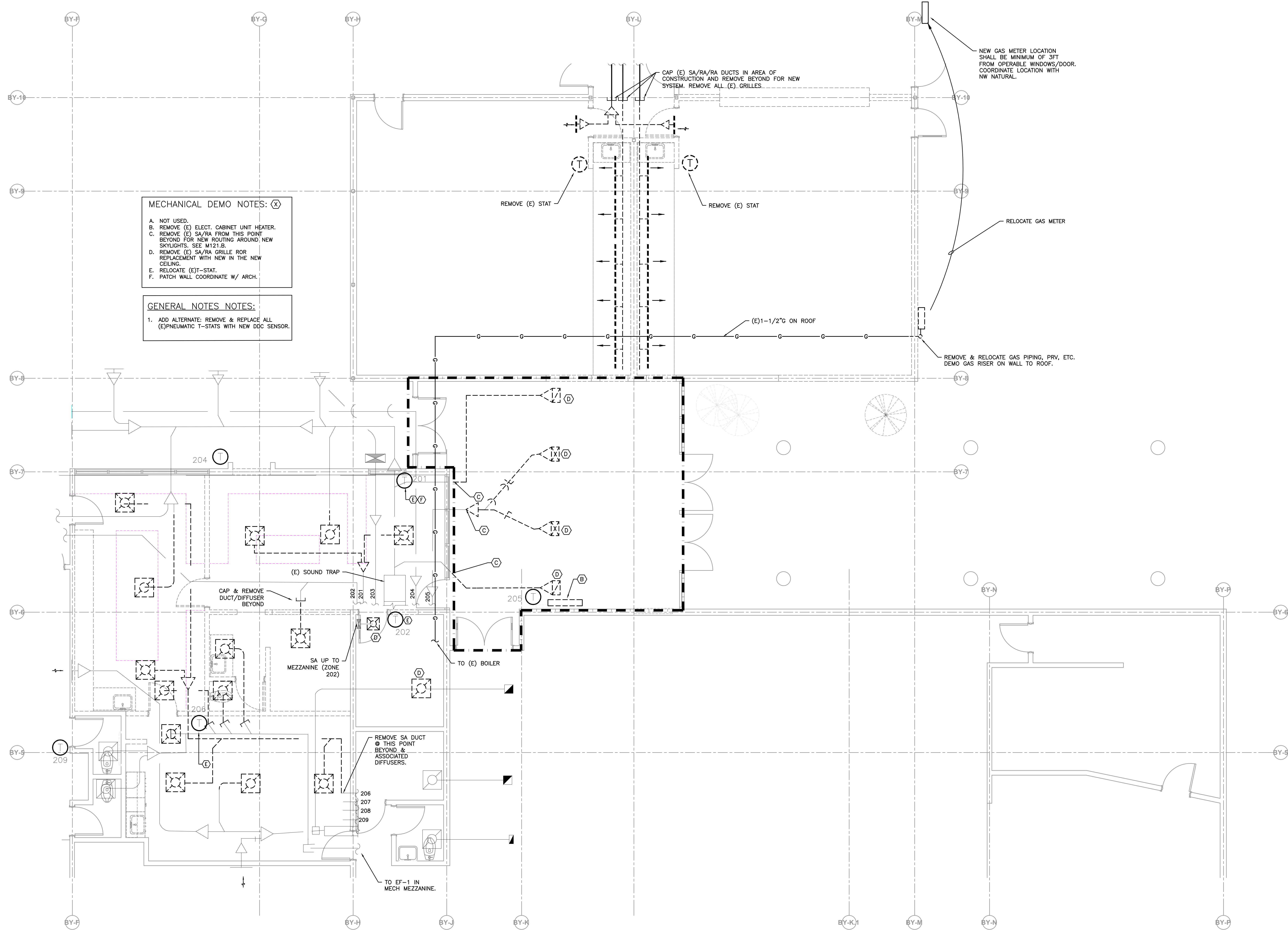




MECHANICAL DEMO NOTES: (X)

A. NOT USED.
B. REMOVE (E) ELECT. CABINET UNIT HEATER.
C. REMOVE (E) SA/RA FROM THIS POINT BEYOND FOR NEW ROUTING AROUND NEW SKYLIGHTS. SEE M121.B.
D. REMOVE (E) SA/RA GRILLE ROR REPLACEMENT WITH NEW IN THE NEW CEILING.
E. RELOCATE (E)T-STAT.
F. PATCH WALL COORDINATE W/ ARCH.

GENERAL NOTES:

1. ADD ALTERNATE: REMOVE & REPLACE ALL (E)PNEUMATIC T-STATS WITH NEW DDC SENSOR.

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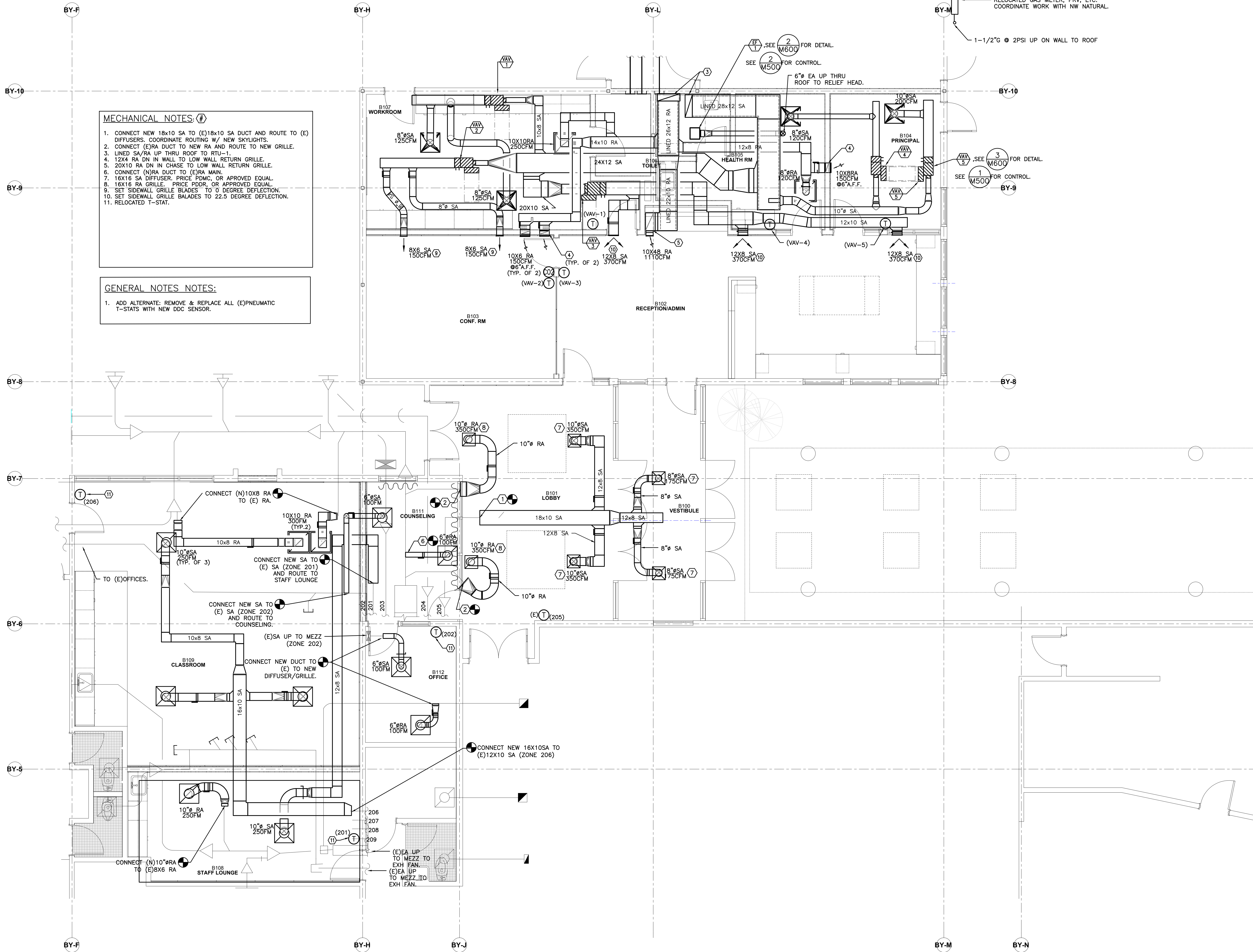
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MECHANICAL DEMO PLAN
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M111.B



