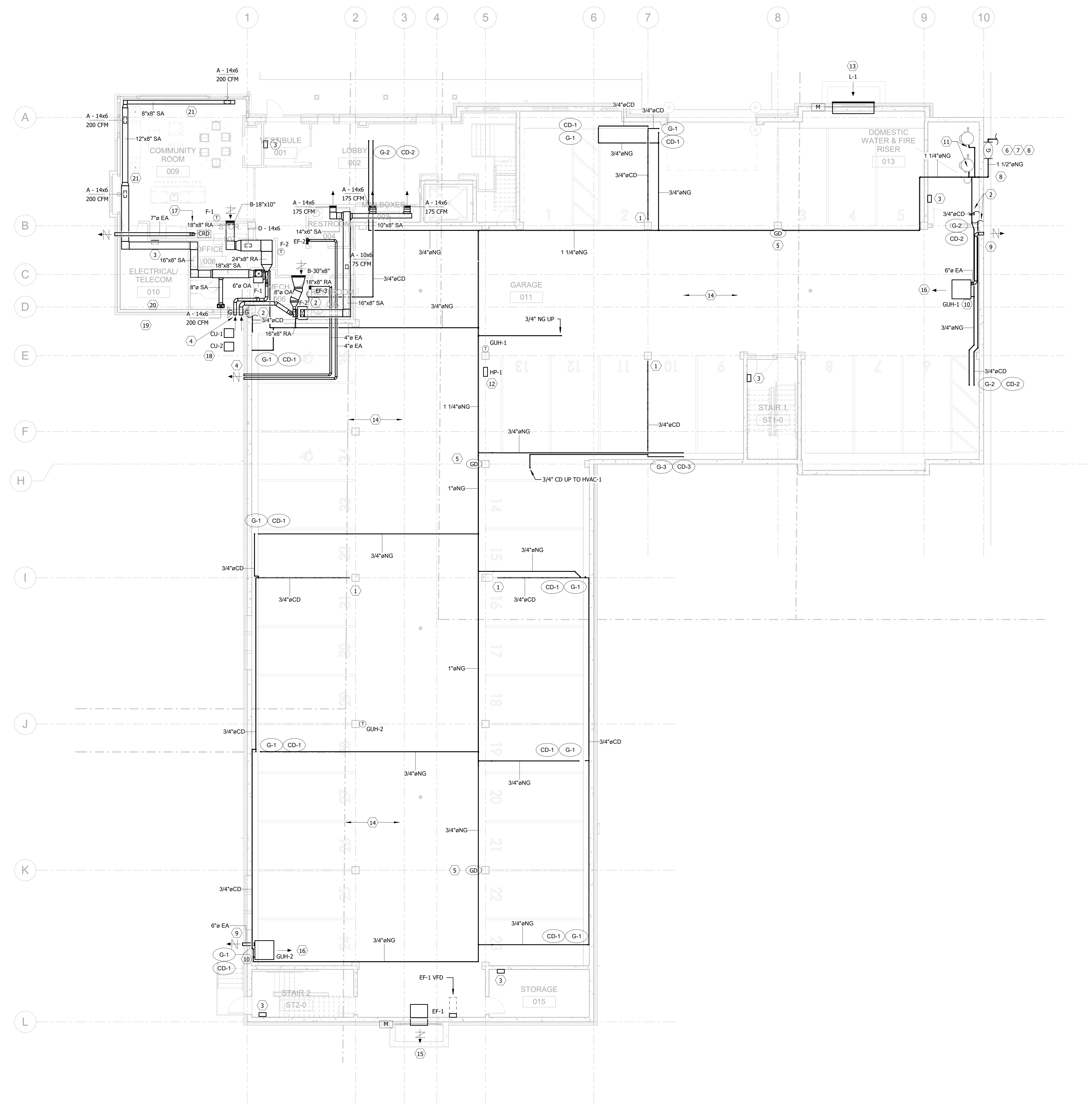


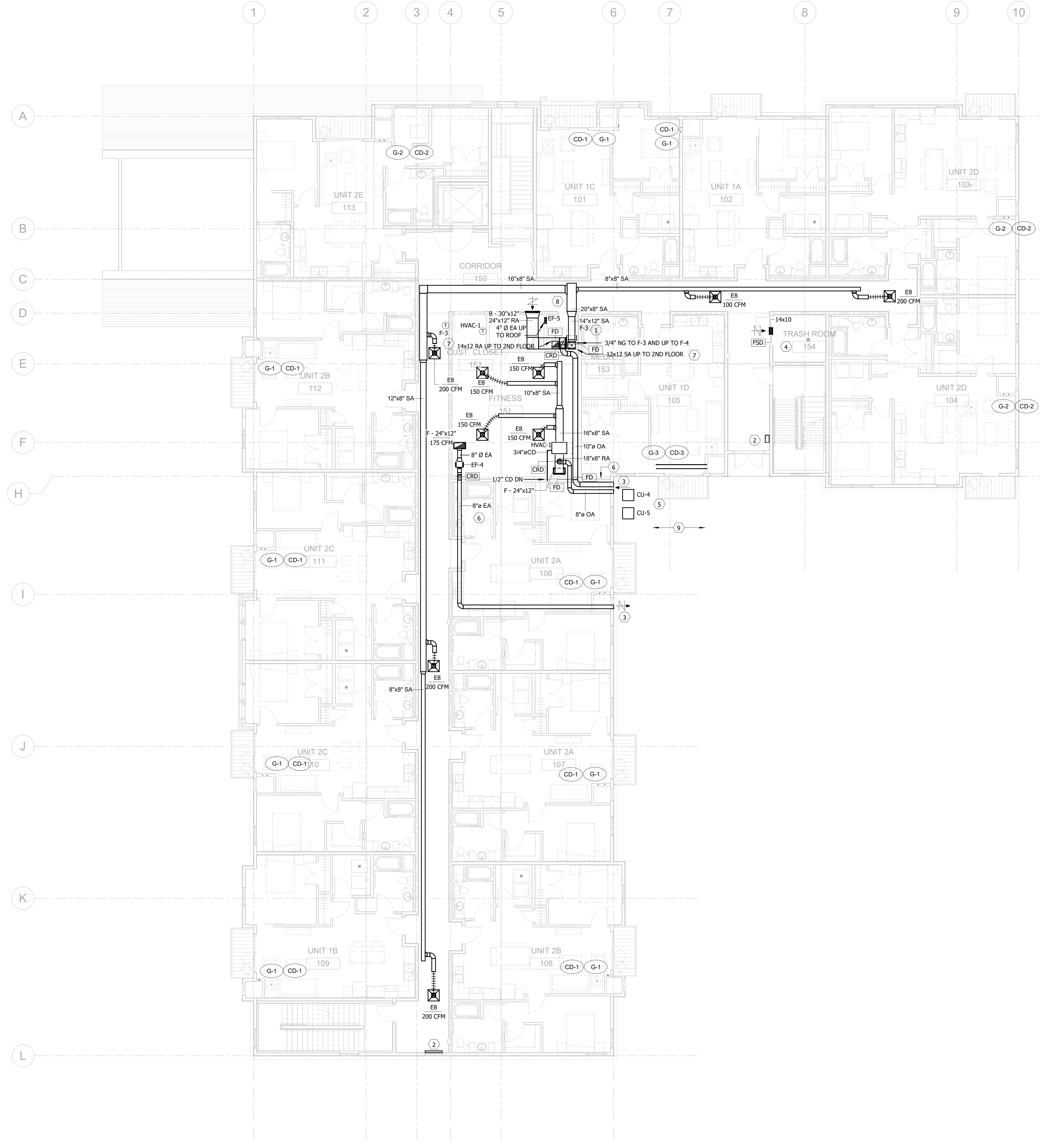
KEYNOTES

1. ROUTE 3/4" CD TO STANDPIPE BEHIND COLUMN. REFER TO PLUMBING PLANS FOR MORE INFORMATION.
2. ROUTE CD TO FLOOR DRAIN. REFER TO PLUMBING PLANS FOR MORE INFORMATION.
3. ELECTRIC HEAT BY DIVISION 26. SEE ELECTRICAL PLANS FOR MORE INFORMATION.
4. PROVIDE WALL CAP.
5. GAS DETECTORS SHALL BE INTERLOCKED WITH INTAKE DAMPER AND EF-1.
6. NATURAL GAS SERVICE, METER, VALVES, PRESSURE REGULATOR, AND RELIEF VENT BY LOCAL UTILITY COMPANY. PRESSURE REGULATOR RELIEF VALVE SHALL DISCHARGE PER CODE. METER OUTLET PRESSURE SHALL BE 2 PSI. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPING DOWNSTREAM OF THE METER.
7. GAS METER. PIPE SIZING IS BASED ON TOTAL DEVELOPED LENGTH OF 300 FT AND 2020 MIN FUEL GAS CODE, TABLE 402.4(5) FOR SCHEDULE 40 METALLIC PIPE. SEE NATURAL GAS LOAD SCHEDULE FOR ADDITIONAL INFORMATION.
8. PROVIDE MAIN NG SHUTOFF VALVE IN ACCESSIBLE LOCATION. VERIFY WITH LOCAL AID.
9. TERMINATE UNIT HEATER FLUE PER CODE AND PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
10. 3/4" NG TO GAS UNIT HEATER.
11. 3/4" NG TO WATER HEATER. SEE PLUMBING DRAWINGS FOR MORE INFORMATION.
12. PROVIDE SUPPORT STAND TO ELEVATE EQUIPMENT 18" A.F.F. PER CODE.
13. LOUVER SHALL TERMINATE IN AREA WELL BY OTHERS. COORDINATE WALL OPENING WITH STRUCTURAL AND GC.
14. ROUTE PIPING AS HIGH AS POSSIBLE. COORDINATE EXACT ROUTING WITH STRUCTURAL PRECAST BEAMS AND WITH OTHER TRADES - TYPICAL.
15. EXHAUST FAN SHALL TERMINATE INTO AREA WELL BY OTHERS. PROVIDE LOW-LEAK MOTORIZED DAMPER AT FAN DISCHARGE. COORDINATE WALL OPENING WITH STRUCTURAL AND GC.
16. MOUNT HEATER TIGHT TO UNDERSIDE OF STRUCTURE.
17. CONNECT EXHAUST DUCT TO RANGE HOOD BY OTHERS AND ROUTE DUCT THROUGH TRUSSES TO WALL CAP AS INDICATED.
18. CONDENSING UNITS SHALL BE INSTALLED ON FIBERGLASS PAD WITH MANUFACTURER'S REQUIRED CLEARANCES. COORDINATE WITH LANDSCAPING IN THIS AREA.
19. MAINTAIN ALL REQUIRED CLEARANCES FROM ELECTRICAL UTILITY TRANSFORMER IN THIS LOCATION. COORDINATE WITH DIVISION 26.
20. SPACE RESERVED FOR ELECTRICAL EQUIPMENT. MAINTAIN ALL REQUIRED CLEARANCES PER NEC. COORDINATE WITH DIVISION 26.
21. COORDINATE DUCT ROUTING WITH ARCHITECTURAL SOFFIT.



1 GROUND FLOOR - HVAC PLAN
0 4' 8' 16'

- KEYNOTES**
- ROUTE CD TO FLOOR DRAIN. REFER TO PLUMBING PLANS FOR MORE INFORMATION.
 - ELECTRIC HEAT BY DIVISION 26. SEE ELECTRICAL PLANS FOR MORE INFORMATION.
 - PROVIDE WALL CAP.
 - EXHAUST ROOM VIA INLINE FANS AT TOP OF TRASH AND RECYCLE CHUTES. SEE TRASH EXHAUST DETAIL.
 - CONDENSING UNITS SHALL BE INSTALLED ON FIBERGLASS PAD WITH MANUFACTURER'S REQUIRED CLEARANCES. COORDINATE WITH LANDSCAPING IN THIS AREA.
 - ROUTE DUCT THROUGH TRUSSES AS INDICATED WITH CEILING RADIATION DAMPER AT FLOOR/CEILING MEMBRANE PENETRATIONS.
 - PROVIDE FIRE DAMPER AT FLOOR LINE TO PROTECT SA AND RA DUCTS FROM F-3 UP TO 2ND FLOOR CEILING.
 - CLOSELY COORDINATE DUCT PENETRATIONS AT CORRIDOR WALL WITH STRUCTURAL FRAMING.
 - ALTERNATE #5: PROVIDE SEPARATE PRICE FOR 3/4" NG LINE, SHUTOFF VALVE, SOLENOID VALVE WITH TIMER, AND EMERGENCY STOP BUTTON FOR GAS GRILL AT PATIO. ROUTE GAS LINE UNDERGROUND FROM GARAGE CEILING. SEE ARCHITECTURAL AND LANDSCAPE PLANS FOR MORE INFORMATION.



