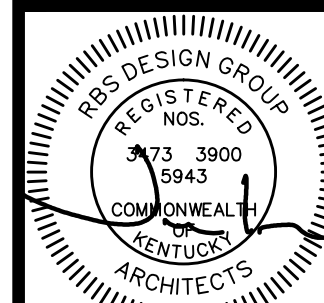


**STRUCTURAL
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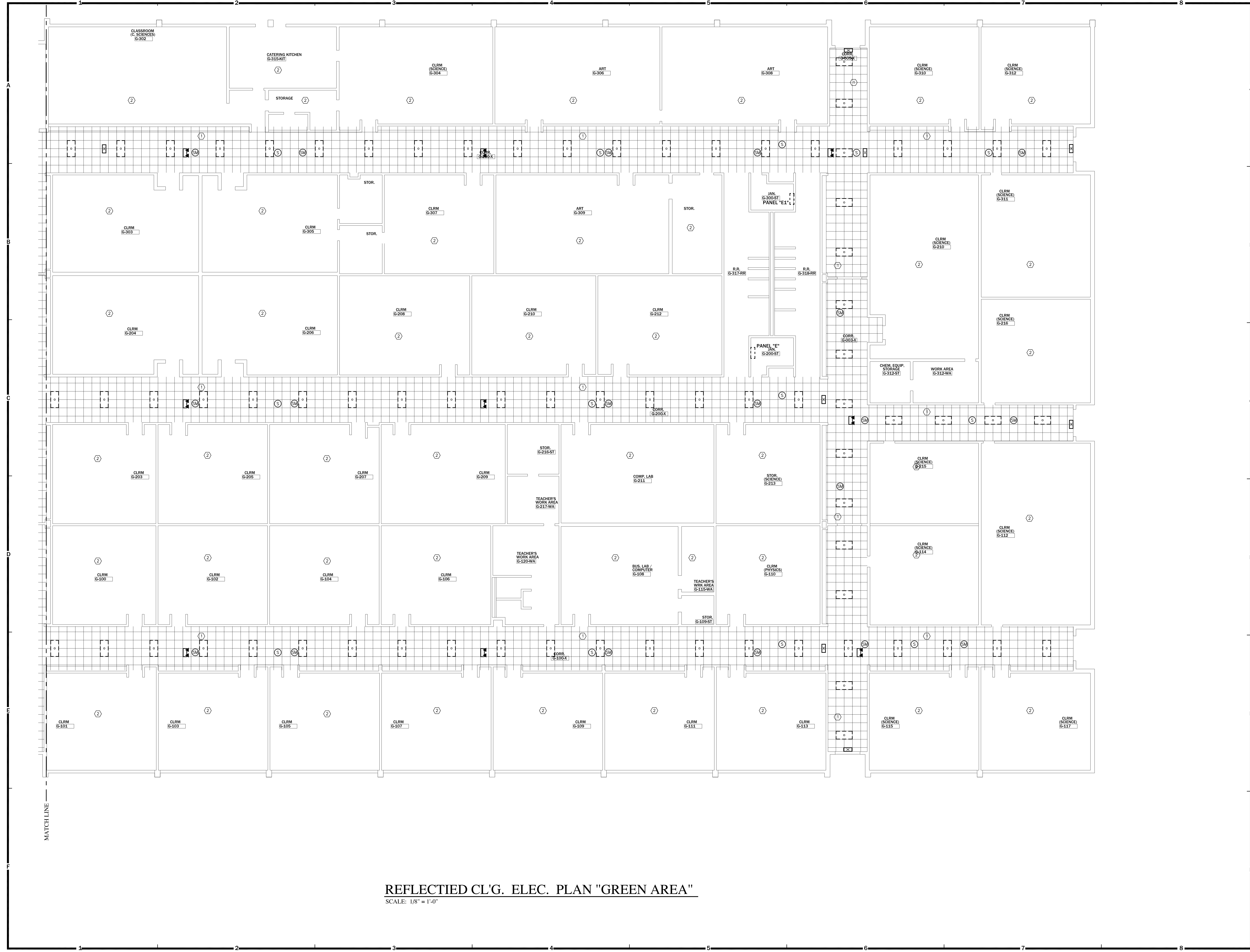
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HENDERSON COUNTY SCHOOLS
HENDERSON COUNTY HIGH SCHOOL
HVAC UPGRADE
TITLE SHEET

TITLE SHEET

[illegible]



REFLECTIED CL'G. ELEC. PLAN "GREEN AREA"
SCALE: 1/8" = 1'-0"

RBS DESIGN GROUP
Architecture

SEAL

ST. KENTUCKY PROFESSIONAL ENGINEER

WILLIAM M. RBS

MA 1710

EXPIRATION DATE 12/31/11

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HENDERSON COUNTY HIGH SCHOOL

HENDERSON, KENTUCKY

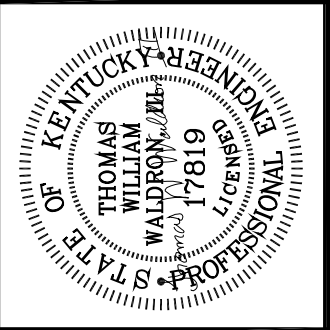
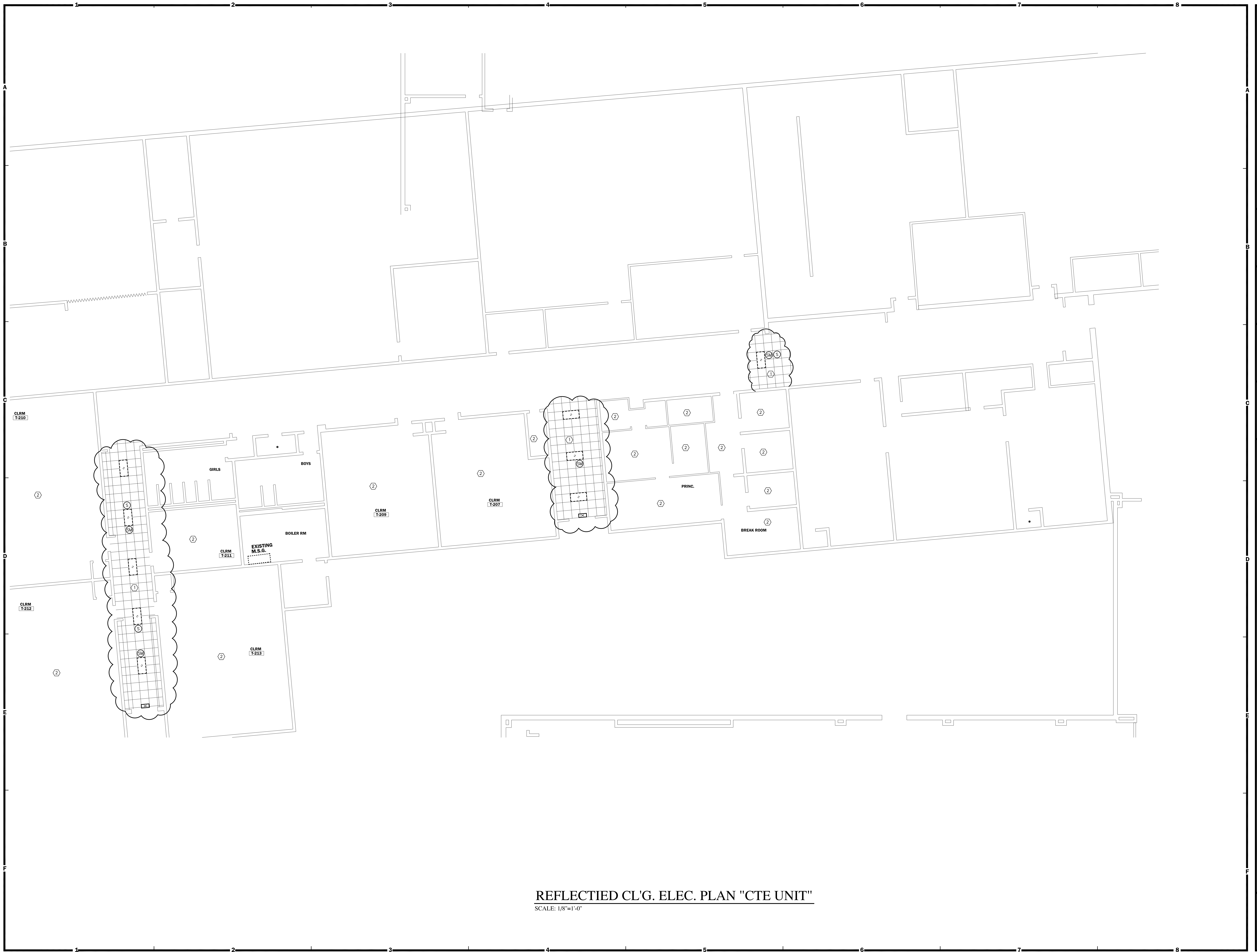
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REFLECTED CL'G. ELEC. PLAN "SHEET 2"

SHEET NUMBER

ME1.1

OF



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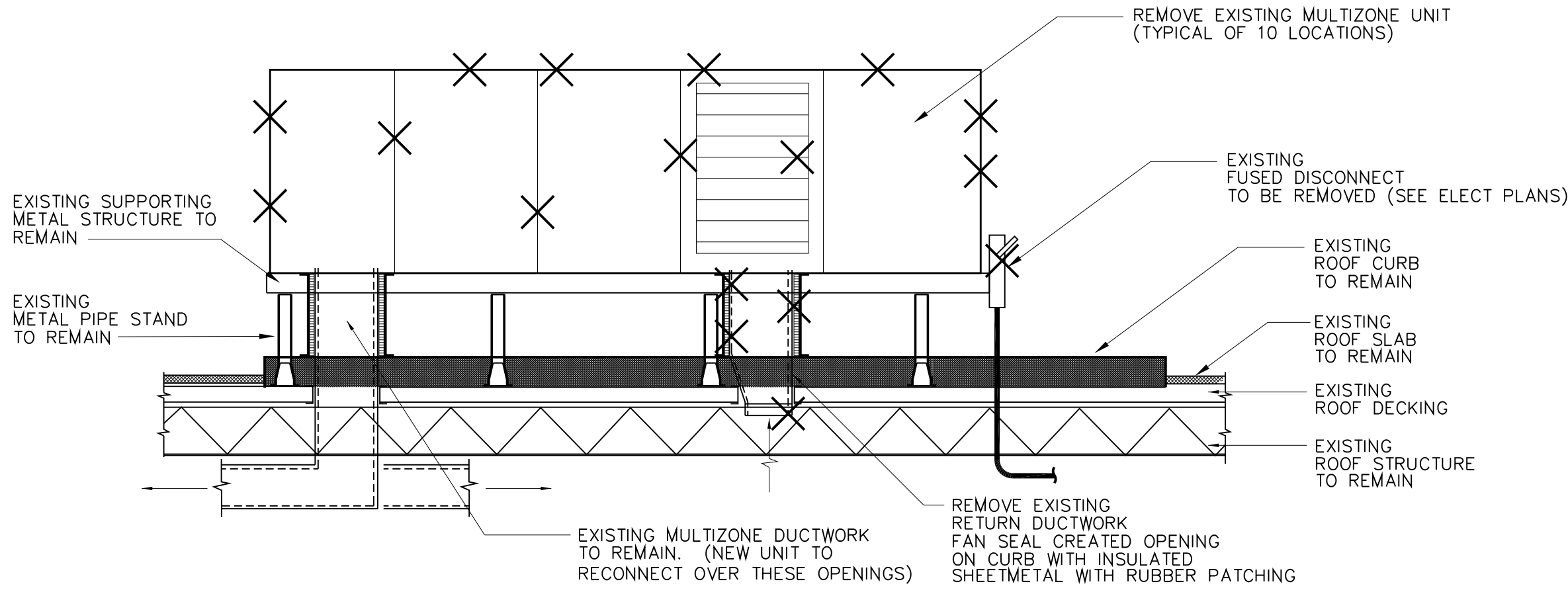
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HENDERSON COUNTY HIGH SCHOOL
HENDERSON, KENTUCKY
HVAC UPGRADES - 2011
REFLECTED CL'G. ELEC. PLAN "CTE UNIT"