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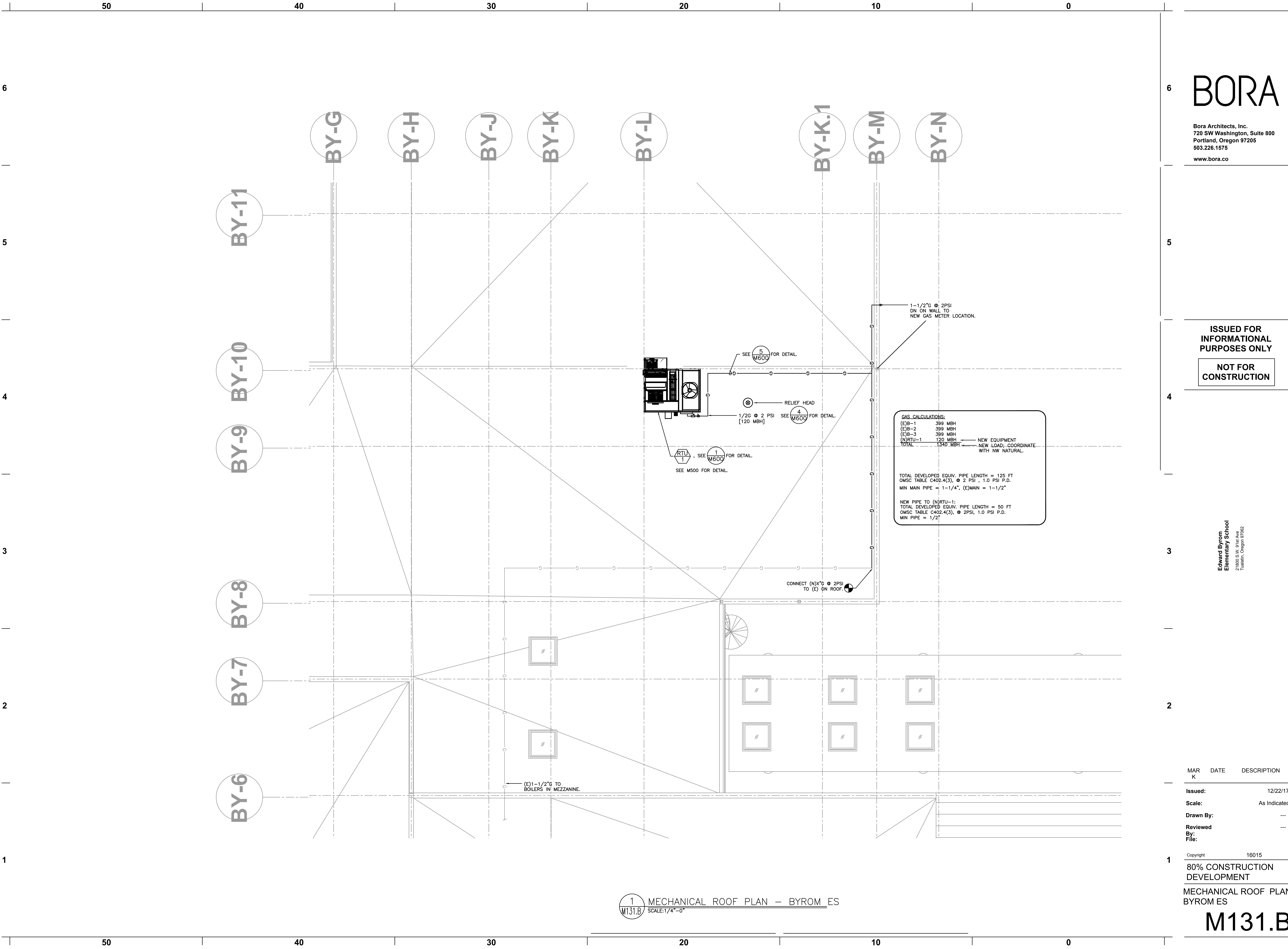
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MECHANICAL PLAN
BYROM ES

M121.B

1 MECHANICAL PLAN - BYROM ES
M121.B SCALE: 1/4" = 0'



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MECHANICAL ROOF PLAN
BYROM ES