1 FIRST FLOOR - HVAC PLAN

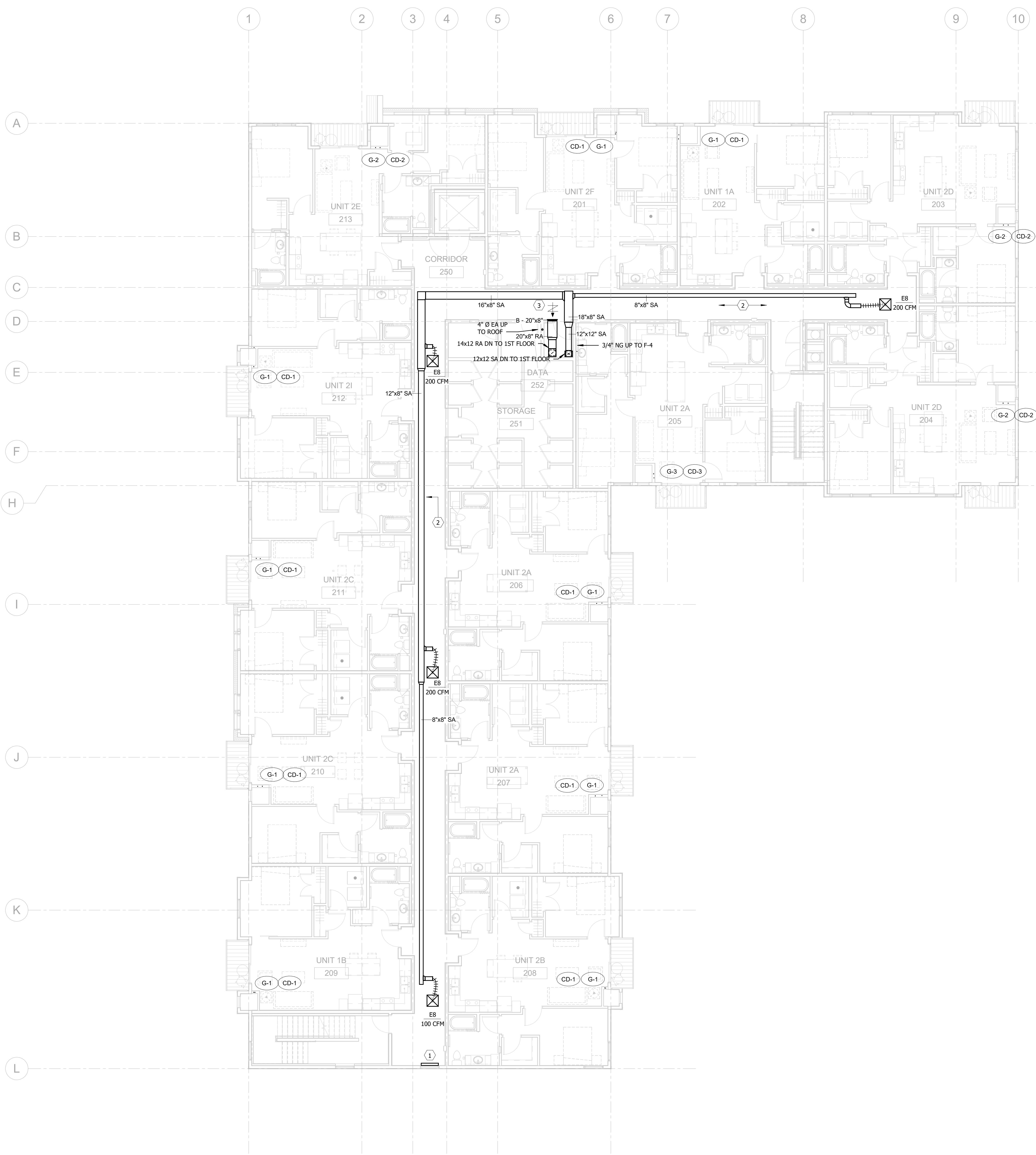
0' 4' 8' 16'

KEYNOTES

- ELECTRIC HEAT BY DIVISION 26. SEE ELECTRICAL PLANS FOR MORE INFORMATION.
- COORDINATE DUCT ROUTING AT CORRIDOR CEILING WITH HOT WATER RECIRCULATION PIPING. SEE PLUMBING PLANS FOR MORE INFORMATION.
- CLOSELY COORDINATE DUCT PENETRATIONS AT CORRIDOR WALL WITH STRUCTURAL FRAMING.

REVISION SCHEDULE

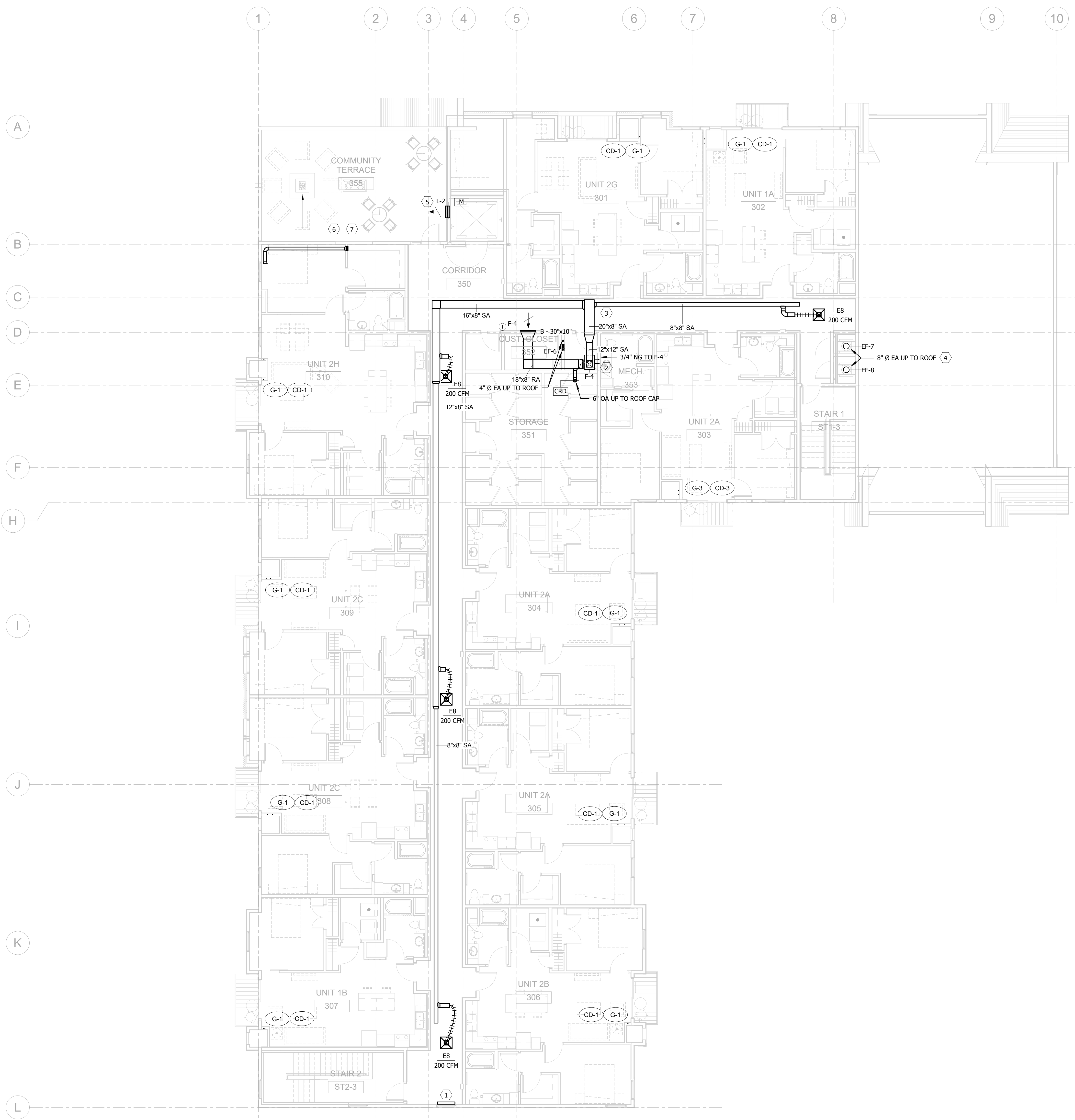
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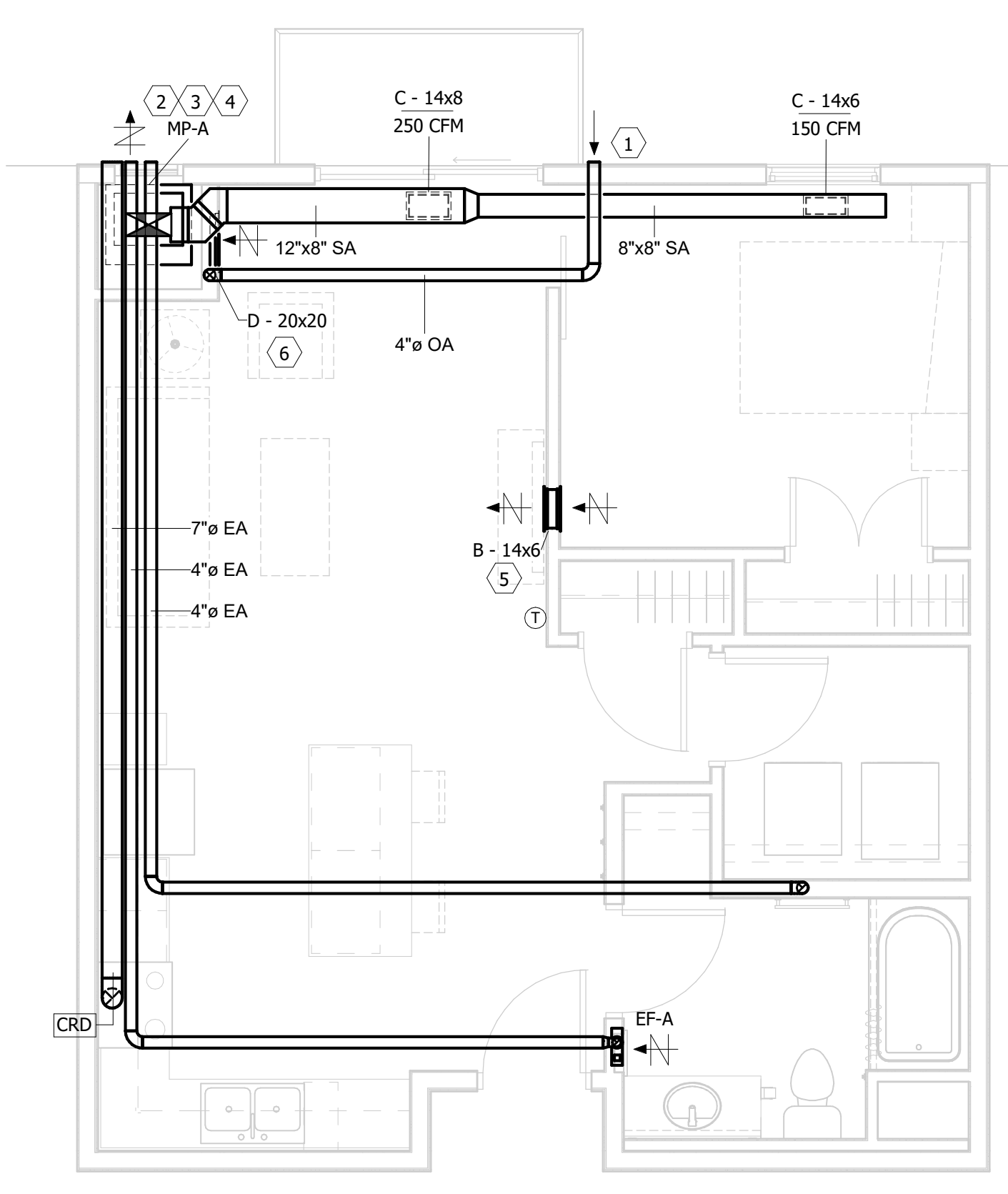
1 SECOND FLOOR - HVAC PLAN
0 4' 8' 16'