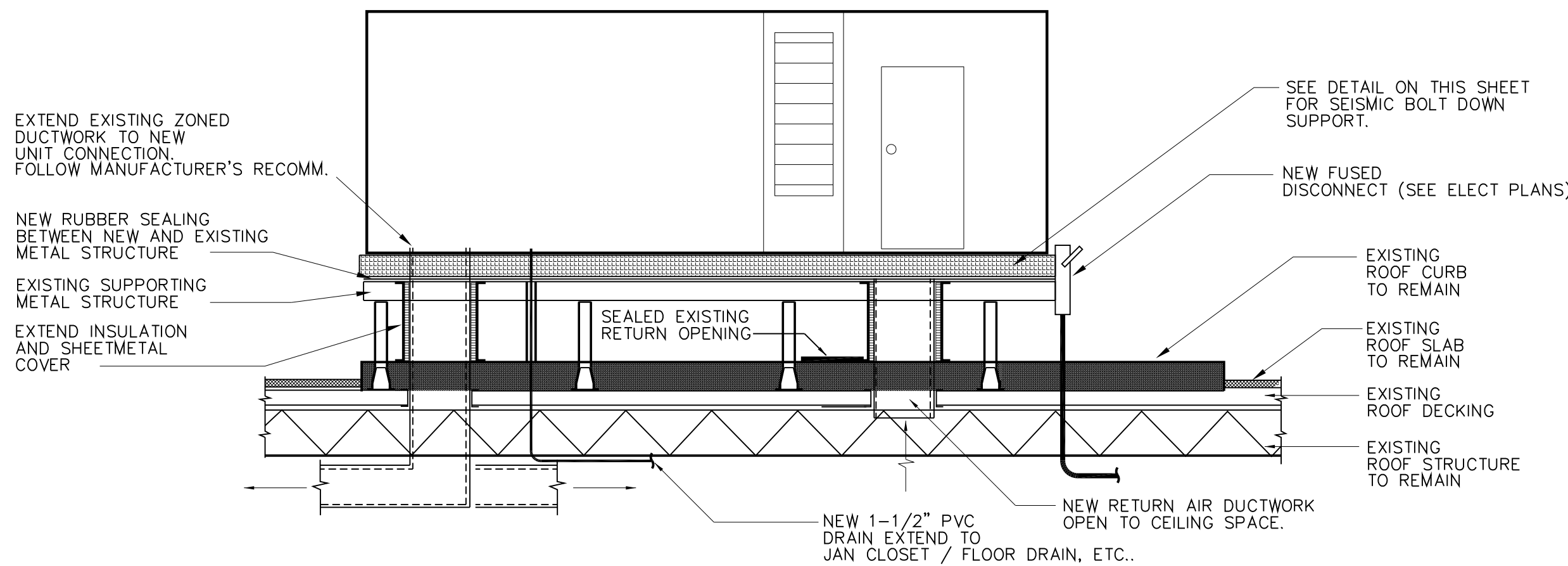
SHEET NUMBER	
ME1.2	
OF	



EXISTING MULTIZONE RTU DEMO. DETAIL

OTHER MULTIZONE DEMO. NOTES:

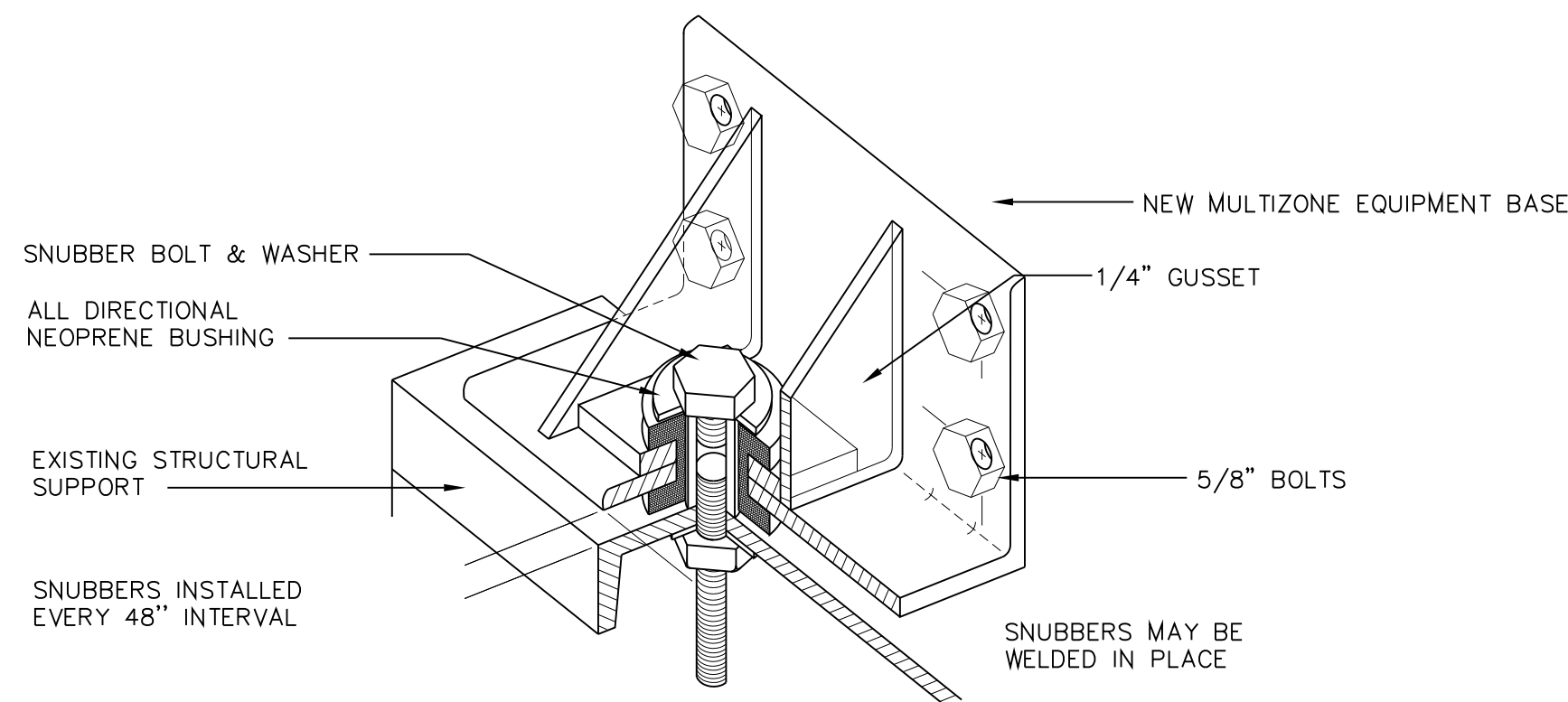
1. REMOVE ALL PVC CONDENSATE DRAIN PIPING.
2. REMOVE PORTION OF GAS PIPING CONNECTED TO EXISTING UNIT. PREPARE GAS LINE TO RECONNECT TO NEW MULTIZONE EQUIPMENT.



NEW MULTIZONE UNIT INSTALLATION

OTHER MULTIZONE NEW WORK NOTES:

1. INSTALL MULTIZONE UNIT ON EXISTING STRUCTURAL STEEL WITH NEW MANUFACTURER'S EQUIPMENT RAIL. INSTALL RUBBER GASKET BETWEEN THE TWO STEEL SUPPORT.
2. INSTALL NEW RETURN AIR DUCTWORK WITH FULL SIZE OF UNIT CONNECTION AND EXTENDED TO THE CEILING SPACE.
3. 1-1/2" PVC CONDENSATE PIPING TO ROUTE FROM UNIT TO THRU THE SPACE BELOW. EXPOSED AREA TO BE WRAPPED WITH 1" FIBERGLASS INSULATION AND A PVC JACKET OVER INSULATION.
4. DUCTWORK EXTENTIONS (SUPPLY AND RETURN) SHALL BE WRAPPED WITH 1" FIBERGLASS INSULATION WITH ADDITIONAL ALUMINUM SHEETMETAL JACKET.
5. PROVIDE STAIRSTEPS WITH EQUIPMENT FOR UNIT DOOR ACCESS.
6. RECONNECT GAS LINE WITH AN EXTERIOR SHUT-OFF VALVE TO MAIN UNIT CONNECTION.
7. INSTALL CONDENSING UNITS AND CONNECT REFRIGERANT LINES TO PROVIDED CONNECTIONS. FOLLOW MANUFACTURER'S RECOMMENDATIONS.
8. ALL EXPOSED REFRIGERANT LINES SHALL BE INSULATED WITH 1" BLACK FOAM INSULATION AND PVC JACKET.