M131.B

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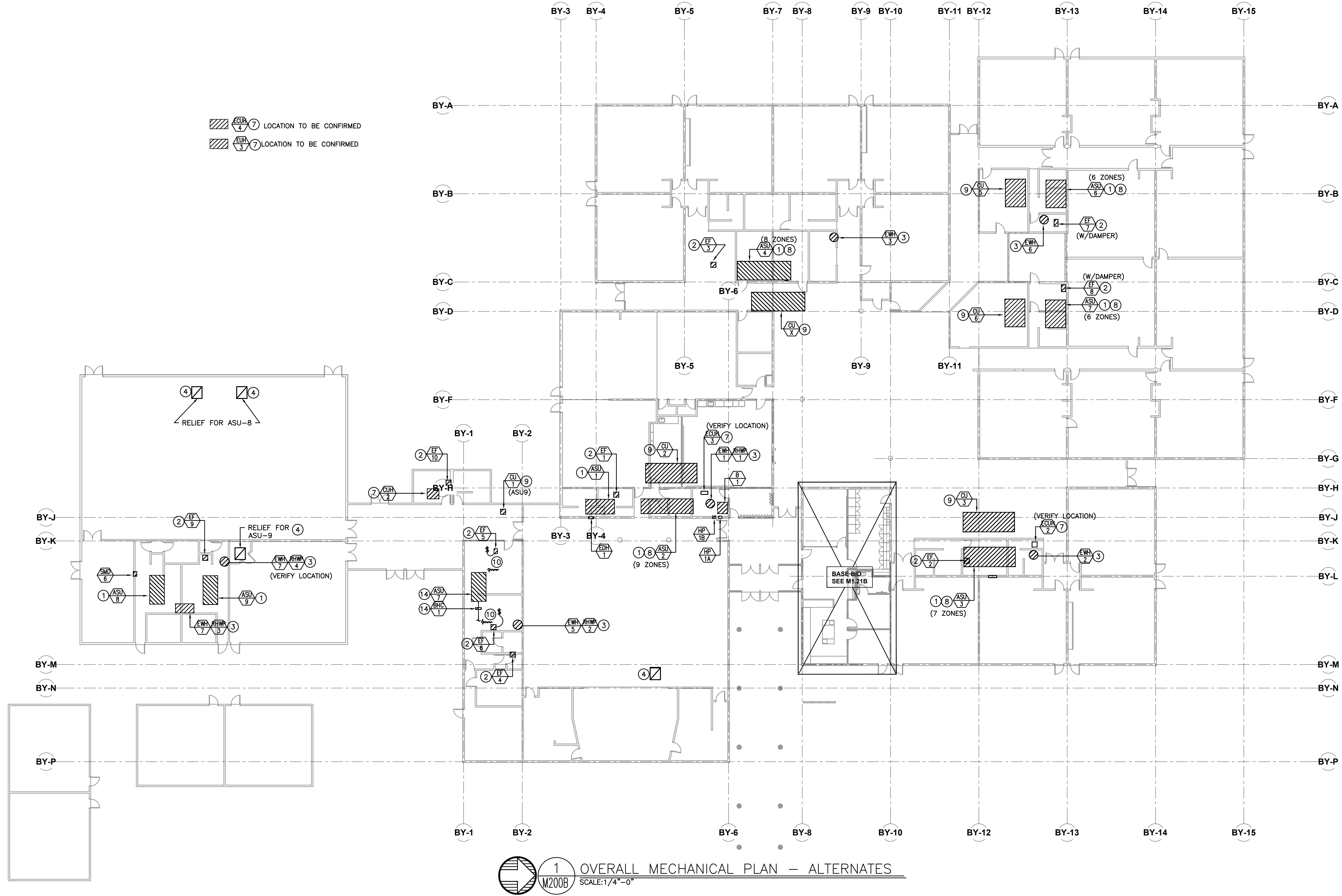
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CONTROL DRAWING KEYED NOTES – ALTERNATES:

1. PROVIDE DIGITAL DAMPER ACTUATOR AT OSA, RELIEF AND MIXING DAMPERS TO REPLACE EXISTING PNEUMATIC ACTUATORS. RETROFIT EXISTING HEATING VALVE WITH DIGITAL ACTUATOR KIT. CONFIRM VALVE CONFIGURATION PRIOR TO SUBMITTAL.
2. REMOVE PE SWITCH AND OPERATE FAN DIRECTLY FROM DIGITAL CONTROLS. PROVIDE RIB OR STARTER FOR 120V UNIT AS REQUIRED. WHERE DAMPER IS NOTED ON THE PLAN, REPLACE EXISTING PNEUMATIC ACTUATOR WITH DIGITAL DAMPER ACTUATOR.
3. REMOVE (E)PE SWITCH AND OPERATED ELECTRIC WATER HEATER AND ASSOCIATED RECIRC PUMP DIRECTLY FROM DDC.
4. PROVIDE DIGITAL DAMPER ACTUATOR. CONNECT NEW ACTUATOR TO EXISTING JCI SYSTEM CONTROL PANEL. ALTER PROGRAMMING AS REQUIRED FOR THE NEW DIGITAL DEVICE.
5. REMOVE PE SWITCH AND OPERATE ELECTRIC HEATERS DIRECTLY FROM DIGITAL CONTROLS. PROVIDE RIB OR RATED CONTACTOR FOR 120 V OPERATION AS REQUIRED.
6. REMOVE (E)PE SWITCH AND OPERATE FAN DIRECTLY FROM DDC. FOR HW UNIT, RETROFIT HEATING COIL VALVE WITH DIGITAL ACTUATOR KIT.
8. PROVIDE DIGITAL DAMPER ACTUATOR FOR MULTIZONE DAMPERS, # OF ZONES SHOWN ON PLAN.
9. REMOVE PE SWITCH AND OPERATE DIRECTLY FROM DIGITAL CONTROLS.
10. REMOVE (E)PNEUMATIC DAMPER ACTUATOR AT STEAM AND STOVE HOODS (EF-5 & EF-6) AND REPLACE WITH DIGITAL DAMPER ACTUATOR. ALTER PROGRAMMING AS REQUIRED FOR THE NEW DIGITAL DEVICE.
11. REMOVE (E) BY-PASS VAV BOXES AND REPLACE WITH NEW SINGLE DUCT VAV BOX WITH DDC CONTROL.
12. (E)FIRE SMOKE DAMPER – REMOVE (E)PNEUMATIC DAMPER ACTUATOR AND REPLACE WITH NEW DIGITAL ACTUATOR.
13. REMOVE (E) PE SWITCH AND OPERATE PUMP DIRECTLY FROM DIGITAL CONTROLS.
14. PROVIDE DIGITAL OSA DAMPER, FACE/BY-PASS DAMPER TO REPLACE (E)PNEUMATIC ACTUATORS. RETROFIT (E)BOOSTER HEATING COIL VALVE WITH DIGITAL ACTUATOR KIT. CONFIRM VALVE SIZING PRIOR TO SUBMITTAL.

CONTROL DRAWING GENERAL NOTES:

1. WHERE EXISTING PNEUMATIC DEVICES ARE REMOVED, REMOVE ALL ASSOCIATED PNEUMATIC PIPING AND CONTROLS. CONNECT NEW ACTUATOR / DDC DEVICES TO EXISTING JCI SYSTEM CONTROL PANEL. ALTER PROGRAMMING AS REQUIRED FOR THE NEW DIGITAL DEVICE. CONFIRM DAMPER AND VALVE SIZES PRIOR TO SUBMITTAL.