KEYNOTES

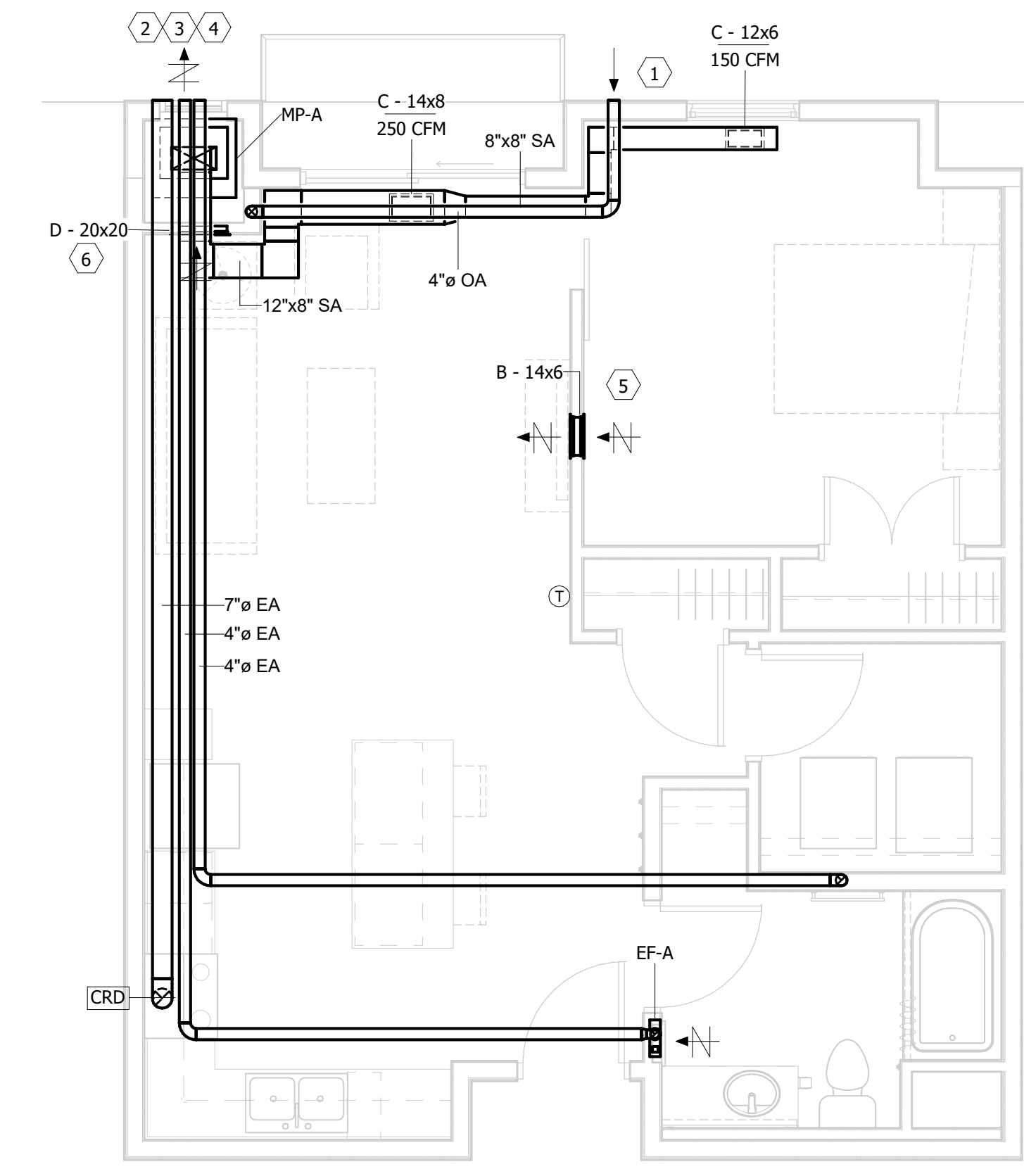
1. ELECTRIC HEAT BY DIVISION 26. SEE ELECTRICAL PLANS FOR MORE INFORMATION.
2. ROUTE 1/2" CD TO FLOOR DRAIN.
3. CLOSELY COORDINATE DUCT PENETRATIONS AT CORRIDOR WALL WITH STRUCTURAL FRAMING.
4. SEE TRASH CHUTE EXHAUST DETAIL.
5. ELEVATOR HOISTWAY RELIEF LOUVER WITH MOTORIZED DAMPER AND END SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECTURAL AND STRUCTURAL. COORDINATE CONTROL WITH FIRE ALARM CONTROL PANEL AND LOCAL AHJ REQUIREMENTS.
6. ALTERNATE #17: PROVIDE SEPARATE PRICE FOR 3/4" NG LINE, SHUTOFF VALVE, SOLENOID VALVE WITH TIMER, AND EMERGENCY STOP BUTTON FOR FIRE PIT AT ROOF TERRACE. SEE ARCHITECTURAL PLANS FOR MORE INFORMATION.
7. ALTERNATE #18: PROVIDE SEPARATE PRICE FOR 3/4" NG LINE, SHUTOFF VALVE, SOLENOID VALVE WITH TIMER, AND EMERGENCY STOP BUTTON FOR GAS GRILL AT ROOF TERRACE. SEE ARCHITECTURAL PLANS FOR MORE INFORMATION.



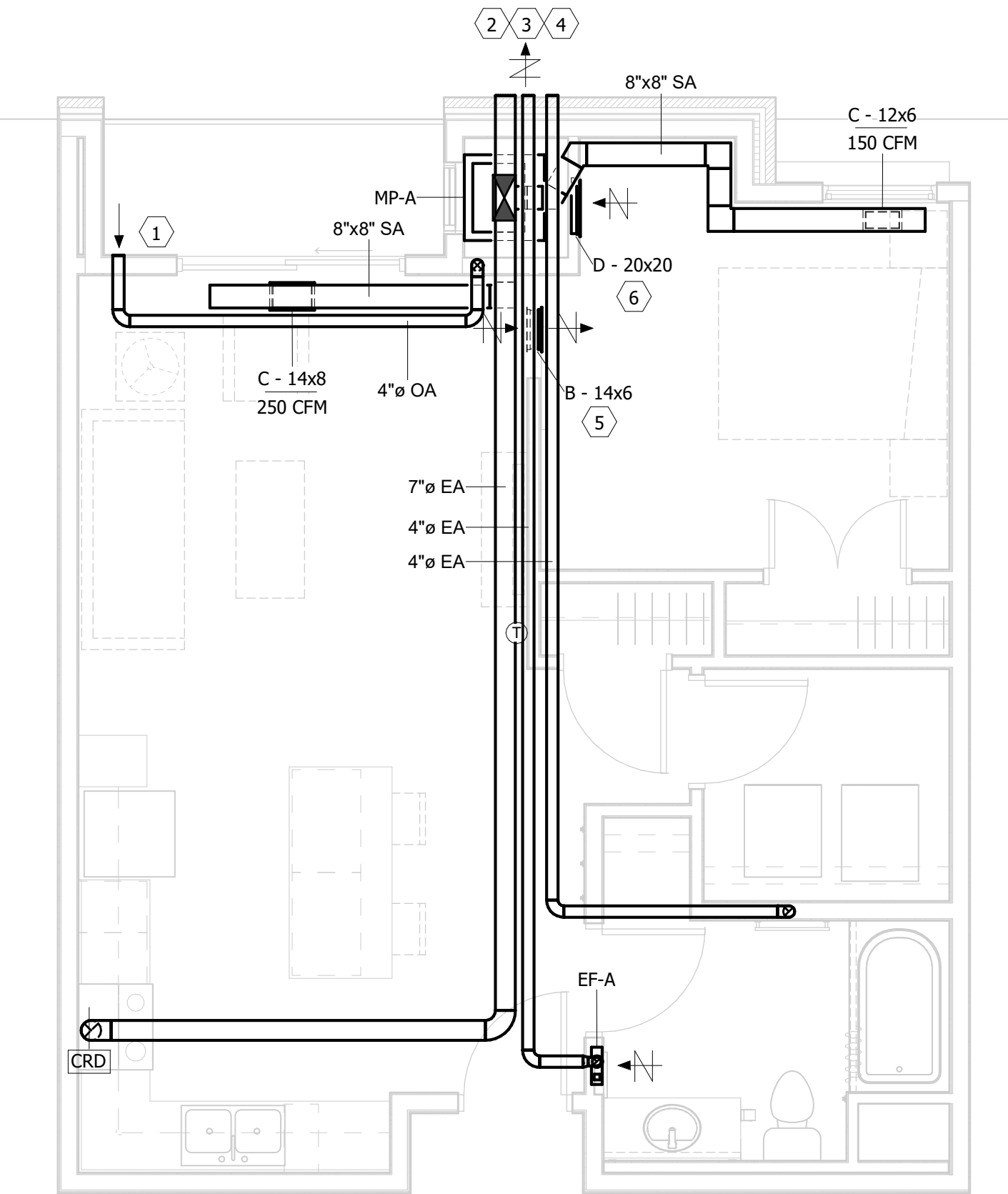
1 THIRD FLOOR - HVAC PLAN
0 4' 8' 16'



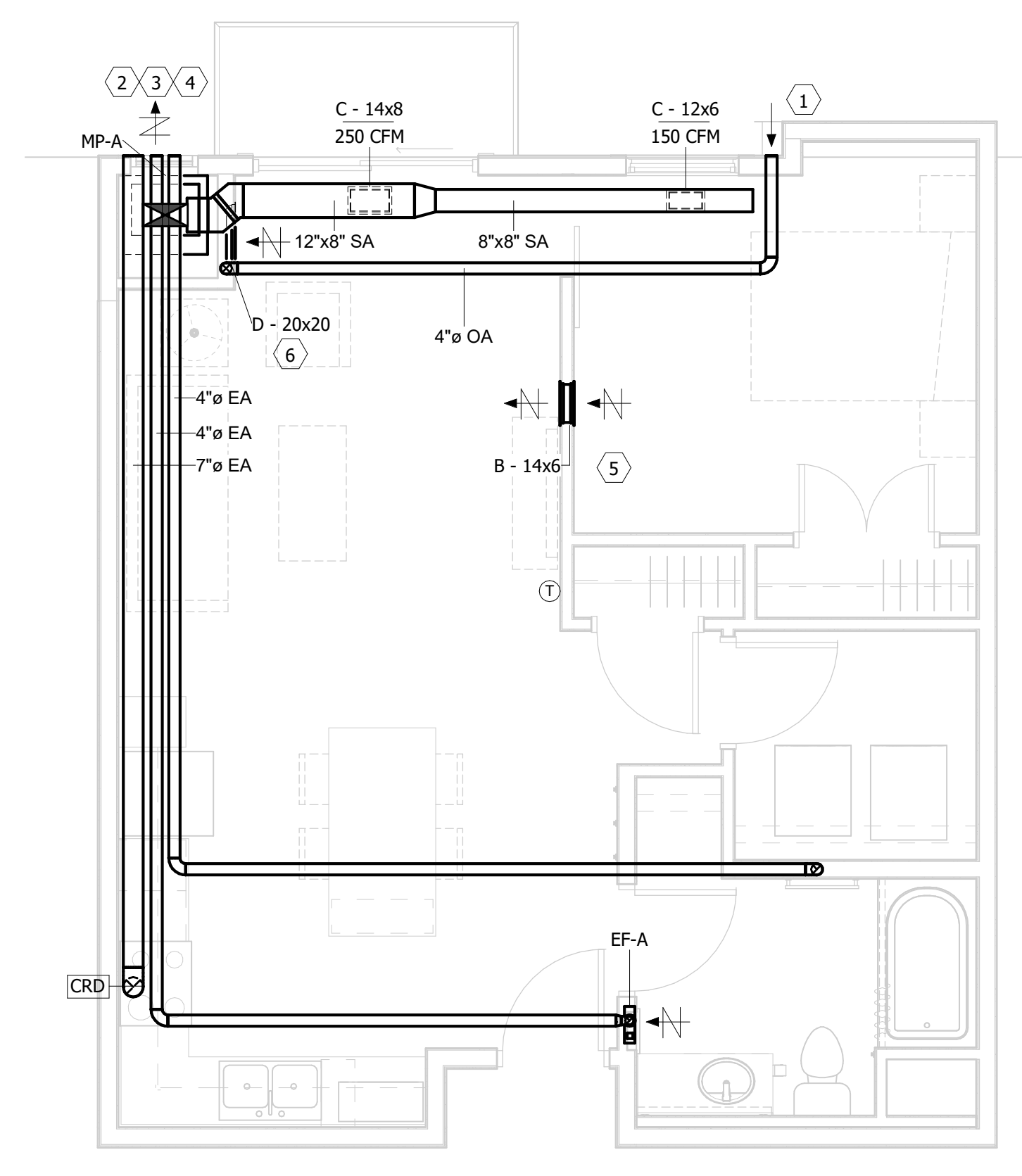
1 UNIT 1A
0 2' 4' 8'