SEISMIC SNUBBER

HVAC AIR HANDLER SCHEDULE

Tag		MZU-1	MZU-2	MZU-3	MZU-4	MZU-5	MZU-6	MZU-7	MZU-8	MZU-9	MZU-10
Manufacturer		CME	CME	CME	CME	CME	CME	CME	CME	CME	CME
Model Number		PMZ3	PMZ3	PMZ3	PMZ3	PMZ3	PMZ3	PMZ3	PMZ3	PMZ3	PMZ3
ZONES											
ZONE #1 TAG		Z-1-1	Z-2-1	Z-3-1	Z-4-1	Z-5-1	Z-6-1	Z-7-1	Z-8-1	Z-9-1	Z-10-1
SERVICE		Classroom G-300	Classroom G-312	Corr / Offices	Classroom G-113	Clrms G-115 / 117	Clrms G-301 / 202	Clrms G-208	C 114 / 215	Corr. / Bathrms	Breakroom
EQUIPMENT SIZE	Tons	3	4	5	3.5	5	5	3	4	3	3
Zone Dampers / # of Zones	Yes / No	No	No	No	No	Yes / 2	Yes / 2	No	No	No	No
Previous Number of Zones		2	2	4	2	2	2	2	1	2	1
Airflow	CFM	1200	1600	1925	1400	2000	2000	1200	1600	1200	1200
Outside air Flow	CFM	325	325	300	325	650	650	325	325	325	250
Fan Speed		Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Total Static Pressure	in H2O	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
ZONE #2 TAG		Z-1-2	Z-2-2	Z-3-2	Z-4-2	Z-5-2	Z-6-2	Z-7-2	Z-8-2	Z-9-2	Z-10-2
SERVICE		Sam's Office	Classroom G-310	Corr / Offices	Clrms G-101 / 103	Classroom G-112	Classroom G-200	C 206 / 303 / 305	C 110 / 213	Clrm T-210	Offices / Lobby
EQUIPMENT SIZE	Tons	3	4	3	5	4	3.5	TWINNED (2) 3	4	3	4
Zone Dampers / # of Zones	Yes / No	No	No	No	Yes / 2	Yes / 2	Yes / 2	No	Yes / 2	No	No
Previous Number of Zones		3	2	3	2	2	2	1	2	1	2
Airflow	CFM	1200	1600	1350	2000	1600	1400	3000	1600	1200	1200
Outside air Flow	CFM	250	325	300	650	325	400	650	325	325	250
Fan Speed		Low	Low	Low	Low	Low	Low	HI	Low	Low	Low
Total Static Pressure	in H2O	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
ZONE #3 TAG		Z-1-3	Z-2-3	Z-3-3	Z-4-3	Z-5-3	Z-6-3	Z-6-3	Z-8-3	Z-9-3	Z-10-3
SERVICE		Youth Service	Classroom G-304	Corr / Offices	Clrms G-109 / 111	Clrms G-216	Clrms G-204	Clsm G-307	Camp Lab 108 / 211	Clrm 212	Clrm 207
EQUIPMENT SIZE	Tons	5	3	3	5	3	3	3	TWINNED (2) 3	3	3
Zone Dampers / # of Zones	Yes / No	Yes / 2	No	No	Yes / 2	No	No	No	No	Yes / 2	No
Previous Number of Zones		2	1	3	2	1	1	1	1	2	1
Airflow	CFM	1900	1200	1050	2000	1200	1200	1000	3000	1200	1200
Outside air Flow	CFM	500	325	200	650	325	325	650	650	325	250
Fan Speed		Low	Low	Low	Low	Low	Low	Low	HI	Low	Low
Total Static Pressure	in H2O	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
ZONE #4 TAG		Z-1-4	Z-2-4		Z-4-4	Z-5-4	Z-6-4	Z-7-4	Z-8-4	Z-9-4	Z-10-4
SERVICE		Classroom G-302	Art G-306		Clrms G-105 / 107	Clrms G-311	Clrms G-201 / Conf	Clrms G-104 / 207	Clrms G-212 / 309	Clrm 213	Clrm 207
EQUIPMENT SIZE	Tons	3	3.5		5	3	5	5	5	3	3
Zone Dampers / # of Zones	Yes / No	No	No		Yes / 2	No	Yes / 2	Yes / 2	Yes / 2	No	No
Previous Number of Zones		1	1		2	1	3	2	2	1	1
Airflow	CFM	1500	1200		2000	1200	2000	2000	2000	1200	1200
Outside air Flow	CFM	325	325		650	325	400	650	650	325	250
Fan Speed		Low	Low		Low	Low	Low	Low	Low	Low	Low
Total Static Pressure	in H2O	0.75	0.75		0.75	0.75	0.75	0.75	0.75	0.75	0.75
ZONE #5 TAG		Z-1-5	Z-2-5				Z-6-5	Z-7-5	Z-8-5		
SERVICE		Catering G-315	Art G-308				Clrms G-205 / 102	Clsm G-210	Clsm G-210		
EQUIPMENT SIZE	Tons	5	3				5	4	5		
Zone Dampers / # of Zones	Yes / No	No	No				Yes / 2	Yes / 2	No		
Previous Number of Zones		1	1				2	2	2		
Airflow	CFM	1200	1200				2000	1600	2000		
Outside air Flow	CFM	200	325				650	350	350		
Fan Speed		Low	Low				Low	Low	Low		
Total Static Pressure	in H2O	0.75	0.75				0.75	0.75	0.75		
ZONE #6 TAG							Z-6-6	Z-7-6			
SERVICE							Clrms G-205 / 102	Clrms G-106 / 209			
EQUIPMENT SIZE	Tons						5	5			
Zone Dampers / # of Zones	Yes / No						Yes / 2	Yes / 2			
Previous Number of Zones							2	2			
Airflow	CFM						2000	2000			
Outside air Flow	CFM						650	650			
Fan Speed							Low	Low			
Total Static Pressure	in H2O						0.75	0.75			
Heating Section											
Entering Air Temp DB	F	60	60	60	60	60	60	60	60	60	60
Leaving Air Temp DB	F	95	95	95	95	95	95	95	95	95	95
TYPE		GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS
3 & 4 Ton Units											
Input Capacity (2-stages)	BTU/hr	88,000	88,000	88,000	88,000	88,000	88,000	88,000	88,000	88,000	88,000
Output Capacity	BTU/hr	84,000	84,000	84,000	84,000	84,000	84,000	84,000	84,000	84,000	84,000
5 Ton Units											
Input Capacity (2-stages)	BTU/hr	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000
Output Capacity	BTU/hr	103,000	103,000	103,000	103,000	103,000	103,000	103,000	103,000	103,000	103,000
Electrical											
VOLTAGE	Volts/Phase	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3
MCA	Amps	109	101	66	98	87	115	141	130	76	80
MOP	Amps	125	125	80	100	100	125	150	150	80	90
NOTE:											
1. MULTIZONES WITH NATURAL GAS HEATING SECTION AND ONE POINT CONNECTION UNIT CONNECTION.											
2. EACH INDIVIDUAL ZONE UNIT WITH 2" PLEATED MEDIA WITH HINGED ACCESS DOORS.											
3. EACH INDIVIDUAL ZONE UNIT SHALL BE DUAL FUEL TYPE AND CONTROLS.											
4. EACH INDIVIDUAL ZONE UNIT SHALL ECONOMIZER VENTILATION AT ENTHALPHY OF 44 DEG.											
5. CONTROLS WITH FACTORY INSTALLED OPEN PROTOCOL FOR TRANE TRACER SUMMIT CONNECTION.											

CONTROLS SEQUENCE OF OPERATION

CAMPUS CONTROL SYSTEM:

MAIN CAMPUS CONTROL SYSTEM IS TRANE TRACER ES. THIS SYSTEM TO BE PROGRAMMED AND UPGRADED AS NECESSARY TO CONTROL NEW MULTI-ZONE ROOF TOP UNITS FOR THE HIGH SCHOOL.

CAMPUS LEVEL CONTROLS:

TRACER ES TO INCLUDE NEW GRAPHICS FOR THIS PROJECT.
GRAPHICS SHALL INDICATE LIVE TEMPERATURE LEVEL FOR EACH THERMOSTAT LOCATION.
EACH MULTIZONE SHALL BE IDENTIFIED WITH MULTIPLE SPLIT SYSTEMS WITHIN.
EACH SPLIT SYSTEM OPERATION SHALL BE AVAILABLE AS FOLLOWS:

OPERATION MODE: (COOLING, HEATING IN HEAT PUMP MODE, HEATING IN GAS MODE, ECONOMIZER, DEHUMIDIFICATION, ETC.)
DISCHARGE AIR TEMPERATURE
OUTSIDE AIR TEMPERATURE
RETURN AIR RELATIVE HUMIDITY
EQUIPMENT HI/LOW TEMP ALARMS
EQUIPMENT HI/LOW PRESSURE ALARMS
EQUIPMENT OPERATION ALARMS

EQUIPMENT SETPOINTS AT CAMPUS LEVEL:
SCHEDULING OF EQUIPMENT OPERATION
OPERATION TEMPERATURE SETTINGS

LOCAL TEMPERATURE SETTINGS:

SPACE TEMPERATURE THERMOSTAT WITH DIAL FOR NORMAL / HIGHER TEMPERATURE / LOWER TEMPERATURE SETTING.

TEMPERATURE CONTROL CONTRACTOR COORDINATION:

TEMPERATURE CONTROL CONTRACTOR TO COORDINATE WITH MULTIZONE EQUIPMENT PROVIDER TO INCLUDE ALL CONTROLS PARTS AS NECESSARY FOR FACTORY INSTALLATION AT MULTIZONE LEVEL.
IT WILL BE TEMPERATURE CONTROL CONTRACTORS RESPONSIBILITY FOR FULL CONTROL SYSTEM OPERATION OF THIS PROJECT.

DIFFUSER, GRILLE, & REGISTER SCHEDULE

UNIT NO.	FRAME SIZE	NECK SEE	TYPE	LOCATION & MOUNTING	MATERIAL	FINISH	MODEL NO.	NOTES
SD-1	24X24	SEE PLAN	LOUVERED FACE	CEILING / LAY-IN	ALUM	OFF-WHITE	DAT	1,2,3
RG-1	24" X 24"	SEE PLAN	PERFORATED	CEILING / LAY-IN	ALUM	OFF-WHITE	PAR	1

NOTES:

1. BASED ON TITUS
2. DAT SUPPLY DIFFUSERS SHALL HAVE 1 LOUVER FOR 6" AND 3 LOUVERS FOR 8", 10" AND 12" NECK SIZES.
3. PROVIDE DIFFUSER WITH ABOVE CEILING COVER INSULATION.