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OVERALL MECHANICAL
PLAN - ALTERNATES

M200.B

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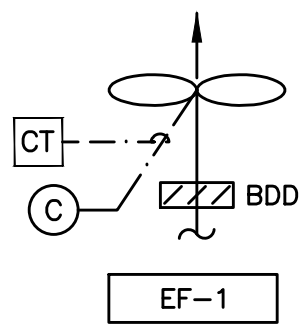
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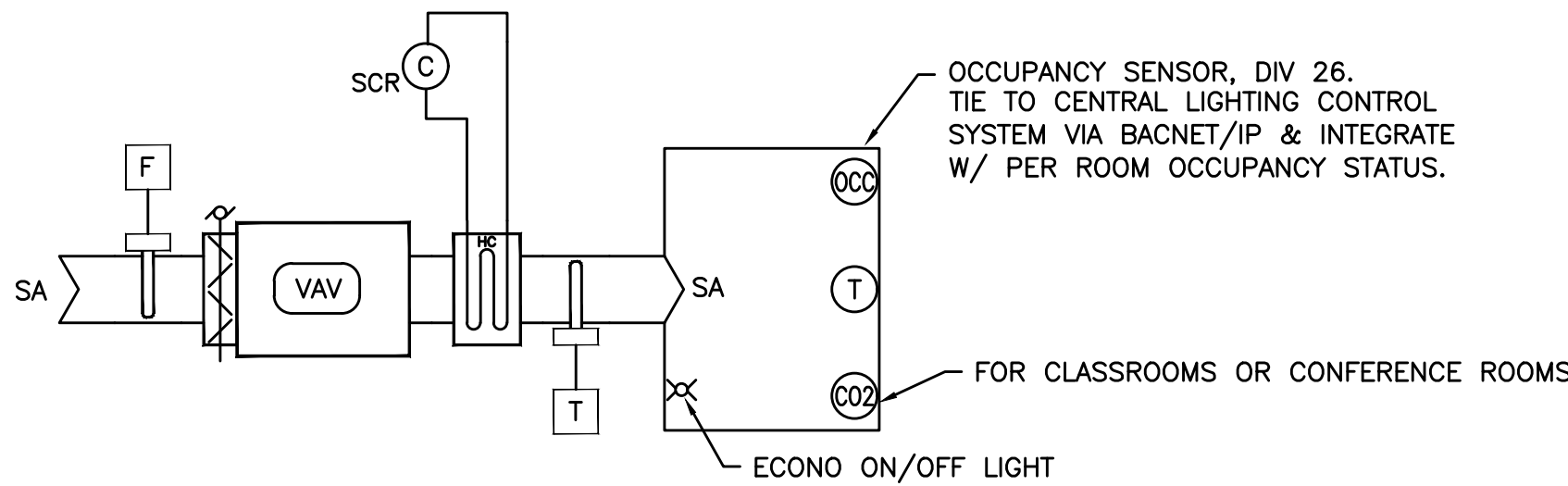
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2 EXHAUST FAN CONTROL DIAGRAM
SCALE: SCHEMATIC



1 VAV BOX W/ ELECT RH CONTROL DIAGRAM
SCALE: SCHEMATIC



LEGEND

- SPACE SENSORS:**
- T** SPACE TEMPERATURE SENSOR
 - P** SPACE PRESSURE SENSOR
 - H** SPACE HUMIDITY SENSOR
 - DP** DIFFERENTIAL PRESSURE SENSOR
 - H** HUMIDITY SENSOR
 - T** TEMPERATURE SENSOR
 - LL** TEMPERATURE LOW LIMIT SENSOR
 - FL** FLUID LEVEL SENSOR
- CONTROL DEVICES:**
- CT** CURRENT TRANSFORMER
 - M** MANOMETER
 - VFD** VARIABLE FREQUENCY DRIVE
 - C** CONTACTOR/STARTER
 - MCC** MOTOR CONTROL CENTER
 - SD** SMOKE DETECTOR
 - ?** MOTOR CONTROL CENTER
 - CO** CARBON DIOXIDE SENSOR
 - F** FLOW SENSOR
- PLUMBING:**
- CAPPED LINE
 - PUMP
 - FLOW DIRECTION
 - +** MULTI VALVE
 - +** ELECTRIC 3-WAY VALVE
 - +** 2-WAY VALVE
 - +** SWITCH, TIMER

- EQUIPMENT ABBREVIATIONS:**
- P - PUMP
 - FP - FUEL PUMP
 - SP - SUMP PUMP
 - BP - BOOSTER PUMP
 - HWP - HEATING WATER PUMP
 - CHP - CHILLED WATER PUMP
 - CHRP - CHILLED WATER RISER PUMP
 - CWP - CONDENSING WATER PUMP
 - CSP - COOLING TOWER SUMP PUMP
 - HWRP - DOMESTIC HOT WATER RECIRCULATION
 - VFD - VARIABLE FREQUENCY DRIVE
 - CT - CONTACTOR
 - CC - CONTROL COMPRESSOR
 - CH - CHILLER
 - CT - COOLING TOWER
 - B - BOILER
 - EF - EXHAUST FAN
 - RF - RETURN/RELIEF FAN
 - AH - AIR HANDLER
 - MZ - MULTIZONE AIR HANDLER
 - HP - HEAT PUMP
 - VAV - VARIABLE AIR VOLUME DAMPER BOX
 - AD - AREA DAMPER
 - SD - SMOKE DAMPER
 - SFD - FIRE SMOKE COMBINATION DAMPER
 - H - HUMIDIFIER
 - V - VALVE
 - WH - WATER HEATER
 - BAS - BUILDING AUTOMATION SYSTEM
- CONTROL SUBSCRIPTS AND SUPERSSCRIPTS:**
- P - PNEUMATIC
 - E - ELECTRIC
- PLUMBING ABBREVIATIONS:**
- CHS - CHILLED WATER SUPPLY
 - CHR - CHILLED WATER RETURN
 - CWS - CONDENSING WATER SUPPLY
 - CWR - CONDENSING WATER RETURN
 - HWS - HEATING WATER SUPPLY
 - HWR - HEATING WATER RETURN
 - HW - DOMESTIC HOT WATER
 - CW - DOMESTIC COLD WATER
 - GPM - GALLONS PER MINUTE
 - DB - DOUBLE VALVE OPERATOR

- EQUIPMENT ABBREVIATIONS:**
- P - PUMP
 - FP - FUEL PUMP
 - SP - SUMP PUMP
 - BP - BOOSTER PUMP
 - HWP - HEATING WATER PUMP
 - CHP - CHILLED WATER PUMP
 - CHRP - CHILLED WATER RISER PUMP
 - CWP - CONDENSING WATER PUMP
 - CSP - COOLING TOWER SUMP PUMP
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 - VFD - VARIABLE FREQUENCY DRIVE
 - CT - CONTACTOR
 - CC - CONTROL COMPRESSOR
 - CH - CHILLER
 - CT - COOLING TOWER
 - B - BOILER
 - EF - EXHAUST FAN
 - RF - RETURN/RELIEF FAN
 - AH - AIR HANDLER
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 - VAV - VARIABLE AIR VOLUME DAMPER BOX
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- CONTROL SUBSCRIPTS AND SUPERSSCRIPTS:**
- P - PNEUMATIC
 - E - ELECTRIC
- PLUMBING ABBREVIATIONS:**
- CHS - CHILLED WATER SUPPLY
 - CHR - CHILLED WATER RETURN
 - CWS - CONDENSING WATER SUPPLY
 - CWR - CONDENSING WATER RETURN
 - HWS - HEATING WATER SUPPLY
 - HWR - HEATING WATER RETURN
 - HW - DOMESTIC HOT WATER
 - CW - DOMESTIC COLD WATER
 - GPM - GALLONS PER MINUTE
 - DB - DOUBLE VALVE OPERATOR

(*) MINIMUM POINTS TO BE MAPPED TO GRAPHIC

CONTROLS FOR RTU-1 (*)			
POINT DESCRIPTION	READ	WRITE	READ/WRITE
UNIT ENABLE/DISABLE			X
EXH FAN SPEED	X		
EXHAUST STATUS	X		
SUPPLY FAN STATUS	X		
SUPPLY FAN SPEED	X		
OUTSIDE AIR/ECONOMIZER DAMPER POSITION	X		
RA CO2	X		
RA TEMP	X		
DISCHARGE AIR TEMP	X		
DISCHARGE AIR PRESSURE	X		
MIXED AIR TEMP	X		
HEATING SECTION STATUS	X		
SMOKE DETECTOR	X		
COOLING STATUS	X		
ALARM CODE	X		
DISCHARGE AIR TEMP SETPOINT			X
DISCHARGE AIR PRESSURE SETPOINT			X

CONTROLS FOR EXHAUST FANS, SEE 2/M5.00				
POINT DESCRIPTION	INPUT		OUTPUT	
	DIGITAL	ANALOG	DIGITAL	ANALOG
START/STOP TYP OF ALL			X	
STATUS	X			

CONTROLS FOR VAV TERMINAL UNIT, SEE 1/M5.00				
POINT DESCRIPTION	INPUT		OUTPUT	
	DIGITAL	ANALOG	DIGITAL	ANALOG
SPACE TEMP		X		
AIR FLOW		X		
DAMPER POSITION				X
DISCHARGE TEMPERATURE		X		
ELECTRIC HEATER			X	
ECONO ON/OFF			X	
SPACE OCCUPANCY	X			
SPACE CO2		X		

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MECHANICAL CONTROLS

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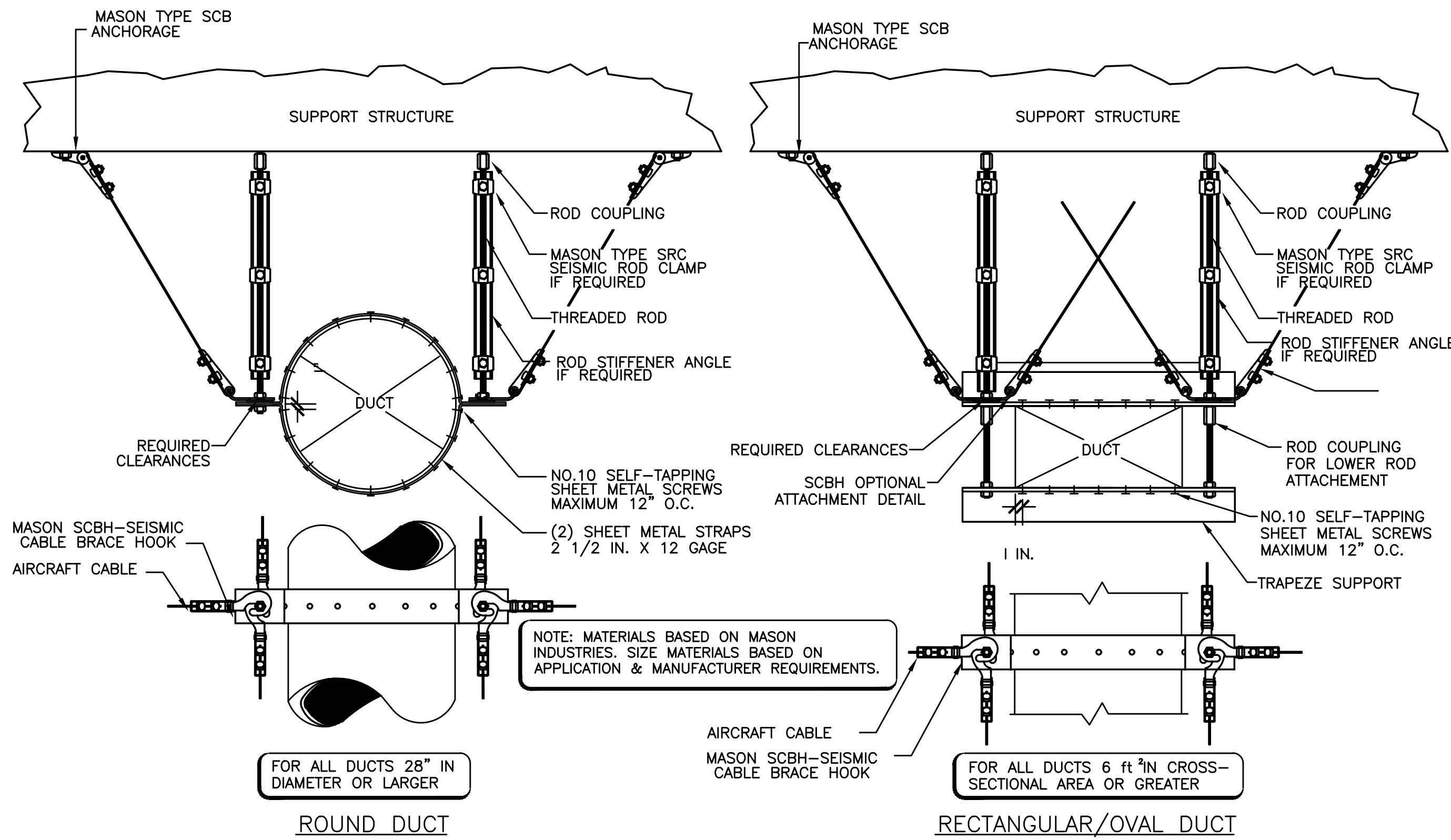
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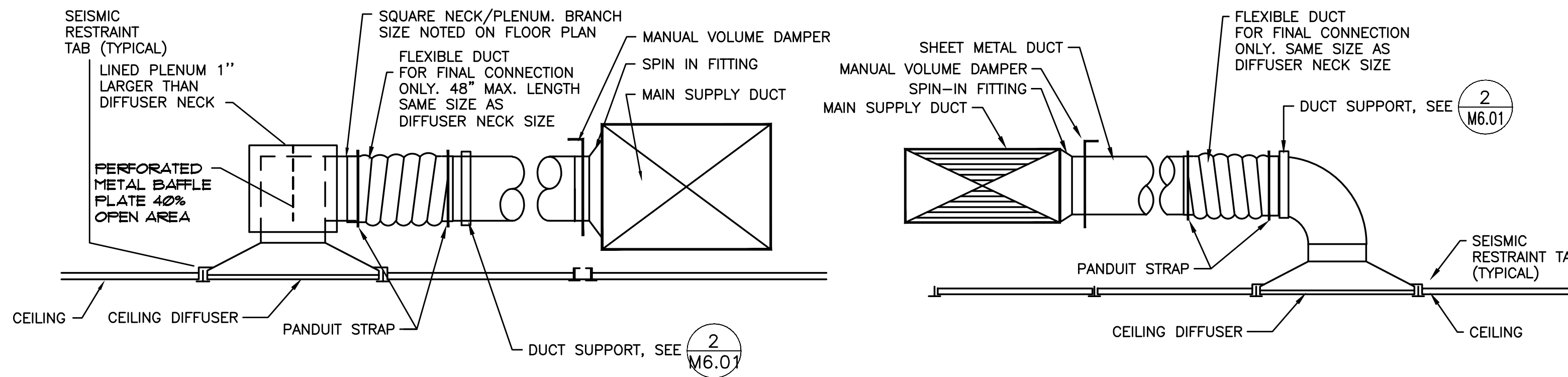
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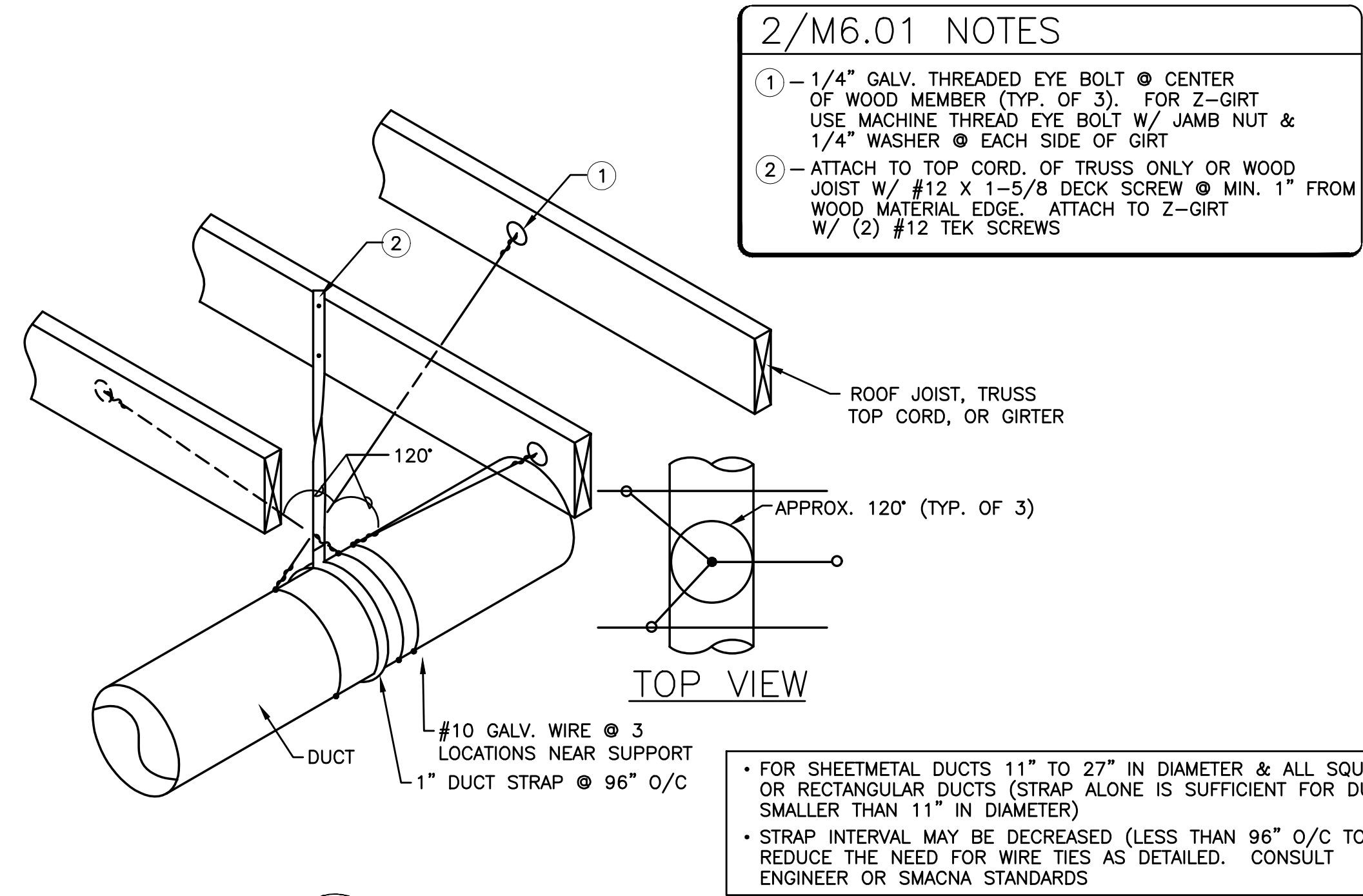
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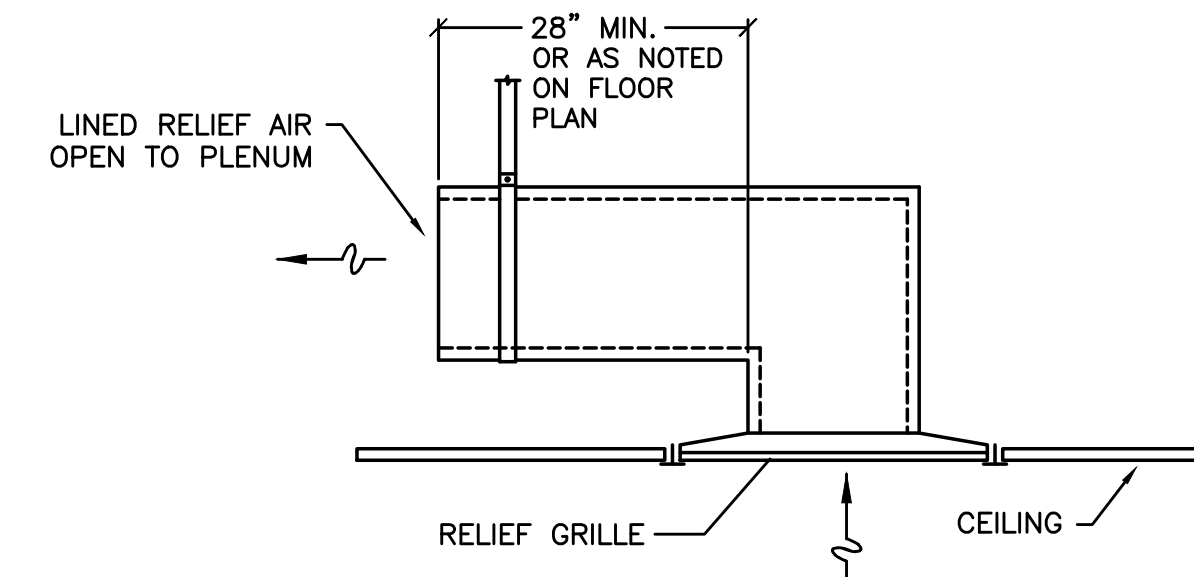
1 SEISMIC DUCT SUPPORT
SCALE: DETAIL



1 CEILING DIFFUSER DETAIL
NONE



2 DUCT SUPPORT
SCALE: DETAIL

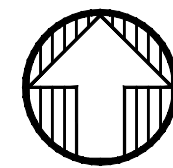
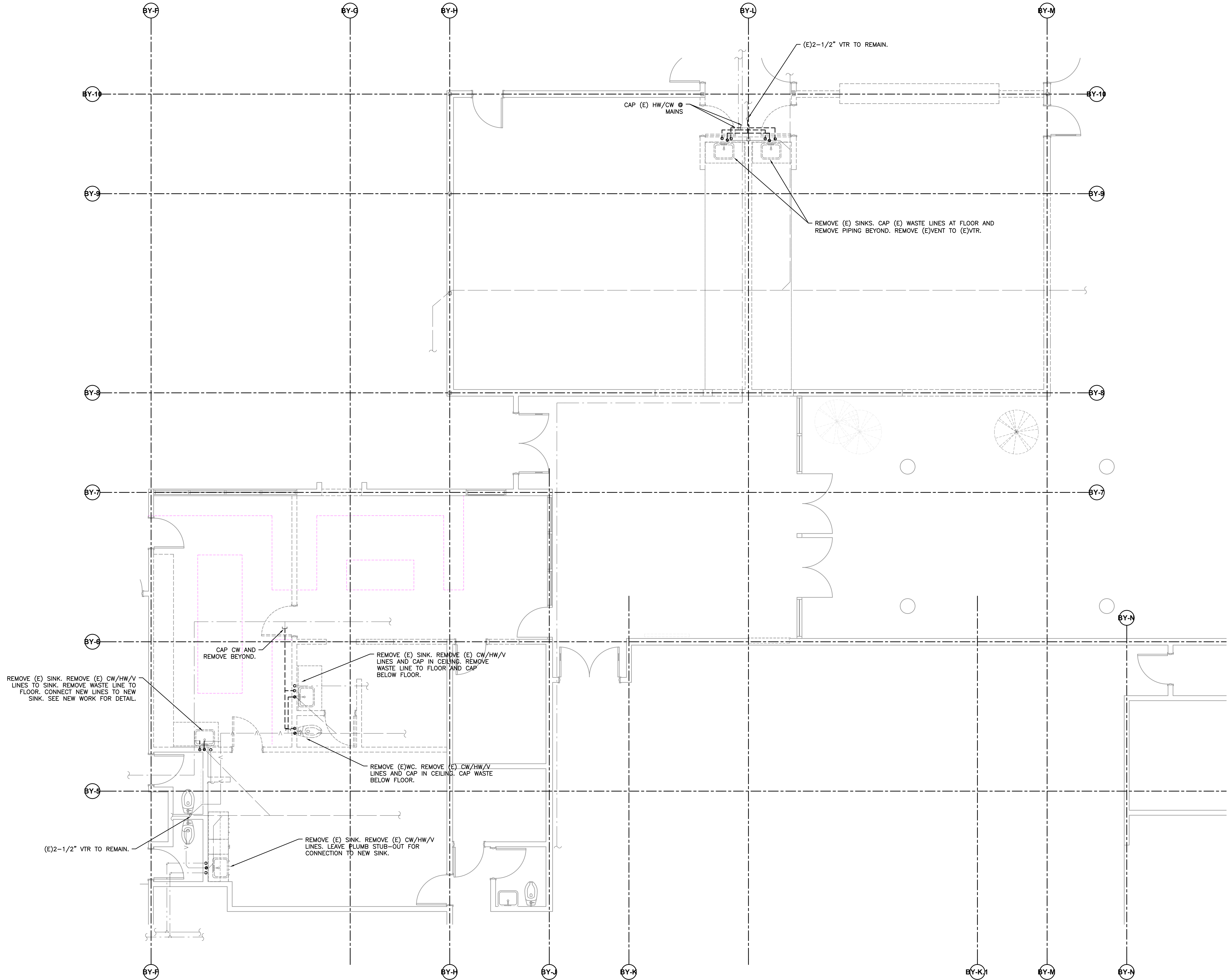


3 PLENUM RA DETAIL
DETAIL

VENTILATION AIR SCHEDULE RTU-1												
ROOM NUMBER AND NAME	AREA (SQ. FT.)	OCCUPANT LOAD (#/1000 SQ. FT.)	NUMBER OF FIXTURES (PLUMBING)	NUMBER OF OCCUPANTS	OUTSIDE AIR REQUIREMENT (CFM/P) OR(CFM/FIXT) *	OUTSIDE AIR REQUIREMENT (CFM/SQ FT.)	OUTSIDE AIR REQUIRED (CFM)		ZONE OSA (CFM)	SUPPLY AIR (CFM)	PRIMARY OSA FRACTION	RETURN AIR (CFM)
	Az			Pz	Rp	Ra	Vbz	Ez	Voz	Vpz	Zp	
B104 PRINCIPAL	160	5		1	5	0.06	15	1.0	15	200	0.07	200
B103 CONFERENCE	275	50		14	5	0.06	87	1.0	87	300	0.29	300
B105 HEALTH	150	5		1	5	0.06	14	1.0	14	120	0.12	120
B107 WORK ROOM	5	400		2	5	0.06	34	1.0	34	250	0.14	250
A102 RECEPTION ADMIN (INT)	575	10		6	5	0.06	65	1.0	65	1110	0.06	1110
B106 TOILET	65	0	1	0	50		0			0		0
TOTAL	1645			24			214		214	1980		1980
									Vou	Vps		
CORRECTED TOTAL OUTDOOR AIR FLOW RATE											225	CFM

VENTILATION AIR SCHEDULE - EXISTING UNIT												
ROOM NUMBER AND NAME	AREA (SQ. FT.)	OCCUPANT LOAD (#/1000 SQ. FT.)	NUMBER OF FIXTURES (PLUMBING)	NUMBER OF OCCUPANTS	OUTSIDE AIR REQUIREMENT (CFM/P) OR(CFM/FIXT) *	OUTSIDE AIR REQUIREMENT (CFM/SQ. FT.)	OUTSIDE AIR REQUIRED (CFM)		ZONE OSA (CFM)	SUPPLY AIR (CFM)	PRIMARY OSA FRACTION	RETURN AIR (CFM)
	Az			Pz	Rp	Ra	Vbz	Ez	Voz	Vpz	Zp	
B100 VESIBULE	220	0			0	0.06	13	1.0	13	350	0.04	0
B101 LOBBY	440	30		14	5	0.06	96	1.0	96	700	0.14	700
B111 COUNSELING	135	5		1	5	0.06	13	1.0	13	100	0.13	100
B112 OFFICE	105	5		1	5	0.06	11	1.0	11	100	0.11	100
B 109 CLASSROOM	860	25		22	10	0.12	323	1.0	323	750	0.43	750
TOTAL	1760			38			457		457	2000		950
									Vou	Vps		
CORRECTED TOTAL OUTDOOR AIR FLOW RATE											387	CFM

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PLUMBING DEMO PLAN - BYROM ES
SCALE: 1/4" = 0'

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1 PLUMBING PLAN - BYROM ES
P121.B SCALE: 1/4" = 0'

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PLUMBING PLAN BYROM ES		

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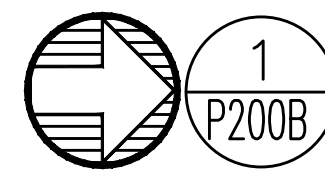
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1 OVERALL PLUMBING PLAN
P200B SCALE:1/4"=0'

KEYED NOTES:
1. NEW FLOOR AND WAISTCOTING TILES TO BE INSTALLED. REMOVE (E) WATER CLOSET FOR THE TILE WORK AND RE-INSTALL (E) FIXTURE.

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OVERALL PLUMBING PLAN

P200B

PLUMBING CONNECTION SCHEDULE						
MARK	FIXTURE	W	V	CW	HW	REMARKS
FD-1	FLOOR DRAIN	3"	V.L.			JR SMITH 2005, PRIME
S-1	SINK - CLASSROOM	2"	1-1/2"	1/2"	1/2"	1-COMP, SEE NOTE 1
S-2	SINK - ADMIN	2"	1-1/2"	1/2"	1/2"	1-COMP, SEE NOTE 1 & 2
S-2 A	SINK - HEALTH	2"	1-1/2"	1/2"	1/2"	1-COMP, SEE NOTE 1
WC-1	WATER CLOSET	4"	2"	1"		FLOOR MOUNT, FLUSH VALVE
LV-1	LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"	WALL MOUNT

NOTES:
1: PROVIDE FAUCET RE-INFORCEMENT PER DETAIL 4/P6.01.
2: PROVIDE WITH HW DISPENSER AND GARBAGE DISPOSER. SEE SPECS.

PLUMBING LEGEND		
AFF	ABOVE FINISHED FLOOR	--- (CW) COLD WATER
ARCH	ARCHITECTURAL	--- (NPW) NON-POTABLE COLD WATER
B.G.	BELOW GRADE	--- (HW) HOT WATER
BTU	BRITISH THERMAL UNIT	--- (HWR) HOT WATER RECIRC
CAP.	CAPACITY	--- (W) ABOVE GRADE WASTE
C.I.	CAST IRON	--- (W) BELOW GRADE WASTE
COMP.	COMPARTMENT	--- V --- V (V) VENT
CONT.	CONTINUATION	--- RD --- (RD) RAIN DRAIN
CU.	CUBIC	--- RD --- (UG RD) UNDERGROUND RAIN DRAIN
DF	DRINKING FOUNTAIN	--- OD --- (OD) OVERFLOW RAIN DRAIN
DI	DEIONIZED (WATER)	--- NEW WORK ENTITY
DIA.	DIAMETER	--- (D) DEMOLISH, (R) RELOCATE
ELEV.	ELEVATION	--- (E) EXISTING ENTITY
EWC	ELECTRIC WATER COOLER	--- (CW) EXISTING COLD WATER
FD	FLOOR DRAIN	--- (HW) EXISTING HOT WATER
FDC	FIRE DEPARTMENT CONNECTION	--- (HWR) EXISTING HOT WATER RECIRC
FHC	FIRE HOSE CABINET	--- (W) EXISTING WASTE BELOW GRADE
F.F.	FINISH FLOOR	--- V --- V (V) EXISTING VENT
FLG.	FLANGE	--- RD --- (RD) EXISTING RAIN DRAIN
FT	FOOT / FEET	--- BACKGROUND
G	GAS	
GA.	GAUGE	 PRESSURE/TEMP RELIEF VALVE
GALV.	GALVANIZED	 BUTTERFLY VALVE
GPM	GALLONS PER MINUTE	 GAS PRESSURE REGULATING VALVE
G.V.	GATE VALVE	 TOP CONNECTION
HP	HORSEPOWER	 BOTTOM CONNECTION
HR.	HOUR	 PIPE TURNED UP, PIPE TURNED DOWN
I.E.	INVERT ELEVATION	 GATE VALVE
KW	KILOWATT	 BALL VALVE
LAV	LAVATORY	 BALANCING VALVE
LBS	POUNDS	 CHECK VALVE
MAX.	MAXIMUM	 UNION
MBH.	THOUSANDS OF BTUs PER HOUR	 DOUBLE CHECK ASSEMBLY
MIN.	MINIMUM	
M.J.	MECHANICAL JOINT	
N.I.M.	NOT IN MECHANICAL	
OS&Y	OUTSIDE STEM & YOKE	
PROT.	PROTECTION	
PRV	PRESSURE REDUCING VALVE	
PSI, PSIG	POUNDS PER SQUARE INCH	
P/T	PRESSURE / TEMPERATURE	
REQ'D	REQUIRED	
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER	
RPM	REVOLUTIONS PER MINUTE	
TYP.	TYPICAL	
UR	URINAL	
VTR	VENT THROUGH ROOF	
WC	WATER CLOSET	

	EQUIPMENT MARK NUMBER
	FIXTURE MARK
	EXISTING
	NOTE
	CONNECT TO EXISTING
	CAP
	TEE
	ELBOW
	CLEANOUT

	PRESSURE/TEMP RELIEF VALVE
	BUTTERFLY VALVE
	GAS PRESSURE REGULATING VALVE
	TOP CONNECTION
	BOTTOM CONNECTION
	PIPE TURNED UP, PIPE TURNED DOWN
	GATE VALVE
	BALL VALVE
	BALANCING VALVE
	CHECK VALVE
	UNION
	DOUBLE CHECK ASSEMBLY