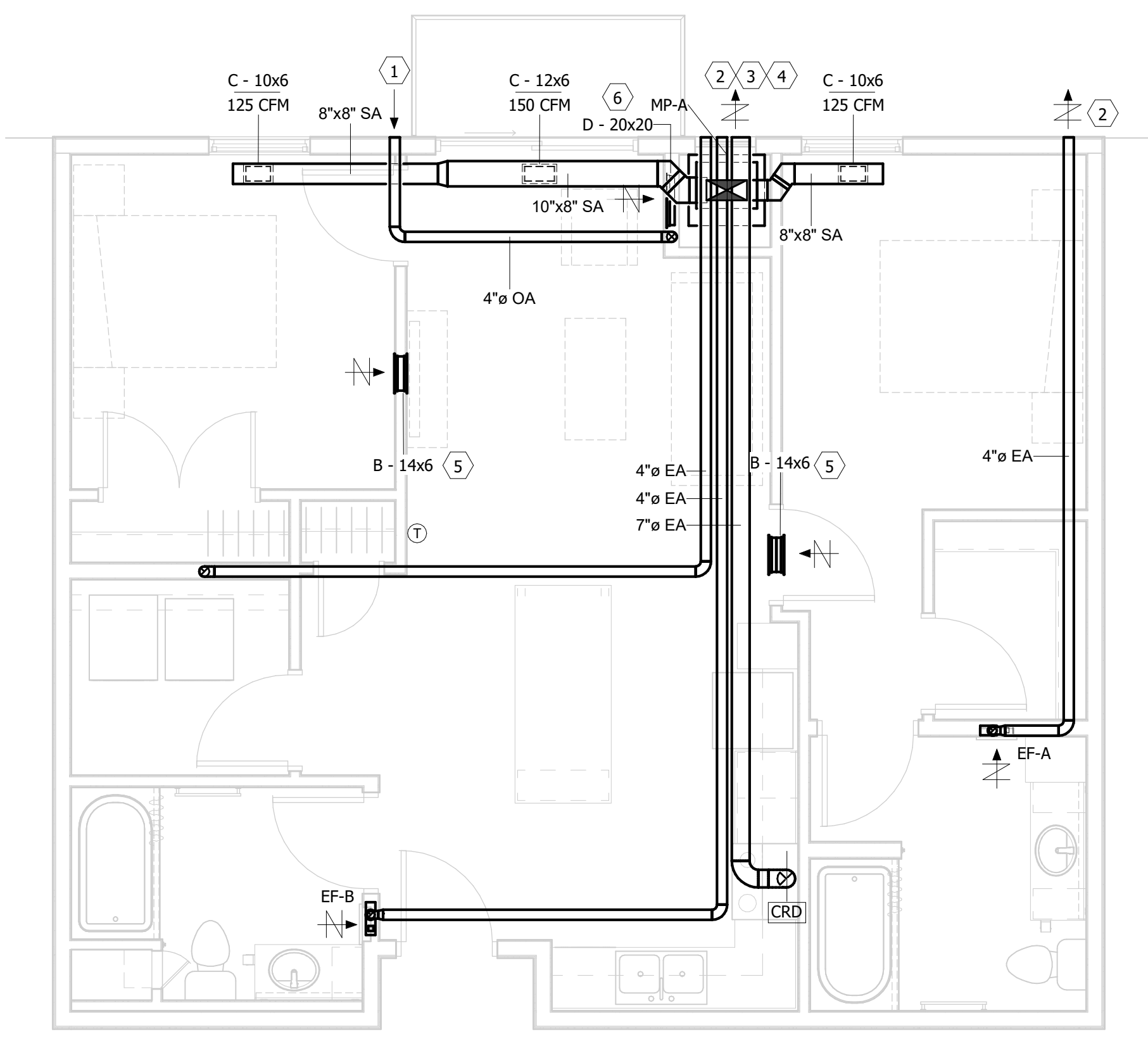
2 UNIT 1B
0 2' 4' 8'



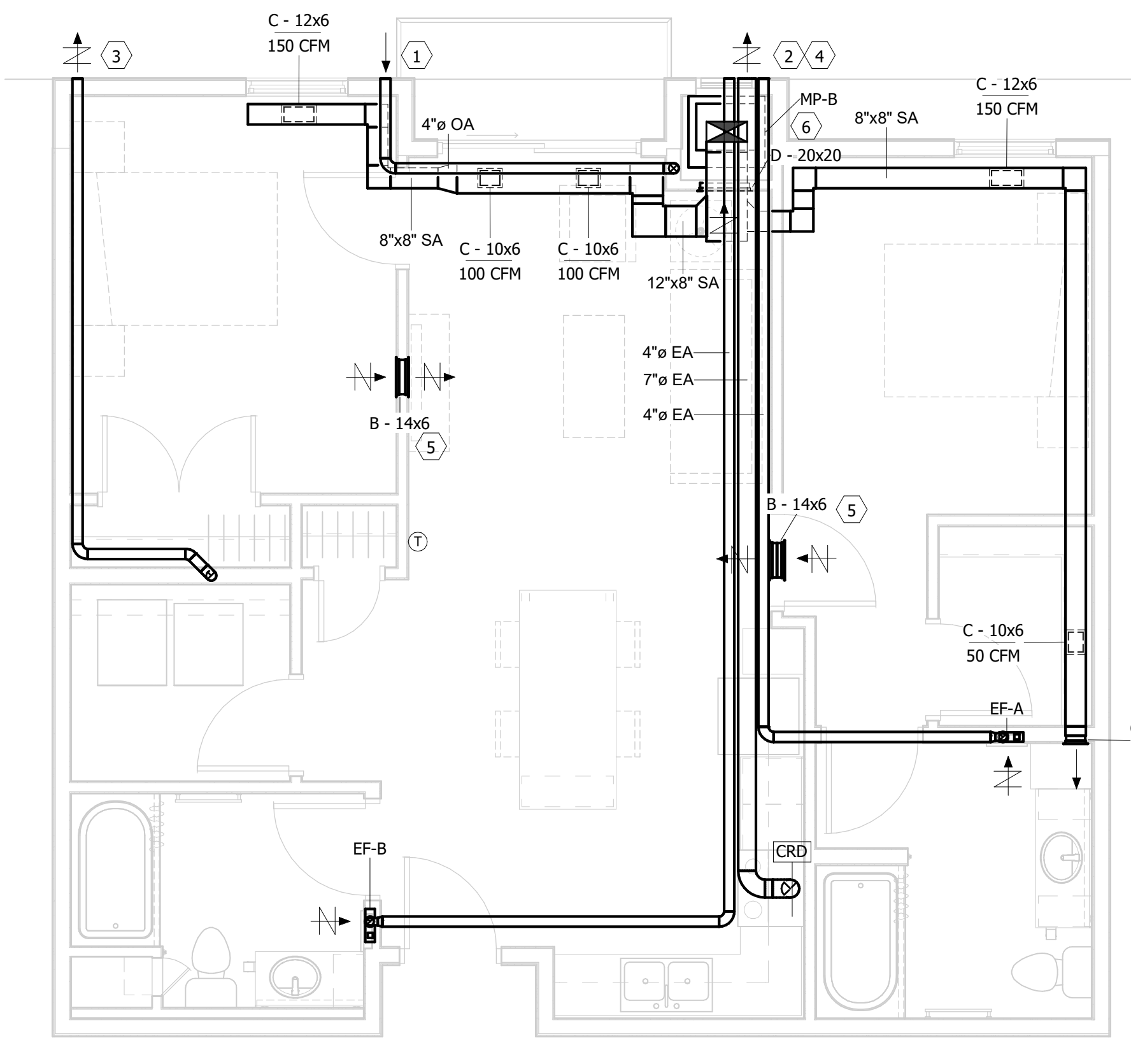
3 UNIT 1C
0 2' 4' 8'



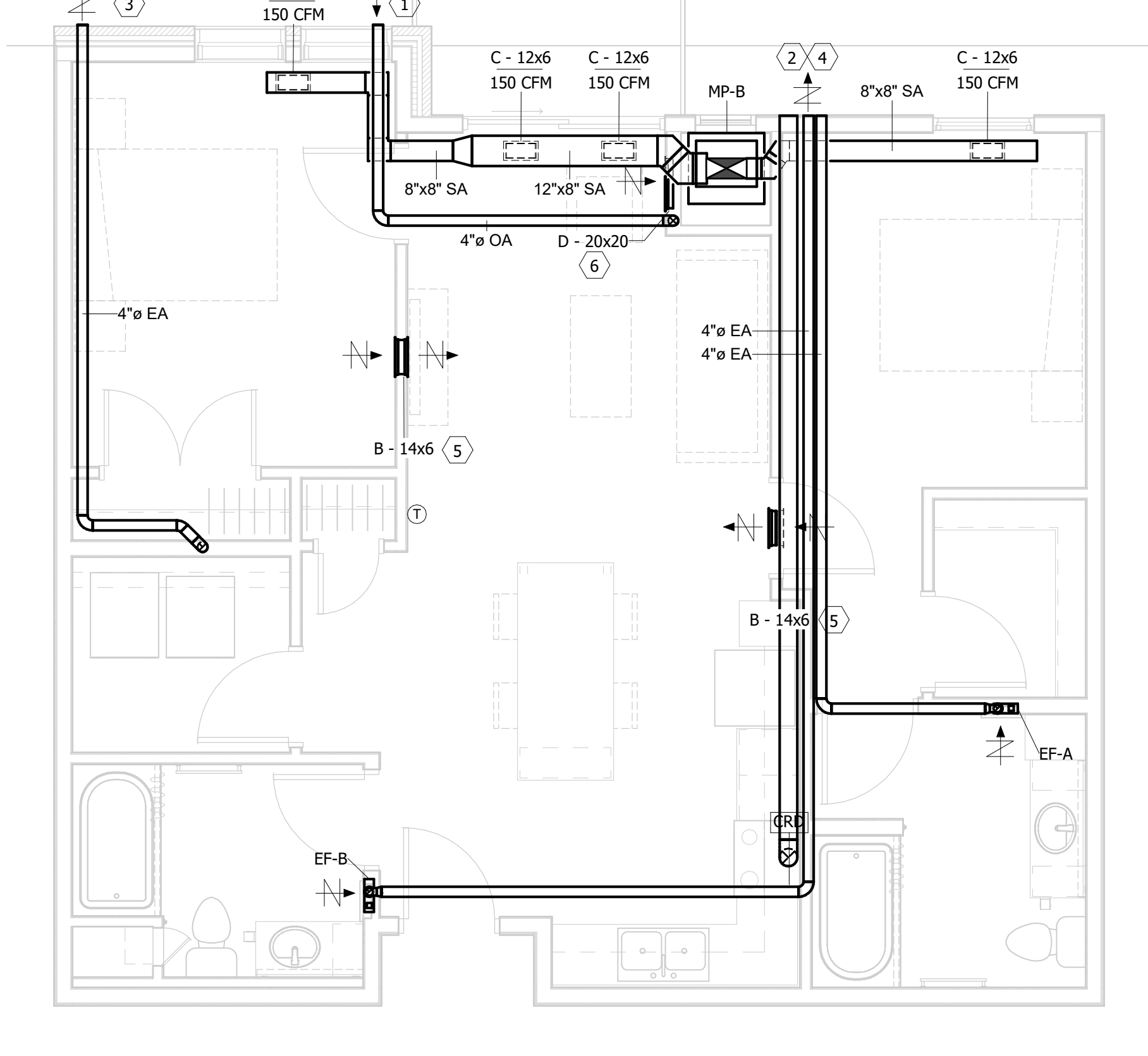
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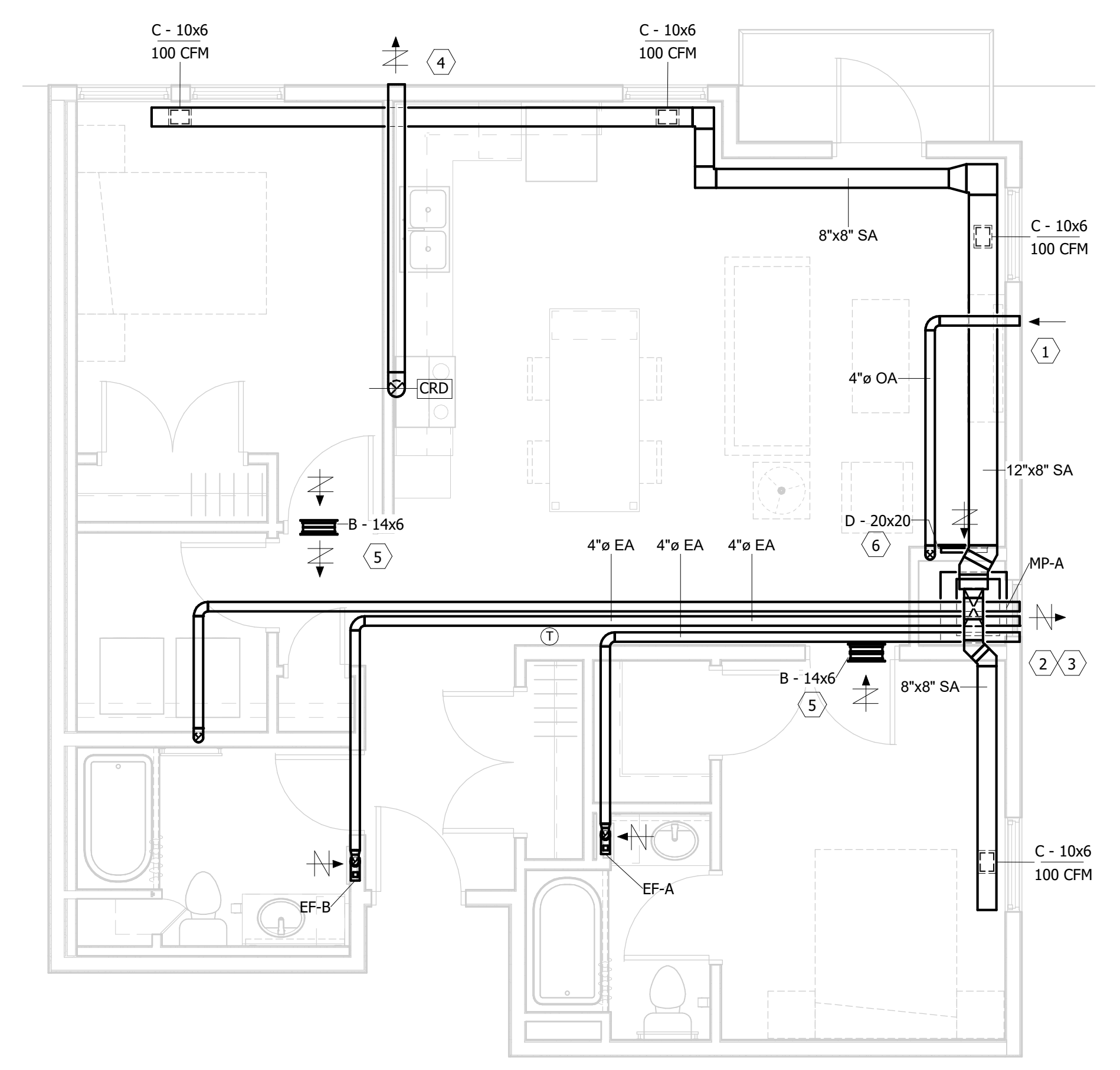
5 UNIT 2A
0 2' 4' 8'