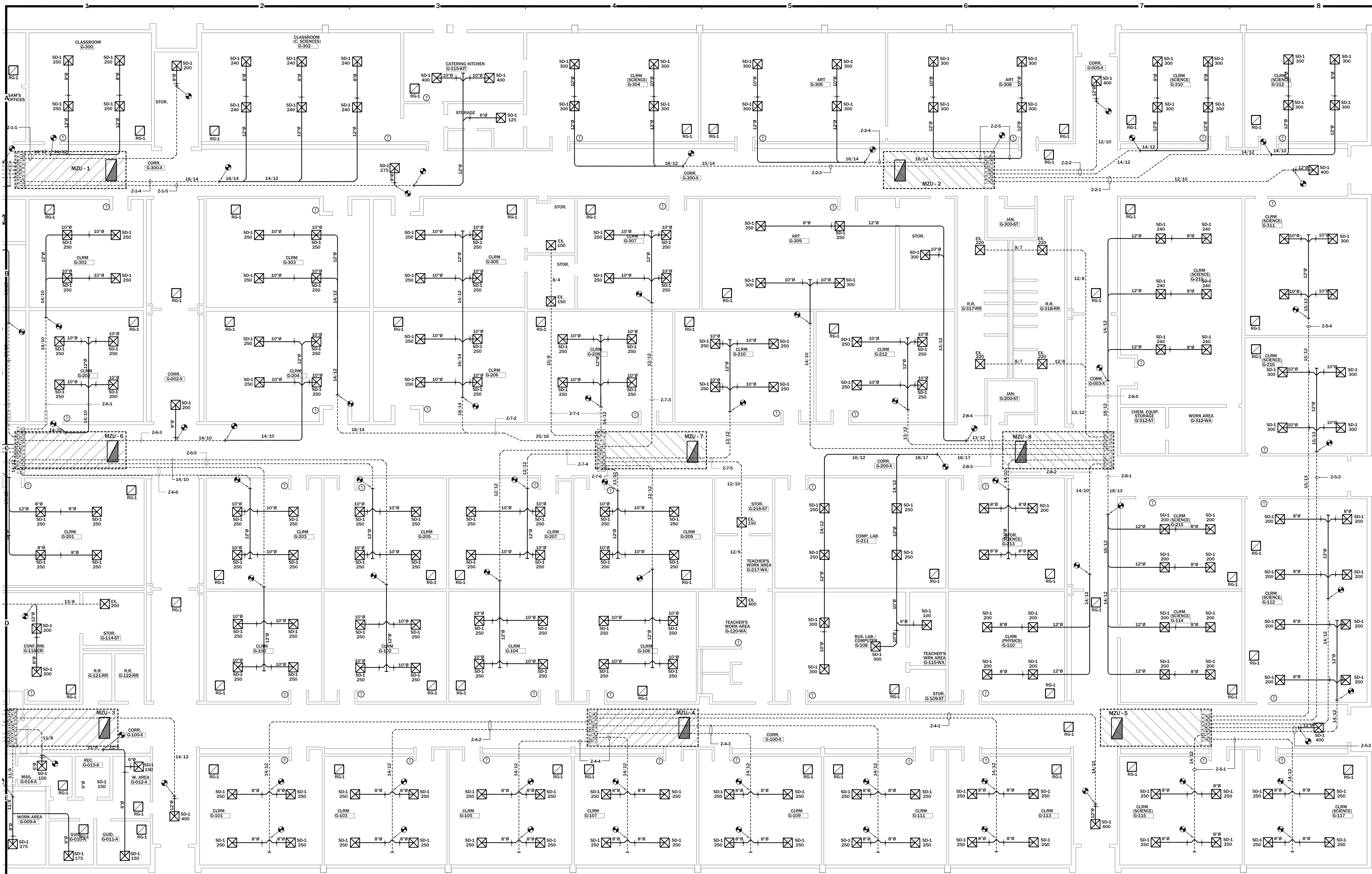
PIPING, DUCTWORK AND INSULATION SCHEDULE

MULTIZONE DRAIN PIPING.

ALL MULTIZONE UNITS WILL BE PROVIDED WITH THE UNIT DRAIN AT THE FLOOR PENETRATION OF THE UNIT.
THIS DRAIN (TYPICALLY 1-1/2", BUT VERIFY) SHALL BE CONNECTED TO A PVC PIPING AND ROUTED THRU THE BUILDING TO NEAREST JANITOR'S CLOSET DISCHARGE POINT. INSULATE SMALL EXPOSED SECTION BELOW UNIT WITH 1" BLACK FOAM INSULATION AND A PVC JACKET OVER INSULATION.
NO INSULATION IS NEEDED WITHIN THE BUILDING.

DUCTWORK AND AIR DEVICES INSULATION.

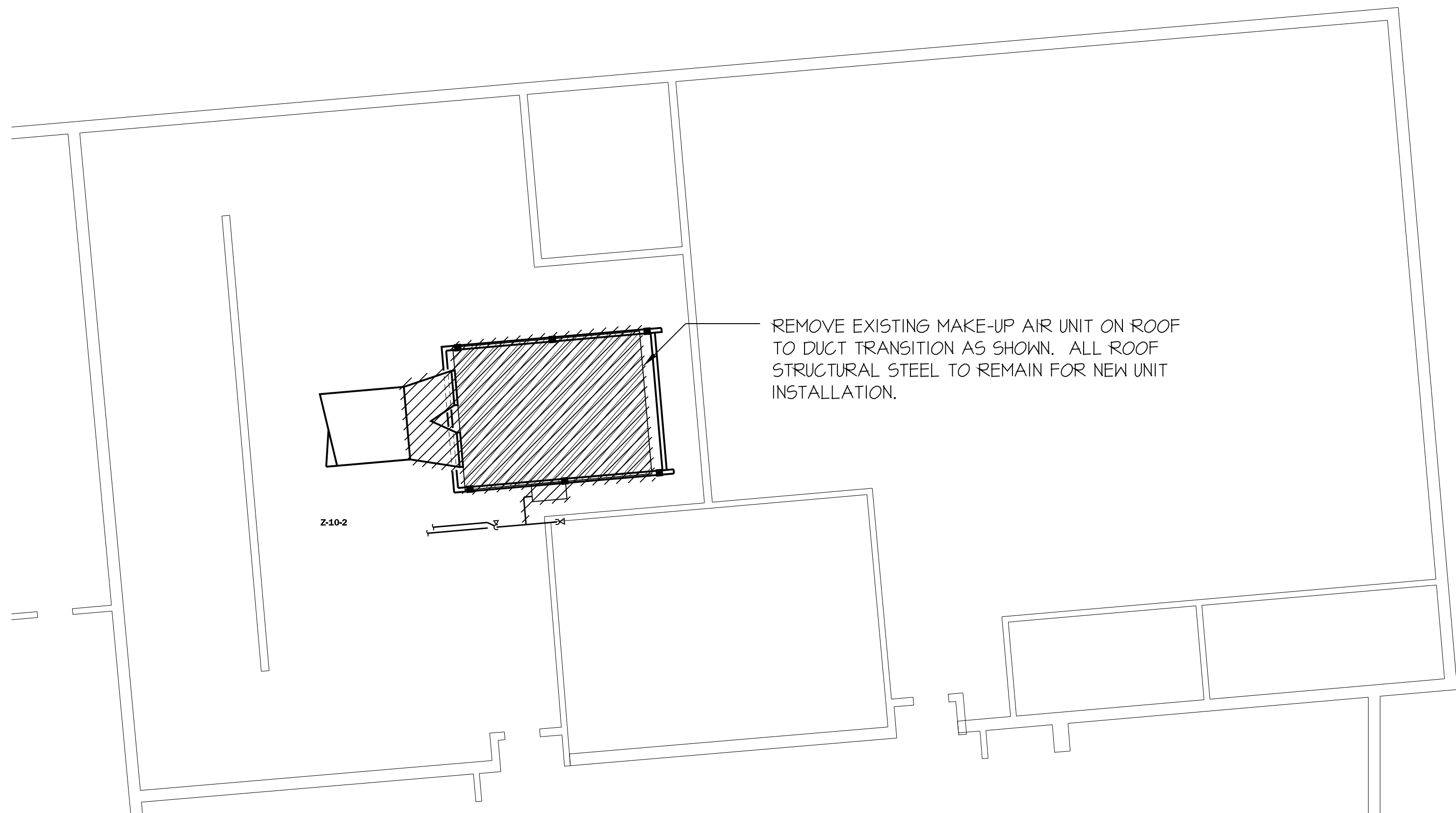
DUCTWORK AS PER LATEST SMACNA GUIDELINES FOR LOW PRESSURE SYSTEM.
INSULATED ALL NEW DUCTWORK (SUPPLY, RETURN, EXHAUST, OUTSIDE AIR) WITH DOUBLE BUBBLE WRAP TYPE (R-6)
ALL DIFFUSERS AND GRILLES SHALL HAVE ABOVE DIFFUSER MOLDED INSULATION ON FACE PLATES.



NEW HVAC PLAN "GREEN UNIT"
SCALE: 1/8" = 1'-0"



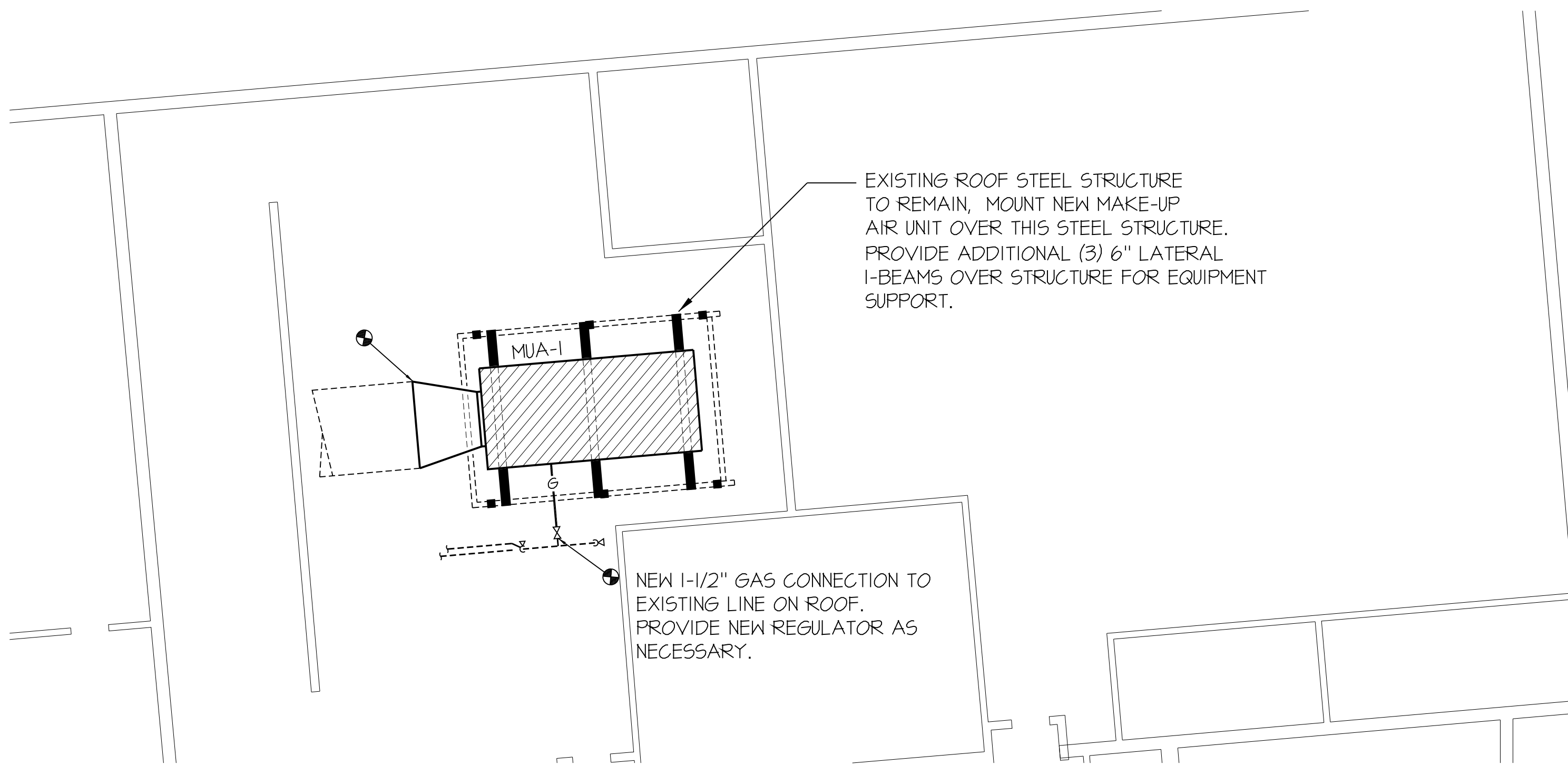
- HVAC MAKE-UP AIR DEMOLITION NOTES:
- 1 REMOVE EXISTING MAKE UP AIR UNIT OVER WELDING SHOP, WITH ASSOCIATED POWER, CONTROLS, ETC.. KEEP UNIT STRUCTURAL BASE FOR NEW UNIT CONNECTION.
 - 2 REMOVE GAS PIPING TO THE POINT OF MAIN CONNECTION. INSTALL NEW SHUT OFF VALVE AND PREPARE FOR NEW UNIT INSTALLATION.