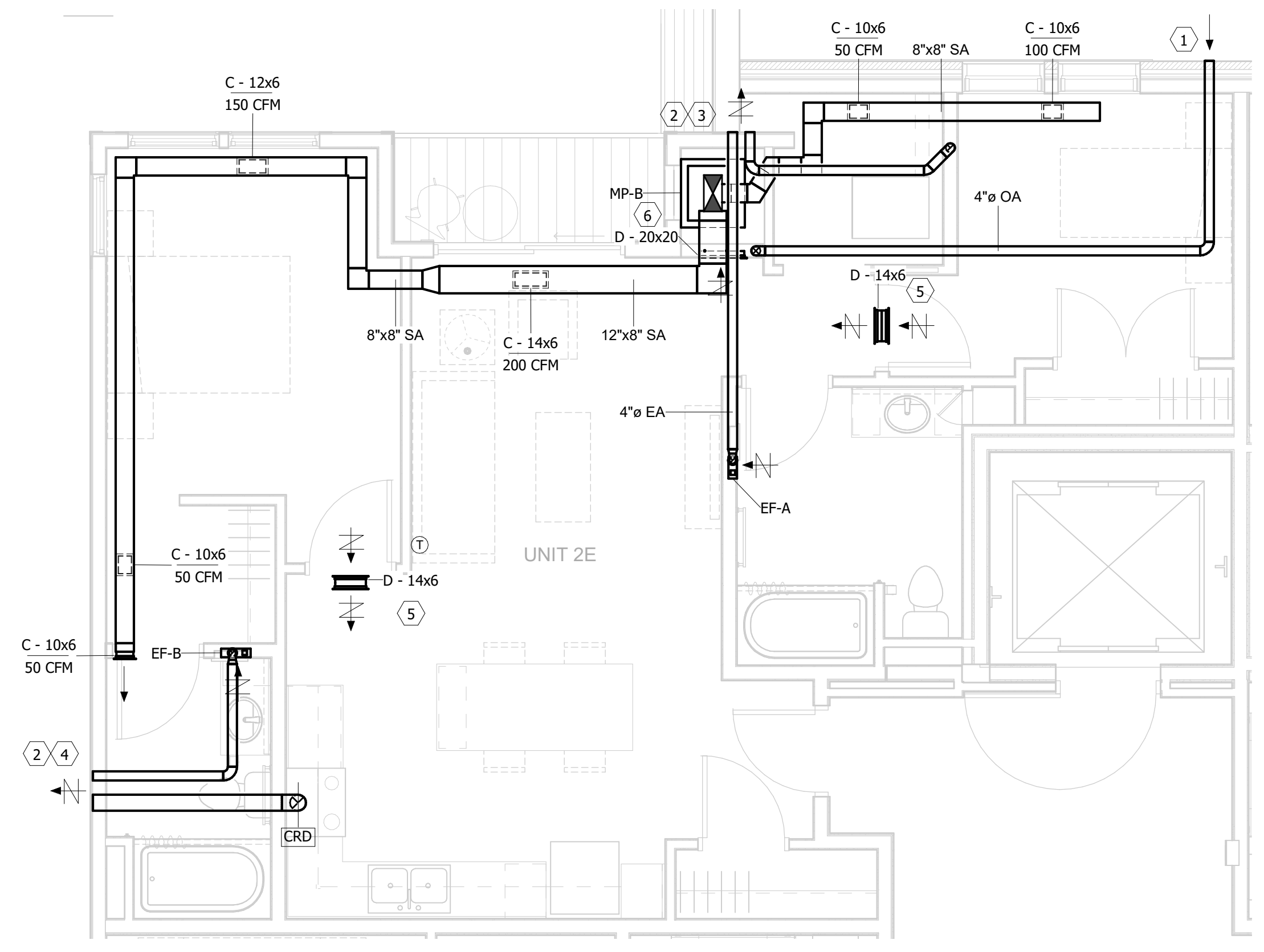
6 UNIT 2B & 2I
0 2' 4' 8'



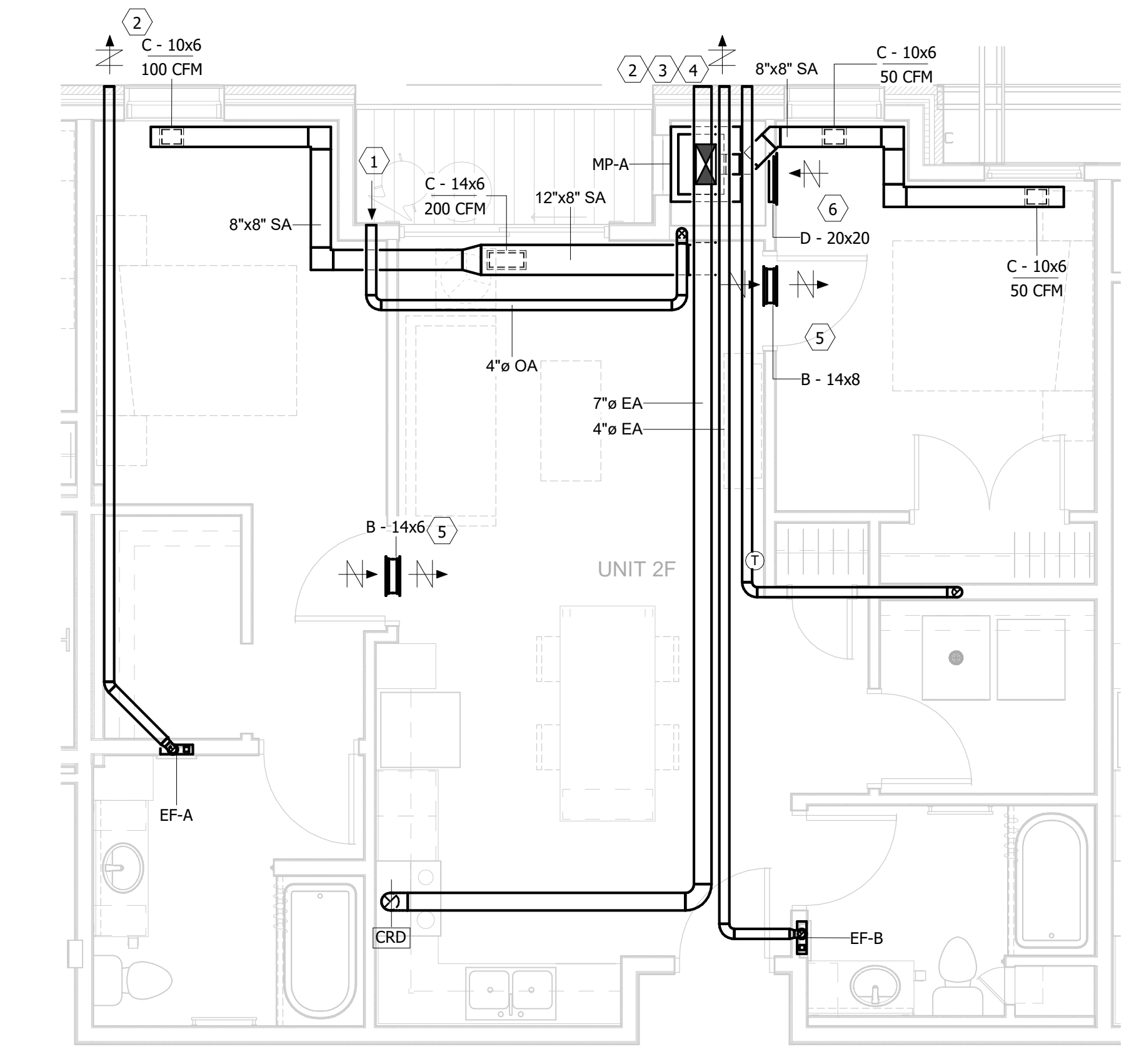
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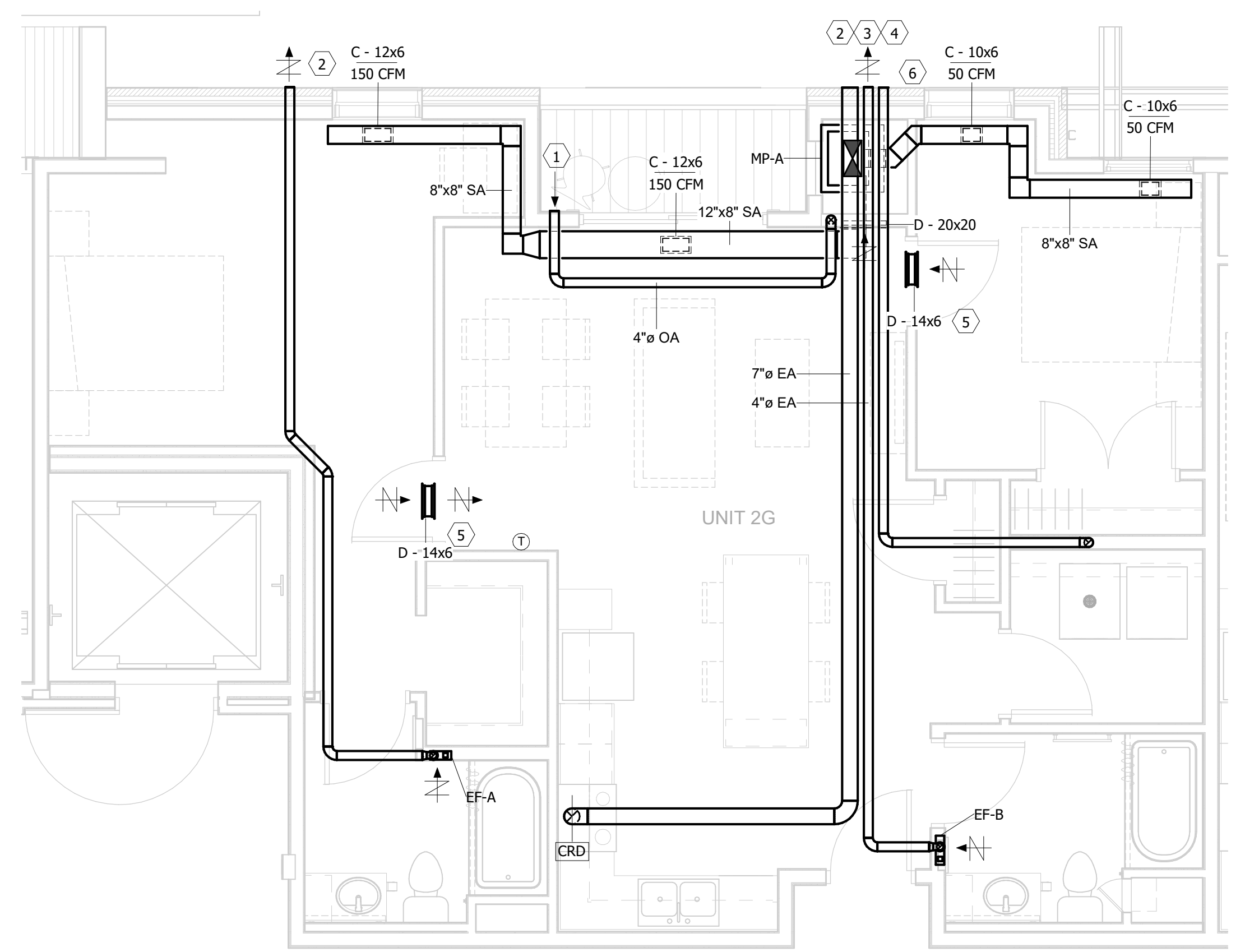
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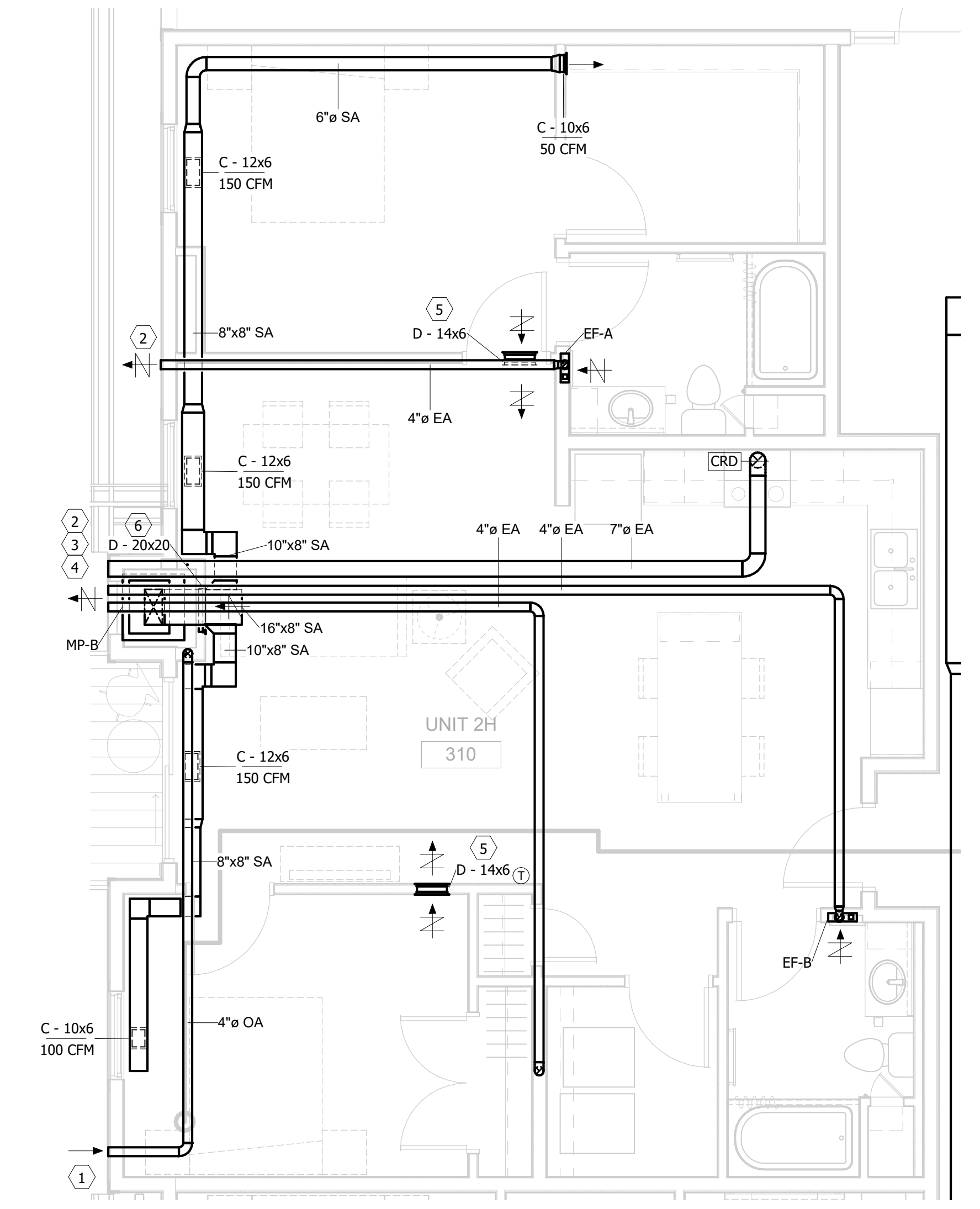
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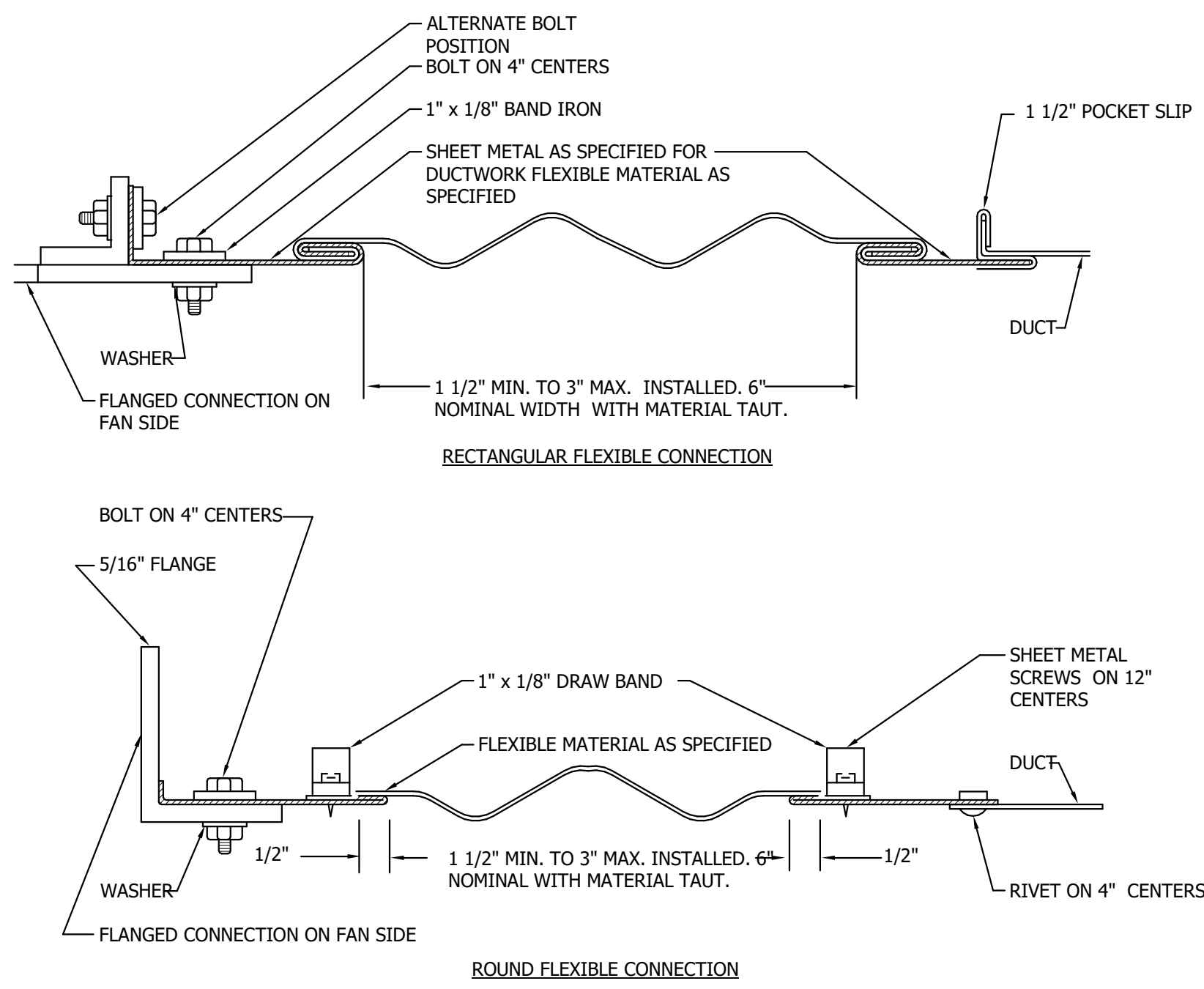
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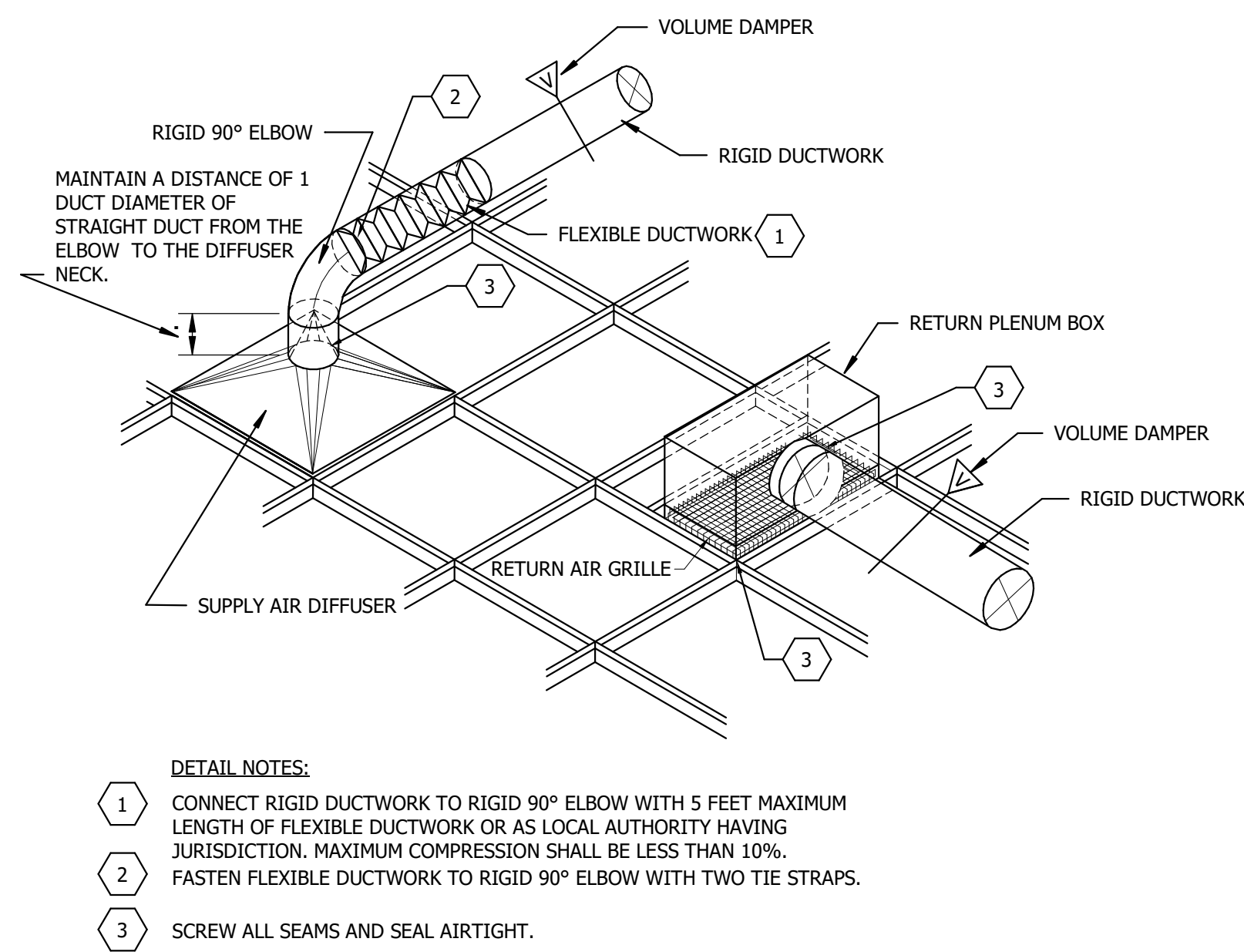
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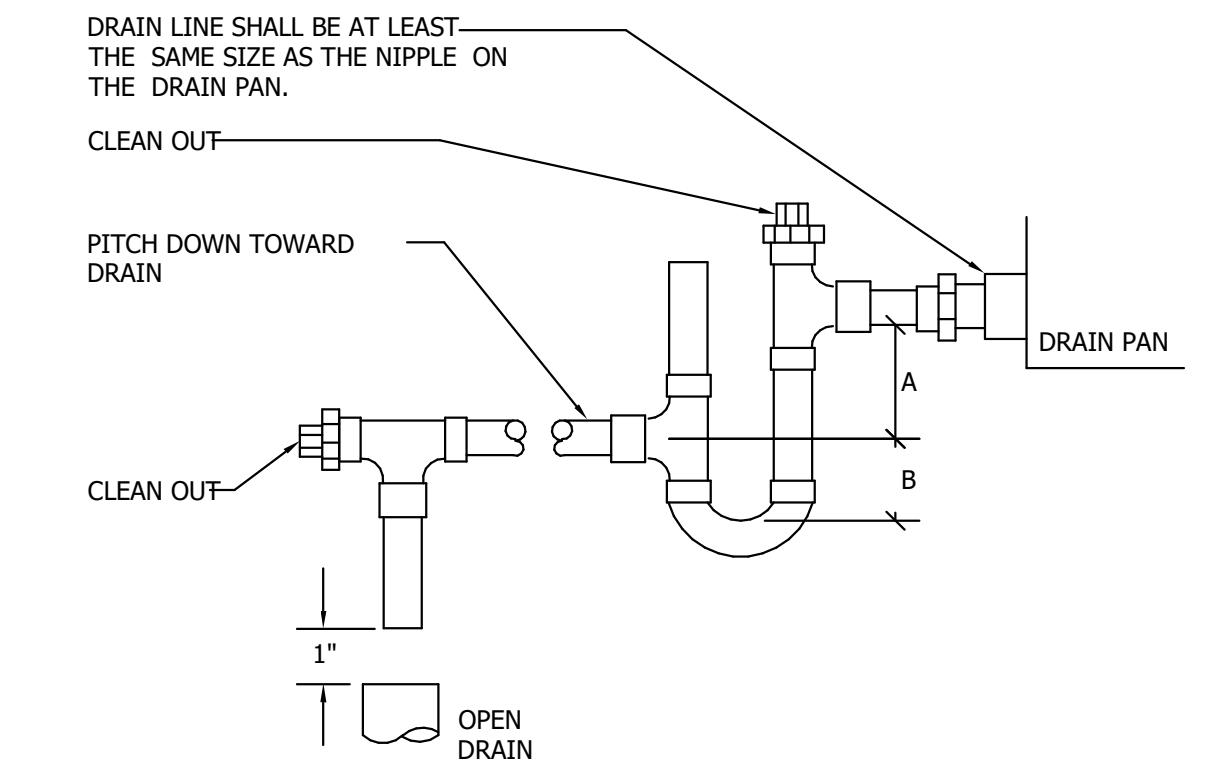
5 UNIT 2H
0 2' 4' 8'