WELDING SHOP MAKE-UP AIR DEMO PLAN

SCALE: 1/8"=1'-0"

- HVAC MAKE-UP AIR UNIT NOTES:
- 1 NEW UNIT AS PER SCHEDULE ON THIS SHEET BE INSTALLED OVER EXISTING STRUCTURAL STEEL. PROVIDE ADDITIONAL SUPPORT AS NOTED BETWEEN UNIT AND EXISTING STEEL STRUCTURE ON THE ROOF.
 - 2 TRANSITION AND RECONNECT DUCTWORK TO EXISTING DUCT OVER THE ROOF. DUCTWORK SHALL BE DOUBLE WALL CONSTRUCTED WITH ALUMINUM EXTERIOR FINISH. PROVIDE 2" RUBBER EQUIPMENT CONNECTION AT EQUIPMENT DUCT DISCHARGE.
 - 3 GAS LINE SHALL BE BLACK STEEL WITH SHUT OFF VALVE AND REGULATOR AS NECESSARY. PAINT NEW GAS PIPING YELLOW WEATHER PAINT.
 - 4 INSTALL NEW CONTROLS AT SPACE FOR MANUAL START / STOP AND HEATER START / STOP. HEATER WITH SPACE CONTROL THERMOSTAT AND SENSOR FOR AUTOMATIC SHUT OFF WHEN SPACE TEMPERATURE RISE ABOVE SET-POINT. LOCATE NEW CONTROLS AT THE SAME LOCATION OF PREVIOUS UNITS CONTROL. ALL NEW WIRES ENCLOSED IN NEW CONDUITS.

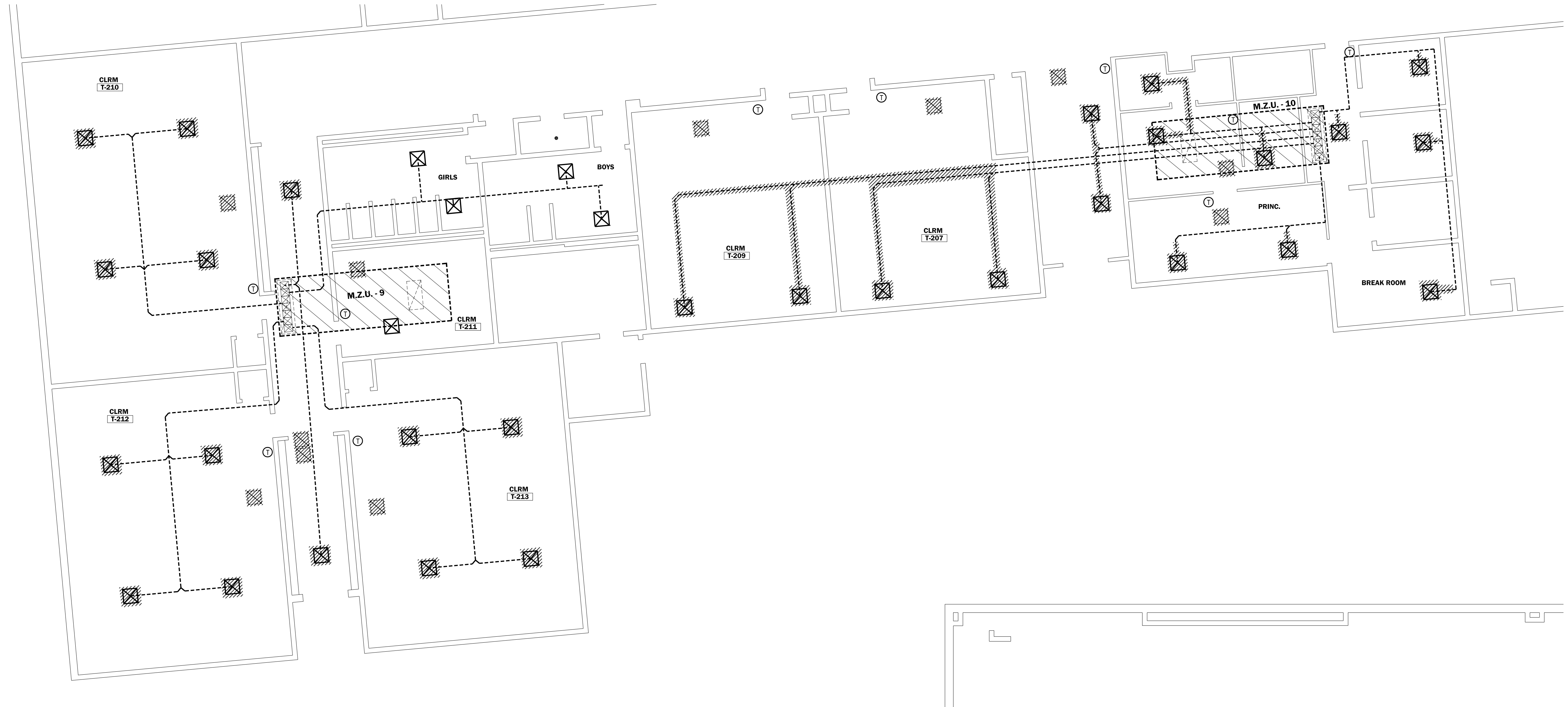


WELDING SHOP MAKE-UP AIR NEW PLAN

SCALE: 1/8"=1'-0"

MAKE UP AIR UNIT SCHEDULE								
UNIT NO.	CFM	T.S.P. (INCHES WG)	ELECTRICAL CHARACTERISTICS		GAS HEATER		MODEL NO.	NOTES
			HP	VOLTS / PHASE	BTU INPUT	GAS SIZE		
MUA-1	12000	0.75"	10	208 / 3	1,200	1.5"	DG-120-H30	1
NOTES: 1. BASED ON GREENHECK MAKE-UP AIR UNIT. UNIT WITH RAIN HOOD, BIRD SCREEN, THROW-AWAY FILTERS, INLET AND OUTLET DAMPERS, AND STANDARD GAS CONTROL ASSEMBLY.								

- HVAC DEMOLITION NOTES:
- 1 REMOVE MULTIZONE UNIT WITH ASSOCIATED POWER, CONTROLS, WIRING, ETC..
 - 2 REMOVE ALL ZONE THERMOSTATS AND SEAL WALL OPENING AND PAINT TO MATCH EXISTING WALL COLOR. COORDINATE SEALING AND PAINTING WITH NEW LOCATION OF THERMOSTATS SHOWN ON M2 SHEETS
 - 3 REMOVE ALL HATCHED CEILING DIFFUSERS AND DUCTWORK AS SHOWN ON THE PLAN.
 - 4 MAKE READY ALL DUCTWORK FOR NEW UNIT AND CEILING DIFFUSER CONNECTION.



HVAC DEMO PLAN "CTE UNIT"
SCALE: 1/8"=1'-0"



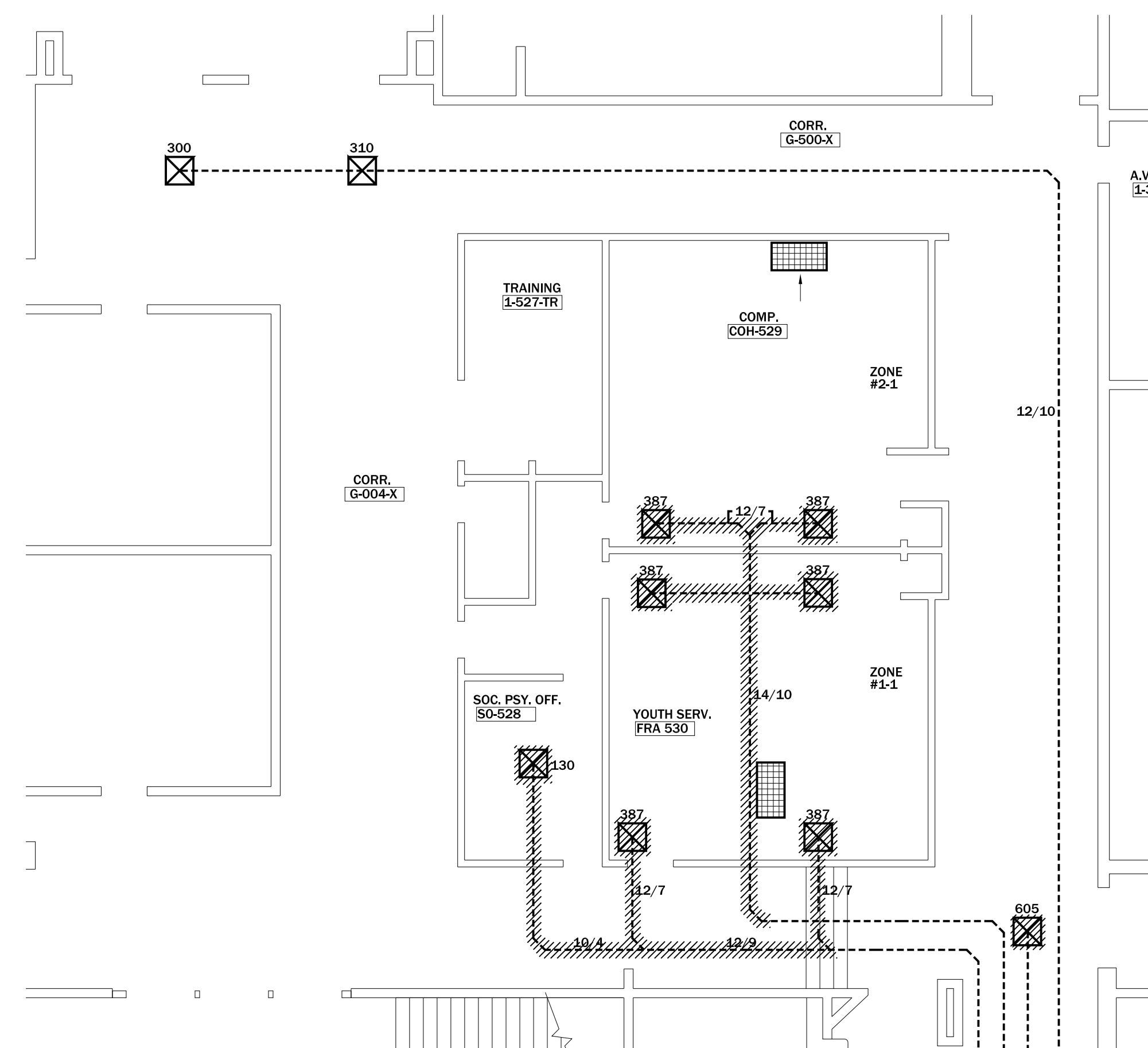
HVAC NEW PLAN "CTE UNIT"
SCALE: 1/8"=1'-0"

REVISIONS	DATE	NO.