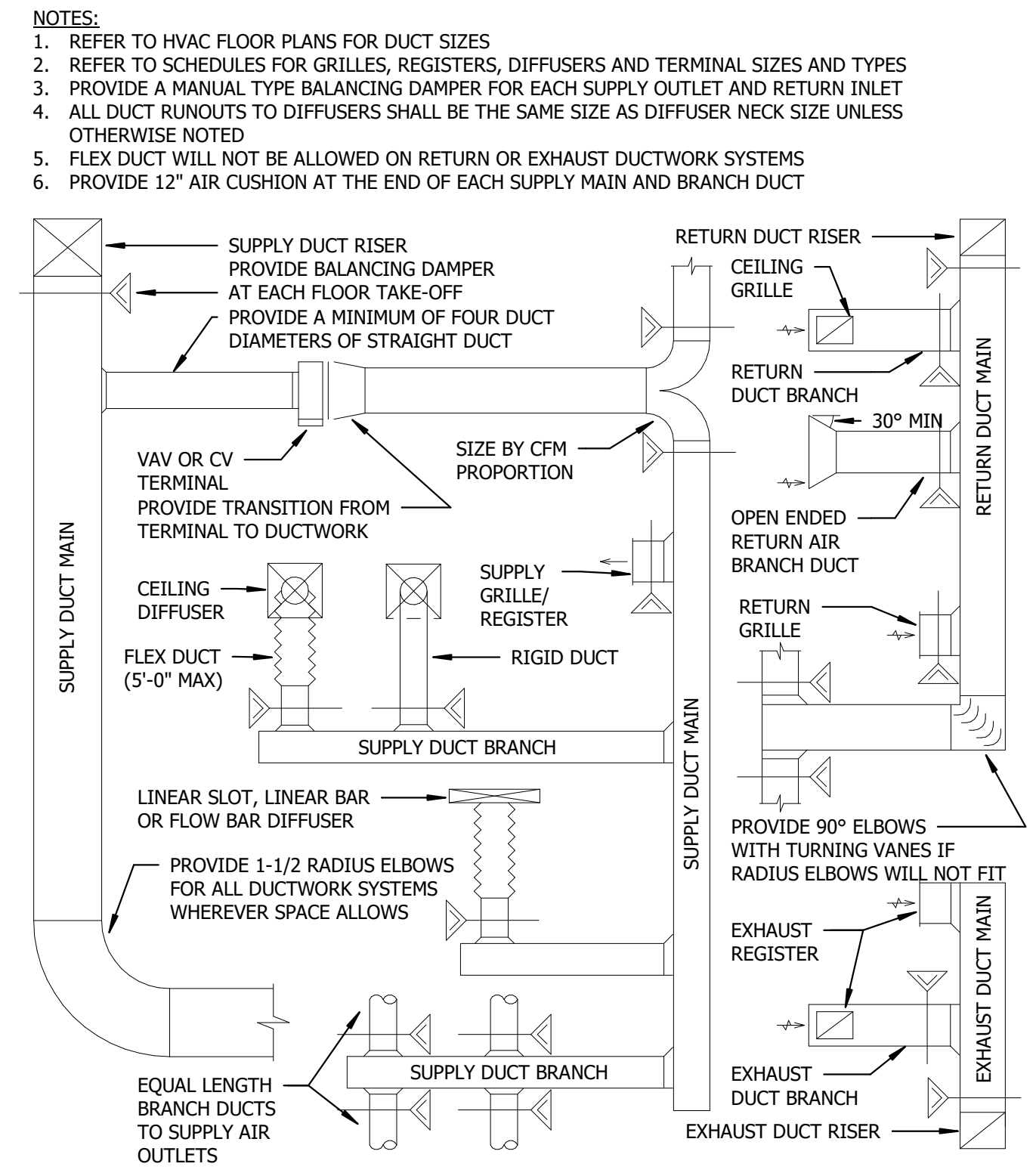
1 FLEXIBLE DUCT CONNECTION DETAIL
NO SCALE



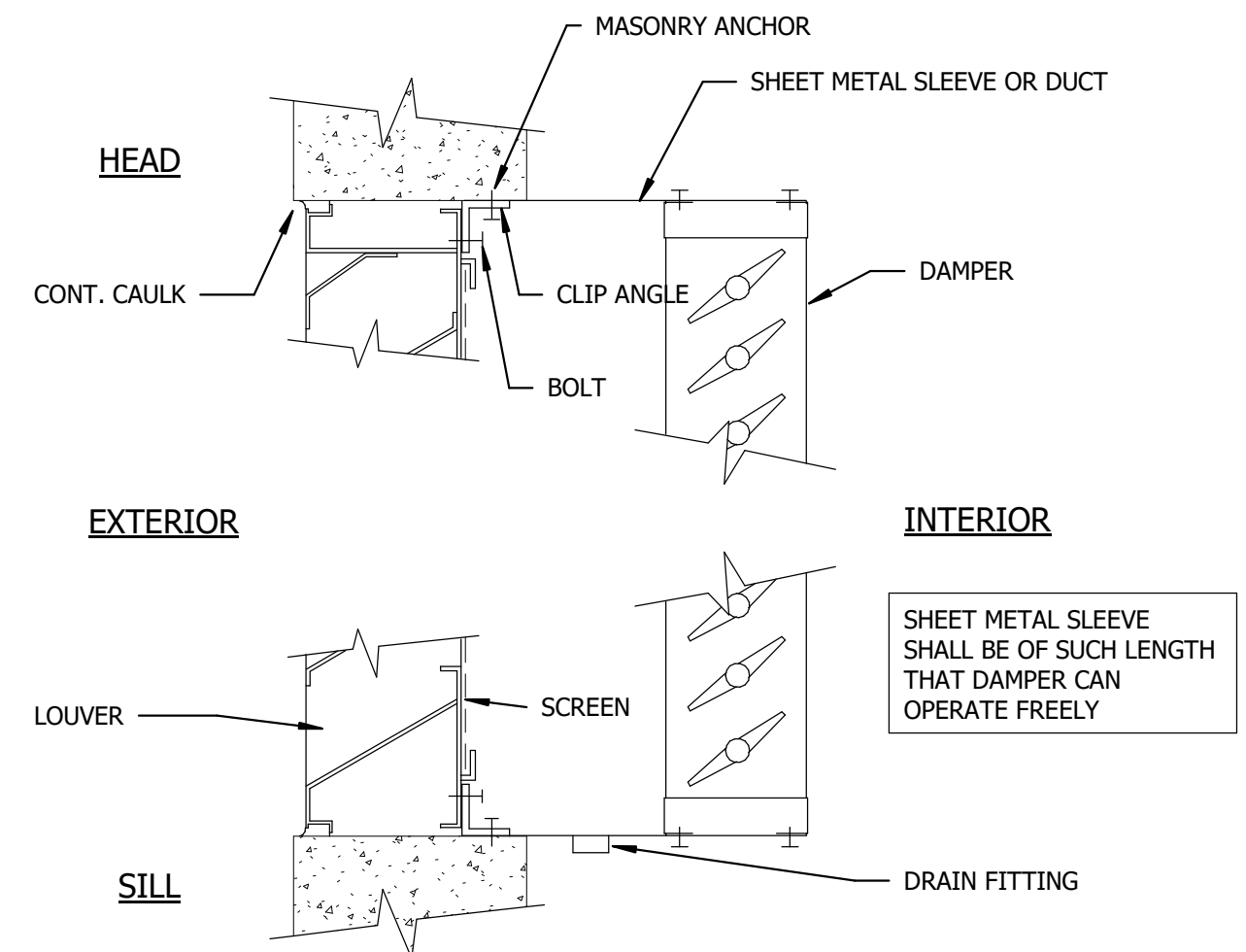
2 LAY-IN CEILING DIFFUSER/GRILLE ASSEMBLY DETAIL
NO SCALE



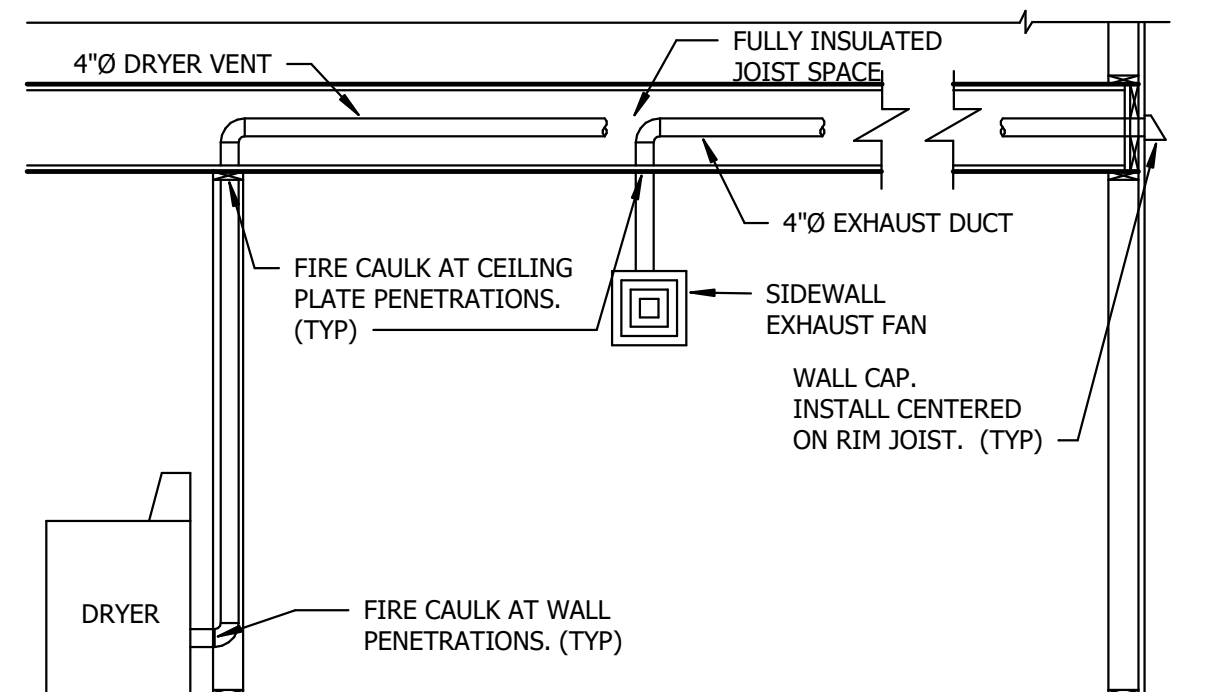
3 AIR HANDLING UNIT DRAIN TRAP DETAIL
NO SCALE



4 DUCT INSTALLATION DIAGRAM
NO SCALE



5 TYPICAL LOUVER INSTALLATION
NO SCALE



6 DRYER AND BATHROOM EXHAUST DETAIL
NO SCALE

- NOTES:
1. REFER TO HVAC FLOOR PLANS FOR DUCT SIZES
 2. REFER TO SCHEDULES FOR GRILLES, REGISTERS, DIFFUSERS AND TERMINAL SIZES AND TYPES
 3. PROVIDE A MANUAL TYPE BALANCING DAMPER FOR EACH SUPPLY OUTLET AND RETURN INLET
 4. ALL DUCT RUNOUTS TO DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK SIZE UNLESS OTHERWISE NOTED
 5. FLEX DUCT WILL NOT BE ALLOWED ON RETURN OR EXHAUST DUCTWORK SYSTEMS
 6. PROVIDE 12\"/>

- DETAIL NOTES:
1. FOR A DRAW THRU COIL, A=2 INCHES PLUS THE UNIT TOTAL STATIC PRESSURE INCHES. B=UNIT TOTAL STATIC PRESSURE INCHES.
 2. FOR A BLOW THRU TYPE COIL, A=1 INCH MINIMUM AND B=2 TIMES THE UNIT TOTAL STATIC PRESSURE INCHES.
 3. DRAIN PIPE SIZED TO MATCH DRAIN PAN OUTLET.
 4. PITCH CONDENSATE TO NEAREST DRAIN.
 5. DRAIN PIPE TO BE COPPER TUBING.
 6. COORDINATE WITH MANUFACTURER FOR MEASUREMENTS OF CONDENSATE TRAP.