YTD2	NO.	DATE

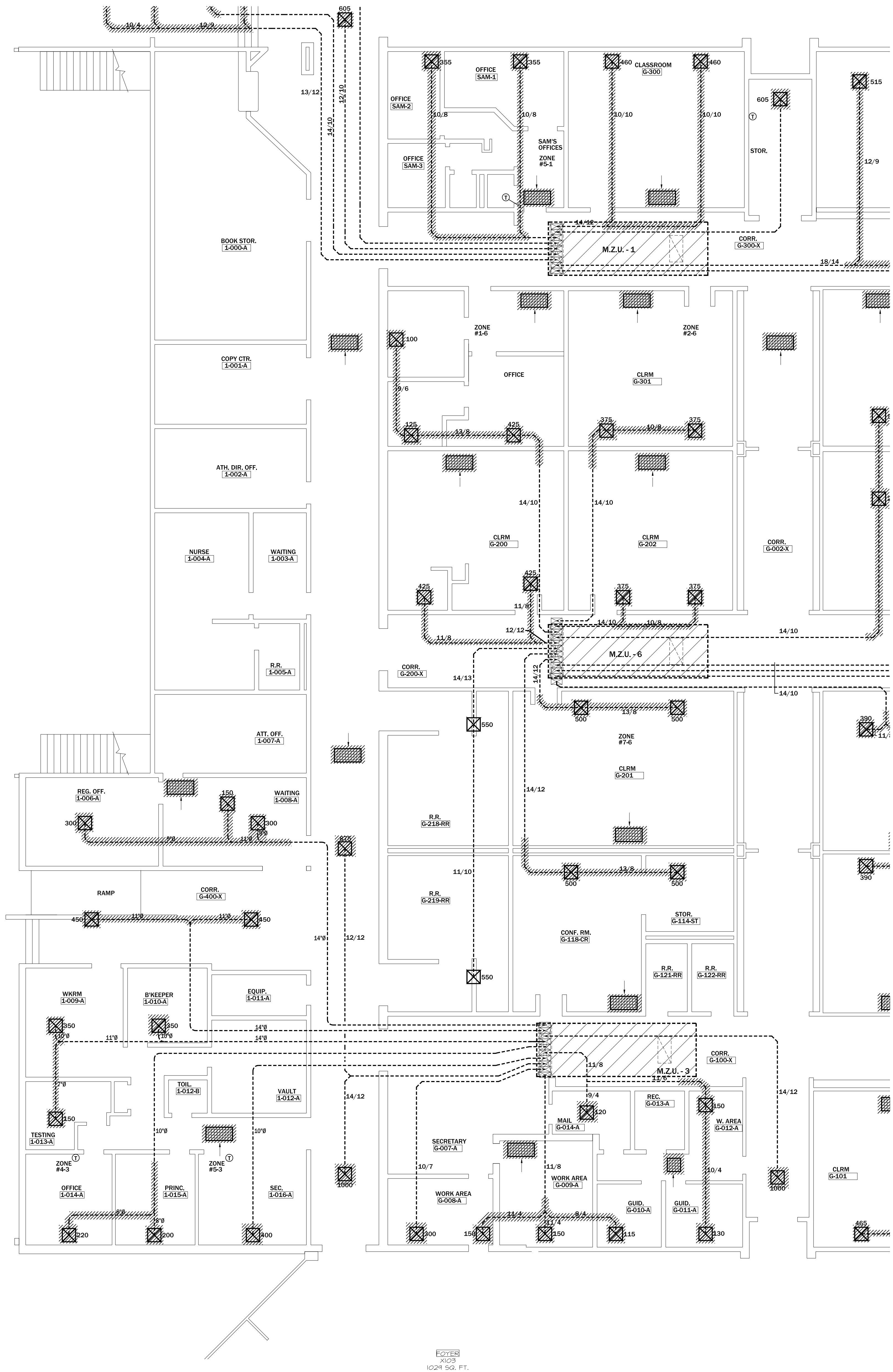
YTD2	NO.	DATE

YTD2	NO.	DATE

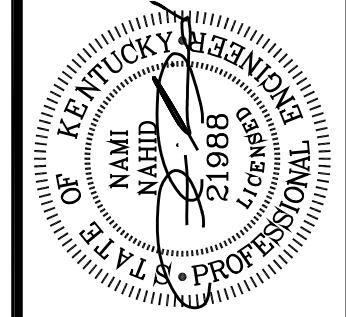


EXISTING HVAC PLAN
SCALE: 1/8" = 1'-0"

- HVAC DEMOLITION NOTES:
- 1 REMOVE MULTIZONE UNIT WITH ASSOCIATED POWER, CONTROLS, WIRING, ETC..
 - 2 REMOVE ALL ZONE THERMOSTATS AND SEAL WALL OPENING AND PAINT TO MATCH EXISTING WALL COLOR. COORDINATE SEALING AND PAINTING WITH NEW LOCATION OF THERMOSTATS SHOWN ON H2 SHEETS
 - 3 REMOVE ALL HATCHED CEILING DIFFUSERS AND DUCTWORK AS SHOWN ON THE PLAN.
 - 4 MAKE READY ALL DUCTWORK FOR NEW UNIT AND CEILING DIFFUSER CONNECTION.



EXISTING HVAC PLAN "GREEN UNIT"
SCALE: 1/8" = 1'-0"

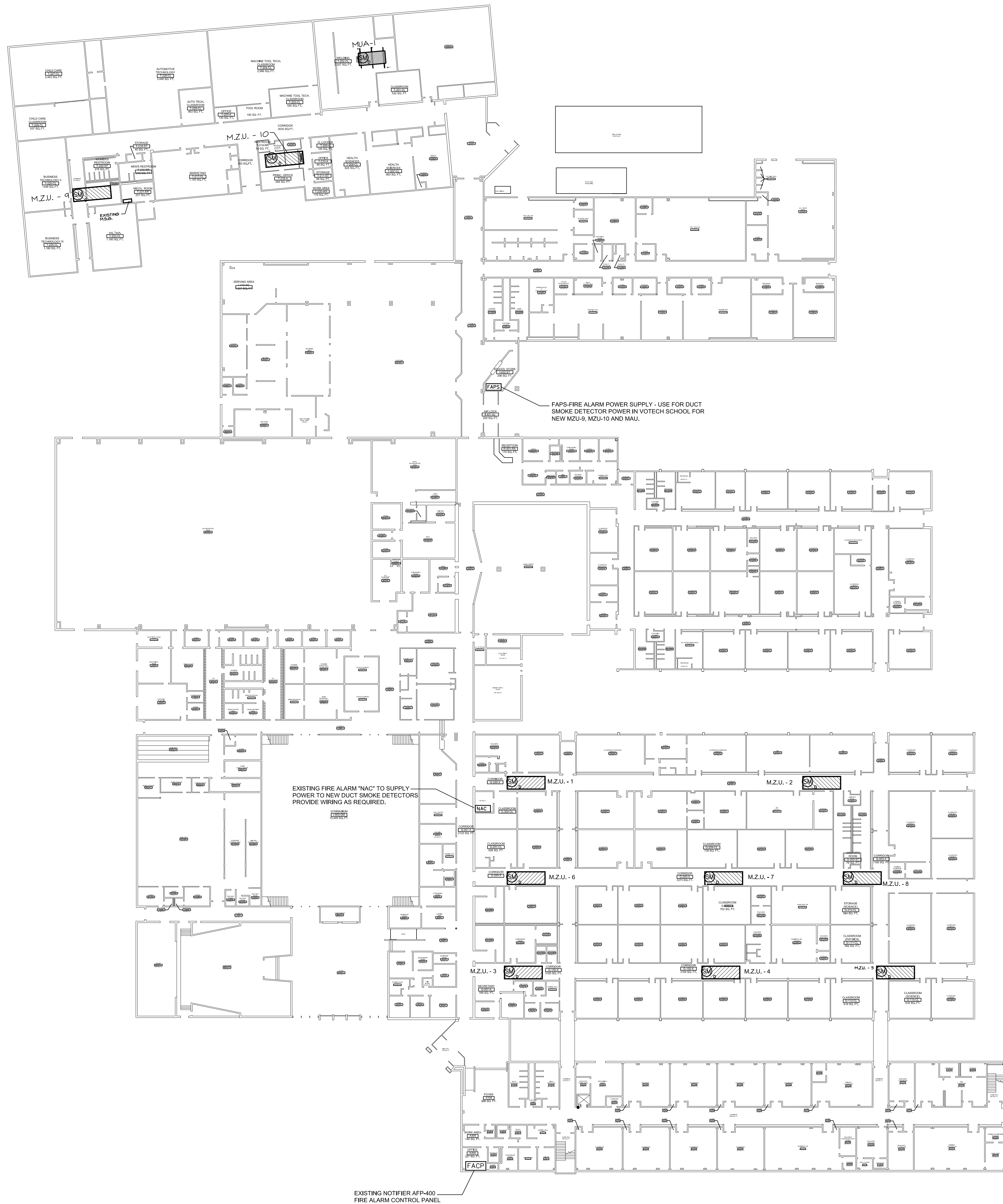


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YTD2	DATE	NO.

HENDERSON COUNTY HIGH SCHOOL
HENDERSON, KENTUCKY
HVAC UPGRADES - 2011
GREEN UNIT HVAC DEMO PLAN "SHEET 1"



SYSTEMS SYMBOL LEGEND

SM

..... DUCT SMOKE DETECTOR PROVIDED BY MECHANICAL w/ UNITS

FAPS

..... FIRE ALARM POWER SUPPLY TO BE PROVIDED BY CONTRACTOR.

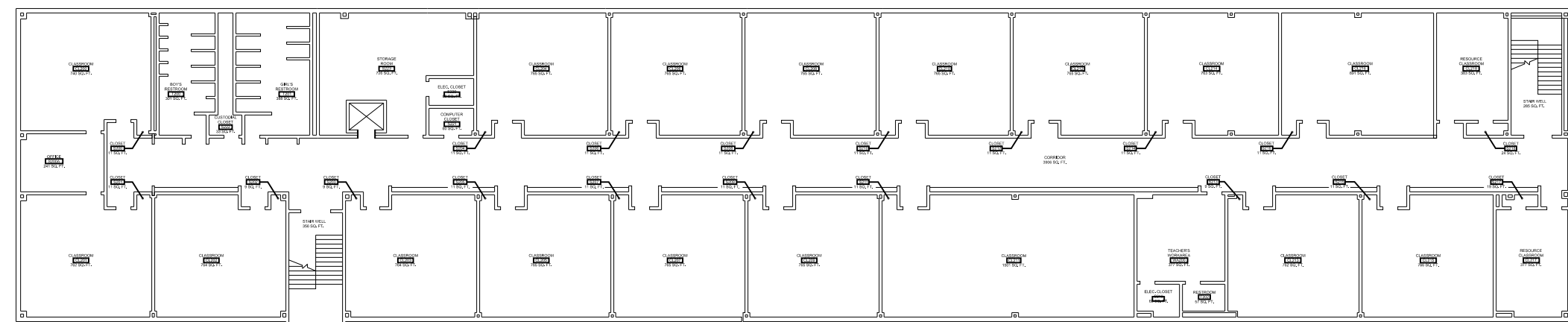
FACP

..... FIRE ALARM CONTROL PANEL

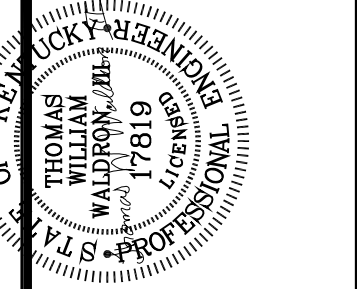
NAC

..... EXISTING "NAC" POWER EXTENDER

CONTRACTOR SHALL CONNECT EXISTING NOTIFIER AFP-400 PANEL TO DUCT SMOKE DETECTORS PROVIDED IN UNITS. CONTRACTOR TO INCLUDE FIRE ALARM POWER SUPPLY AND ASSOCIATED WIRING FOR DUCT DETECTORS. CONTRACTOR TO CONNECT FANS IN MECHANICAL UNITS FOR SHUTDOWN BY DUCT DETECTOR.



1 OVERALL FLOOR PLAN
SCALE 1/32" = 1'-0"



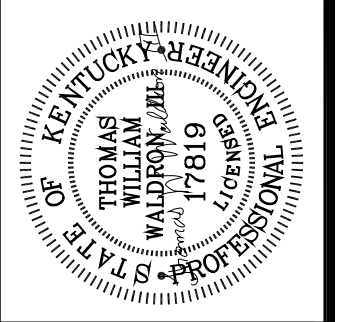
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REVISIONS	JOB NUMBER	DATE
NO.	Y102	APRIL 1, 2011
DATE	DRAWN BY	MS
	CHECKED BY	TV3

HENDERSON COUNTY HIGH SCHOOL
HENDERSON, KENTUCKY
HVAC UPGRADES - 2011
OVERALL PARTIAL FIRE ALARM PLAN



HVAC ELECTRICAL PLAN
SCALE: 1/8"=1'-0"



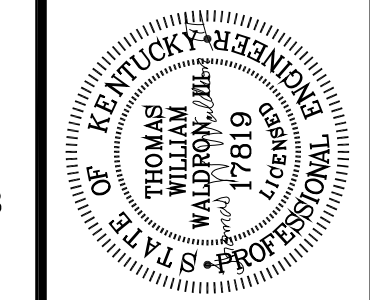
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DESIGNED BY: W.M. THOMAS
CHECKED BY: W.M. THOMAS
DATE: APRIL 1, 2011

JOB NUMBERS		Y102	MS	TW3
DESIGNED BY		W.M. THOMAS	W.M. THOMAS	W.M. THOMAS
CHECKED BY		W.M. THOMAS	W.M. THOMAS	W.M. THOMAS
DATE		APRIL 1, 2011	APRIL 1, 2011	APRIL 1, 2011

HENDERSON COUNTY HIGH SCHOOL
HENDERSON, KENTUCKY
HVAC UPGRADES - 2011
CTE UNIT HVAC POWER PLAN



HVAC ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"



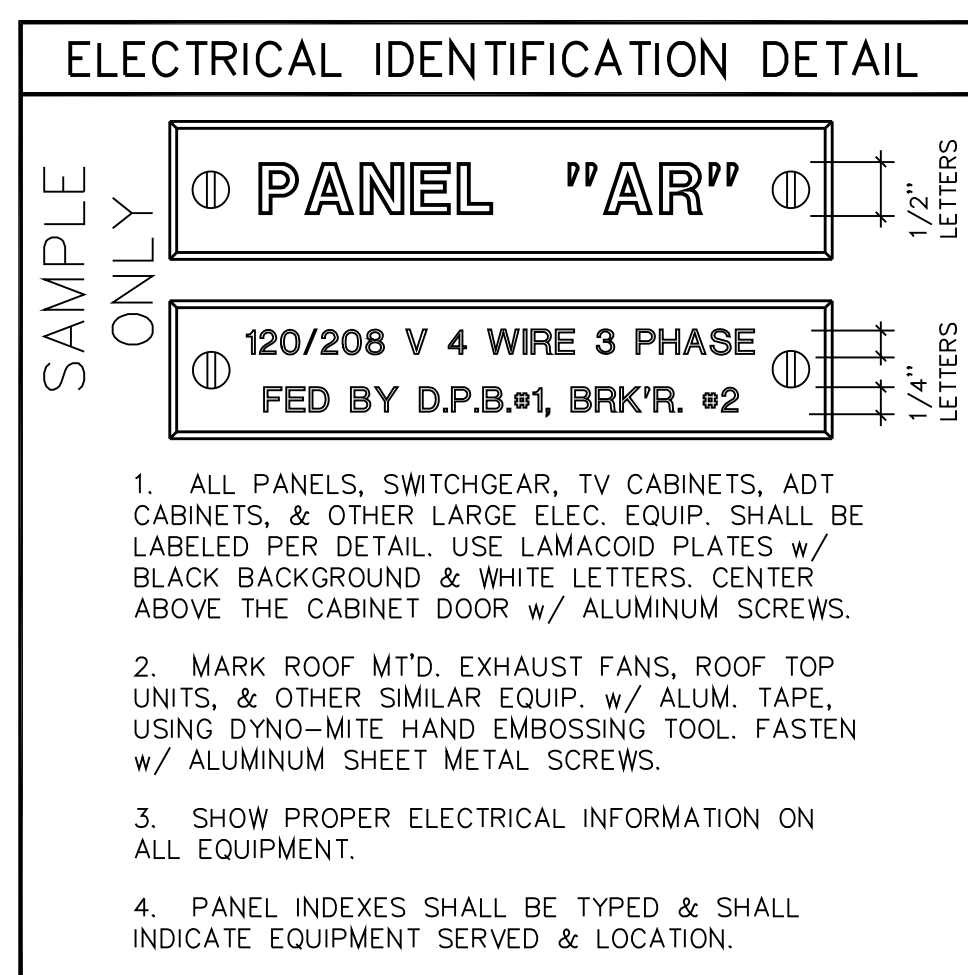
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REVISIONS	NO.	DATE

HENDERSON COUNTY HIGH SCHOOL
HENDERSON, KENTUCKY
HVAC UPGRADES - 2011
GREEN UNIT HVAC POWER PLAN "SHEET 2"

H.V.A.C. ELECTRICAL SCHEDULE					
MARK	F.L.A.	VOLT/PHASE	WIRE/CONDUIT	DISC. / FUSE	BREAKER/CIRCUIT
MZU-1	87A	208V 3PH	EX. #3/0 / EX. CONDUIT	200A 3P F125	125A 3P / DPB "D"-4
MZU-2	81A	208V 3PH	EX. #3/0 / EX. CONDUIT	200A 3P F125	125A 3P / DPB "E"
MZU-3	53A	208V 3PH	EX. #3/0 / EX. CONDUIT	200A 3P F80	80A 3P / DPB "D"-5
MZU-4	78A	208V 3PH	EX. #3/0 / EX. CONDUIT	200A 3P F100	100A 3P / DPB "E1"
MZU-5	70A	208V 3PH	EX. #3/0 / EX. CONDUIT	200A 3P F100	100A 3P / DPB "E1"
MZU-6	92A	208V 3PH	EX. #3/0 / EX. CONDUIT	200A 3P F125	125A 3P / DPB "D"-6
MZU-7	113A	208V 3PH	EX. #3/0 / EX. CONDUIT	200A 3P F150	150A 3P / DPB "E"
MZU-8	104A	208V 3PH	EX. #3/0 / EX. CONDUIT	200A 3P F150	150A 3P / DPB "E"
MZU-9	61A	208V 3PH	4 # 4 THHN/ EX. CONDUIT	100A 3P F80	80A 3P / MSG
MZU-10	64A	208V 3PH	4 # 3 THHN / EX. CONDUIT	100A 3P F90	100A 3P / MSG
MAU-1	32A	208V 3PH	4 # 4 THHN 1" C.	100A 3P F70	80A 3P / MSG



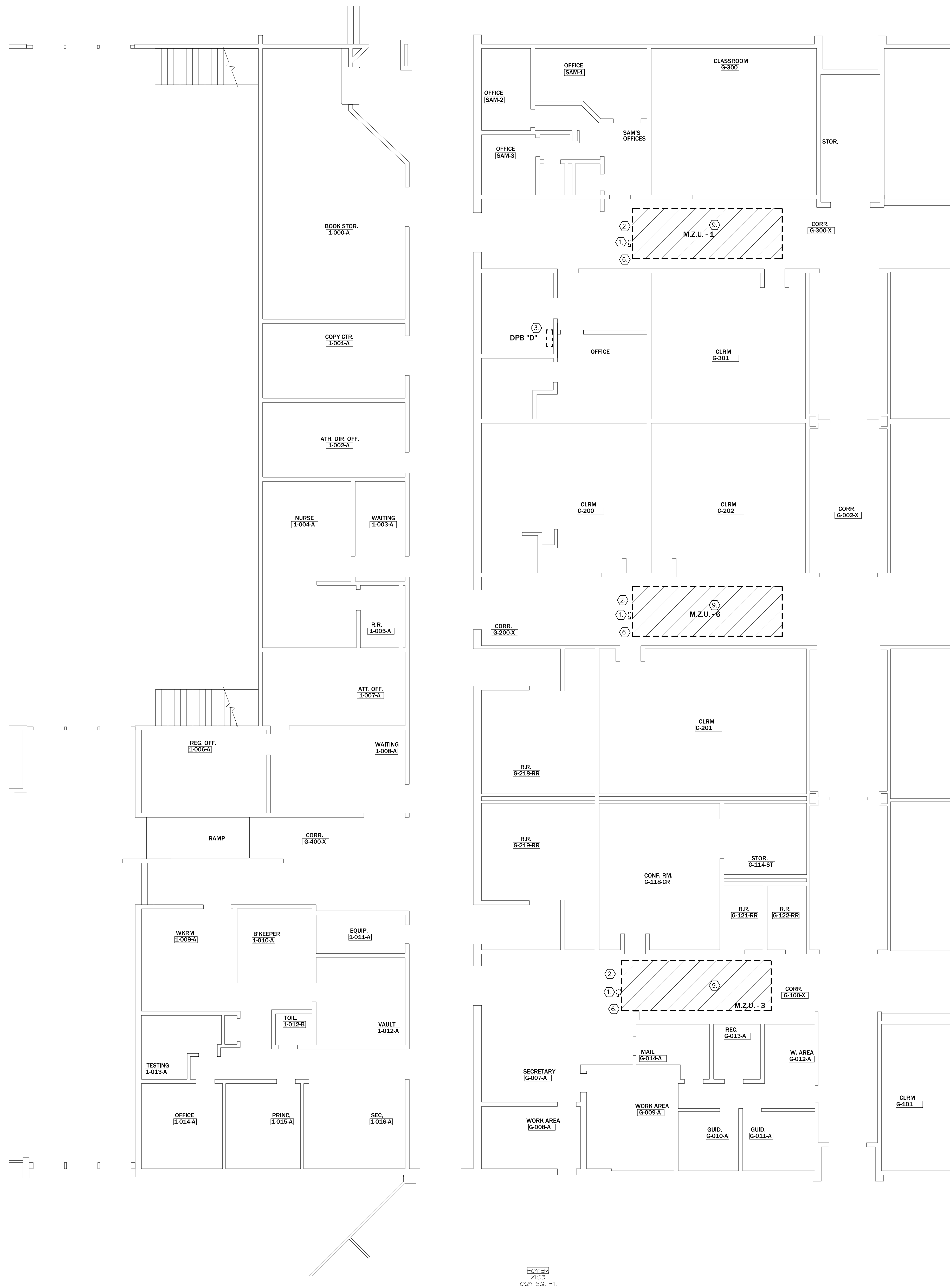
DISTR. PANELBOARD					"DPB-D"	
120/208 VOLT 3 ϕ 4 W TYPE I-LINE						
800 AMP ☒ BOLT-LOC ☐ MAIN BRK'R.						
MARK	FRAME AMP	TRIP AMP	POLE	MINIMUM A.I.C.	EQUIP. SERVED	LOAD AMP
1	225A	225A	3P	22,000	EXISTING EQUIP.	-
2	100A	100A	3P	18,000	EXISTING EQUIP.	-
3	100A	100A	3P	18,000	EXISTING EQUIP.	-
4	225A	125A	3P	22,000	MZU-1	87A
5	100A	80A	3P	18,000	MZU-3	53A
6	225A	125A	3P	22,000	MZU-6	92A
7	225A	200A	3P	22,000	SPARE	-
8	100A	100A	3P	18,000	SPARE	-
9	225A	-	3P	-----	SPACE w/ PROV.	-
10	100A	-	3P	-----	SPACE w/ PROV.	-

ELECTRICAL TAG NOTES

1. ELECTRICAL CONTRACTOR TO REMOVE FUSIBLE DISCONNECT AND CONNECTION TO UNIT. EXISTING CONDUIT AND CONDUCTORS TO REMAIN.
2. INSTALL NEW NEMA 3P 200A 3P FUSIBLE DISCONNECT w/ FUSE REDUCER @ SAME LOCATION. FIELD VERIFY LOCATION, UTILIZE EXISTING CONDUIT & CONDUCTORS. SEE SCHEDULE FOR FUSE SIZE. NEW DISCONNECTS MUST ACCOMMODATE 3/0" CONDUCTORS.
3. EXISTING 800A DPB "D" TO BE REPLACED w/ NEW, COMPLETE w/ BREAKERS & MOUNTING HARDWARE, VERIFY SIZE & NUMBER OF BREAKERS IN FIELD. BREAKERS SERVING EXIST. MZU-1, 3, & 6 WILL BE EXCHANGED WITH (2) 125A 3P & (1) 80A 3P BRKR'S. PROVIDE ADDITIONAL SPARE 200A 3P AND 100A 3P BREAKER. CONNECT & LABEL. SEE SCHEDULE.
4. EXISTING PANEL "E", REMOVE (3) 225A 3P BREAKERS SERVING EXISTING HVAC UNITS MZU-2, 7 & 8. INSTALL NEW BREAKERS TO SERVE NEW UNITS MZU-2, MZU-7 & MZU-8. (2) 150A 3P & (1) 125A 3P BREAKERS. CONNECT & LABEL. PROVIDE LUGS TO ACCOMMODATE EXISTING WIRE(SIZE 2/50).
5. EXISTING PANEL "E1", REMOVE (2) 225A 3P BREAKERS SERVING EXISTING HVAC UNITS MZU-4 & MZU-5. INSTALL NEW BREAKERS TO SERVE NEW UNITS MZU-4 & MZU-5. (2) 100A 3P BREAKERS. CONNECT & LABEL. PROVIDE LUGS TO ACCOMMODATE EXISTING WIRE(S) 3/0".
6. CONTRACTOR TO PROVIDE 120V GFI WEATHERPROOF RECEPTACLE @ EACH MZU. EXTEND 3 # 12 THIN DOWN TO NEAREST 120V POWER SOURCE, NOT TO EXCEED 13.8 AMPS PER CIRCUIT.
7. EXISTING MAIN SWITCHGEAR. REPLACE BREAKERS SERVING MZU-9, MZU-10 AND MAU w/ (2) 80A 3P AND (1) 100A 3P BREAKERS. SEE HVAC ELECTRICAL SCHEDULE FOR WIRE SIZE. UTILIZE EXISTING CONDUIT. CONNECT & LABEL.
8. INSTALL NEW NEMA 3P 100A 3P FUSIBLE DISCONNECT @ SAME LOCATION. FIELD VERIFY LOCATION, UTILIZE EXISTING CONDUIT. SEE HVAC ELECTRICAL SCHEDULE FOR FUSE & WIRE SIZE. CONNECT TO NEW BREAKER IN M.S.G. LABEL.
9. MULTIZONE UNITS PROVIDED WITH SMOKE DETECTOR SYSTEM. ELECTRICAL CONTRACTOR TO WIRE SMOKE DETECTORS FOR THEIR EQUIPMENT TO EXISTING FIRE ALARM PANEL. FIRE ALARM PANEL TO BE REPROGRAMMED FOR THE ADDITIONAL DEVICES. FIELD VERIFY LOCATION OF FACP.

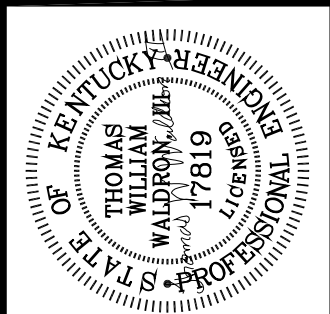
ELECTRICAL GENERAL NOTES

1. ALL CONDUITS FOR PANEL FEEDERS, EQUIPMENT FEEDERS & X-FORMER FEEDERS SHALL HAVE INSULATED GROUNDING BUSINGS EQUAL TO 0.2 TYP. "BL" WHERE ENTERING & / OR LEAVING THE EQUIPMENT ENCLOSURE. ALL FEEDER CONDUITS SHALL BE INSULATING TO ENCLOSURES, SIZE AS REQUIRED BY N.E.C. (# 8 AWG MIN.) ALL CONDUITS TO THE MAIN SWITCHGEAR SHALL BE BONDED TOGETHER TO THE BUS BAR GROUND.
2. PROTECT MOTORS 1/2 HP. OR LESS W/ BUSSMANN "SSU" UNIT, FUSED AS REQUIRED BY N.E.C. (120V ONLY).
3. TO AVOID SOUND TRANSMISSION BETWEEN ROOMS, DO NOT USE "C" TYPE "OUTLET" BOXES.
4. JUNCTIONS FOR DATA, TELE. OR TV. OUTLETS SHALL BE 2 GANG BOXES W/ SINGLE GANG PLASTER RING AND ONE HOLE COVER PLATE.
5. LEAVE PULL CORDS OR CABLES IN ALL EMPTY CONDUITS W/ CONNECTION TO BUS BAR OR W/ A SHORT CIRCUT.
6. PROVIDE SEPARATE NEUTRALS FOR EACH 200A 120V G.F.C.I. CIRCUIT. INCREASE NEUTRAL ONE WIRE SIZE FOR COMBINED BRANCH CIRCUITS. SERVICES TO PANELS, OTHER THAN DIST. PANELS, SHALL HAVE THE NEUTRAL BONDING TERMINAL FUSED TO THE MAIN SERVICE NEUTRAL.
7. LINE OPENINGS FOR PANELS, CABINETS, ETC. W/ ONE HOUR RATED DRYWALL IN ALL FIRE OR SMOKE WALLS OR CEILINGS.
8. MOUNT OUTLET BOXES THAT APPEAR TO BE BACK TO BACK IN SEPARATE WALLS OR CEILINGS W/ A SHORT CIRCUT.
9. THE CONTRACTOR SHALL NOTE THAT THE DRAWINGS INDICATED THE EXTENT DRAWING INFORMATION OF THE WORK INTENDED TO BE PERFORMED. WORK INTENDED, INCLUDING DETAILS SPECIFICALLY NOTED ON THE DRAWINGS, IS NOTED. CONTRACTOR SHALL PERFORM THE PROPER FUNCTIONS OF THE ELECTRICAL SYSTEMS AS INTENDED.
10. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO COORDINATE ALL WORK WITH ANY CHANGES TO THE DRAWINGS OR SPECS " THIS SHALL INCLUDE NO. OF CONDUCTORS OF EACH CABLE, TERMINAL, SWITCH, AND/OR PANELS, AND/OR SIZE OF CONDUIT. IF A CONTRACTOR SUBSTITUTES A MANUFACTURE WHICH CAUSES SUCH A CHANGE, THE EXPENSE OF THOSE CHANGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. PRIOR TO ELECTRICAL ROUGH-IN, THE ELEC. CONTR. MUST HAVE AN APPROVED SET OF MECHANICAL & KITCHEN SHOP DRAWINGS. COORDINATION OF THE ELECTRICAL ROUGH-IN SHALL BE DONE BY THE ENGINEER. AS A RESULT OF THIS COORDINATION, MINOR CHANGES TO THE ELEC. SHALL BE THE RESPONSIBILITY OF THE ELEC. CONTR. AT ADDITIONAL CHARGE TO THE OWNER.
12. SYSTEM MANUFACTURERS, (SUCH AS FIRE ALARM, SECURITY, SOUND, T.V. ETC.) SHALL FURNISH A ONE LINE DIAGRAM INDICATING NO. OF SIZE OF CONDUCTORS AND CABLES, AND A DOCUMENTED PUNCH COPY SHOP DRAWINGS. ALL ELECTRICAL SYSTEMS SHALL BE IN METALLIC CONDUIT UNLESS OTHERWISE NOTED.
13. THE ELEC. CONTR. SHALL CONTACT THE ENGINEER 8 DAYS PRIOR TO BID AND 15 DAYS PRIOR TO START OF WORK. THE PROJECT CATALOG NO.'S SHOWN IN THE DOCUMENTS ESTABLISH A MINIMUM ACCEPTABLE QUALITY. ADDITIONAL QUALITY REQUIREMENTS WILL HAVE APPLICABLE EVIDENCE AND LISTED IN THE SPECIFICATIONS.
14. THE ELEC. CONTR. SHALL REMOVE ANY EXISTING ELECTRICAL SYSTEMS, WIRING, CONDUIT, ETC. WHICH CONFLICTS W/ NEW CONSTRUCTION. ALL EXISTING ITEMS ARE TO REMAIN UNLESS A PERMANENT PART OF THE SYSTEM SHALL BE RELOCATED & / OR RECONNECTED. INSTALL BLACK COVER WHERE EXPOSED SWITCHES, OUTLETS, LIGHT FIXTURES, ETC. ARE UNMOUNTED. REMOVE UNNECESSARY ELECTRICAL MATERIALS. THE OWNER, w/ ANY DISCARDED ITEMS BEING REMOVED FROM THE JOB SITE BY THE ELECTRICAL CONTRACTOR.



HVAC ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"



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DO NOT SCALE DRAWINGS

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NO.	REVISIONS	Y1102
	DATE	MS
		CHECKED BY
		TW3
		DATE
		APRIL 1, 2011

HENDERSON COUNTY HIGH SCHOOL
HENDERSON, KENTUCKY
HVAC UPGRADES – 2011

SHEET NUMBER

E2.0

OF