REVISION SCHEDULE		
NO.	DESCRIPTION	DATE

DIFFUSER & GRILLE LEGEND

DIFFUSER/GRILLE			
TYPE (SEE SCHEDULE) -----	A	8	-- THROAT DIAMETER OR SIZE
CUBIC FEET PER MINUTE --	180	SA	-- TYPE OF AIR FLOW (CFM)

DIFFUSER, REGISTER, AND GRILLE SCHEDULE

UNIT TAG	TYPE	MFGR.	MODEL	DESCRIPTION	MATERIAL	FINISH	ACCESSORIES	NOTES
A	SUPPLY GRILLE	TITUS	300RL	DOUBLE DEFLECTION LOUVERED FACE	STEEL	WHITE	-	-
B	RETURN/EXHAUST GRILLE	TITUS	350RL	LOUVERED FACE	STEEL	WHITE	-	-
C	SUPPLY GRILLE	SHOEMAKER	850	DOUBLE DEFLECTION LOUVERED FACE	STEEL	WHITE	-	-
D	RETURN GRILLE	SHOEMAKER	1050	LOUVERED FACE	STEEL	WHITE	-	-
E	CEILING DIFFUSER	TITUS	TMS	LAY-IN STEEL SQUARE CONE	STEEL	WHITE	SHEET ROCK FRAME AS REQUIRED	-
F	RETURN GRILLE	TITUS	50F	LAY-IN EGG CRATE FACE	ALUMINUM	WHITE	-	-

NOTES:
 1. VERIFY LOUVER FINISH WITH ARCHITECT.

NATURAL GAS SCHEDULE

EQUIPMENT	MBH
GUH-1	300
GUH-2	300
WH-1	200
WH-2	200
F-1	40
F-2	30
F-3	80
F-4	40
MP-A (QTY 22)	484
MP-B (QTY 14)	462
FUTURE	500
BUILDING TOTAL	2,636

LOUVER SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	CFM	FRAME SIZE (WxH)	FREE AREA (SQ.FT.)	VELOCITY (FPM)	BPWP (FPM)	PRESSURE (IN WG)	NOTES
L-1	GARAGE	GARAGE OA	GREENHECK	ESD-435	10,000	92X50	18.22	549	989	0.05	1
L-2	ROOF	HOISTWAY RELIEF	GREENHECK	ESD-435	-	24X36	3.04	-	989	-	1

NOTES:
 1. VERIFY LOUVER FINISH WITH ARCHITECT.

UNIT HEATER SCHEDULE (GAS)

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	HEATING INPUT CAPACITY (BTU/HR)	HEATING OUTPUT CAPACITY (BTU/HR)	THERMAL EFFICIENCY (%)	GAS CONNECTION DIAMETER (INCHES)	VENT CONNECTION DIAMETER (INCHES)	ELECTRICAL DATA										WEIGHT (LBS)	NOTES
										EAT (°F)	LAT (°F)	V	PH	HZ	MHP	FLA					
GUH-1	GARAGE	GARAGE	REZNOR	UDAP-300	300,000	249,000	83	3/4	6	65	125	115	1	60	1/2	11.0	269	1			
GUH-2	GARAGE	GARAGE	REZNOR	UDAP-300	300,000	249,000	83	3/4	6	65	125	115	1	60	1/2	11.0	269	1			

NOTES:
 1. DISCONNECT BY DIVISION 26.

EXHAUST FAN SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	FAN TYPE	PERFORMANCE DATA				MOTOR DATA				SOUND DATA		CONTROL	WEIGHT (LBS)	NOTES
						FLOW (CFM)	ESP (IN WG)	RPM	BHP	DRIVE TYPE	MHP	ELECTRICAL DATA			SONES			
												V	PH	HZ				
EF-1	GARAGE	GARAGE	GREENHECK	SBE-3L30-20	SIDEWALL PROPELLER	10,000	0.35	824	1.77	BELT	2	208	3	60	23	VFD	105	1,3,7
EF-2	RESTROOM 004	RESTROOM 004	PANASONIC	FV-0510VS1	WALL	80	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,4
EF-3	RESTROOM 005	RESTROOM 005	PANASONIC	FV-0510VS1	WALL	80	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,4
EF-4	FITNESS 151	FITNESS 151	GREENHECK	CSP-A200	INLINE	175	0.35	1,327	-	ECM	FRAC.	115	1	60	5.6	LIGHT SWITCH	57	1,2,4
EF-5	JANITOR CLOSET 152	JANITOR CLOSET 152	PANASONIC	FV-0510VS1	WALL	50	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,4
EF-6	JANITOR CLOSET 352	JANITOR CLOSET 352	PANASONIC	FV-0510VS1	WALL	50	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,4
EF-7	TRASH CHUTE	TRASH CHUTE	FANTECH	FG-8-EC	INLINE	200	0.35	2,491	69 W	ECM	FRAC.	120	1	60	7.1	CONTINUOUS	11	1
EF-8	RECYCLING CHUTE	RECYCLING CHUTE	FANTECH	FG-8-EC	INLINE	200	0.35	2,491	69 W	ECM	FRAC.	120	1	60	7.1	CONTINUOUS	11	1
EF-A	APARTMENT BATHROOMS	MASTER BATHROOMS	PANASONIC	FV-0510VS1	WALL	80	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,5,6
EF-B	APARTMENT BATHROOMS	OTHER BATHROOMS	PANASONIC	FV-0510VS1	WALL	80	0.25	1,025	-	ECM	FRAC.	115	1	60	0.5	LIGHT SWITCH	6.8	1,2,5

NOTES:
 1. DISCONNECT BY DIVISION 23.
 2. FAN SHALL BE ENERGY STAR RATED.
 3. VFD FOR 2-SPEED OPERATION BY DIVISION 23.
 4. FAN/LIGHT.
 5. FAN/LIGHT SWITCH FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
 6. FAN SHALL BE INTERLOCKED WITH SELECT CYCLER WHOLE HOUSE VENTILATION CONTROLLER BY DIVISION 26.
 7. PROVIDE WALL HOUSING AND OSHA GUARD.

FURNACE SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	SUPPLY AIR	ESP	SUPPLY FAN HP	MINIMUM OUTDOOR AIR (CFM)	COOLING CAPACITY (MBH)	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	AFUE	QUANTITY	FUEL TYPE	VOLTAGE/PHASE	MCA	MOP	NOTES
F-1	MECH 006	COMMUNITY ROOM, OFFICE 008	DAIKIN	DM96VE0402ANA	800	0.5	1/2	90	24	40	38.4	96	1	NG	120/1	8.6	15	1,2,3
F-2	MECH 006	LOBBY	DAIKIN	DM96VE0303ANA	600	0.5	1/2	120	18	30	28.8	96	1	NG	120/1	8.6	15	1,2,3
F-3	MECH 153	1ST/2ND FL CORRIDOR	DAIKIN	DM96VE0804CNA	1600	0.7	3/4	245	48	80	76.8	96	1	NG	120/1	11.6	15	1,2,3
F-4	MECH 353	3RD FL CORRIDOR	DAIKIN	DM96VE0402ANA	800	0.6	1/2	90	24	40	38.4	96	1	NG	120/1	8.6	15	1,2,3

NOTES:
 FURNACE SHALL BE ENERGY STAR RATED.
 2. PROVIDE EC MOTOR AND 2-STAGE HEAT WITH 95% AFUE MINIMUM.
 3. DISCONNECT BY DIVISION 26.

SPLIT SYSTEM UNIT SCHEDULE

INDOOR UNIT																			
UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	STYLE	FAN DATA			ELECTRICAL DATA				DIMENSIONS			QUANTITY	OPERATING WEIGHT (LBS)	NOTES	
						SUPPLY AIR FLOW	ESP (IN H2O)	MIN. OUTSIDE AIR (CFM)	V	PH	HZ	MCA	H (IN)	W (IN)	D (IN)				
HVAC-1	FITNESS	FITNESS	CARRIER	40MBDQ18-3	DUCTED	600	0.4	150	208	1	60	1.2	9	35	27	1	54	1,2	

OUTDOOR HEAT PUMP UNIT																						
UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	COOLING DATA (MBH)		HEATING DATA (MBH)					EFFICIENCIES				ELECTRICAL DATA				QUANTITY	OPERATING WEIGHT (LBS)	NOTES
					NOM. CAP. @ 95°F	NOM. CAP. @ 47°F	@ 20°F	@ 5°F	@ -4°F	ENERGY STAR	SEER	EER	HSPF	COP	V	PH	HZ	MCA	MOP			
HP-1	GARAGE	HVAC-1	CARRIER	38MAQB18-3	16.0	18.0	14.0	9.0	7.6	YES	18.5	12.5	9.6	3.4	208	1	60	13	20	1	102	1,2

NOTES:
 1. PROVIDE MINIMUM 14.5 SEER, 9.5 HSPF, 12.0 EER.
 2. DISCONNECT BY DIVISION 26.

MAGIC-PAK SCHEDULE (DX/GAS)

UNIT TAG	LOCATION/SERVES	MFGR.	MODEL	SUPPLY AIR VOLUME (CFM)	MIN. OUTDOOR AIR (CFM)	COOLING		HEATING			ELECTRICAL DATA				DIMENSIONS			UNIT WEIGHT (LBS)	QUANTITY	NOTES
						CAPACITY (MBH)	EER	INPUT (MBH)	OUTPUT (MBH)	THERMAL EFFICIENCY	V/PH/HZ	HP	MCA	MOP	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)			
MP-A	APARTMENT UNITS	MAGIC-PAK	HWC9N2412P12A	400	-	12.0	12.0	22.0	20.5	95%	208/1/60	1/2	9.5	15	29	27	43	293	22	1, 2
MP-B	APARTMENT UNITS	MAGIC-PAK	HWC9N3612P18A	600	-	17.0	12.0	33.0	31.0	95%	208/1/60	1/2	12.6	15	29	27	43	313	14	1, 2

NOTES:
 1. PROVIDE 30 CFM OA FOR 1 BEDROOM UNITS AND 45 CFM OA FOR 2 BEDROOM UNITS PER ASHRAE 62.2-2016
 2. DISCONNECT BY DIVISION 26.

AIR-COOLED CONDENSING UNIT SCHEDULE

UNIT TAG	LOCATION	SERVICE	MFGR.	MODEL	COOLING DATA			REFRIGERANT	COMPRESSOR DATA		ELECTRICAL DATA				OPERATING WEIGHT	NOTES	
					COOLING CAPACITY (MBH)	AMBIENT TEMP. (°F)	SEER		QTY.	TYPE	V	PH	HZ	MCA			MOP
CU-1	LL2 GRADE	F-1	DAIKIN	DX14SA0241	24	95	14.5	R-410A	1	SCROLL	208	1	60	17.6	30	136	-
CU-2	LL2 GRADE	F-2	DAIKIN	DX14SA0181	18	95	15.5	R-410A	1	SCROLL	208	1	60	12	20	131	-
CU-3	L1 GRADE	F-3	DAIKIN	DX14SA0481	48	95	14.5	R-410A	1	SCROLL	208	1	60	26.2	45	220	-
CU-4	L1 GRADE	F-4	DAIKIN	DX14SA0241	24	95	14.5	R-410A	1	SCROLL	208	1	60	17.6	30	136	-

NOTES: