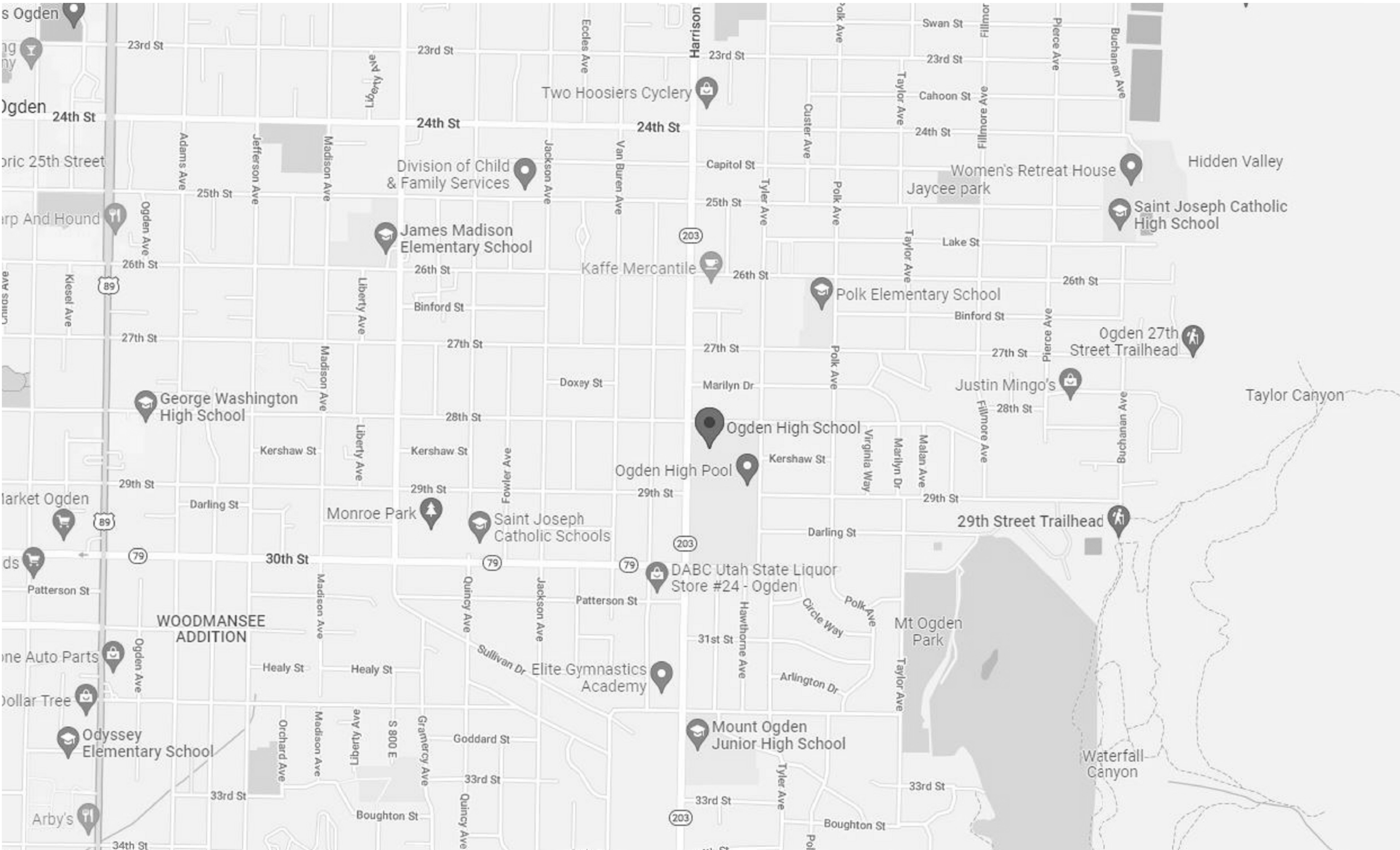


# OGDEN HIGH SCHOOL BOILER AND ROTC BUILDING HVAC REPLACEMENT

2828 HARRISON BLVD, OGDEN, UTAH 84403

OGDEN SCHOOL DISTRICT

DATE: May 2, 2022



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## MECHANICAL



**181 East 5600 South**  
**Murray, Utah 84107**  
**O: (801) 530-3148**  
**F: (801) 530-3150**  
**www.vbfa.com**  
**vbfa project #: 21508**

## ELECTRICAL



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DUCTWORK/GRILLES

	POSITIVE PRESSURE DUCT - RISE
	POSITIVE PRESSURE DUCT - DROP
	NEGATIVE PRESSURE DUCT - RISE
	NEGATIVE PRESSURE DUCT - DROP
	ROUND DUCT - RISE
	ROUND DUCT - DROP
	UNDER FLOOR DUCT
	TURNING VANES
	FRESH AIR LOUVER WIDTH X HEIGHT O.A. LOUVER
	RELIEF AIR OR EXHAUST AIR LOUVER WIDTH X HEIGHT R.A. LOUVER
	12/12 CD-1 (2) 200 CEILING SUPPLY DIFFUSER
	12/12 RG-1 (2) 200 CEILING RETURN REGISTER
	12/12 EG-1 (2) 200 CEILING EXHAUST REGISTER, BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN
	12/12 SWS-1 (2) 200 SIDEWALL SUPPLY REGISTER
	12/12 SWR-1 (2) 200 SIDEWALL EXHAUST OR RETURN REGISTER
	12/12 CD-1 (2) 200 CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
	12/12 RG-1 (2) 200 CEILING AIR GRILLE WITH FLEXIBLE DUCT
	CEILING RETURN AIR GRILLE W/ SOUND BOOT
	12ø 4'-0"(1) - 1" SLOTS L-1 200 CFM (RADIUS) LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION. TOP: DUCT SIZE, ACTIVE LENGTH, NO. OF SLOTS & SIZE OF SLOT. BOTTOM: TYPE, CFM, RADIUS (IF APPLICABLE).
	FLEXIBLE DUCT CONNECTION
	FLEXIBLE DUCT
	12x8 FO FLAT OVAL DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
	12x8 RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
	12ø ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
	UP INCLINED RISE
	DN INCLINED DROP
	RW=1. ROUND DUCT SIMILAR TO RECTANGULAR
	RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
	12/12 12ø RECTANGULAR TO ROUND DUCT TRANSFORMATION
	R D BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
	150 200 45° D D TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
	12/12 12/12 HIGH EFFICIENCY FITTING
	FD MANUAL VOLUME DAMPER
	FSD FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
	SD COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
	BDD SMOKE DAMPER W/ ACCESS PANEL
	ATC OR BACK DRAFT DAMPER
	AD ACCESS PANEL IN DUCT OR PLENUM
	HEATING OR COOLING COIL IN DUCT
	SINGLE DUCT AIR TERMINAL BOX VARIABLE OR CONSTANT VOLUME. MIN. 1-1/2 TERMINAL INLET SIZE STRAIGHT DUCT AT TERMINAL INLET.
	4-WAY BLOW PATTERN
	3-WAY BLOW PATTERN
	2-WAY BLOW PATTERN
	2-WAY BLOW PATTERN
	1-WAY BLOW PATTERN
	SD DUCT SMOKE DETECTOR

PIPING

	SHUT OFF VALVE
	BALL VALVE
	BUTTERFLY VALVE
	MOTOR OPERATED BUTTERFLY VALVE
	GATE VALVE
	GATE VALVE - NON RISING STEM
	ANGLE VALVE
	GLOBE VALVE
	PLUG VALVE
	SHUT OFF PLUG VALVE FOR FOR USE WITH PRESSURE GAUGE
	CHECK VALVE
	LATERAL STRAINER WITH BLOW-OFF VALVE. PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
	F&T=FLOAT & THERMOSTATIC
	RPBP REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN
	OR PRESSURE REDUCING VALVE EXTERNAL PRESSURE
	OR PRESSURE REDUCING VALVE SELF CONTAINED
	ATC - 2 WAY VALVE
	ATC - 3 WAY VALVE
	SOLENOID VALVE
	0.0 GPM OR CALIBRATED BALANCING VALVE WITH GPM INDICATED
	GPM LBHR VENTURI FLOW METER
	OR FLOW METER ORIFICE
	OR RELIEF VALVE
	AIR VENT-MANUAL
	AIR VENT-AUTO
	FLOW SWITCH
	PS PRESSURE SWITCH
	TEMPERATURE AND PRESSURE TEST PORT
	THERMOMETER WELL
	THERMOMETER - TEMP RANGE AS INDICATED
	Pressure Gauge with SHUT OFF PLUG VALVE
	Pressure Gauge with PIGTAIL
	UNION
	FLANGE
	FLEXIBLE EXPANSION JOINT
	REDUCER
	ECCENTRIC REDUCER
	BRANCH - BOTTOM CONNECTION
	BRANCH - TOP CONNECTION
	BRANCH - SIDE CONNECTION
	RISE OR DROP
	RISE - DOWN (ELBOW)
	RISE - UP (ELBOW)
	PIPE CAP
	ARROW INDICATES DIRECTION OF FLOW IN PIPE
	DN LEADER INDICATES DOWNWARD SLOPE
	Valve in Rise
	90° ELBOW
	45° ELBOW
	ALIGNMENT GUIDE
	ANCHOR

PLUMBING

	THERMOSTATIC MIXING VALVE
	HOSE BIBB
	FLOOR SINK
	FLOOR DRAIN
	FCO COTG FLOOR CLEAN-OUT OR CLEAN-OUT TO GRADE
	ROOF DRAIN
	DOWNSPOUT NOZZLE
	VENT THRU ROOF
	WATER HAMMER ARRESTOR
	CLEAN-OUT
	FILL PORT
	DRAIN PAN AND P-TRAP
	(NAME) FIXTURE FROM LEVEL ABOVE
	DEMOLITION

EQUIPMENT

	UNIT HEATER
	INLINE PUMP
	INLINE PUMP
	FAN

FIRE

	HOSE VALVE
	NRS GATE VALVE WITH SUPERVISION
	FLOW SWITCH
	FIRE RISER
	SPRINKLER HEAD
	FIRE SPRINKLER WATER

ANNOTATIONS

	PLUMBING FIXTURES
	POINT OF CONNECTION
	SECTION TAG - TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
	DETAIL TAG - TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
	EQUIPMENT IDENTIFICATION
	KEYED NOTE IDENTIFICATION
	SWITCH
	SENSOR
	THERMOSTAT
	NIGHT THERMOSTAT

LINETYPES

—AV—	ACID VENT
—AW—	ACID WASTE
—BBD—	BOILER BLOW DOWN
—BF—	BOILER FEED WATER
—B—	BRINE
—C02—	CARBON DIOXIDE
—CA—	COMPRESSED AIR
—CF—	CHEMICAL FEED
—CHWS—	CHILLED WATER SUPPLY
—CHWR—	CHILLED WATER RETURN
—CS—	CONDENSER WATER SUPPLY
—CR—	CONDENSER WATER RETURN
— — —	DOMESTIC COLD WATER (DCW)
— — — — —	DOMESTIC HOT WATER (DHW)
— — — — —	DOMESTIC HOT WATER RETURN (DHW)
—DI—	DEIONIZED WATER SUPPLY
—DIR—	DEIONIZED WATER RETURN
—E(NAME)—	EXISTING PIPING
—X(NAME)—X—	EXISTING PIPING TO BE REMOVED
—GHR—	GLYCOL HEAT RECOVERY PIPING
—G(NAME)—	GLYCOL PIPING SOLUTION
—FOR—	FUEL OIL RETURN
—FOS—	FUEL OIL SUPPLY
—FOV—	FUEL OIL VENT
—FVS—	FLUSH VALVE SUPPLY
—G—	NATURAL GAS
—HG—	HOT GAS
—HFR—	HELICOPTER FUEL RETURN
—HFS—	HELICOPTER FUEL SUPPLY
—HP(NAME)—	HIGH PRESSURE DOMESTIC WATER
—HPC—	HIGH PRESSURE CONDENSATE
—HPS—	HIGH PRESSURE STEAM
—HWR—	HEATING HOT WATER RETURN
—HWS—	HEATING HOT WATER SUPPLY
—IA—	INSTRUMENT AIR
—IA 120—	INSTRUMENT AIR AT PRESSURE INDICATED
—ICW—	INDUSTRIAL COLD WATER
—IHW—	INDUSTRIAL HOT WATER
—IHWR—	INDUSTRIAL HOT WATER RETURN
—ISCW—	INDUSTRIAL SOFT COLD WATER
—LA—	LAB AIR
—LV—	LAB VACUUM
—LPC—	LOW PRESSURE CONDENSATE
—LPG—	LIQUIFIED PETROLEUM GAS
—LPS—	LOW PRESSURE STEAM
—LW—	LAB WATER
—LWR—	LAB WATER RETURN
—MA—	MEDICAL AIR
—MA 120—	MEDICAL AIR AT PRESSURE INDICATED
—MPC—	MEDIUM PRESSURE CONDENSATE
—MPS—	MEDIUM PRESSURE STEAM

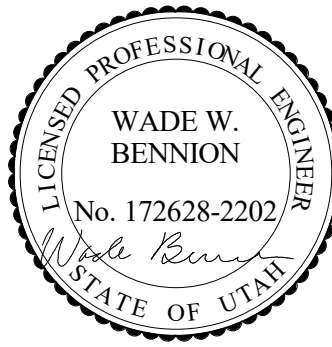
LINETYPES CONT.

—MUW—	MAKE UP WATER
—MV—	MEDICAL VACUUM
—N—	NITROGEN
—N2O—	NITROUS OXIDE
—OX—	MEDICAL OXYGEN
—OX 120—	MEDICAL OXYGEN AT PRESSURE INDICATED
—PC—	PUMPED CONDENSATE
—RO—	REVERSE OSMOSIS WATER SUPPLY
—ROR—	REVERSE OSMOSIS WATER RETURN
—RD—	ROOF DRAIN
—RDO—	ROOF DRAIN OVERFLOW
—RL—	REFRIGERANT LIQUID
—RS—	REFRIGERANT SUCTION
— — — — —	SEWER (BELOW GRADE)
— — — — —	SEWER (ABOVE GRADE)
—SW—	SOFT DOMESTIC WATER
—TW—	TEMPERED WATER
—TWR—	TEMPERED WATER RETURN
—V—	VACUUM
— — — — —	VENT (SEWER)

181 E. 5600 S.  
Suite 200  
Murray, Utah 84107  
TEL 801/530-3148  
FAX 801/530-3150

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1950 Monroe Blvd,  
Ogden, UT 84401

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NO	DATE	REVISION

BID SET

PROJECT NAME:  
Ogden High School Boiler  
And ROTC Building HVAC  
Replacement

2828 Harrison BLVD  
Ogden, UT 84403

DRAWING TITLE:  
MECHANICAL SYMBOLS  
AND LEGEND

DATE: MAY 2, 2022  
DRAWN BY: Author  
CHECKED BY: Checker  
PROJ. NO: 21323  
DRAWING NO:

M000

PLUMBING GENERAL NOTES

- UNLESS OTHERWISE NOTED, SLOPE PIPE AS FOLLOWS: WASTE BRANCHES: 1/4" PER FOOT; WASTE MAINS: 1/4" PER FOOT; ROOF DRAIN/ROOF DRAIN OVERFLOW: 1/8" PER FOOT.
- ALL WORK DONE SHALL BE PERFORMED WITH WATER CONTROL IN MIND. CONTAINMENT OF WATER IS NECESSARY TO PREVENT WATER FROM DAMAGING AREAS ON FLOORS BELOW.
- PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE. FIELD VERIFY EXACT PIPE ROUTING AND COORDINATE WITH ALL OTHER TRADES.
- ALL PIPING IN PLUMBING CHASES SHALL BE ARRANGED TO ALLOW MAINTENANCE ACCESS.
- NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
- COORDINATE FAN ROOM FLOOR DRAIN AND FLOOR SINK LOCATIONS WITH COOLING COIL, EVAPORATIVE SECTION, AND HEATING COIL LOCATIONS.
- CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.
- PIPING AND ROUTING SHOWN, INCLUDING ALL BELOW FLOOR DECK PIPING, IS APPROXIMATE. IT IS UP TO THE CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND SIZE OF ALL PIPING.
- INSTALL ALL EQUIPMENT WITH SUFFICIENT CLEARANCE FOR MAINTENANCE PER MANUFACTURERS RECOMMENDATION.
- COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL AND PROVIDE SLEEVES AS NECESSARY.
- COORDINATE EXACT LOCATION OF PLUMBING WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING, CABLE TRAY, DUCTWORK, MECHANICAL PIPING, FIRE PROTECTION AND OTHER TRADES, TYPICAL.
- ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
- DESIGN IN EXISTING AREAS OF THE BUILDING WAS BASED ON INFORMATION FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO, DUCTWORK ROUTING, PIPE ROUTING, EQUIPMENT LOCATIONS, STRUCTURE AND ALL OTHER TRADES. THE CONTRACTOR IS RESPONSIBLE TO MAKE MODIFICATIONS AS REQUIRED TO PROVIDE A COMPLETE, WORKING SYSTEM AT NO ADDITIONAL COST.
- CONTRACTOR SHALL ENSURE THAT PLUMBING PIPING REMOVED WILL NOT AFFECT SYSTEMS THAT REMAIN.
- THE DRAWINGS AND SPECIFICATION HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.

MECHANICAL PIPING GENERAL NOTES

- PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
- UNLESS OTHERWISE NOTED: ALL MECHANICAL PIPING IS OVERHEAD TO RUN ABOVE DUCTWORK AND TIGHT TO UNDERSIDE OF STRUCTURE.
- WHERE VALVING OR EQUIPMENT IS LOCATED ABOVE HARD CEILINGS PROVIDE AN ACCESS DOOR IN CEILING. MINIMUM ACCESS DOOR SIZE OF 24"X24".
- NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
- SLEEVE PIPING THRU WALLS/FOUNDATIONS WHERE REQUIRED.
- INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
- ALL VALVES SHALL BE INSTALLED SO THAT VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
- PROVIDE AN AIR VENT AT THE HIGH POINT OF EACH DROP IN THE HEATING AND CHILLED WATER PIPING SYSTEM.
- INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
- ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
- PROVIDE ISOLATION VALVES AT EACH EXIT/ENTRANCE INTO SHAFT WHETHER OR NOT SHOWN.
- ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
- COORDINATE LOCATION OF THERMOSTAT WITH ARCHITECTURAL FURNISHING PLANS. MOUNT THERMOSTAT AT HEIGHT AS SPECIFIED ON ARCHITECTURAL.
- CONTRACTOR TO PROVIDE VALVE IDENTIFICATION AND LOCATION ON ALL CEILING TILES WHERE VALVES ARE LOCATED.

MECHANICAL GENERAL NOTES

- IF CONTRACTOR ENCOUNTERS ASBESTOS OR SOMETHING THAT MIGHT CONTAIN ASBESTOS, STOP WORK AND NOTIFY THE OWNER FOR TESTING OR REMOVAL BEFORE CONTINUING WORK.
- COORDINATE EXACT MOUNTING LOCATION OF ALL THERMOSTATS WITH EXISTING BUILDING EQUIPMENT AND FIXTURES.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CAULKING AND SEALING ALL PENETRATIONS THROUGH EXISTING WALLS WHERE NEW PIPING HAS BEEN INSTALLED.
- CONTRACTOR SHALL OFF-SET WHERE REQUIRED TO AVOID EXISTING CONDITIONS.
- DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. REFER TO MECHANICAL SPECIFICATIONS FOR EXTENT OF DUCT INSULATION AND LINER.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE CEILING MOUNTED ACCESS DOORS WHERE REQUIRED IN EXISTING CEILINGS TO CONCEAL NEW HEATING WATER AND REFRIGERATION PIPING.
- CEILING ACCESS DOORS TO BE MINIMUM 24" X 24".
- ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
- THE CONTRACTOR SHALL INFORM THE DESIGNER OF ANY PROPOSED DEVIATIONS FROM THE CONTRACT DOCUMENTS.
- PROVIDE ACCESS TO ALL TEMPERATURE CONTROLS ABOVE CEILING. LOCATE IN ACCESSIBLE LOCATION. WHERE THERE ARE HARD CEILINGS THE CONTRACTOR SHALL PROVIDE 24"X24" ACCESS DOOR.

181 E. 5600 S.  
Suite 200  
Murray, Utah 84107

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1950 Monroe Blvd,  
Ogden, UT 84401

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NO	DATE	REVISION

BID SET

PROJECT NAME:

Ogden High School Boiler  
And ROTC Building HVAC  
Replacement

2828 Harrison BLVD  
Ogden, UT 84403

DRAWING TITLE:

MECHANICAL GENERAL  
NOTES

DATE: MAY 2, 2022  
DRAWN BY: PC  
CHECKED BY: DB  
PROJ. NO: 21323  
DRAWING NO:

M001

- #
- KEYED NOTES
1.

REMOVE EXISTING STEAM UNIT HEATER AND ALL ASSOCIATED PIPING.
2.

REMOVE ALL EXISTING STEAM PIPING.
3.

EXISTING HVAC UNIT AND ALL ASSOCIATED DUCTWORK TO BE REMOVED.
4.

EXISTING CONDENSING UNIT AND ALL ASSOCIATED PIPING TO BE REMOVED.
5.

REMOVE ALL EXISTING CONDENSATE RETURN PIPING.
6.

EXISTING CONDESATE PUMP AND ASSOCIATED PIPING AND ELECTRICAL TO BE REMOVED.

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LICENSED PROFESSIONAL ENGINEER  
WADE W. BENNION  
No. 172628-2202  
STATE OF UTAH

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1950 Monroe Blvd,  
Ogden, UT 84401

The diagram is a detailed floor plan of the lower level of a building, specifically focusing on mechanical areas to be demolished. Key rooms and areas include: ROTC (16), Office (17), Corridor (14), Room (52), Supply Room (12), Cust. (10), Room (11), Vestibule (53), Storage (7), Stairs (6), Metals Classroom (4), Ventr. (5), Storage (3), Metals Shop (2), and Boiler Room (1). The plan is annotated with keynotes 1 through 6, indicating specific items to be removed as defined in the Keyed Notes. Keynote 1 points to the ROTC and Office areas. Keynote 2 points to the Metals Shop. Keynote 3 points to a storage area. Keynote 4 points to a circular mechanical unit. Keynote 5 points to various piping and ductwork throughout the plan. Keynote 6 points to a condensing unit and associated piping. A large hatched area on the right side of the plan represents the Boiler Room, which is also labeled with a circled '2' and 'M401'.

1

LOWER LEVEL MECHANICAL DEMOLITION PLAN

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

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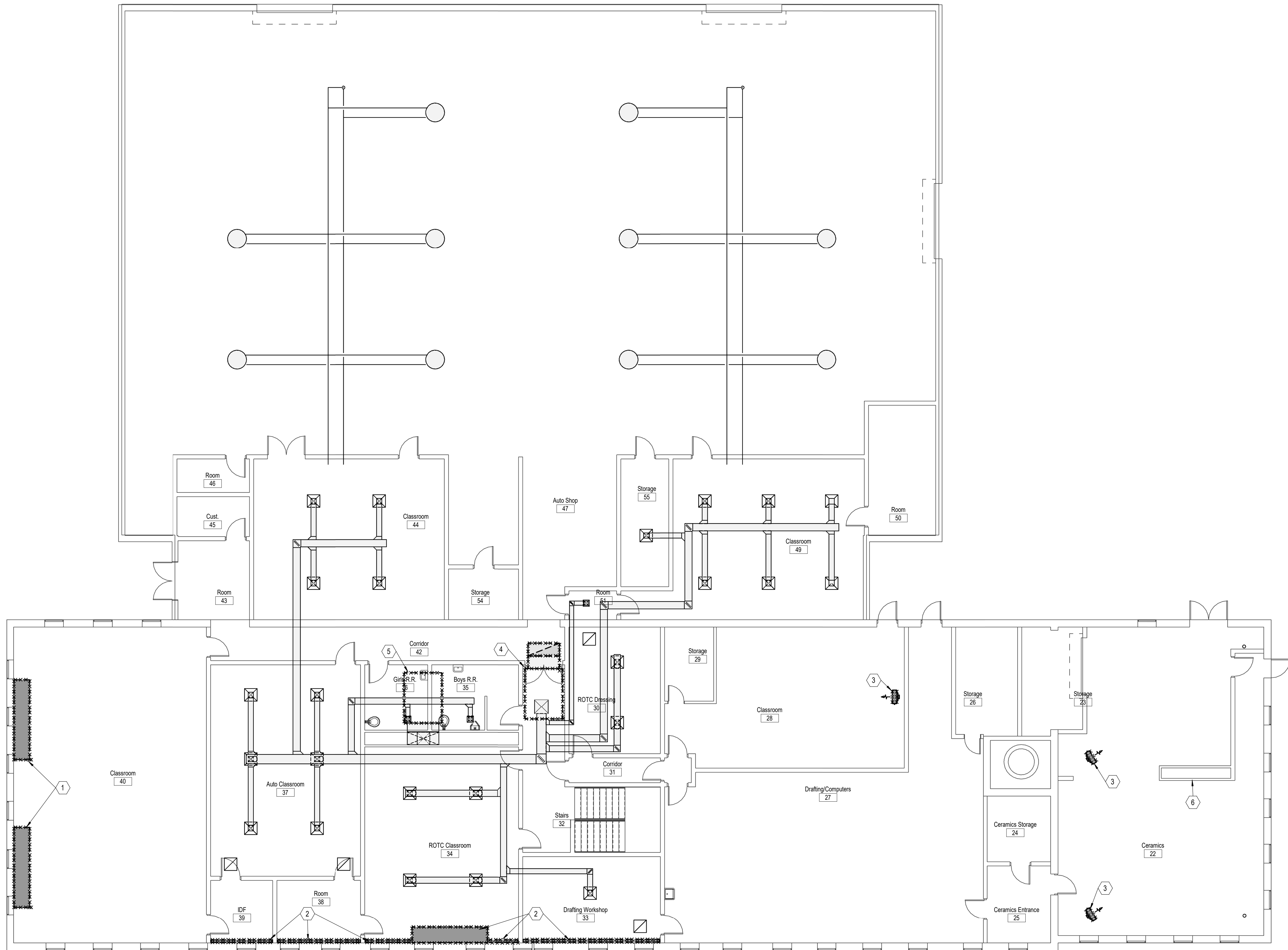
LOWER LEVEL  
MECHANICAL  
DEMOLITION PLAN

DATE: MAY 2, 2022  
DRAWN BY: PC  
CHECKED BY: DB  
PROJ. NO: 21323  
DRAWING NO:

MD101

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**1** UPPER LEVEL MECHANICAL DEMOLITION PLAN  
SCALE: 1/8" = 1'-0"

- # KEYED NOTES**
1. REMOVE EXISTING CABINET UNIT HEATER AND ALL ASSOCIATED PIPING.
  2. REMOVE EXISTING RADIANT HEAT AND ALL ASSOCIATED PIPING.
  3. REMOVE EXISTING STEAM UNIT HEATER AND ALL ASSOCIATED PIPING.
  4. REMOVE EXISTING MAKE-UP AIR UNIT AND STEAM PIPING. REMOVE EXISTING METAL ROOF CURB CAP. CAP RETURN AIR DUCT BELOW ROOF. MODIFY EXISTING SUPPLY DUCT AS REQUIRED TO CONNECT TO NEW 100% OUTSIDE AIR MAKE-UP AIR UNIT. INSTALL NEW CURB CAP AND SEAL WATER TIGHT.
  5. REMOVE EXISTING MAKE-UP AIR UNIT AND STEAM PIPING. REMOVE EXISTING METAL ROOF CURB CAP. MODIFY EXISTING SUPPLY DUCT AS REQUIRED TO CONNECT TO NEW 100% OUTSIDE AIR MAKE-UP AIR UNIT. INSTALL NEW CURB CAP AND SEAL WATER TIGHT.
  6. REMOVE EXISTING CHASE WALL AS REQUIRED FOR INSTALLATION OF NEW BOILER FLUES.

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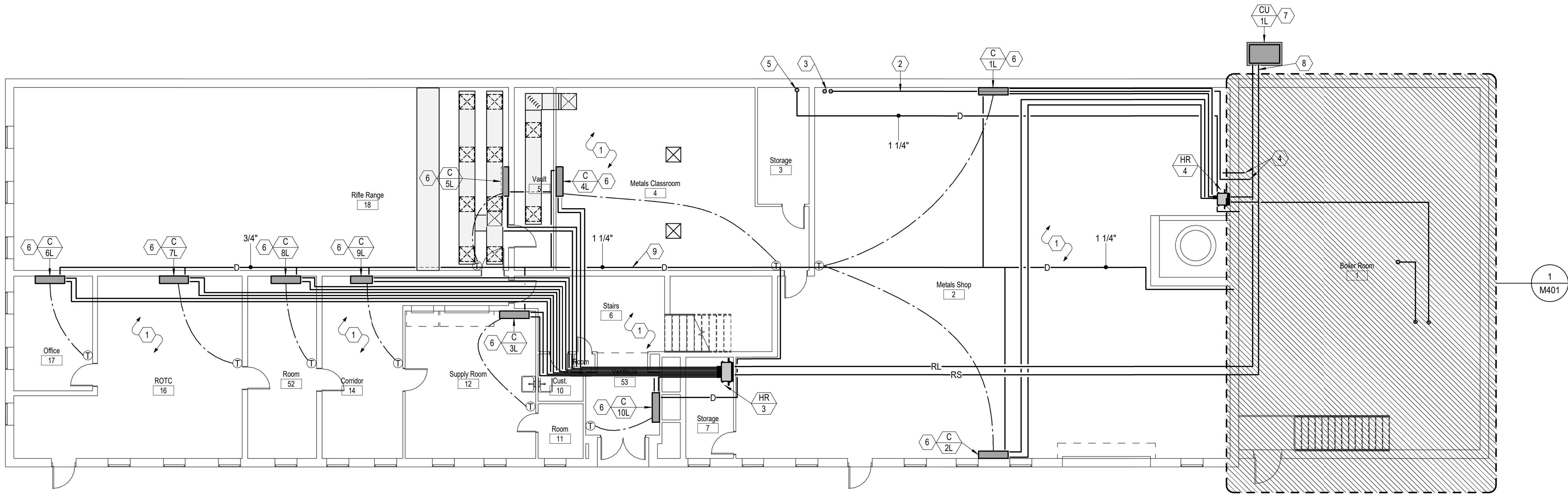
DRAWING TITLE:  
**UPPER LEVEL  
MECHANICAL  
DEMOLITION PLAN**

DATE: MAY 2, 2022  
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CHECKED BY: DB  
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DRAWING NO:

**MD102**

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1 LOWER LEVEL MECHANICAL PLAN  
SCALE: 1/8" = 1'-0"



- # KEYED NOTES
1. RUN ALL LINES BELOW CEILING. FOLLOW STEAM AND CONDENSATE LINES.
  2. 2" HWS/HWR PIPING TO FOLLOW ROUTING OF EXISTING STEAM CONDENSATE LINE. STACK LINES ON WALL.
  3. 2" HWS AND HWR UP. SEE SHEET M102 FOR CONTINUATION..
  4. 2" HWS AND HWR. SEE BOILER ROOM PLAN FOR CONTINUATION.
  5. 1 1/4" CONDENSATE DRAIN FROM LEVEL ABOVE. SEE SHEET M102 FOR CONTINUATION.
  6. WALL MOUNTED INDOOR UNIT. INSTALL HIGH ON WALL BELOW CEILING.
  7. OUTDOOR CONDENSING UNIT. INSTALL ON 4" CONCRETE PAD AND PROVIDE MANUFACTURERS CLEARANCE ALL AROUND.
  8. PROVIDE ALUMINUM COVER ON EXPOSED REFRIGERANT PIPING. SEE PIPING INSULATION SPECIFICATION.
  9. CONDENSATE DRAIN LINE TO RUN AS HIGH AS POSSIBLE. COORDINATE WITH EXISTING CONDITIONS. PRIOR TO INSTALLATION REVIEW ROUTING WITH ENGINEER AND OWNER.

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DRAWING NO:

M101

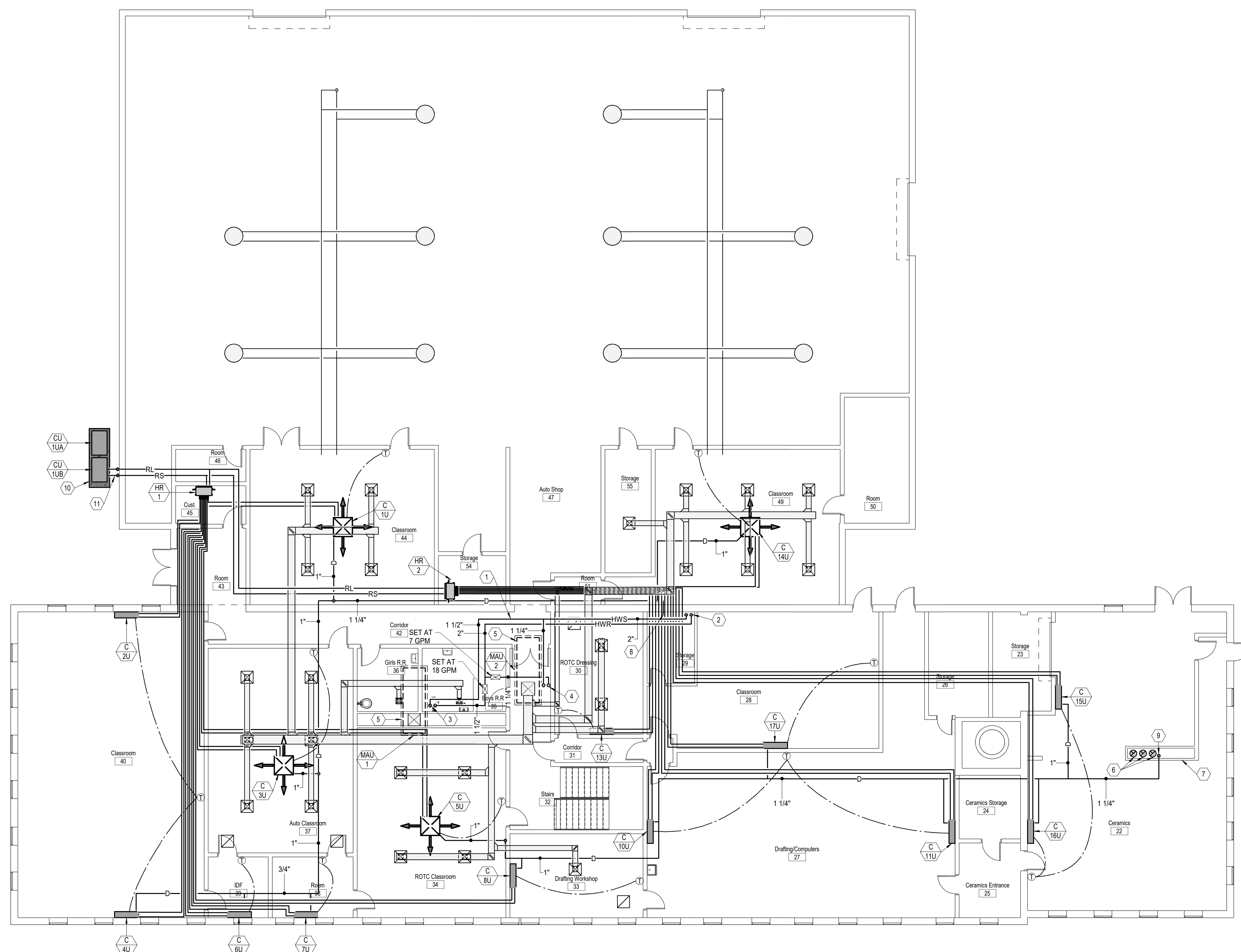
- THIS SQUARE APPEARS 1/2"x1/2"  
ON FULL SIZE SHEETS

[illegible]

PROJECT NAME:  
Ogden High School Boiler  
And ROTC Building HVAC  
Replacement

DRAWING TITLE:  
UPPER LEVEL  
MECHANICAL PLAN

## M102

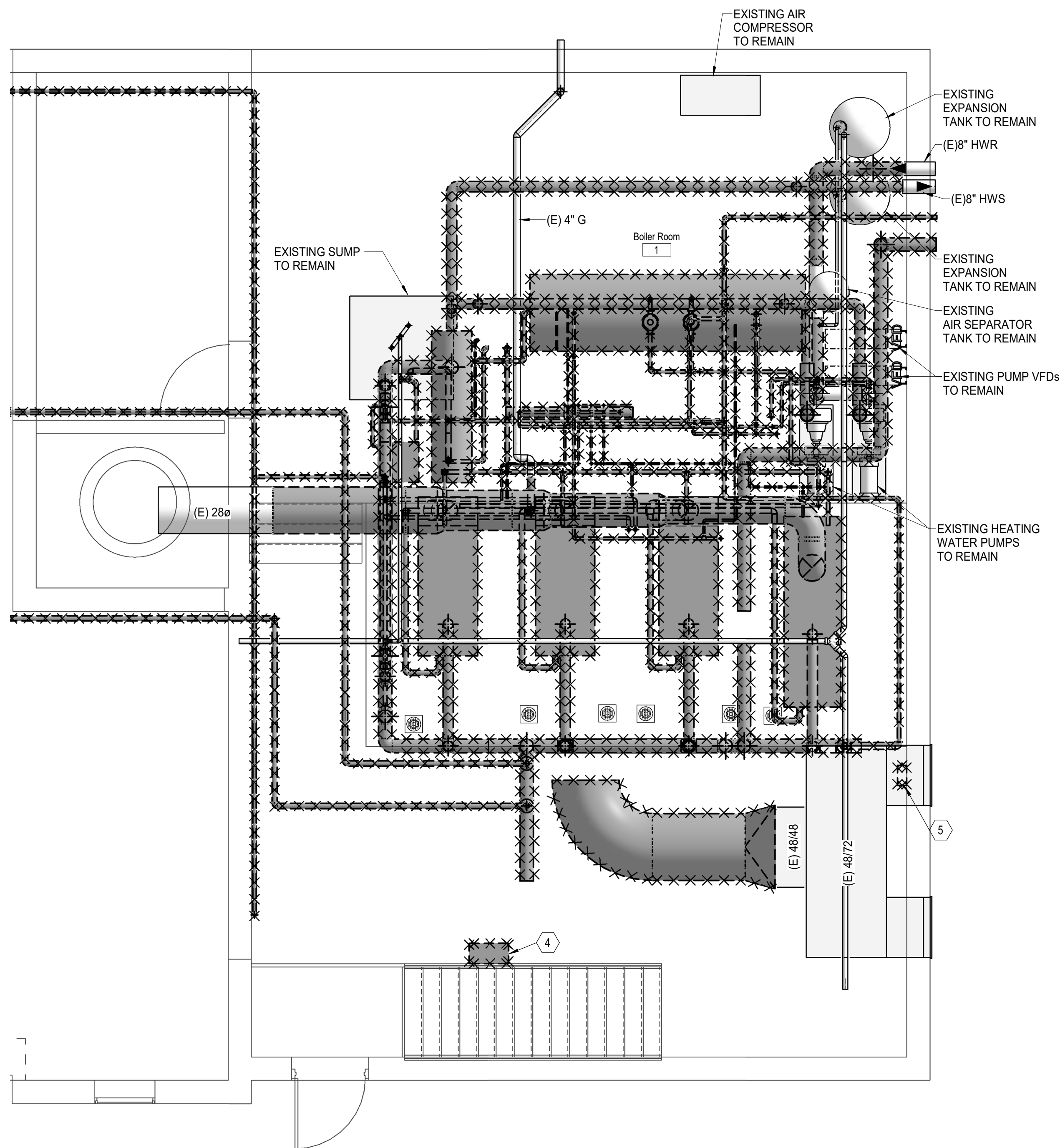


1 UPPER LEVEL MECHANICAL PLAN  
SCALE: 1/8" = 1'-0"

C:\Users\jpcorrell\Documents\21323\_MECH\_V2022\_pocopy73.rvt  
5/4/2022 8:51:45 AM

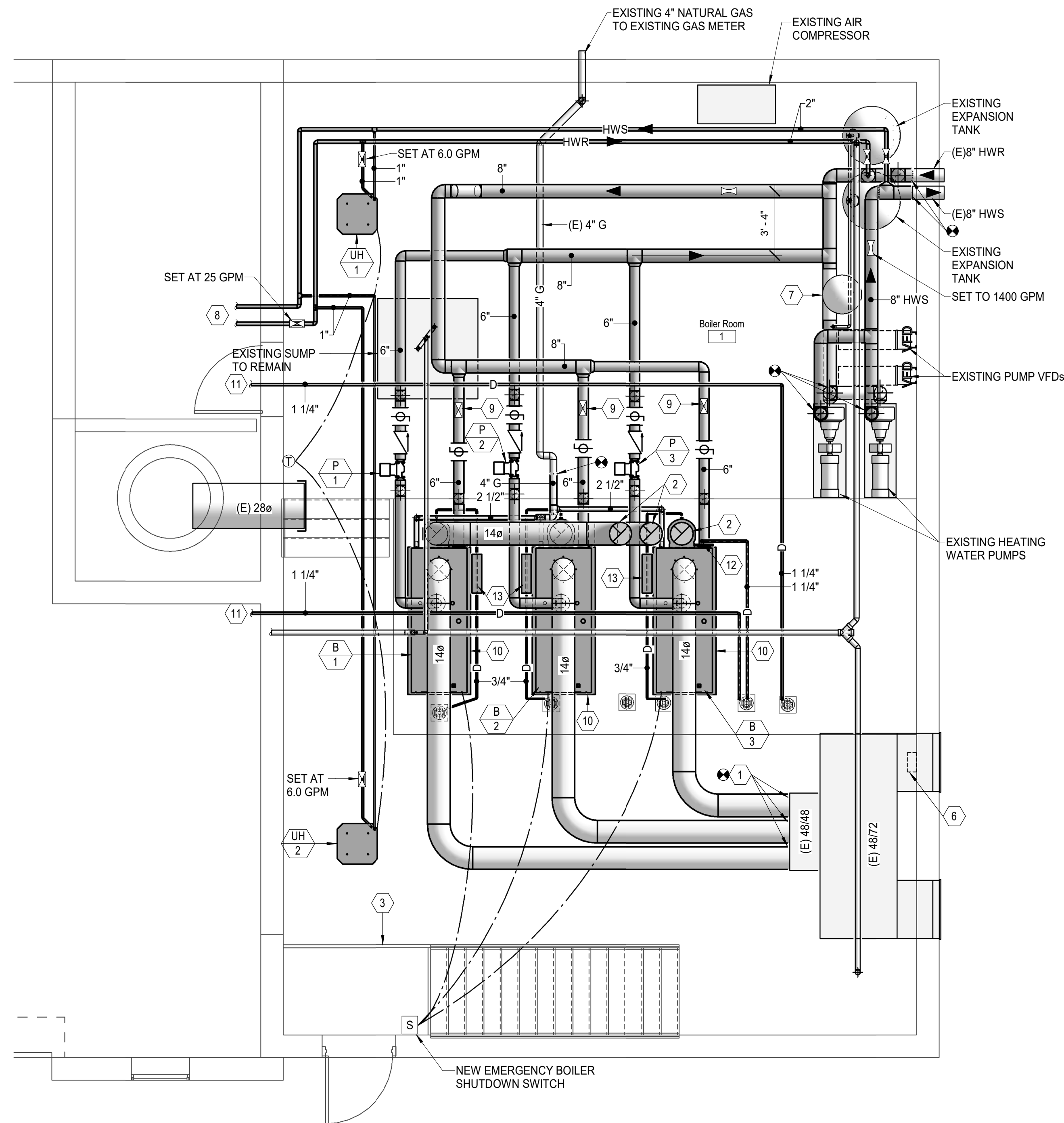
## 2 BOILER ROOM DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



## 1 BOILER ROOM PLAN

SCALE: 1/4" = 1'-0"



### # KEYED NOTES

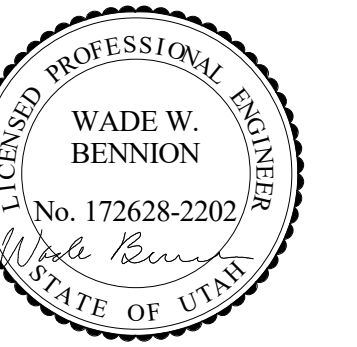
1. STUB COMBUSTION AIR DUCTS INTO EXISTING 48/48 PLENUM AND SEAL ALL AROUND AIR TIGHT.
2. CORE CUT (3) OPENINGS IN EXISTING FLOOR ABOVE. CORE CUTS ARE TO BE BETWEEN EXISTING CONCRETE FLOOR BEAMS. RISE (3) 14" BOILER FLUES UP THROUGH FLOOR AND EXTEND THROUGH ROOF ABOVE. TERMINATE WITH WEATHER CAP 18" ABOVE ROOF.
3. REMOVE AND REINSTALL EXISTING STAIR LANDING RAILING TO FACILITATE INSTALLATION OF NEW BOILERS.
4. EXISTING COMBUSTION AIR CONTROL PANEL TO BE REMOVED.
5. EXISTING BOILER CONTROL PANEL TO BE REMOVED.
6. NEW BOILER CONTROL PANEL.
7. REMOVE EXISTING AIR SEPARATOR AND REINSTALL RAILING TO FACILITATE INSTALLATION OF NEW BOILERS.
8. 2" HWS AND HWR TO ROTC BUILDING.
9. BALANCING VALVE. SET TO 465 GPM.
10. NEW 6" CONCRETE HOUSEKEEPING PAD. DO NOT COVER EXISTING FLOOR DRAINS.
11. 1 1/4" CONDENSATE DRAIN. SEE SHEET M101 FOR CONTINUATION.
12. 1 1/4" CONDENSATE DRAIN UP. SEE SHEET M102 FOR CONTINUATION.
13. CONDENSATE NEUTRALIZER.

181 E. 5600 S.  
Suite 200  
Murray, Utah 84107

TEL 801/530-3148  
FAX 801/530-3150

http://www.VBFA.com

SEAL



CLIENT LOGO

CLIENT:  
**Ogden School District**  
1950 Monroe Blvd,  
Ogden, UT 84401

THIS SQUARE APPEARS 1/2"x1/2"  
ON FULL SIZE SHEETS

NO	DATE	REVISION

### BID SET

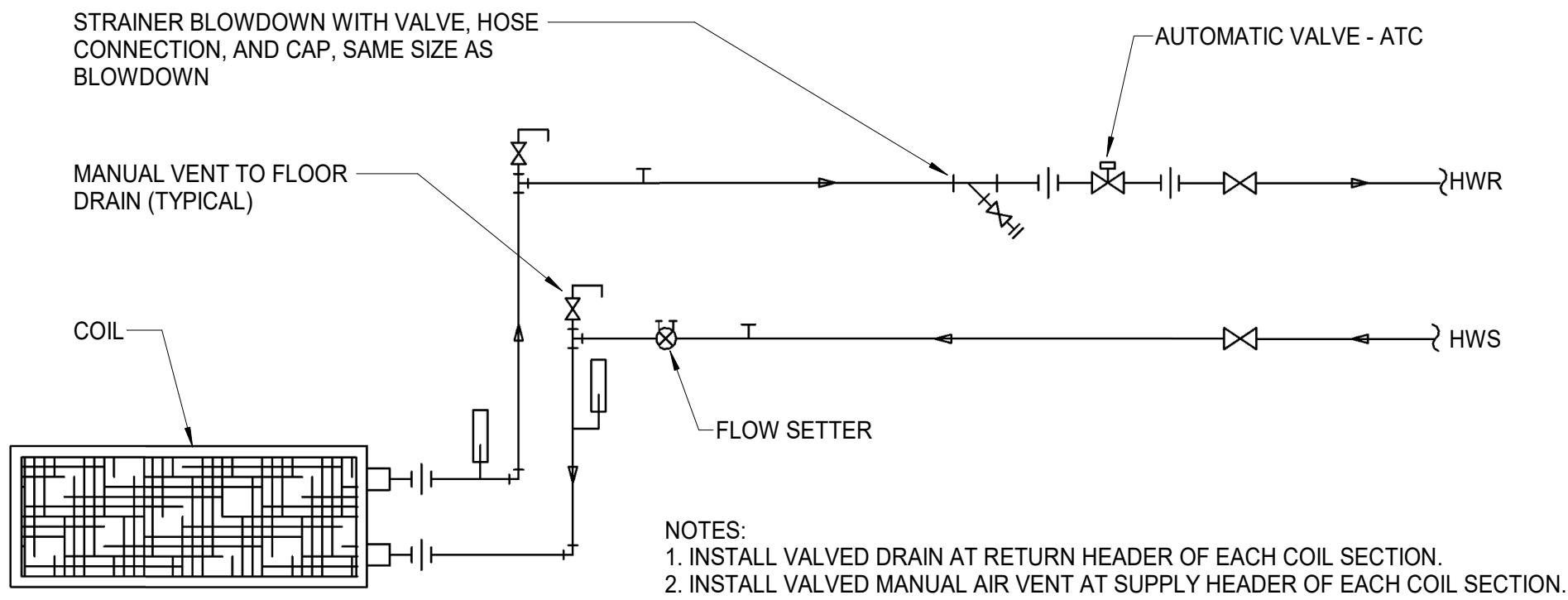
PROJECT NAME:  
**Ogden High School Boiler  
And ROTC Building HVAC  
Replacement**

2828 Harrison BLVD  
Ogden, UT 84403

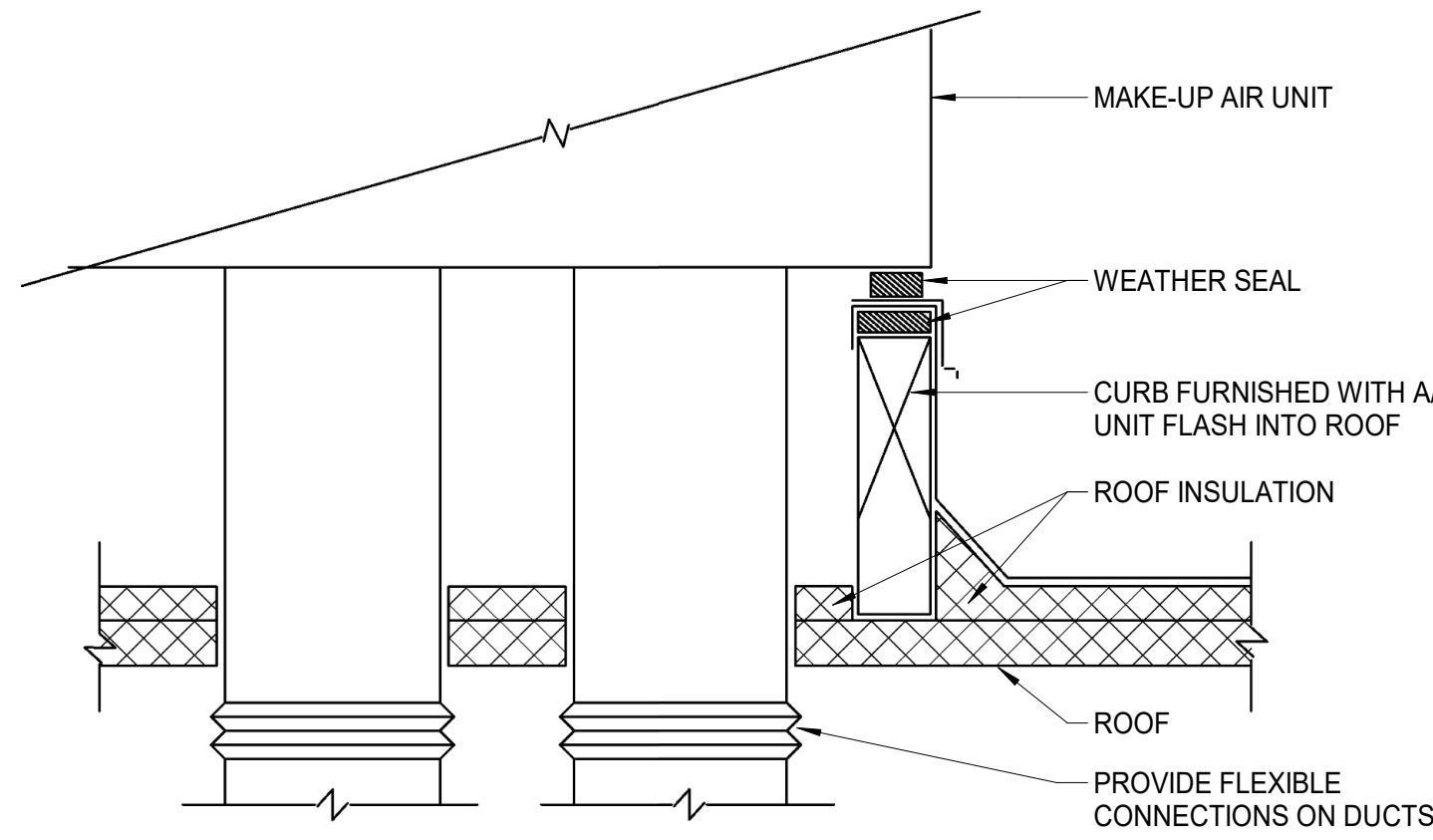
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**BOILER ROOM PLANS**

DATE: MAY 2, 2022  
DRAWN BY: PC  
CHECKED BY: DB  
PROJ. NO: 21323  
DRAWING NO:

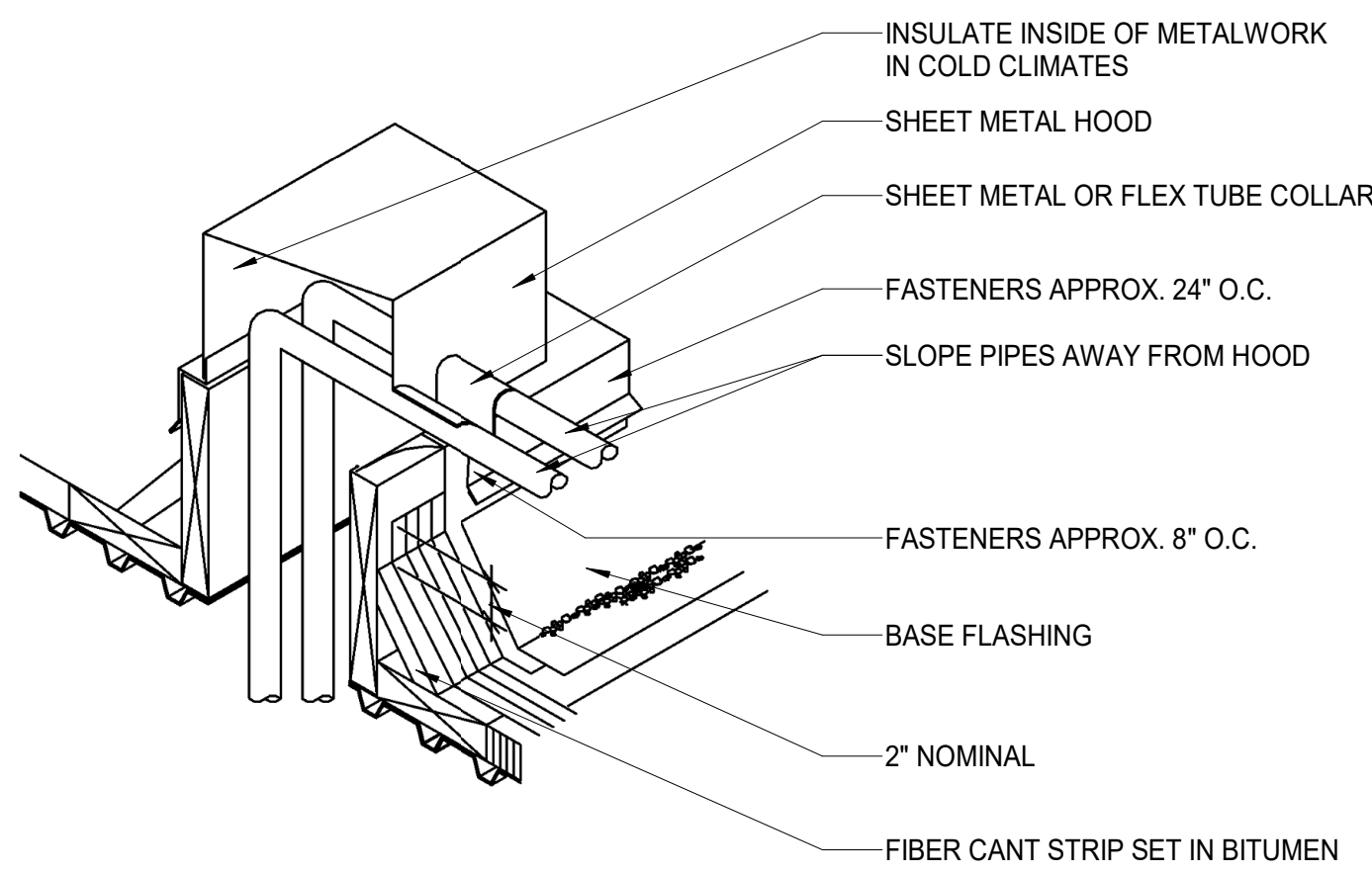
**M401**



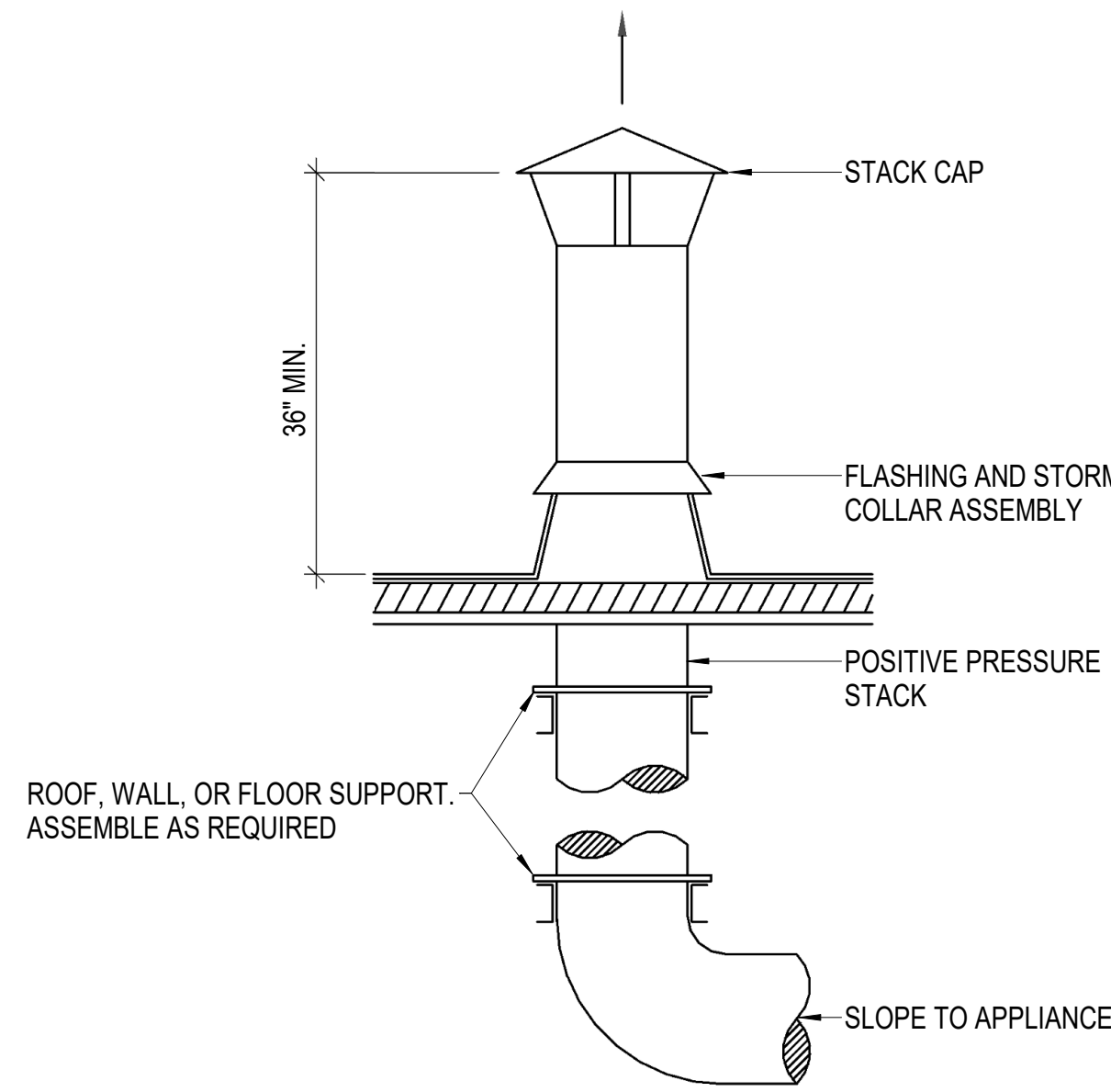
**8 HOT WATER COIL PIPING DETAIL**  
NOT TO SCALE



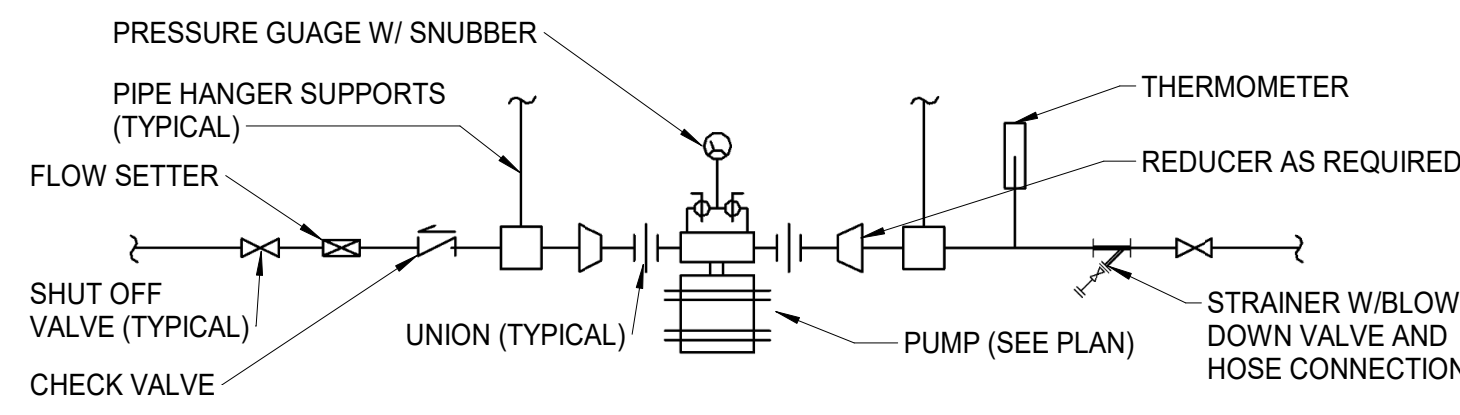
**9 MAKE-UP AIR UNIT ROOF MOUNTING DETAIL**  
NOT TO SCALE



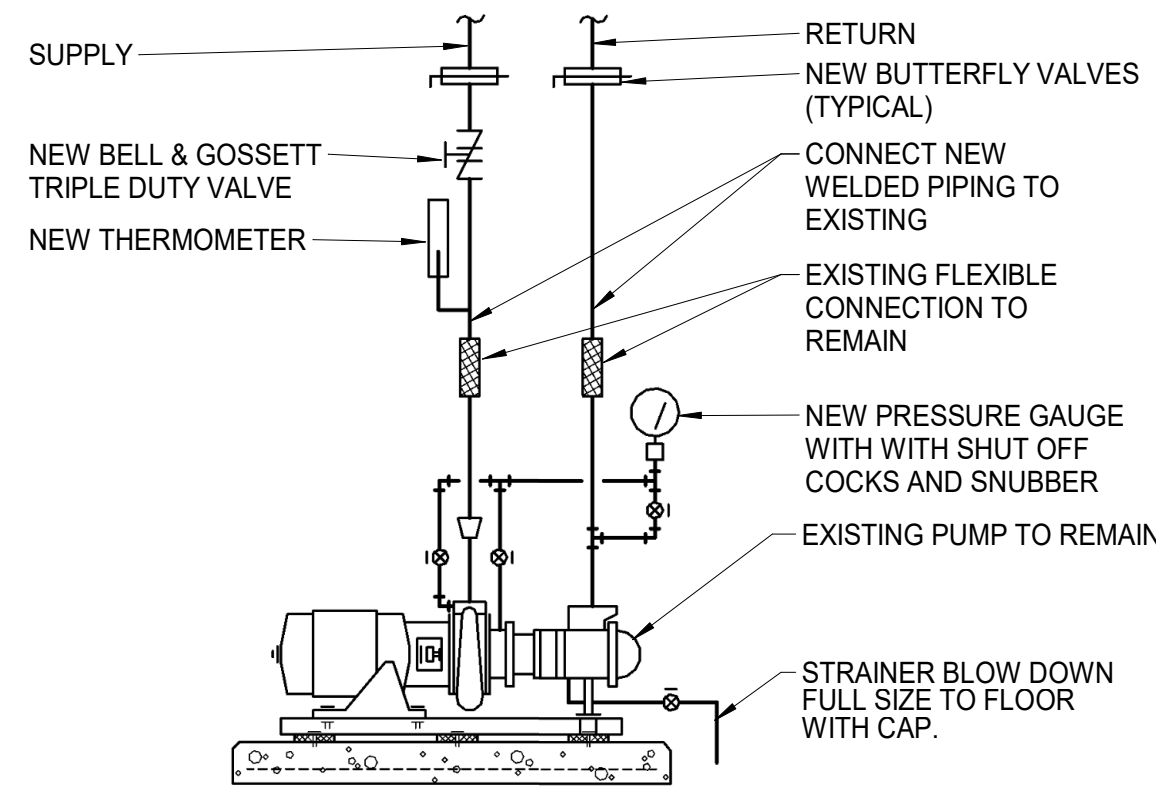
**10 PIPING THROUGH ROOF DECK DETAIL**  
NOT TO SCALE



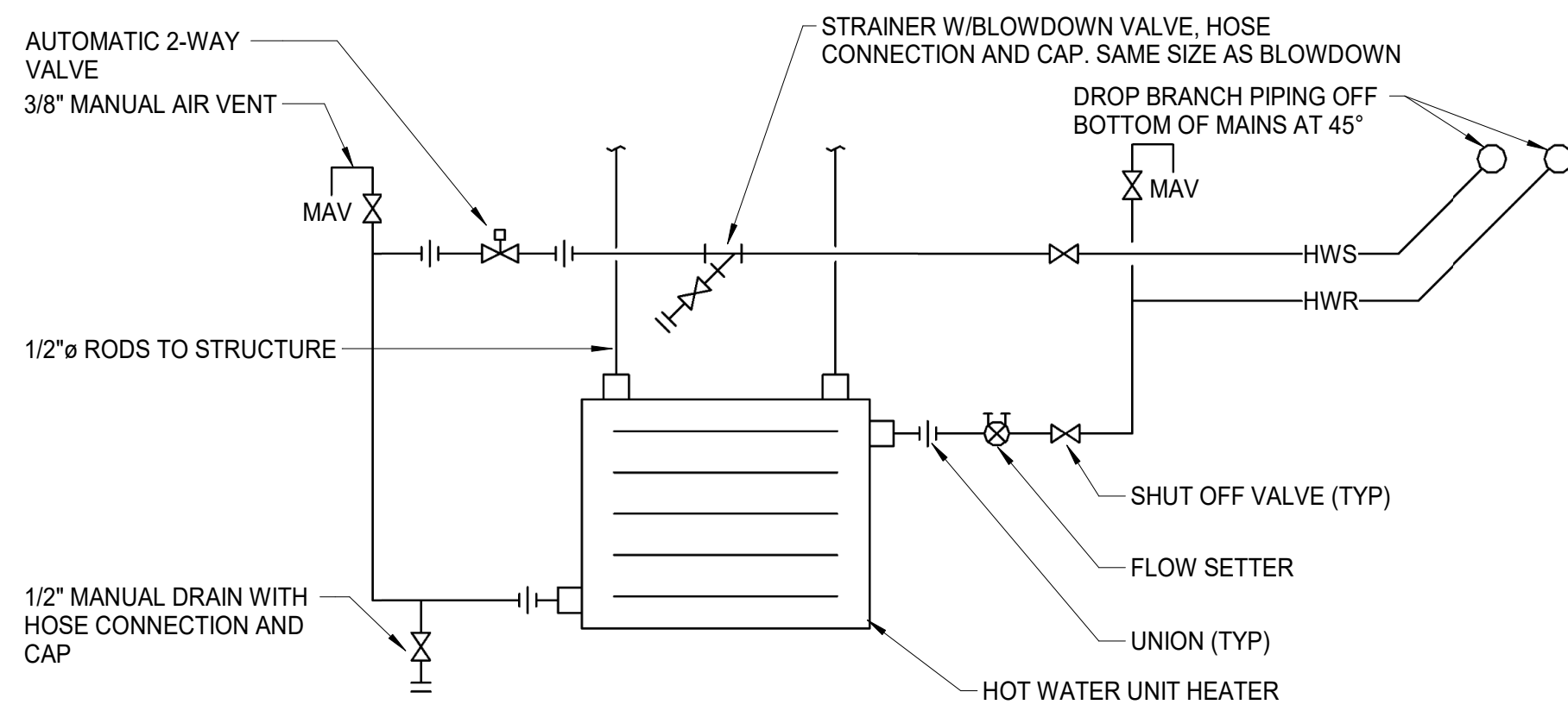
**4 PRESSURE TYPE STACK DETAIL**  
NOT TO SCALE



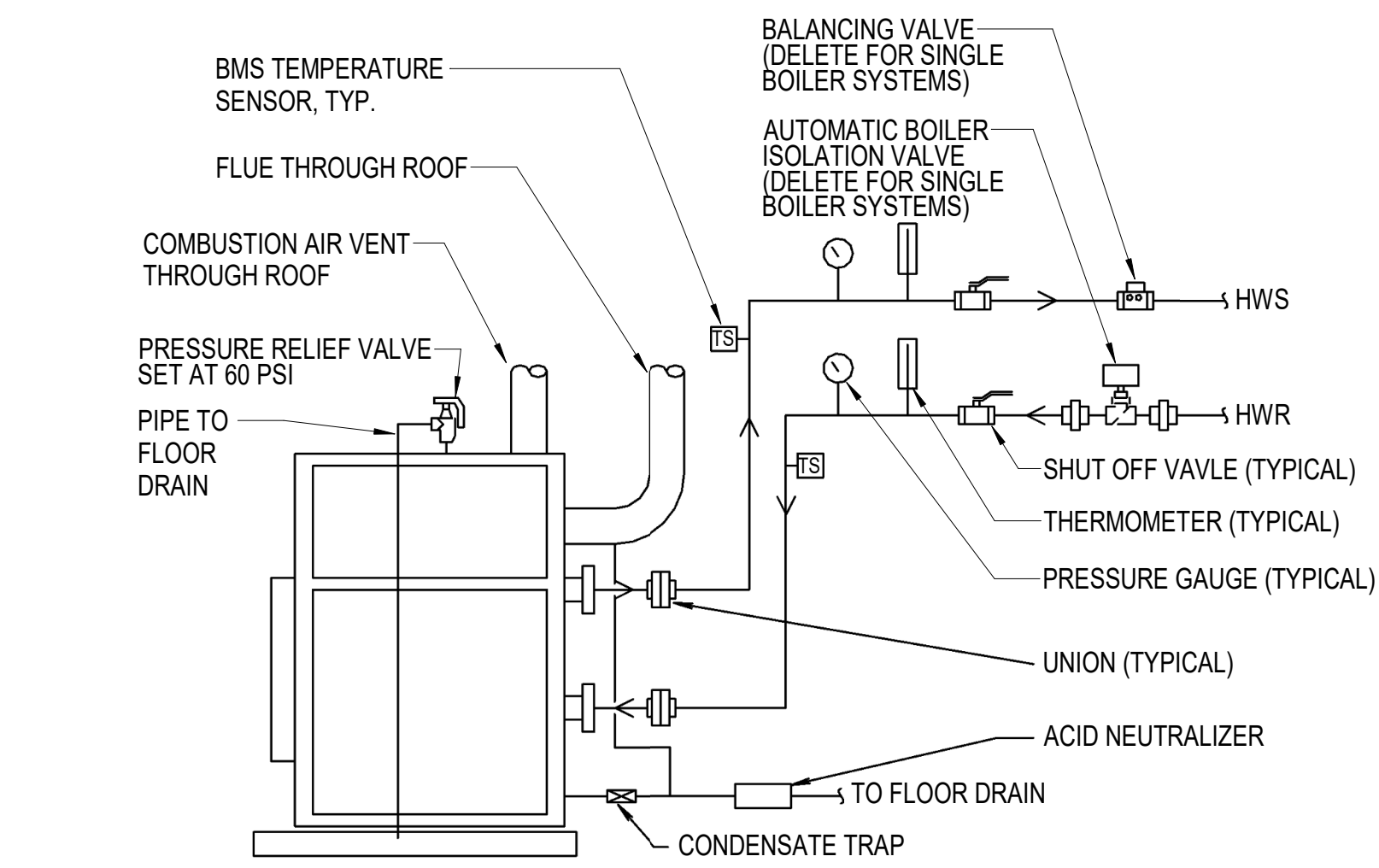
**5 IN-LINE PUMP DETAIL**  
NOT TO SCALE



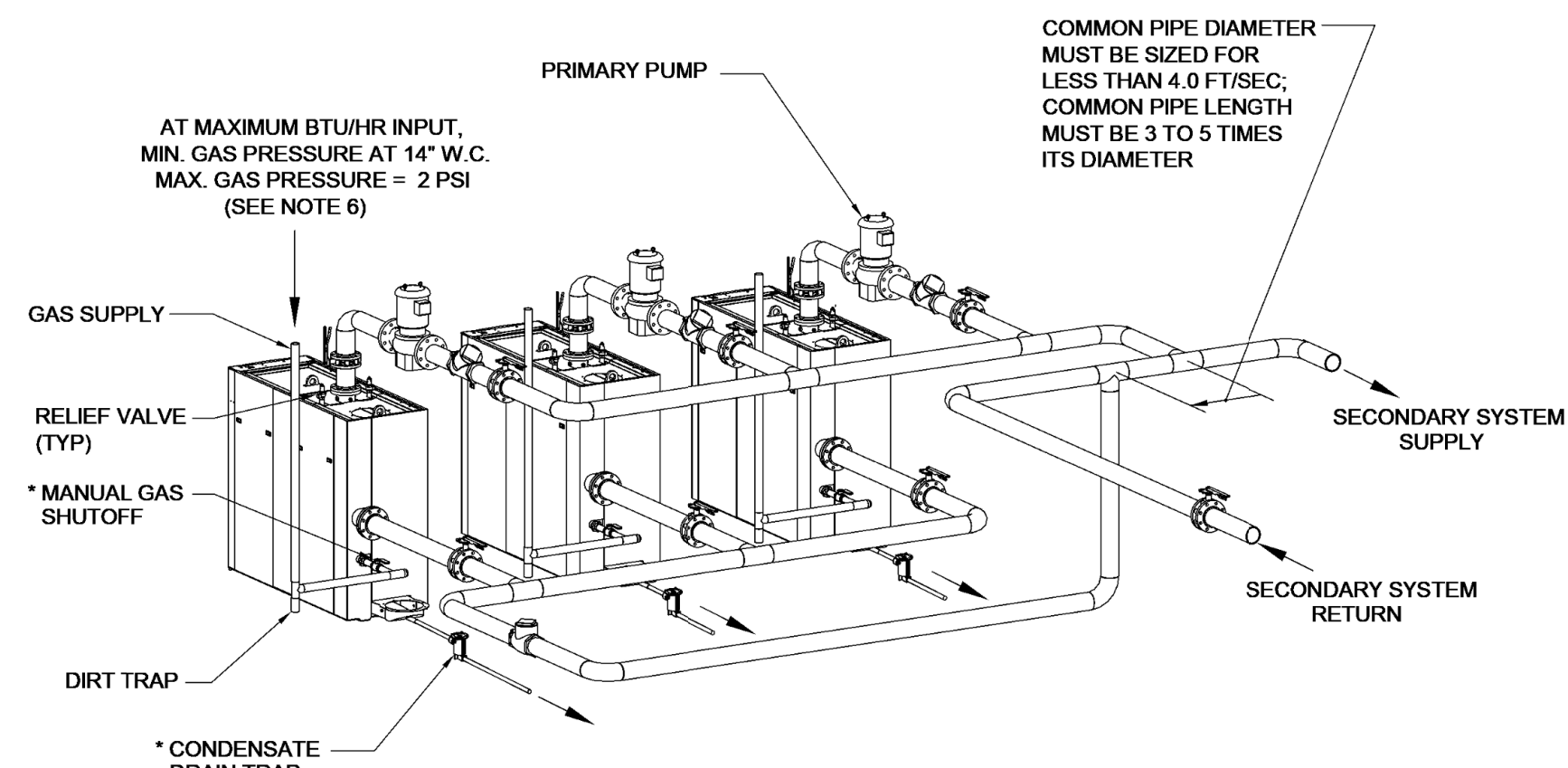
**6 PUMP CONNECTION DETAIL**  
NOT TO SCALE



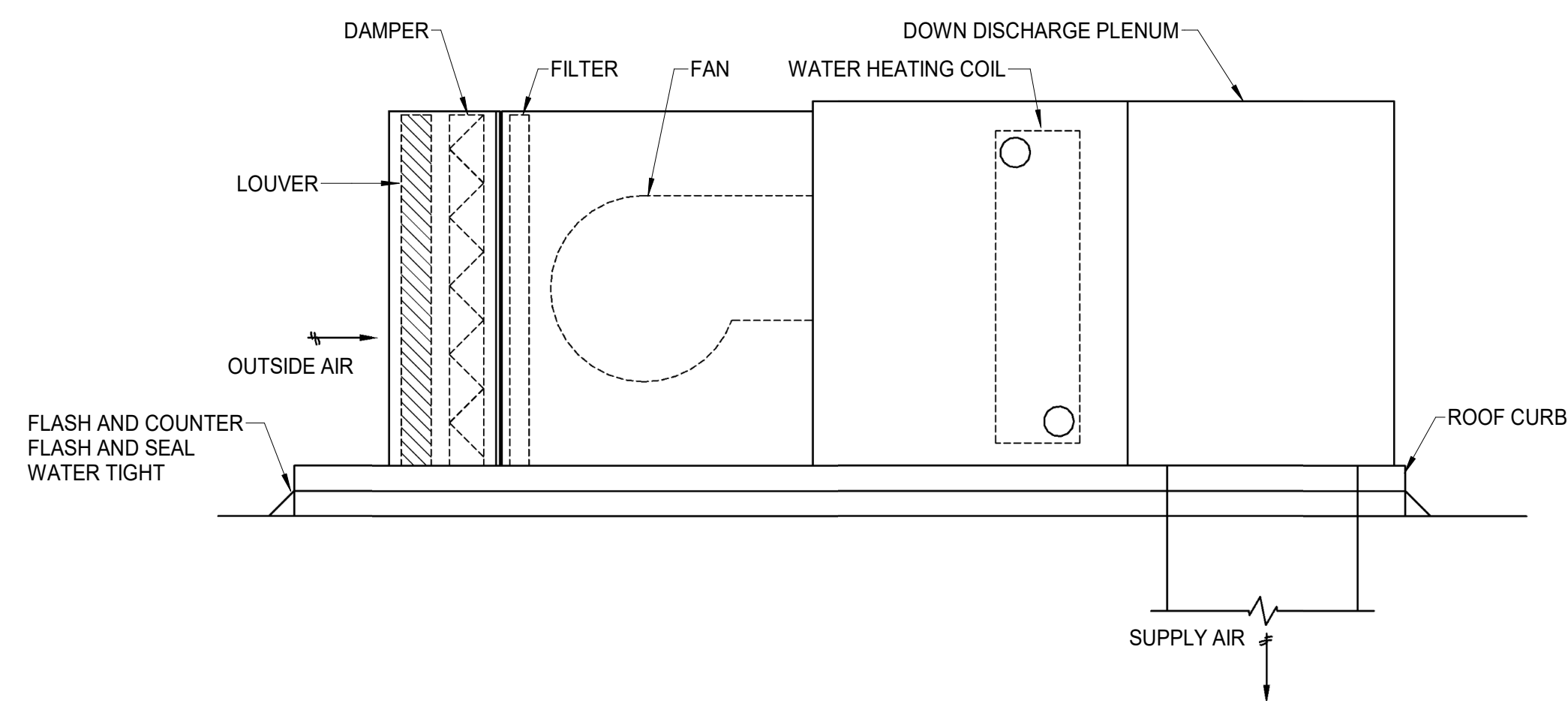
**7 HOT WATER UNIT HEATER PIPING DETAIL**  
NOT TO SCALE



**1 BOILER - CONDENSING BOILER DETAIL**  
NOT TO SCALE



**2 BOILER DETAIL**  
NOT TO SCALE



**3 ROOFTOP MAKE UP AIR UNIT/WATER COIL**  
NOT TO SCALE

181 E. 5600 S.  
Suite 200  
Murray, Utah 84107

TEL 801/530-3148  
FAX 801/530-3150

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SEAL



CLIENT LOGO

CLIENT:  
Ogden School District  
1950 Monroe Blvd,  
Ogden, UT 84401

THIS SQUARE APPEARS 1/2"x1/2"  
ON FULL SIZE SHEETS

NO	DATE	REVISION

## BID SET

PROJECT NAME:  
Ogden High School Boiler  
And ROTC Building HVAC  
Replacement

2828 Harrison BLVD  
Ogden, UT 84403

DRAWING TITLE:  
MECHANICAL DETAILS

DATE: MAY 2, 2022  
DRAWN BY: PC  
CHECKED BY: DB  
PROJ. NO: 21323  
DRAWING NO:

**M501**

BOILER SCHEDULE																			
ID		MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	DRAFT TYPE	FUEL TYPE	INPUT LOAD (BTU/H)	OUTPUT LOAD (BTU/H)	FLOW RATE (GPM)	ENTERING/ LEAVING TEMP. (°F)	WORKING FLUID	HEAD LOSS (FT)	ELECTRICAL				PHYSICAL		
													MOTOR QUAN.	MOTOR SIZE (HP)	MOTOR VOLT/PH/HZ	CONTROL CIRCUIT VOLT/PH/HZ	STACK DIAMETER (IN)	LENGTH/ HEIGHT (IN)	WEIGHT (LBS)
B-1		ARECO BMK 6000	BOILER ROOM	CONDENSING	FORCE	NAT. GAS	6000	5220	500	180 / 140	30% P.G.	9.24	1	5	460 / 3 / 60	120 / 1 / 60	14	108 / 35 / 79	4000
B-2		ARECO BMK 6000	BOILER ROOM	CONDENSING	FORCE	NAT. GAS	6000	5220	500	180 / 140	30% P.G.	9.24	1	5	460 / 3 / 60	120 / 1 / 60	14	108 / 35 / 79	4000
B-3		ARECO BMK 6000	BOILER ROOM	CONDENSING	FORCE	NAT. GAS	6000	5220	500	180 / 140	30% P.G.	9.24	1	5	460 / 3 / 60	120 / 1 / 60	14	108 / 35 / 79	4000

1. CAPACITY AT 4500 FT. ELEVATION.

2. VENTLESS GAS TRAIN, MIN. TURNDOWN 15:1

3. BOILER MANUFACTURER TO PROVIDE AND CONTROL FIELD INSTALLED, MOTORIZED ISOLATION VALVES ON EACH BOILER.

4. PROVIDE BOILER SEQUENCING WITH HW RESET.

5. BOILER SHALL BE EQUIPPED WITH COMBUSTION AIR TEMPERATURE COMPENSATION TO AUTOMATICALLY COMPENSATE FOR AIR DENSITY CHANGES BY ADJUSTING OXYGEN AND OPTIMIZE THE COMBUSTION EFFICIENCY UNDER ALL SEASONAL TEMPERATURE CHANGES.

6. PROVIDE WITH CONDENSATE NEUTRALIZER

PUMP SCHEDULE														
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID FLOW RATE (GPM)		WORKING FLUID	HEAD LOSS (FT)	EFFICIENCY (%)	PUMP CONSTRUCTION	ELECTRICAL				NOTES
										MOTOR HP	MOTOR BHP	MOTOR SPEED (RPM)	VOL/PH/HZ	
P-1	BELL & GOSSET 6m67B	B-1	INLINE	500	30% P.G.	20	65.4	BRONZE	5	3.93	1750	460 / 3 / 60		
P-2	BELL & GOSSET 6m67B	B-2	INLINE	500	30% P.G.	20	65.4	BRONZE	5	3.93	1750	460 / 3 / 60		
P-3	BELL & GOSSET 6m67B	B-3	INLINE	500	30% P.G.	20	65.4	BRONZE	5	3.93	1750	460 / 3 / 60		

VRF INDOOR UNIT SCHEDULE																		
ID	LOCATION	LG		TYPE	VENTILATION AIR (CFM)	NOMINAL COOLING CAPACITY (BTU/H)	NOMINAL HEATING CAPACITY (BTU/H)	COOLING EAT (DBWB)	HEATING EAT (DBWB)	REFRIG PIPE DIM LIQUID / SUCTION (IN)	PEAK FAN AIRFLOW (CFM)	MAX FAN ESP SETTING (IN WG)	CONDENSATE DRAIN CONNECTION SIZE (IN)	NET WEIGHT (LBS)	ELECTRICAL			NOTES
															VOLTAGE / PHASE / HZ	MCA (A)	MOP (A)	
C-1U	CLASSROOM 44	ARNU363TN44	CEILING CASSETTE		360	36,200	40,600	68 / 65	68 / 56	3/8 / 5/8	742	--	1	71	208-230 / 1 / 60	0.71	--	1,2,3
C-2U	CLASSROOM 40	ARNU303SVA4	WALL MOUNT		--	56,100	32,500	81 / 67	68 / 56	3/8 / 5/8	812	--	5/8	50	208-230 / 1 / 60	0.64	--	1,3
C-3U	CLASSROOM 37	ARNU283TN44	CEILING CASSETTE		380	23,490	27,790	66 / 65	68 / 56	3/8 / 5/8	742	--	1	83	208-230 / 1 / 60	0.71	--	1,2,3
C-4U	CLASSROOM 40	ARNU303SVA4	WALL MOUNT		--	56,100	32,500	81 / 67	68 / 56	3/8 / 5/8	812	--	5/8	50	208-230 / 1 / 60	0.64	--	1,3
C-5U	ROTC CLASS 34	ARNU363TMA4	CEILING CASSETTE		288	30,370	35,790	82 / 65	68 / 56	3/8 / 5/8	918	--	1	50	208-230 / 1 / 60	1.60	--	1,2,3
C-6U	IDF 39	ARNU303SVA4	WALL MOUNT		--	17,100	1,700	81 / 67	68 / 56	3/8 / 5/8	276	--	5/8	50	208-230 / 1 / 60	0.64	--	1,3
C-7U	ROOM 38	ARNU093SJA4	WALL MOUNT		--	5,700	4,000	81 / 67	68 / 56	1/4 / 1/2	275	--	5/8	50	208-230 / 1 / 60	0.31	--	1,3
C-8U	DRAFTING 33	ARNU243SKA4	WALL MOUNT		72	20,300	22,590	81 / 67	68 / 56	3/8 / 5/8	537	--	5/8	50	208-230 / 1 / 60	0.65	--	1,3
C-9U	END CAP	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	
C-10U	DRAFTING 27	ARNU363SVA4	WALL MOUNT		--	42,200	18,800	81 / 67	68 / 56	3/8 / 5/8	918	--	5/8	50	208-230 / 1 / 60	1.02	--	1,3
C-11U	DRAFTING 27	ARNU363SVA4	WALL MOUNT		--	42,200	18,800	81 / 67	68 / 56	3/8 / 5/8	918	--	5/8	50	208-230 / 1 / 60	1.02	--	1,3
C-12U	NO INFO	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	
C-13U	ROTC 30	ARNU073SJA4	WALL MOUNT		75	6,300	7,480	81 / 67	68 / 56	1/4 / 1/2	254	--	5/8	50	208-230 / 1 / 60	0.31	--	1,3
C-14U	CLASS 49	ARNU283TN44	CEILING CASSETTE		360	23,490	17,080	81 / 67	68 / 56	3/8 / 5/8	742	--	1	50	208-230 / 1 / 60	0.71	--	1,2,3
C-15U	CERAMICS 22	ARNU303SVA4	WALL MOUNT		--	33,400	31,700	81 / 67	68 / 56	3/8 / 5/8	812	--	5/8	50	208-230 / 1 / 60	0.64	--	1,3
C-16U	CERAMICS 22	ARNU303SVA4	WALL MOUNT		--	33,400	31,700	81 / 67	68 / 56	3/8 / 5/8	742	--	5/8	50	208-230 / 1 / 60	0.71	--	1,3
C-17U	CLASS 28	ARNU153SJA4	WALL MOUNT		338	12,920	9,310	89 / 65	68 / 56	1/4 / 1/2	537	--	5/8	50	208-230 / 1 / 60	0.31	--	1,3
C-18U	END CAP	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	
C-1L	METALS SHOP 2	ARNU363SVA4	WALL MOUNT		--	42,200	18,800	81 / 67	68 / 56	3/8 / 5/8	918	--	5/8	50	208-230 / 1 / 60	1.02	--	1,3
C-2L	METALS SHOP 2	ARNU363SVA4	WALL MOUNT		--	42,200	18,800	81 / 67	68 / 56	3/8 / 5/8	918	--	5/8	50	208-230 / 1 / 60	1.02	--	1,3
C-3L	SUPPLY ROOM 12	ARNU123SJA4	WALL MOUNT		--	8,000	3,800	81 / 67	68 / 56	1/4 / 1/2	300	--	5/8	50	208-230 / 1 / 60	0.31	--	1,3
C-4L	METALS CLASS 4	ARNU243SKA4	WALL MOUNT		370	20,300	14,960	91 / 65	68 / 56	1/4 / 1/2	537	--	1	50	208-230 / 1 / 60	0.65	--	1,3
C-5L	RIFLE RANGE 18	ARNU243SKA4	WALL MOUNT		--	13,400	4,700	81 / 67	68 / 56	3/8 / 5/8	537	--	5/8	50	208-230 / 1 / 60	0.65	--	1,3
C-6L	OFFICE 17	ARNU053SJA4	WALL MOUNT		--	2,000	3,500	81 / 67	68 / 56	1/4 / 1/2	240	--	5/8	50	208-230 / 1 / 60	0.31	--	1,3
C-7L	ROTC 16	ARNU243SKA4	WALL MOUNT		--	13,500	8,900	81 / 67	68 / 56	3/8 / 5/8	537	--	5/8	50	208-230 / 1 / 60	0.65	--	1,3
C-8L	ROOM 52	ARNU053SJA4	WALL MOUNT		--	3,500	2,600	81 / 67	68 / 56	1/4 / 1/2	240	--	5/8	50	208-230 / 1 / 60	0.31	--	1,3
C-9L	CORRIDOR 14	ARNU073SJA4	WALL MOUNT		--	5,500	2,700	81 / 67	68 / 56	1/4 / 1/2	254	--	5/8	50	208-230 / 1 / 60	0.31	--	1,3
C-10L	VESTIBULE 53	ARNU073SJA4	WALL MOUNT		--	5,500	2,700	81 / 67	68 / 56	1/4 / 1/2	254	--	5/8	50	208-230 / 1 / 60	0.31	--	1,3
C-11L	END CAP	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	

1. PROVIDE WITH INTEGRAL CONDENSATE PUMP

2. PROVIDE WITH 4-WAY CEILING CASSETTE COVER (LG PTDC0Q)

3. PROVIDE WITH VENTILATION KIT (LG PTVK430)

VRF OUTDOOR UNIT SCHEDULE											
ID	LG MODEL NUMBER	NOMINAL COOLING CAPACITY (BTU/H)	NOMINAL HEATING CAPACITY (BTU/H)	COOLING OUTDOOR TEMP DB (°F)	HEATING OUTDOOR TEMP DB (°F)	PHYSICAL		ELECTRICAL			NOTES
						TOTAL WEIGHT (LBS)	WIDTH / HEIGHT / DEPTH (IN)	VOLTAGE / PHASE / Hz	TOTAL		
									MCA (A)	MOP (A)	
CU-1UA	ARUM168DTE5	168000	189,000	97 / 63	3 / 2.4	1,500	49 / 67 / 30	460 / 3 / 60	28.5	35	1.2
CU-1UB	ARUM216DTE5	216,000	243,000	97 / 63	3 / 2.4	1,500	49 / 67 / 30	460 / 3 / 60	38.3	50	1.2
CU-1L	ARUM168BTE5	150,130	172,430	97 / 63	3 / 2.4	1,500	49 / 67 / 30	460 / 3 / 60	28.4	35	3

1. CU-1UA AND CU-1UB ARE COMBINED TO FORM ARUM264DTE5.

2. PROVIDE WITH TWO 8 PORT HEAT RECOVERY UNITS (DISTRIBUTION BOXES), HR-1 & HR-2.

3. PROVIDE WITH ONE 8 PORT HEAT RECOVERY UNIT AND ONE 2 PORT HEAT RECOVERY UNIT (DISTRIBUTION BOX), HR-3 & HR-4.

MAKE-UP AIR HANDLER UNIT SCHEDULE																				
ID	MANUF. AND MODEL NO.	LOCATION	OUTSIDE AIR FLOW RATE (CFM)	TOTAL STATIC PRESSURE DROP (IN H2O)	HEATING				COOLING				MOTOR	PHYSICAL SIZE				NOTES		
					ENTER/ LEAVING AIR TEMP. (DEG. F)	ENTER/ LEAVING FLUID TEMP. (DEG. F)	ENTER/ LEAVING FLUID TEMP. (DEG. F)	ENTER/ LEAVING FLUID TEMP. (DEG. F)	ENTER/ LEAVING AIR TEMP. (DEG. F)	ENTER/ LEAVING FLUID TEMP. (DEG. F)	ENTER/ LEAVING FLUID TEMP. (DEG. F)	ENTER/ LEAVING FLUID TEMP. (DEG. F)		DIMENSIONS LENGTH/WIDTH/ HEIGHT (IN.)	WEIGHT (LBS)					
MAU-1	GREENHECK MSX-P122-H22-MF	ROOF	5,800	1.2	0 / 65	346.3	18.2	180 / 140	30% P.G.	-	-	-	-	1184 / 3	460 / 3	129 / 44 / 45	1,000			
MAU-2	GREENHECK MSX-110-H12	ROOF	2,500	1.3	0 / 58	133.6	7	180 / 140	30% P.G.	-	-	-	-	1259 / 1.5	460 / 3	94 / 34 / 40	700			

1. CAPACITY AT 4500 FEET ELEVATION.

2. 100% OUTSIDE AIR, OUTSIDE AIR DAMPER, FILTER, WATER COIL AND DOWN DISCHARGE PLENUMIN.

3. PROVIDE PRE FABRICATED ROOF CURB.

4. CONTROL: REMOTE PANEL WITH DISCHARGE AIR CONTROL AND MODE OPERATION INDICATOR LIGHTS.

HOT WATER UNIT HEATER SCHEDULE																		
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	USE TYPE	AIR				FLUID				ELECTRICAL				PHYSICAL	
					FLOW RATE (BTU/H)	LOAD (BTU/H)	ENTERING/ LEAVING DB (°F)	TEMP. (°F)	FLOW RATE (GPM)	LOAD (GPM)	ENTERING/ LEAVING DB (°F)	TEMP. (°F)	WORKING FLUID	HEAD LOSS (FT)	MOTOR SIZE (HP)	MOTOR SPEED (RPM)	MINIMUM NO. ROWS/ FINES PER INCH	LENGTH/ WIDTH/ HEIGHT (IN)
UH-1	RITTILING RV-78	BOILER ROOM	VERTICAL	HEATING	1550	46,800	60	95	6	180 / 160	30% P.G.	0.43	1/8	1550	120 / 1 / 60	1 / 8	100	25 / 25 / 10
UH-2	RITTILING RV-78	BOILER ROOM	VERTICAL	HEATING	1550	46,800	60	95	6	180 / 160	30% P.G.	0.43	1/8	1550	120 / 1 / 60	1 / 8	100	25 / 25 / 10

1. CAPACITY AT 4500 FT. ELEVATION

2. SUSPEND FROM STRUCTURE, MOUNTING HEIGHT PER MANUFACTURERS RECOMMENDATIONS.

181 E. 5600 S.  
Suite 200  
Murray, Utah 84107

TEL 801/530-3148  
FAX 801/530-3150

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SEAL



CLIENT LOGO

CLIENT:  
Ogden School District  
1950 Monroe Blvd,  
Ogden, UT 84401

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NO	DATE	REVISION

## BID SET

PROJECT NAME:  
Ogden High School Boiler  
And ROTC Building HVAC  
Replacement

2828 Harrison BLVD  
Ogden, UT 84403

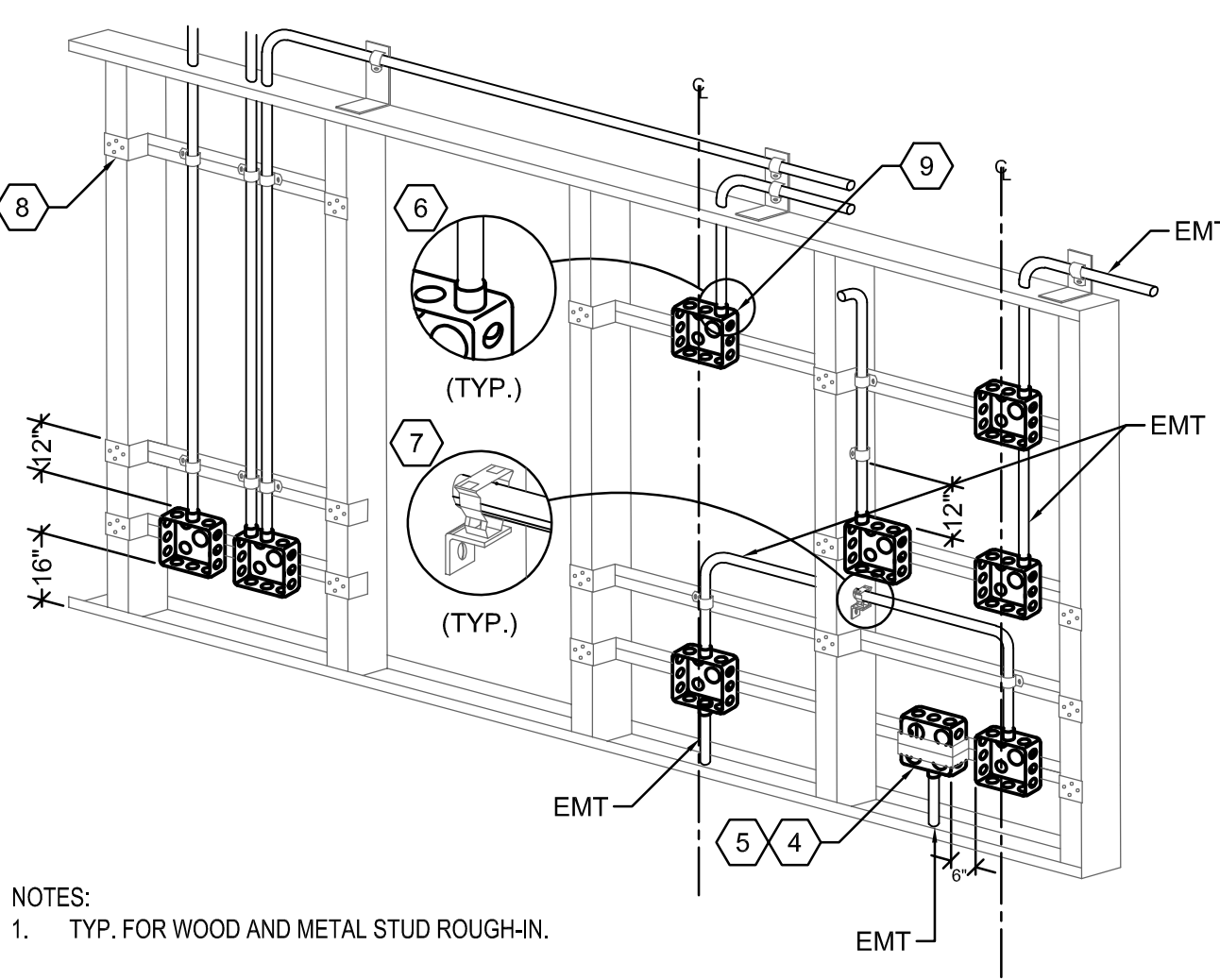
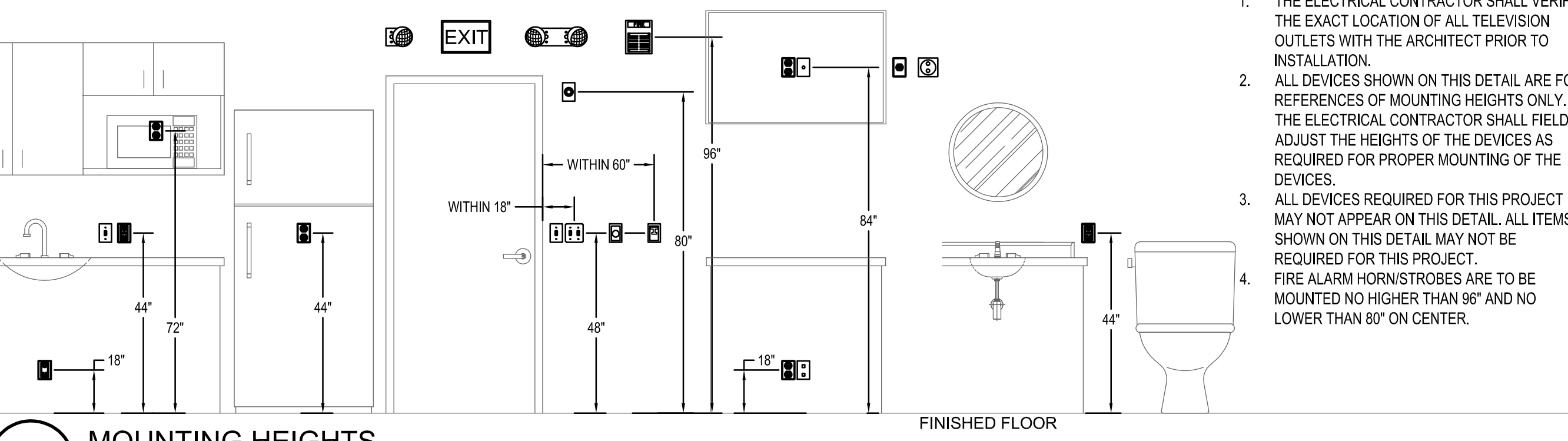
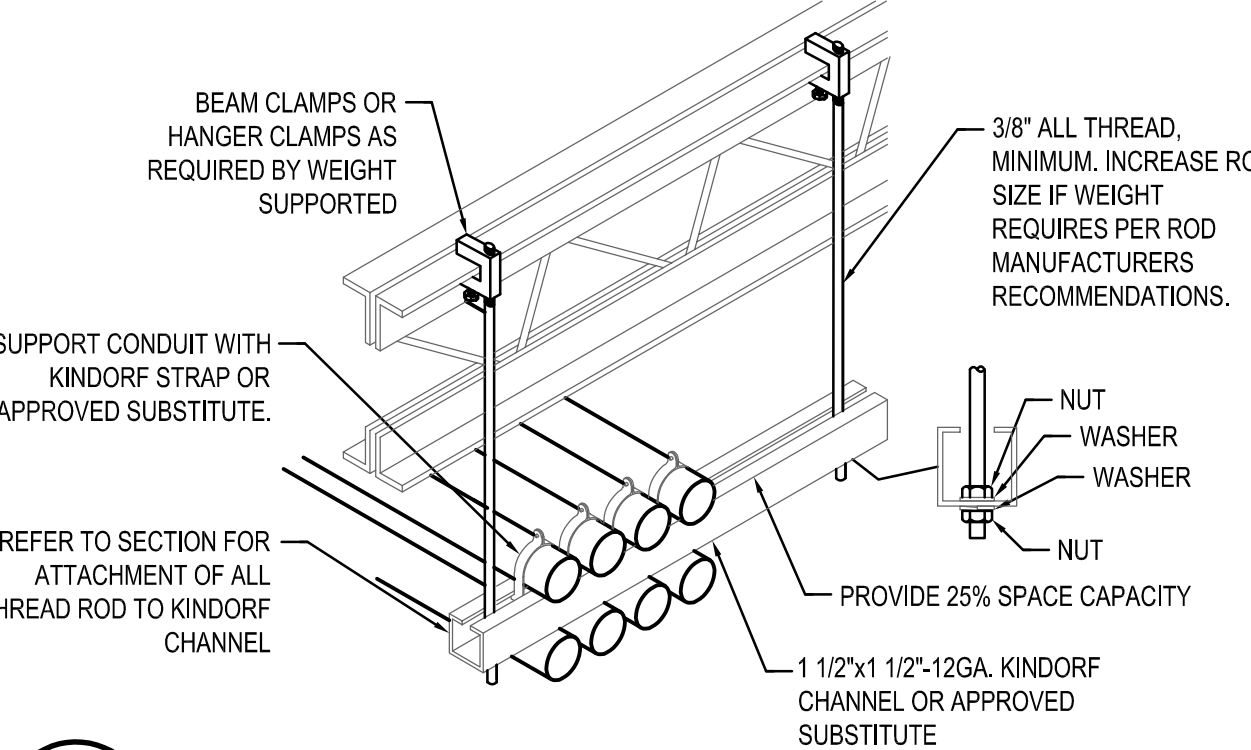
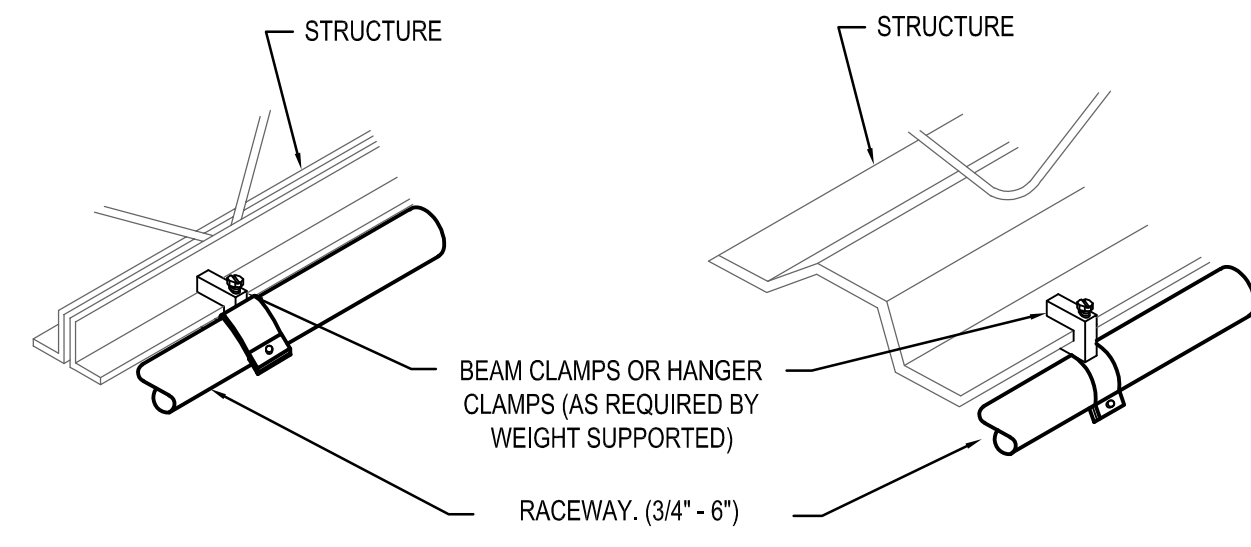
DRAWING TITLE:  
MECHANICAL  
SCHEDULES

DATE: MAY 2, 2022  
DRAWN BY: PC  
CHECKED BY: DB  
PROJ. NO.: 21323  
DRAWING NO.:

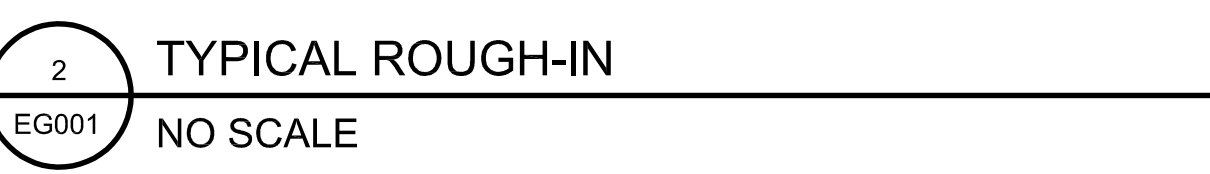
M601

**NOTES**

- (1) SEE LUMINAIRE SCHEDULE FOR FIXTURE TYPES AND DETAILS.
- (2) SEE LUMINAIRE SCHEDULE FOR MOUNTING REQUIREMENTS.
- (3) WIRE LIGHT FIXTURE FROM ADJACENT J-BOX
- (4) CONNECT NEAREST UN-SWITCHED HOT CONDUCTOR TO EMERGENCY BALLAST
- (5) DIRECTIONAL ARROWS INDICATE REQUIRED CHEVRONS.
- (6) COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL INTERIOR ELEVATIONS
- (7) USE WITH POWER PACK.
- (8) "X" IN SYMBOL IS INCHES BETWEEN RECEPTACLE ALONG WIREWAY. SEE DRAWINGS.
- (9) PROVIDE UL LISTED DEVICE COMPATIBLE WITH THE FIRE ALARM PANEL/SYSTEM.
- (10) MATCH THE VOLTAGE OF THE RELAY WITH THAT OF THE CONTROLLING CIRCUIT.
- (11) USE A "X" 4" BOX WITH A MUD RING TO MATCH THE DEVICE AND INSTALLATION.
- (12) PROVIDE MUD RING AND/OR BOX COVER APPROPRIATE FOR DEVICE/FIXTURE.
- (13) USE HEAVY DUTY DEVICE FOR 480 VOLT.
- (14) SIZE TO THE EQUIPMENT BEING CONTROLLED
- (15) USE ALARM PANELS; FA-CP FIRE ALARM CONTROL PANEL, NAC: NOTIFICATION APPLIANCE PANEL, ANNUN: GRAPHIC ANNUNCIATOR PANEL, AND SES: SMOKE EVACUATION SYSTEM
- (16) LIGHT FIXTURES ARE SCALED WITHIN THE DRAWINGS BASED ON ACTUAL DIMENSIONS.



- NOTES:
1. TYP. FOR WOOD AND METAL STUD ROUGH-IN.
  2. PLASTER RINGS NOT SHOWN. COORDINATE RING DEPTH TO BE FLUSH WITH FINISHED SURFACE, UNLESS NOTED OTHERWISE.
  3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCH. AND MECH. DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
  4. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MIN. OF 6" HORIZONTAL DISTANCE.
  5. ELECTRICAL BOXES INSTALLED IN FIRE RESISTANT WALLS OR PARTITIONS SHALL COMPLY WITH IBC 714.3.2.
  6. INSULATED THROAT EMT CONNECTOR.
  7. CADDY FASTENER, THROUGH STUD CABLE/CONDUIT SUPPORT "B"12P".
  8. ADJUSTABLE BAR HANGER.
  9. TYPICAL DEVICE JUNCTION BOX.



## GENERAL NOTES

1. THE ELECTRICAL SYSTEMS DEFINED BY THESE PLANS AND SPECIFICATIONS ARE TO BE CONSTRUCTED AS COMPLETE AND OPERABLE SYSTEMS AND SHALL BE BID WITH THIS INTENT. THE CONTRACTOR SHALL VISIT THE SITE, READ ALL THE RELEVANT DOCUMENTS AND BECOME FAMILIAR WITH THE TYPE OF CONSTRUCTION AND WORK TO BE ACCOMPLISHED. SHOULD ANY ERROR, OMISSION OR CONFLICT EXIST IN EITHER THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING BEFORE SUBMITTING HIS BID PRICE SO A CHANGE CAN BE ISSUED IN A PRE-BID ADDENDUM. OTHERWISE, THE CONTRACTOR AND/OR EQUIPMENT SUPPLIER SHALL SUPPLY THE PROPER MATERIALS AND LABOR TO INSTALL COMPLETE AND OPERABLE SYSTEMS AT THEIR OWN EXPENSE. WHEN EACH ELECTRICAL SYSTEM IS COMPLETE, THE CONTRACTOR SHALL TEST AND CONFIRM ITS PROPER OPERATION. ANY INCOMPLETE SYSTEM SHALL BE MADE COMPLETE AND OPERABLE.
2. THE ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE ELECTRICAL DOCUMENTS SO FAR AS ANY ELECTRICAL ITEMS THEY MAY CONTAIN. THE ELECTRICAL CONTRACTOR SHALL REFER TO AND COORDINATE WITH THEM. NO EXTRA COST SHALL BE ALLOWED FOR FAILURE TO COORDINATE THE CONTRACT DOCUMENTS WITH OTHER TRADES AND/OR IF EQUIPMENT DIMENSIONS ARE GREATER THAN SPECIFIED AND/OR DIMENSIONED ON THE PLANS.
3. NO ADDITIONS TO THE CONTRACTOR BID WILL BE ALLOWED FOR CHANGES MADE NECESSARY BY INTERFERENCE WITH OTHER WORK.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, MATERIALS AND LABOR FOR THE CONNECTIONS OF ALL EQUIPMENT SHOWN ON THE PLANS - ARCHITECTURAL, MECHANICAL, ETC.
5. THIS PROJECT IS TO BE INSTALLED IN STRICT ACCORDANCE WITH LOCAL AND STATE CODES AND THE NEC. IF AT ANY TIME DURING CONSTRUCTION, OR AFTER, SOMETHING IS FOUND TO BE INSTALLED IN VIOLATION OF THE CODES LISTED ABOVE, IT SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.
6. ALL EQUIPMENT PROVIDED BY THE ELECTRICAL CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, AND BE PROPERLY INSTALLED FOR THE CONDITIONS AND SPACE THAT EQUIPMENT IS BEING INSTALLED WITHIN.
7. THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND CONFIRM THE EXACT LOCATION OF THE POWER PANELS FROM WHICH NEW CIRCUITS ARE BEING FED FROM. VERIFY EXISTING BRANCH CIRCUIT BREAKERS AND PROVIDE NEW BREAKERS AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
8. THE ELECTRICAL CONTRACTOR SHALL INSTALL A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN. CONDUIT SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. THE ELECTRICAL CONTRACTOR SHALL GROUND THE ELECTRICAL SYSTEM IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.
9. THE ELECTRICAL CONTRACTOR SHALL CONFORM MINIMUM CODE (NEC) WORKING CLEARANCE BEFORE INSTALLING ANY ELECTRICAL PANELS, CABINETS, DISCONNECT, TRANSFORMERS, ETC. AND SHALL MOVE THE PANELS/EQUIPMENT AT HIS EXPENSE IF REJECTED BY AN INSPECTOR. IF CLEARANCE IS NOT POSSIBLE, THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.
10. CONDUIT LAYOUTS SHOWN ON THE PLANS ARE DIAGRAMMATIC, NOT INDICATING THE ROUTING REQUIRED. THE EC SHALL ROUTE THE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION AND SHALL COORDINATE WITH DUCTWORK, PIPING, EQUIPMENT, BUILDING STRUCTURE AND OTHER POTENTIAL OBSTRUCTIONS.
11. THE CONTRACTOR SHALL ALLOW THE MOVEMENT, BEFORE ROUGH-IN, OF ANY ELECTRICAL PANEL, DEVICE, LUMINAIRE, ETC., A DISTANCE OF 10 FEET WITHOUT REQUIRING ADDITIONAL COST TO THE PROJECT.
12. THE ELECTRICAL CONTRACTOR SHALL SECURE ALL CONDUIT TO THE STRUCTURE AS IT IS SET IN PLACE USING INDUSTRY STANDARD METHODS AND PRACTICES.
13. MINIMUM SIZE CONDUIT SHALL BE 3/4" ABOVE GROUND. CONDUIT SHALL BE EMT WITH STEEL SET SCREW FITTINGS. UNDERGROUND CONDUIT SHALL BE PVC (SCH40) WITH GRC ELBOWS AND RISERS WRAPPED IN CORROSION RESISTANT MATERIALS WHERE IN DIRECT CONTACT WITH THE SOIL.
14. FLEXIBLE METAL CONDUIT SHALL BE LIMITED TO CONNECTIONS TO LIGHT FIXTURES AND FINAL CONNECTIONS TO MOTORS OR OTHER EQUIPMENT SUBJECT TO VIBRATION. LENGTHS OF FLEXIBLE OR SEALTITE CONDUIT SHALL NOT EXCEED 72" INCHES. USE LFMC IN DAMP OR WET LOCATIONS.
15. WIRING DEVICES SHALL MATCH EXISTING COLOR AND FACEPLATE TYPE. COLOR TO MATCH ADJACENT ARCHITECTURAL FINISH. COORDINATE WITH ARCHITECT.
16. TO ASSURE ALL DEVICES ARE RIDGELY SET, THE ELECTRICAL CONTRACTOR SHALL SECURE ALL DEVIDE BOXES WITH BRACKETS, HANGERS, ETC. DESIGNED FOR THE APPLICATION. ANY DEVIDE BOXES NOT SECURED WILL BE MADE SECURE AT THE CONTRACTORS EXPENSE.
17. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EMPTY CONDUITS WITH 20LB RATED NYLON PULL CORD.
18. BEFORE ANY ELECTRICAL CONDUIT, BOXES, ETC. ARE COVERED (FLOOR, CEILING, WALLS, ETC.), THEY SHALL BE APPROVED BY THE INSPECTING OFFICER (INSPECTOR), THE UNCOVERING AND REPLACEMENT OF ELECTRICAL WORK FOR THE INSPECTION PURPOSES WILL BE AT THE COST OF THE ELECTRICAL CONTRACTOR.
19. WHERE WIRE SIZE IS NOT SHOWN ON THE DRAWINGS FOR 20A, 120 OR 277VAC BRANCH CIRCUITS, THE CIRCUIT SHALL CONSIST OF 2#12(CU THHN)/2W+1#12(CU THHN)/2W+1#12(CU THHN)-XGND IN 3/4" EMT CONDUIT. THIS WIRE SIZE SHALL BE INCREASED TO #10(CU THHN) FOR 120VAC BRANCH CIRCUITS WITH OVERALL LENGTHS EXCEEDING 100' TO ACCOMMODATE FOR VOLTAGE DROP. REFER TO EQUIPMENT SCHEDULES, FEEDER SCHEDULES AND NOTES ON DRAWINGS FOR ALL OTHER BRANCH CIRCUIT AND FEEDER WIRE/CONDUIT SIZING.
20. CONDUCTORS SHALL BE COPPER STRANDED, 600VAC RATED, TYPE THHN/THHW-2 UNLESS OTHERWISE NOTED.
21. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH EQUIPMENT SUPPLIERS ON THE EXACT LOCATIONS OF ALL EQUIPMENT AND ELECTRICAL CONNECTIONS, WIRES, AND OVERCURRENT PROTECTION PRIOR TO ROUGH-IN. THE ELECTRICAL CONTRACTOR SHALL MAKE THE FINAL CONNECTION TO ALL EQUIPMENT UNLESS OTHERWISE DIRECTED BY THE EQUIPMENT SUPPLIER.
22. THE ELECTRICAL CONTRACTOR SHALL CLEAN THE ENTIRE ELECTRICAL SYSTEM AFTER COMPLETION OF THE INSTALLATION. REMOVE ALL FINGER PRINTS, FOREIGN MATTER, PAINT, DIRT, GREASE, UNNEEDED LABELS OR STICKERS FROM FIXTURES AND EQUIPMENT. REMOVE ALL RUBBISH AND DEBRIS ACCUMULATED DURING INSTALLATION FROM THE PREMISES.
23. OBTAIN FROM SUPPLIERS ALL WIRING DIAGRAMS FOR EQUIPMENT PRIOR TO ANY ROUGH-IN. TO ASSURE THAT PROPER CHARACTERISTICS ARE PROVIDED, ANY INCORRECT WIRING OR DEVICES INSTALLED BY THE ELECTRICAL CONTRACTOR WITHOUT THE WIRING DIAGRAM SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE. PROVIDE COPIES OF WIRING DIAGRAMS WITHIN EACH PIECE OF EQUIPMENT AND ADDITIONAL COPIES WITH THE OPERATION AND MAINTENANCE MANUALS.
24. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE CONDUIT AND DEVICE MOUNTING BOXES FOR THERMOSTATS AND OTHER MECHANICAL CONTROLS.
25. IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS FOR ALL DEVICES TO BE FLUSH MOUNTED AND CONDUIT/CABLING INSTALLED CONCEALED WITHIN WALLS/CEILINGS. IN AREAS WHERE CONDUIT MUST BE INSTALLED EXPOSED IT SHALL BE COORDINATED WITH THE ARCHITECT AND/OR ENGINEER. ALL EFFORTS SHALL BE MADE TO CONCEAL WIRING METHODS.
26. PROVIDE AN UPDATED, TYPED PANEL CIRCUIT DIRECTORY FOR ALL PANELS WHERE CIRCUITS HAVE BEEN MODIFIED, ADDED, OR REMOVED BY THE SCOPE OF THIS PROJECT. CIRCUIT DESCRIPTIONS ON THE DIRECTORY SHALL BE UNIQUE AND INDICATE THE ROOM AND EQUIPMENT/DEVICE IT IS FEEDING. DATE DIRECTORY WITH PROJECT COMPLETION DATE. MODIFIED CIRCUITS TO BE IN BOLD.
27. PROVIDE A CLEAR, TYPED LABEL ON THE FACEPLATE OF ALL RECEPTACLES AND LIGHT SWITCHES INDICATING THE CIRCUIT IT IS TIED TO. USE LABELING CONVENTION XXXXX WHERE "XXX" IS THE NAME OF THE PANEL AND "xxx" IS THE BRANCH CIRCUIT NUMBER. LABELS LENGTH SHALL NOT EXCEED 1 1/4" ON EITHER SIDE OF TEXT.
28. FUSED DISCONNECTS TO BE HEAVY DUTY.

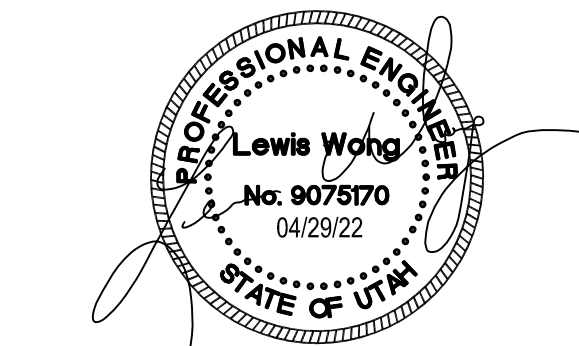
Sheet List Table	
Sheet Number	Sheet Title
EG001	ELECTRICAL NOTES & SYMBOLS
EG401	ELECTRICAL SPECIFICATIONS
EG601	ELECTRICAL SCHEDULES
EG701	ONE LINE DIAGRAM
ED100	ELECTRICAL DEMOLITION PLAN – LOWER LEVEL
ED101	ELECTRICAL DEMOLITION PLAN – UPPER LEVEL
EP100	ELECTRICAL PLAN – LOWER LEVEL
EP101	ELECTRICAL PLAN – UPPER LEVEL

181 E. 5600 S.  
Suite 200  
Murray, Utah 84107

TEL 801/530-3148  
FAX 801/530-3150

http://www.VBFA.com

SEAL



CLIENT LOGO

CLIENT:  
**Ogden School District**  
1950 Monroe Blvd,  
Ogden, UT 84401

THIS SQUARE APPEARS 12"x12"  
ON FULL SIZE SHEETS

NO	DATE	REVISION

## BID SET

PROJECT NAME:  
**Ogden High School Boiler And  
ROTC Building HVAC  
Replacement**

2828 Harrison BLVD  
Ogden, UT 84403

DRAWING TITLE:

**ELECTRICAL  
SPECIFICATIONS**

DATE: MAY 2, 2022  
DRAWN BY: AC  
CHECKED BY: KC  
PROJ. NO: 21323  
DRAWING NO:

**EG401**

## ELECTRICAL SPECIFICATIONS

### PART 1 - GENERAL

#### A. DESCRIPTION

- FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TRANSPORTATION AS REQUIRED TO PROPERLY INSTALL A COMPLETE AND OPERABLE ELECTRICAL SYSTEM.

#### B. RULES AND REGULATIONS

- ALL WORK AND MATERIALS SHALL BE INSTALLED AS SHOWN AND HEREIN SPECIFIED.
- THE LATEST EDITIONS OF THE FOLLOWING SPECIFICATIONS, STANDARDS, AND AMENDMENTS, AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION, SHALL FORM A PART OF THIS SPECIFICATION THE SAME AS IF HEREIN WRITTEN OUT IN FULL. (ALL MATERIALS AND INSTALLATIONS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS THEREOF).
  - NFPA (NATIONAL FIRE PROTECTION ASSOCIATION), PUBLICATION NUMBER 70, "NATIONAL, ELECTRICAL CODE", PUB. NO. 72E, "AUTOMATIC FIRE DETECTORS".
  - UL (UNDERWRITERS LABORATORIES, INC.).
  - NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION).
  - UBC (UNIFORM BUILDING CODE) AND STANDARD BUILDING CODE.
  - IBC (INTERNATIONAL BUILDING CODE)
  - IFC (INTERNATIONAL FIRE CODE)
  - IECC (INTERNATIONAL ENERGY CONSERVATION CODE)
  - IEC (INTERNATIONAL ELECTRICAL CODE) STATE AND
  - LOCAL BUILDING AUTHORITY AND CODES
- NO REQUIREMENT TO THESE DRAWINGS AND SPECIFICATIONS SHALL BE CONSTRUCTED TO VOID ANY OF THE PROVISIONS OF THE ABOVE SPECIFICATIONS AND STANDARDS.

#### C. PERMITS AND INSPECTIONS UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL APPLY, PAY FOR AND SCHEDULE ALL APPLICABLE PERMITS, FEES AND INSPECTIONS REQUIRED BY ANY AND ALL PUBLIC AUTHORITIES HAVING JURISDICTION AND REQUIRING INSPECTION.

- EC SHALL INCLUDE ALL UTILITY COMPANY CHARGES IN THE BASE BID.

#### D. WORKMANSHIP AND MATERIALS

- WORKMANSHIP SHALL BE OF THE BEST QUALITY AND NONE BUT COMPETENT PERSONNEL SKILLED IN THEIR TRADE SHALL BE EMPLOYED. THE CONTRACTOR SHALL FURNISH THE SERVICES OF AN EXPERIENCED SUPERINTENDENT, WHO WILL BE IN CHARGE OF THE EXECUTION OF WORK, UNTIL COMPLETED AND ACCEPTED.
- UNLESS OTHERWISE HEREIN AFTER SPECIFIED, ALL MATERIALS AND EQUIPMENT UNDER THIS DIVISION OF THE SPECIFICATIONS SHALL BE NEW, OF BEST GRADE AND AS LISTED IN PRINTED CATALOGS OF THE MANUFACTURER, EACH ARTICLE OF ITS KIND SHALL BE THE STANDARD PRODUCT OF A SINGLE MANUFACTURER.
- THE OWNER'S REPRESENTATIVE SHALL HAVE THE RIGHT TO ACCEPT OR REJECT MATERIAL EQUIPMENT AND/OR WORKMANSHIP AND DETERMINE WHEN THEY HAVE COMPLIED WITH THE REQUIREMENTS HEREIN SPECIFIED.
- ALL MANUFACTURED MATERIALS SHALL BE CLEARLY MARKED OR STAMPED WITH THE MANUFACTURER'S NAME AND RATING.
- REFERENCE TO STANDARDS ARE INTENDED TO BE THE LATEST REVISION OF THE STANDARD SPECIFIED, OR THAT ACCEPTED BY THE AUTHORITY HAVING JURISDICTION.

#### E. MANUFACTURER'S RECOMMENDATIONS

- EQUIPMENT INSTALLED UNDER THIS DIVISION OF THE SPECIFICATIONS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR HEREIN SPECIFIED.

#### F. GUARANTEE ALL MATERIALS AND EQUIPMENT PROVIDED AND INSTALLED UNDER THIS SECTION SHALL BE GUARANTEED FOR A MINIMUM OF ONE YEAR. SHOULD ANY TROUBLE OR MALFUNCTIONS DEVELOP DURING THIS PERIOD DUE TO DEFECTIVE MATERIALS OR FAULTY WORKMANSHIP, THE CONTRACTOR WILL BE HELD LIABLE AND SHALL FURNISH LABOR, MATERIALS AND EQUIPMENT NECESSARY TO CORRECT THE TROUBLE OR MALFUNCTION WITHOUT ADDITIONAL COST TO THE OWNER. ALL DEFECTIVE MATERIAL OR INFERIOR WORKMANSHIP NOTICED DURING THE TIME OF INSTALLATION SHALL BE CORRECTED IMMEDIATELY TO THE ENTIRE SATISFACTION OF THE ARCHITECT, ENGINEER AND OWNER, AT NO ADDITIONAL COST.

#### G. DEFINITIONS

- "PROVIDE" - MEANS FURNISH, INSTALL, AND CONNECT, UNLESS OTHERWISE INDICATED.
- "FURNISH" - MEANS PURCHASE NEW AND DELIVER IN OPERATING ORDER TO PROJECT SITE.
- "INSTALL" - MEANS TO PHYSICALLY INSTALL THE ITEMS IN-PLACE.
- "CONNECT" - MEANS MAKE FINAL ELECTRICAL CONNECTIONS FOR A COMPLETE OPERATING PIECE OF EQUIPMENT. THIS INCLUDES PROVIDING CONDUIT, WIRE, TERMINATIONS, ETC. AS APPLICABLE.
- "OR EQUIVALENT" - MEANS TO PROVIDE EQUIVALENT EQUIPMENT. SUCH EQUIPMENT MUST BE APPROVED BY THE ENGINEER PRIOR TO BIDDING.

#### H. SUBMITTALS

- PROVIDE SHOP DRAWINGS AND MANUFACTURER'S LITERATURE OF MATERIALS AND EQUIPMENT AS REQUIRED IN THE GENERAL CONDITIONS, AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND AS LISTED BELOW:
- CATALOG CUTS
  - CIRCUIT BREAKERS (EACH SIZE AND TYPE)
  - SAFETY SWITCHES
  - MOTOR STARTERS
  - THERMAL SWITCHES
  - LIGHT FIXTURES

THE ABOVE IS A STANDARD SUBMITTAL REQUIREMENT LIST. ELECTRICAL CONTRACTOR SHALL SUBMIT ALL APPLICABLE ITEMS FOR REVIEW. MATERIAL NOT SUBMITTED AND APPROVED BY THE ARCHITECT, ENGINEER OR OWNER'S REPRESENTATIVE SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTORS COST IF DIRECTED BY THE ARCHITECT, ENGINEER OR THE OWNER'S REPRESENTATIVE.

### PART 2 - MATERIALS

#### A. GENERAL

- MATERIALS AND EQUIPMENT SHALL BE STANDARD CATALOGED PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF THE PRODUCT, UL LISTED, AND SHALL BE THE LATEST STANDARD DESIGN THAT CONFORMS TO SPECIFIED MATERIALS AND EQUIPMENT.

#### B. RACEWAY

- ELECTRICAL METALLIC TUBING (EMT) SHALL BE USED IN INTERIOR DRY LOCATIONS.
- GALVANIZED FLEXIBLE STEEL (FMC) OR LIQUID TIGHT STEEL (LFMC) CONDUIT SHALL BE USED FOR

- CONNECTIONS TO MECHANICAL EQUIPMENT, LUMINAIRES AND TRANSFORMERS AND AS INDICATED. LIQUID TIGHT CONDUIT SHALL BE USED IN EXTERIOR OR DAMP LOCATIONS.
- SCHEDULE 40 PVC (WITH PVC COATED OR VINYL TAPE DOUBLE WRAPPED RIGID STEEL ELBOWS AND RISES) SHALL BE USED FOR RUNS THAT ARE IN CONTACT WITH THE EARTH.
  - 3/4" CONDUIT SHALL BE THE MINIMUM SIZE CONDUIT.
  - OUTDOOR AND WET OR DAMP LOCATIONS: PROVIDE RIGID STEEL CONDUIT.

#### C. FITTINGS

- ALL FITTINGS SHALL BE STEEL/MALLEABLE IRON WITH INSULATING BUSHINGS.

#### D. OUTLET AND JUNCTION BOXES

- BOXES IN INTERIOR DRY LOCATIONS SHALL BE GALVANIZED ONE-PIECE PRESSED STEEL, KNOCKOUT TYPE, NOT LESS THAN 4 INCHES SQUARE AND 2 1/8" DEEP; APPLETON, RACO, OR EQUAL.
- BOXES SHALL BE EQUIPPED WITH PLASTER RINGS, EXTENSION RINGS, AND FIXTURE STUDS AS REQUIRED.
- BOXES FOR FLOOR OUTLETS SHALL BE OF THE CAST-METAL THREADED-CONDUIT-ENTRANCE, WATERPROOF TYPE WITH MEANS FOR ADJUSTING COVER PLATE TO FINISHED FLOOR LEVEL. BOXES SHALL BE SUCH AS HUBBELL B2503 OR EQUAL. THE COVER SHALL BE HUBBELL S3925, S3082 OR EQUAL TO MATCH THE FLOOR TYPE OR AS SHOWN ON THE PLANS.
- PROVIDE FLUSH MOUNTING OUTLET BOX IN FINISHED AREAS.
- BOXES FOR STRUCTURED CABLING (DATA & PHONE) IN INTERIOR DRY LOCATIONS SHALL BE GALVANIZED ONE-PIECE PRESSED STEEL, KNOCKOUT TYPE 4 11/16" x 2 1/8"; APPLETON, RAYCO OR EQUAL.
- ALL BOXES IN FINISHED SPACES SHALL BE PROVIDED WITH MUD RINGS AS REQUIRED FOR THE DEVICE AND WALL MATERIAL.
- OUTDOOR AND WET OR DAMP LOCATIONS: PROVIDE CAST METAL OR PVC OUTLET, JUNCTION, AND PULL BOXES.

#### E. CONDUCTORS

- ALL CONDUCTORS SHALL BE SOFT DRAWN, ANNEALED COPPER IN RACEWAY SIZED AS SHOWN ON THE PLANS. ALL CONDUCTORS TO BE MINIMUM #12 AWG UNLESS NOTED OTHERWISE #8 AWG AND LARGER SHALL BE STRANDED.
- CONDUCTORS SHALL BE COPPER, THHN OR THWN-2 COLOR CODED IN ACCORDANCE WITH PART 3, SECTION C. 1, OF THESE SPECIFICATIONS OR AS INDICATED ON THE DRAWINGS.

#### F. WIRING CONNECTIONS

- MAKE ALL ELECTRICAL CONNECTIONS.
- MAKE CONNECTION TO DEVICES USING "PIG-TAILS". DO NOT USE A DEVICE AS A CONNECTION OR A SPLICE UNIT.
- DO NOT PLACE STRANDED CONDUCTORS DIRECTLY UNDER SCREWS. INSTALL CRIMP-ON, INSULATED, FORK TERMINALS FOR CONDUCTOR TERMINATIONS, OR INSTALL SOLID CONDUCTORS.

#### G. NAMEPLATES

- PROVIDE EACH PANEL BOARD, DISCONNECT SWITCH, AND BREAKER IN SWITCHBOARD WITH A MICARTA PLASTIC NAMEPLATE MADE OF WHITE-FACED BLACKCORE PLASTIC LAMINATE. NAMEPLATE SHALL BE MINIMUM 3" WIDE BY 3/4" HIGH FOR PANEL BOARD IDENTIFICATION INCLUDE DESIGNATION, PHASE, VOLTAGE, AND CIRCUIT NUMBER. FASTEN WITH EPOXY GLUE. DOUBLE STICK TAPE IS NOT ACCEPTABLE.

#### J. FRACTIONAL HORSEPOWER MANUAL STARTER

- PROVIDE FRACTIONAL HORSEPOWER MANUAL STARTER WITH THE FOLLOWING FEATURES.
  - MELTING ALLOY TYPE THERMAL OVERLOAD RELAY
  - RED NEON PILOT LIGHT
  - THERMAL ELEMENT SIZED FOR MOTOR LOAD
- PROVIDE A NAMEPLATE ON EACH COMPONENT OF MOTOR CONTROL EQUIPMENT AS SPECIFIED IN "NAMEPLATES".

#### K. SAFETY SWITCHES

- THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL SAFETY SWITCHES AS INDICATED ON THE DRAWINGS OR AS REQUIRED. ALL SAFETY SWITCHES SHALL BE UL LISTED. THE SWITCHES SHALL BE FUSED SAFETY SWITCHES OR NON-FUSED SAFETY SWITCHES AS SHOWN ON THE DRAWINGS OR REQUIRED BY CODE AND SHALL BE MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, SIEMENS OR CUTLER HAMMER.
- SWITCHES SHALL HAVE A QUICK-MAKE AND QUICK-BREAK OPERATING HANDLE AND MECHANISM WHICH SHALL BE AN INTEGRAL PART OF THE BOX. PADLOCKING PROVISIONS SHALL BE PROVIDED FOR PADLOCKING IN THE OFF POSITION WITH AT LEAST THREE PADLOCKS. SWITCHES SHALL BE HORSEPOWER RATED FOR 250 VOLTS AC OR DC OR 600 VOLTS AC AS REQUIRED. LUGS SHALL BE UL LISTED FOR COPPER AND ALUMINUM CABLE AND SHALL HAVE A TEMPERATURE RATING OF AT LEAST 75 DEGREES C.
- SWITCHES SHALL BE FURNISHED IN NEMA 1 HEAVY DUTY ENCLOSURES WITH KNOCKOUTS UNLESS OTHERWISE NOTED OR REQUIRED. SWITCHES LOCATED ON THE EXTERIOR OF THE BUILDING OR IN "WET" LOCATIONS SHALL HAVE NEMA 3R ENCLOSURES (WP).
- THE SAFETY SWITCHES SHALL BE SECURELY MOUNTED IN ACCORDANCE WITH THE NEC. THE CONTRACTOR SHALL PROVIDE ALL MOUNTING MATERIALS AND INSTALL FUSES IN THE FUSED SAFETY SWITCHES. THE FUSES SHALL BE DUAL ELEMENT ON MOTOR CIRCUITS.
- PROVIDE FUSES AS SPECIFIED BELOW. FUSES SHALL BE INSTALLED SO THAT THE RATING IS CLEARLY VISIBLE WITHOUT REMOVING FUSE. PROVIDE A SPARE FUSE FOR EACH FUSE INSTALLED.
- PROVIDE A NAMEPLATE ON EACH DISCONNECT SWITCH AS SPECIFIED IN "NAMEPLATES".

#### L. FUSES

- FUSES SHALL BE CLASS "RK-1" REJECTION TYPE. FUSES SERVING MOTOR LOADS SHALL BE DUAL ELEMENT WITH A MINIMUM TIME DELAY OF 10 SECONDS AT 500% RATING. FUSES SHALL BE CURRENT LIMITING TIME DELAY TYPE WITH INTERRUPTING CAPACITY OF 200,000 AMP RMS SYMMETRICAL.
- FUSES SERVING SWITCH OR CIRCUIT BREAKER DISTRIBUTION PANELS, LIGHTING PANEL BOARDS AND OTHER NON - MOTOR LOADS NEED NOT BE TIME DELAY TYPE, BUT SHALL BE CURRENT LIMITING WITH THE INTERRUPTING CAPACITY OF 200,000AMP RMS SYMMETRICAL MINIMUM. FUSES SHALL BE BUSSMAN, GOULD OR LITTELFUSE.
- PROVIDE FUSES SIZED TO THE MAXIMUM SIZE RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT OR AS SHOWN ON THE DRAWINGS IF THE MANUFACTURER DOES NOT HAVE A RECOMMENDED SIZE.

### PART 3 - EXECUTION

#### A. GENERAL

- ALL MATERIALS SHALL BE INSTALLED IN A PROFESSIONAL MANNER INDICATIVE OF THE TRADE.
- ALL PENETRATIONS OF THE OUTSIDE WALLS OR ROOF SHALL BE SEALED WITH APPROPRIATE SEALANT OR CAULK FOR THE PARTICULAR SURFACE INVOLVED.
- PROVIDE CLEAR, TYPED, P-TOUCH LABEL FOR ALL RECEPTACLES COVERPLATES IDENTIFYING THE CIRCUIT NUMBER THAT THE RECEPTACLE IS CIRCUITED TO.
- PROVIDE UPDATED TYPED PANEL SCHEDULE INDEX FOR ALL PANELS WHERE CIRCUITS HAVE BEEN MODIFIED OR CHANGED.

#### B. RACEWAYS

- RACEWAYS SHALL RUN CONCEALED UNLESS OTHERWISE INDICATED. EXPOSED RACEWAY RUNS SHALL BE PARALLEL WITH SUPPORTING WALLS, BEAMS, AND CEILINGS AND WITH EACH OTHER CLOSER THAN 6 INCHES TO ANY WATER PIPE OR HEATER BE INSTALLED AND SHALL NOT FLUME.
- RACEWAY ENDS SHALL BE REAMED AFTER THREADING AND AFTER CUTTING AND BE MADE TO BUTT IN THE CENTER OF THE COUPLING. THE USE OF RUNNING THREADS IS PROHIBITED.
- RACEWAYS SHALL BE INSTALLED AS A COMPLETE SYSTEM, CONTINUOUS FROM OUTLET TO OUTLET, CABINET, BOX OR FITTINGS, AND SHALL BE MECHANICALLY CONNECTED SO THAT ADEQUATE ELECTRICAL CONTINUITY FROM ONE TO ANOTHER IS OBTAINED. CONDUITS SHALL BE SUPPORTED WITH ONE OR TWO HOLE STAMPED STEEL OR MALLEABLE IRON STRAPS (SUCH AS MANUFACTURED BY RACO) DESIGNED FOR SUPPORTING CONDUIT. THE SIZE OF STRAP SHALL MATCH THE SIZE OF THE CONDUIT. NAILS, PERFORATED STRAP, OR PLUMBERS TAPE SHALL NOT BE USED FOR SUPPORT OF RACEWAY.
- PROVIDE 1/8" POLY PULL CORD IN RACEWAYS WITHOUT CONDUCTORS.
- FOUR 90 DEGREE BENDS MAXIMUM BETWEEN TERMINATIONS OR BOXES.

#### C. CONDUCTORS

- ALL CONDUCTORS SHALL BE INSTALLED IN CONDUIT AND COLOR CODED AS FOLLOWS:

PHASE	240/120	208/120	480/277
PHASE A	BLACK	BLACK	BROWN
PHASE B	RED	RED	ORANGE
PHASE C	-	BLUE	YELLOW
NEUTRAL	WHITE	WHITE	GRAY
GROUND	GREEN	GREEN	GREEN

- MAKE JOINTS, SPLICES, TAPS AND CONNECTIONS IN CONDUCTORS WITH SOLDERLESS CONNECTORS.

#### D. JUNCTION AND PULL BOXES

- PULL BOXES SHALL BE PROVIDED WHERE INDICATED AND WHERE NECESSARY TO FACILITATE THE PULLING OF CONDUCTORS. TELEPHONE RACEWAYS SHALL HAVE A MAXIMUM OF TWO 90 DEGREE BENDS BETWEEN TERMINATIONS OR BOXES.

#### E. GROUNDING

- INSTALL A CODE SIZED GROUNDING CONDUCTOR IN ALL RACEWAYS. DO NOT USE THE RACEWAY FOR GROUNDING. MAKE GOOD CONTACT AT ALL PANEL BOARDS, OUTLET BOXES, AND JUNCTION OR PULL BOXES TO THE RACEWAY SYSTEM. USE APPROVED BONDING MATERIALS.

#### G. BONDING

- BOND ALL PIPING (GAS WATER, ETC) AS REQUIRED BY THE NEC. CONFIRM SYSTEMS TO BE USED WITH MC.

#### H. SEISMIC REQUIREMENTS

- IF REQUIRED, RECESSED TYPE LIGHTING FIXTURES, IN ADDITION TO THE STANDARD SEISMIC CLIPS AND SUPPORT ON T-BAR GRID SYSTEM, SHALL HAVE 2#12 STEEL SAFETY WIRES PER FIXTURE. ONE END OF EACH SAFETY WIRE SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURE. THE OTHER END (6 INCHES LONGER THAN THE T-BAR GRID SUPPORT WIRES) SHALL BE FASTENED TO DIAGONAL CORNERS OF EACH LIGHTING FIXTURE.

#### I. CUTTING AND PATCHING

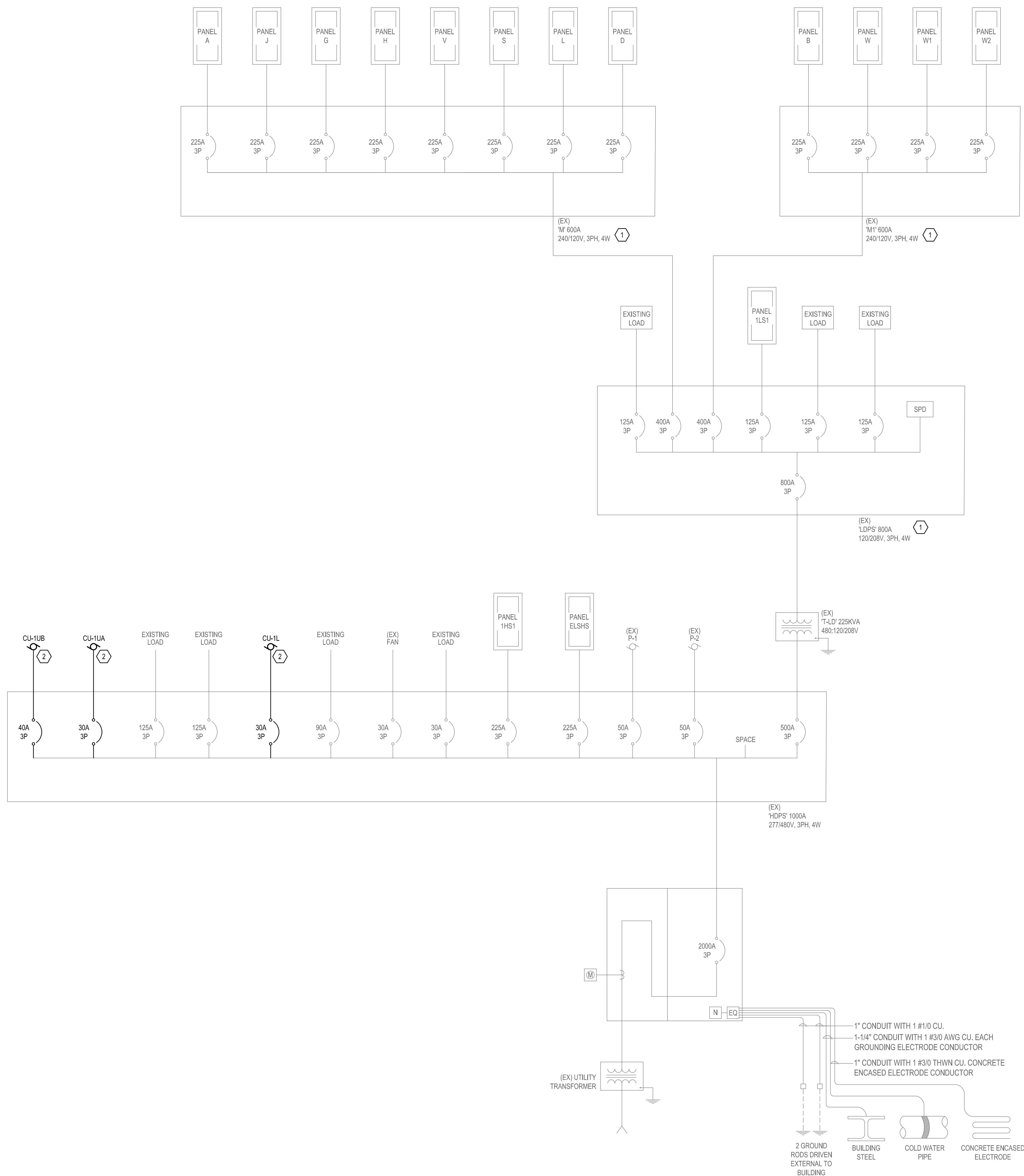
- PERFORM DRILLING, CUTTING, AND PATCHING OF THE GENERAL CONSTRUCTION WORK WHETHER EXISTING OR NEW, AS REQUIRED FOR THE INSTALLATION OF ELECTRICAL WORK. PATCH WITH THE SAME MATERIALS, WORKMANSHIP, AND FINISH AS THE ORIGINAL WORK AND ACCURATELY MATCH ALL SURROUNDING WORK. SUCH WORK WILL BE DONE BY A CRAFTSMAN ACCREDITED IN THE APPLICABLE TRADE UNDER THE CONTRACTOR'S SUPERVISION AND BE ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. COORDINATE WITH OTHER TRADES AND GENERAL CONTRACTOR PRIOR TO CUTTING, DRILLING, OR CORING.

#### K. TESTING

- DEMONSTRATE THAT ALL COMPONENTS OF THE WORK OF THIS DIVISION HAVE BEEN PROVIDED AND THAT THEY OPERATE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- TEST WIRING AND CONNECTORS FOR CONTINUITY, SHORT CIRCUITS AND IMPROPER GROUNDS. TEST EACH LIGHTING AND APPLANCE PANEL WITH MAINS DISCONNECTED FROM FEEDERS, BRANCHES CONNECTED, WALL SWITCHES CLOSED AND FIXTURES PERMANENTLY CONNECTED AND COMPLETE WITH LAMPS. TEST EACH INDIVIDUAL POWER CIRCUIT WITH THE POWER EQUIPMENT CONNECTED FOR PROPER OPERATION.
- PROVIDE DETAILED DOCUMENTATION OF EACH TEST PERFORMED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE, WITH THE NAMES AND THE SIGNATURES OF QUALIFIED INDIVIDUALS WHO CONDUCTED AND WITNESSED EACH TEST.

EQUIPMENT SCHEDULE																										
TYPE	DESCRIPTION	VOLT	PHASE	LOAD	ELECTRICAL										OVER CURRENT PROTECTION					STR					REMARKS	
					FLA	SETS	QTY	SIZE	COND	SIZE	MOCP	OCPD	TYPE	SIZE	POLE	SIZE	SIZE	SIZE								
C - 1U	CEILING CASSETTE	240	1	0.71 MCA	0.6	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 2U	WALL MOUNT CASSETTE	240	1	0.64 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 3U	CEILING CASSETTE	240	1	0.71 MCA	0.6	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 4U	WALL MOUNT CASSETTE	240	1	0.64 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 5U	CEILING CASSETTE	240	1	1.60 MCA	1.3	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 6U	WALL MOUNT CASSETTE	240	1	0.64 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 7U	WALL MOUNT CASSETTE	240	1	0.31 MCA	0.2	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 8U	WALL MOUNT CASSETTE	240	1	0.65 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 10U	WALL MOUNT CASSETTE	240	1	1.02 MCA	0.8	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 11U	WALL MOUNT CASSETTE	240	1	1.02 MCA	0.8	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 13U	WALL MOUNT CASSETTE	240	1	0.31 MCA	0.2	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 14U	CEILING CASSETTE	240	1	0.71 MCA	0.6	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 15U	WALL MOUNT CASSETTE	240	1	0.64 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 16U	WALL MOUNT CASSETTE	240	1	0.71 MCA	0.6	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 17U	WALL MOUNT CASSETTE	240	1	0.31 MCA	0.2	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 1L	WALL MOUNT CASSETTE	240	1	1.02 MCA	0.8	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 2L	WALL MOUNT CASSETTE	240	1	1.02 MCA	0.8	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 3L	WALL MOUNT CASSETTE	240	1	0.31 MCA	0.2	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 4L	WALL MOUNT CASSETTE	240	1	0.65 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 5L	WALL MOUNT CASSETTE	240	1	0.65 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 6L	WALL MOUNT CASSETTE	240	1	0.31 MCA	0.2	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 7L	WALL MOUNT CASSETTE	240	1	0.65 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 8L	WALL MOUNT CASSETTE	240	1	0.31 MCA	0.2	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 9L	WALL MOUNT CASSETTE	240	1	0.65 MCA	0.5	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
C - 10L	WALL MOUNT CASSETTE	240	1	0.31 MCA	0.2	1	2	12	12	3/4	20	C1	-	-	-	-	-	-	-	-	-	-	-	4 A		
CU - 1UA	CONDENSING UNIT	480	3	28.5 MCA	22.8	1	3	10	10	3/4	30	C1	30	3	30	-	-	-	-	-	-	-	-	9 A		
CU - 1UB	CONDENSING UNIT	480	3	38.3 MCA	30.6	1	3	8	10	3/4	40	C1	60	3	40	-	-	-	-	-	-	-	-	9 A		
CU - 1L	CONDENSING UNIT	480	3	28.4 MCA	22.7	1	3	10	10	3/4	30	C1	30	3	30	-	-	-	-	-	-	-	-	9 A		
B - 1	BOILER	480	3	5 HP	7.6	1	3	12	12	3/4	20	C1	30	3	10	-	-	-	-	-	-	-	-	1 A		
B - 2	BOILER	480	3	5 HP	7.6	1	3	12	12	3/4	20	C1	30	3	10	-	-	-	-	-	-	-	-	1 A		
B - 3	BOILER	480	3	5 HP	7.6	1	3	12	12	3/4	20	C1	30	3	10	-	-	-	-	-	-	-	-	1 A		
P - 1	PUMP	480	3	5 HP	7.6	1	3	12	12	3/4	20	C1	30	3	10	0	-	-	-	-	-	-	-	8 A		
P - 2	PUMP	480	3	5 HP	7.6	1	3	12	12	3/4	20	C1	30	3	10	0	-	-	-	-	-	-	-	8 A		
P - 3	PUMP	480	3	5 HP	7.6	1	3	12	12	3/4	20	C1	30	3	10	0	-	-	-	-	-	-	-	8 A		
MAU - 1	MAKE-UP AIR UNIT	480	3	6.2 MCA	5.0	1	3	12	12	3/4	20	C1	30	3	15	-	-	-	-	-	-	-	-	9 A		
MAU - 2	MAKE-UP AIR UNIT	480	3	4 MCA	3.2	1	3	12	12	3/4	20	C1	30	3	15	-	-	-	-	-	-	-	-	9 A		
ABBREVIATIONS:																										
KW = KILOWATTS				VA = VOLT AMPERES				DISC = DISCONNECT				OCPD = OVERCURRENT PROTECTIVE DEVICE														
V/PH = VOLTAGE/PHASE				KVA = KILOVOLT AMPERES				GND = GROUND				COND = CONDUIT														
HP = HORSEPOWER				FLA = FULL LOAD AMPERES				STR = STARTER				MOCP = MAXIMUM OCPD (LISTED BY THE MANUFACTURER)														
W = WATTS				MCA = MINIMUM CIRCUIT AMPACITY				PL = POLE																		
REMARKS:																										
1. NEMA 1 FUSED DISCONNECT SWITCH					A. FURNISHED, INSTALLED AND CONNECTED UNDER DIVISION 26.																					
2. NEMA 1 NON-FUSED DISCONNECT SWITCH					B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIV 26.																					
3. BREAKER IN ENCLOSURE					C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED UNDER DIV 26.																					
4. MANUAL STARTER WITH THERMAL OVERLOAD					D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.																					
5. MANUAL MOTOR CONTROLLER W/OUT THERMAL OVERLOAD					E. FURNISHED AND INSTALLED UNDER DIV 26 REQUIRING CONNECTION UNDER ANOTHER DIVISION.																					
6. MAGNETIC STARTER																										
7. MAGNETIC STR/NON-FUSED DISCONNECT COMBINATION																										
8. MAGNETIC STR/FUSED DISCONNECT COMBINATION																										
9. NEMA 3R FUSED DISCONNECT SWITCH																										
10. NEMA 3R NON-FUSED DISCONNECT SWITCH																										
11. VARIABLE FREQUENCY DRIVE																										
12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.																										
13. DIRECT CONNECTION																										
14. DUCT DETECTOR IN RETURN AIR DUCT																										
15. CONTROLLED WITH LIGHTS																										
16. LM-EB DISCONNECT W/CNTRL WIRING TO VFD																										
GENERAL NOTE: THE EC SHALL COORDINATE ALL REQUIREMENTS (IE: MOCP SIZE, UNIT THERMAL PROTECTION, ETC) WITH APPROVED MECHANICAL SHOP DRAWINGS/SUBMITTALS AND BRING UP ANY DISCREPANCIES WITH THE ELECTRICAL ENGINEER OF RECORD IN WRITING PRIOR TO ROUGH-IN.																										

NAME: H(EX)	VOLTAGE: 208 / 120	MOUNTING: FLUSH	MAINS: BREAKER	DIMS: 20" W 5.75" D 6
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1 EXISTING & NEW ONE LINE DIAGRAM  
EG701 NO SCALE

# KEYED NOTES

1. EXISTING VOLTAGE AND PHASING ARE LABELED INCORRECTLY  
EG SHALL VERIFY VOLTAGE AND PHASING AND PROVIDE  
UPDATED PANEL LABELS.

2. REFER TO EQUIPMENT SCHEDULE FOR CONDUIT, CONDUCTOR,  
AND DISCONNECTING MEANS REQUIREMENTS.

GENERAL NOTES

A. ONE LINE SHOWN FOR REFERENCE ONLY. EC SHALL  
VERIFY PANELS AND CONNECTIONS TO BE USED IN  
CONSTRUCTION.

B. DEVICES/EQUIPMENT SHOWN IN GRAY ARE EXISTING TO  
REMAIN. PRESERVE AND PROTECT. MAINTAIN EXISTING  
CIRCUIT INTEGRITY.

181 E. 5600 S.  
Suite 200  
Murray, Utah 84107

TEL 801/530-3148  
FAX 801/530-3150

http://www.VBFA.com

SEAL

PROFESSIONAL ENGINEER  
No. 907870  
04/28/22  
STATE OF UTAH

CLIENT LOGO

CLIENT:  
Ogden School District  
1950 Monroe Blvd,  
Ogden, UT 84401

THIS SQUARE APPEARS 1/2"x1/2"  
ON FULL SIZE SHEETS

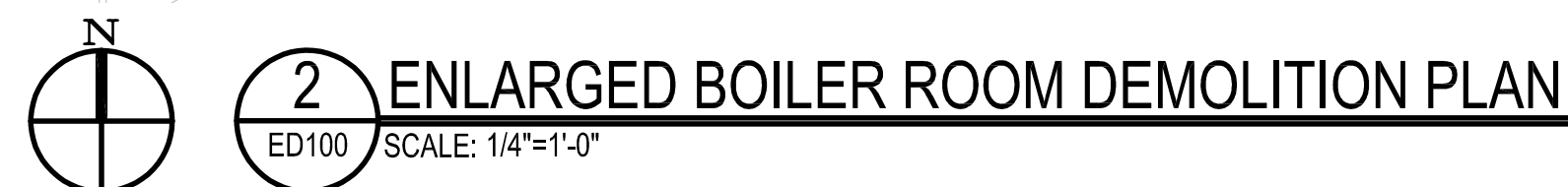
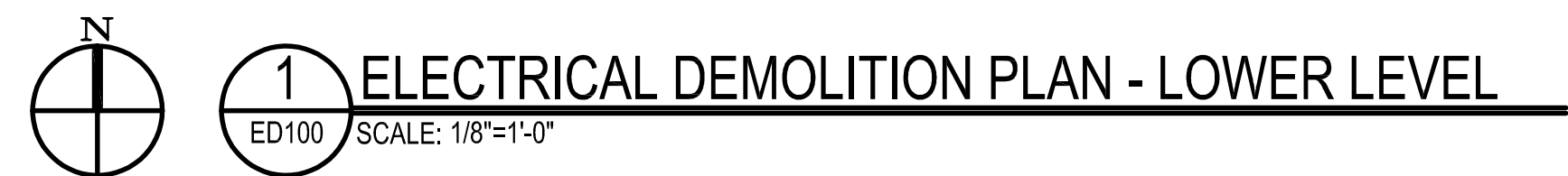
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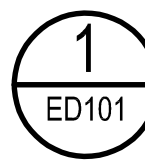
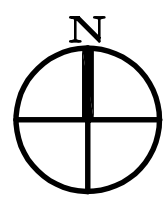
PROJECT NAME:  
Ogden High School Boiler And  
ROTC Building HVAC  
Replacement

2828 Harrison BLVD  
Ogden, UT 84403

DRAWING TITLE:  
ONE LINE DIAGRAM



## ED100



# **1 ELECTRICAL DEMOLITION PLAN - UPPER LEVEL**

ED101 SCALE: 1/8"=1'-0"

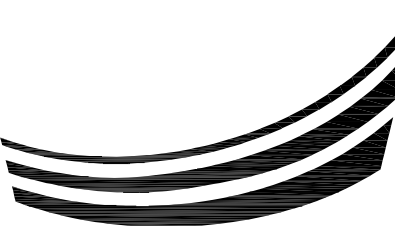
## **# KEYED NOTES**

1. EXISTING EQUIPMENT TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. EC SHALL REMOVE CONDUIT AND WIRE BACK TO SOURCE AND MARK BREAKER AS SPARE. IF CONDUIT IS INACCESSIBLE, CUT CONDUIT FLUSH WITH STRUCTURAL SURFACE.
2. DISCONNECT EXISTING MAU UNIT. DEMOLISH EXISTING DISCONNECT, CAP AND PROTECT EXISTING CIRCUIT FOR REUSE DURING THE NEW CONSTRUCTION PHASE.

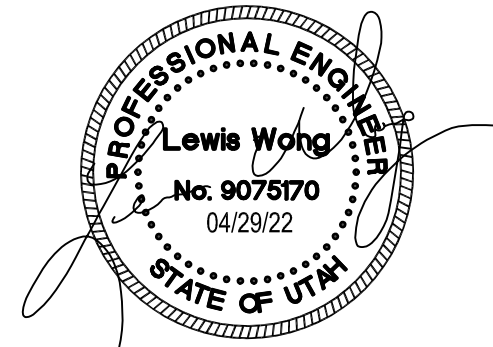
## **GENERAL NOTES**

- A. EC SHALL COORDINATE WITH ALL OTHER TRADES DURING DEMOLITION AND CONSTRUCTION TO FACILITATE TIMELY WORK.
- B. ALL AREAS ARE TO BE KEPT CLEAN AND CLEAR OF DEBRIS AT ALL TIMES.
- C. CONTRACTOR SHALL PATCH AND REPAIR ALL WALLS, CEILINGS ETC. TO MATCH EXISTING CONDITIONS. PENETRATIONS SHALL BE SEALED WITH FIRE RATED CAULK.
- D. ROUTE ALL CONDUIT IN A NEAT AND ORDERLY FASHION. ALL CONDUIT SHALL BE CONCEALED ABOVE CEILINGS OR IN WALLS OR FINISHED SPACES UNLESS OTHERWISE INDICATED ON THE PLANS.
- E. DEVICES SHOWN ON DEMOLITION SHEETS ARE GATHERED FROM AS-BUILT DRAWINGS AND FIELD INVESTIGATION. NOT ALL DEVICES ARE SHOWN. DEVICE PLACEMENT IS SCHEMATIC AND NOT EXACT. CONTRACTOR TO FIELD VERIFY FOR EXACT LOCATIONS AND COORDINATEWORK WITH ALL OTHER DEVICES, EQUIPMENT, CONDUIT, ETC. WHETHER OR NOT SHOWN TO COMPLETE PROJECT.
- F. CONTRACTOR TO COORDINATE WITH OWNER FOR ITEMS TO BE SALVAGED PRIOR TO DEMOLITION. CONTRACTOR RESPONSIBLE FOR DISPOSING OF ANY MATERIAL THAT THE OWNER DOES NOT WANT TO KEEP.
- G. CAP AND LABEL ALL EMPTY CONDUIT TO REMAIN.
- H. DEVICES/EQUIPMENT SHOWN IN GRAY ARE EXISTING TO REMAIN. PRESERVE AND PROTECT. MAINTAIN EXISTING CIRCUIT INTEGRITY.

181 E. 5600 S.  
Suite 200  
Murray, Utah 84107  
TEL 801/530-3148  
FAX 801/530-3150



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SEAL



CLIENT LOGO

CLIENT:  
**Ogden School District**  
1950 Monroe Blvd,  
Ogden, UT 84401

THIS SQUARE APPEARS 1/2"x1/2"  
ON FULL SIZE SHEETS

NO	DATE	REVISION

## **BID SET**

PROJECT NAME:  
**Ogden High School Boiler And  
ROTC Building HVAC  
Replacement**

2828 Harrison BLVD  
Ogden, UT 84403

DRAWING TITLE:

**ELECTRICAL  
DEMOLITION PLAN -  
UPPER LEVEL**

DATE: MAY 2, 2022  
DRAWN BY: AC  
CHECKED BY: KC  
PROJ. NO: 21323  
DRAWING NO:

**ED101**

NO	DATE	REVISION

## BID SET

PROJECT NAME:  
Ogden High School Boiler And  
ROTC Building HVAC  
Replacement

2828 Harrison BLVD  
Ogden, UT 84403

DRAWING TITLE:

ELECTRICAL PLAN -  
LOWER LEVEL

DATE: MAY 2, 2022  
DRAWN BY: AC  
CHECKED BY: KC  
PROJ. NO. 21323  
DRAWING NO:

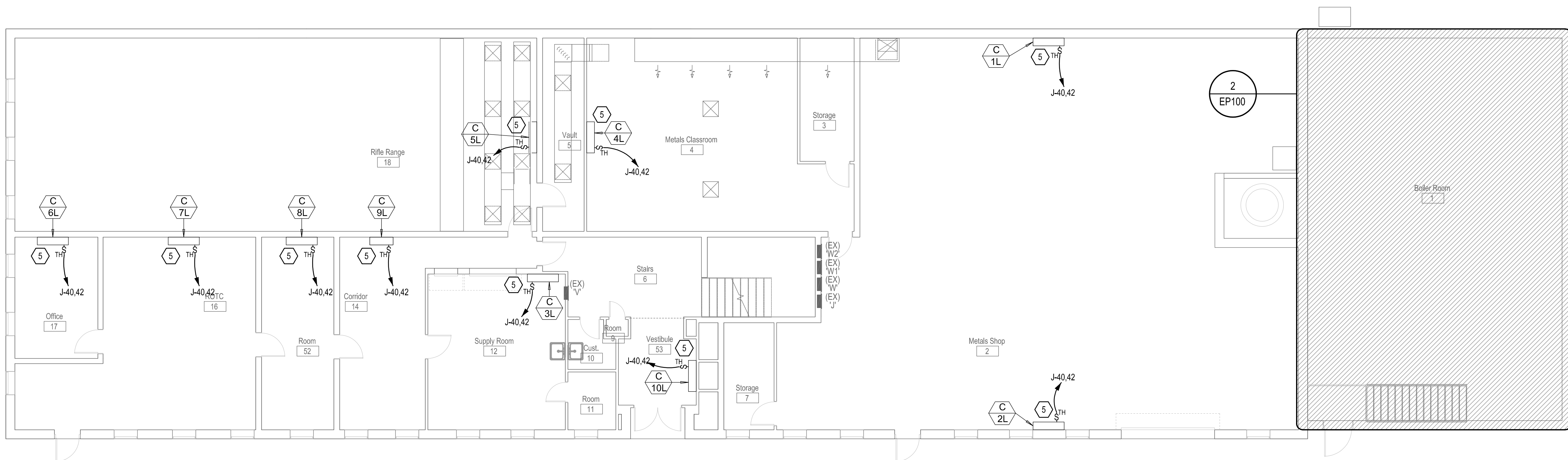
EP100

## # KEYED NOTES

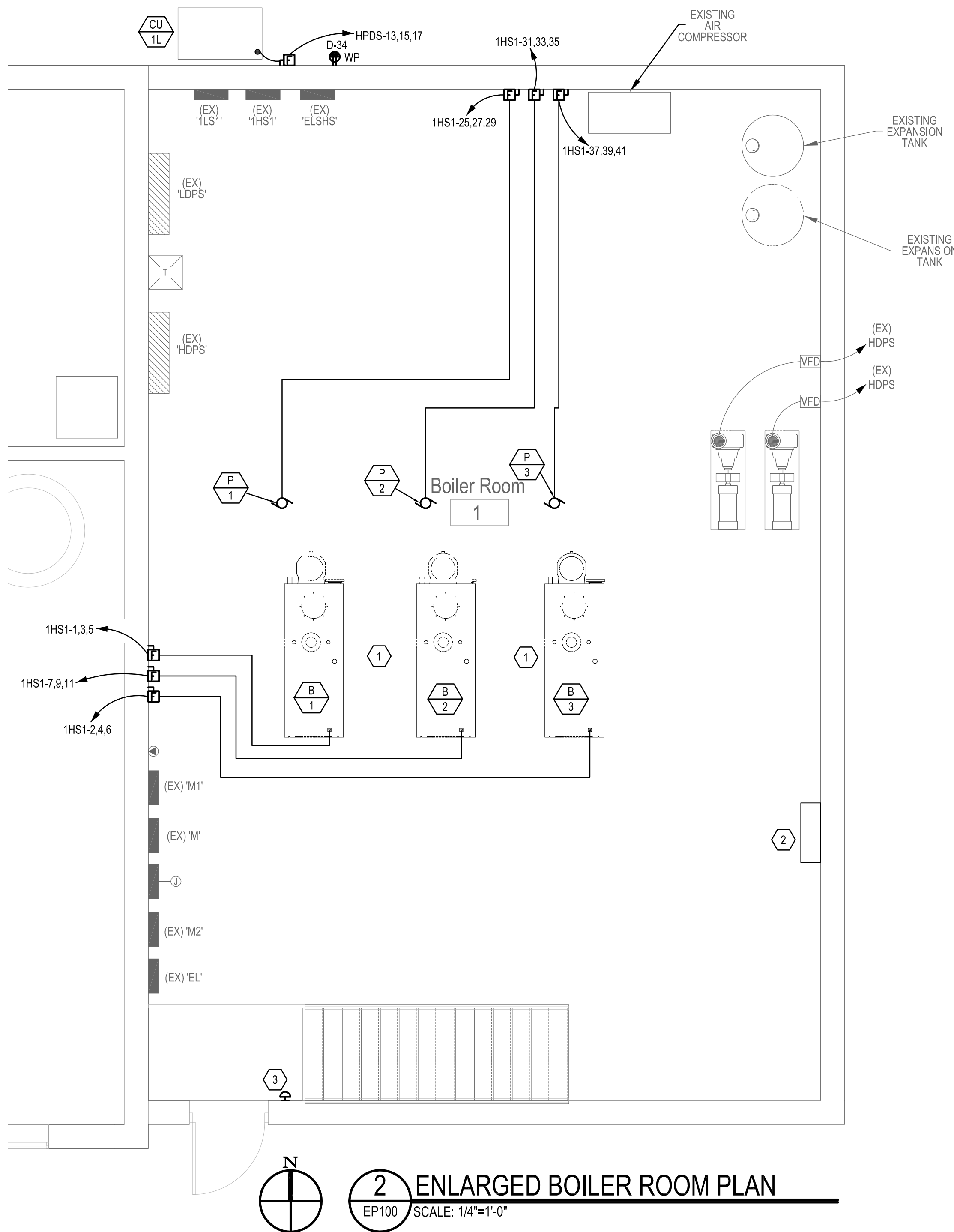
1. NEW BOILER TO BE INSTALLED BY MECHANICAL CONTRACTOR. EC SHALL COORDINATE AND PROVIDE ALL FINAL CONNECTIONS AS REQUIRED FOR COMPLETE AND OPERABLE SYSTEM. EC SHALL COORDINATE WITH CONTROLS CONTRACTOR TO PROVIDE 3/4" C TO BOILER CONTROL PANEL.
2. EC SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR LOCATION AND PROVIDE ALL FINAL CONNECTIONS TO NEW BOILER CONTROL PANEL. CONNECT NEW CONTROL PANEL TO EXISTING CIRCUIT. EXTEND CONDUIT AND WIRE AS REQUIRED.
3. EC SHALL COORDINATE WITH CONTROLS CONTRACTOR TO TIE NEW BOILERS INTO NEW EMERGENCY SHUT OFF BUTTON.
4. EC SHALL FURNISH AND INSTALL NEW DISCONNECTS FOR BOILER. SEE EQUIPMENT SCHEDULE ON SHEET EGR01 FOR FURTHER DETAILS.
5. NEW EQUIPMENT TO BE INSTALLED BY MECHANICAL CONTRACTOR. REQUIRE CONNECTION BY DIVISION 26. SEE EGR01 FOR EQUIPMENT SCHEDULE.

## GENERAL NOTES

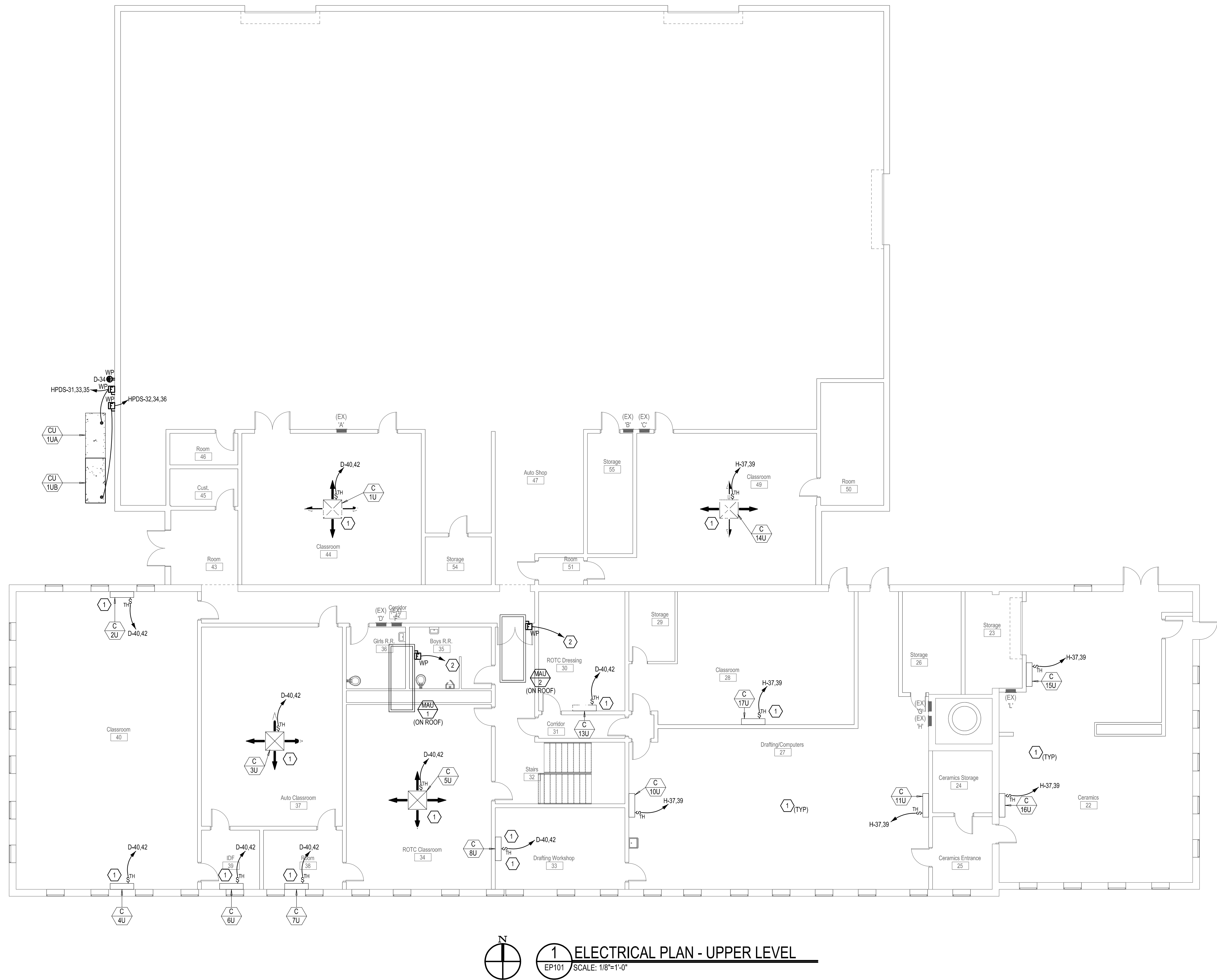
- A. EC SHALL ROUTE CONDUIT ABOVE CEILINGS WHERE POSSIBLE. WHERE NECESSARY EC SHALL COORDINATE WITH MECHANICAL CONTRACTOR TO REMOVE GLUED ON TILES FOR ACCESS. HOLES SHOULD BE PATCHED TO MATCH EXISTING CONDITIONS.
- B. EC SHALL COORDINATE WITH ALL OTHER TRADES DURING DEMOLITION AND CONSTRUCTION TO FACILITATE TIMELY WORK.
- C. ALL AREAS ARE TO BE KEPT CLEAN AND CLEAR OF DEBRIS AT ALL TIMES.
- D. CONTRACTOR SHALL PATCH AND REPAIR ALL WALLS, CEILINGS ETC. TO MATCH EXISTING CONDITIONS.
- E. ROUTE ALL CONDUIT IN A NEAT AND ORDERLY FASHION. ALL CONDUIT IN FINISHED SPACES SHALL BE CONCEALED ABOVE CEILINGS OR IN WALLS UNLESS OTHERWISE INDICATED ON THE PLANS.
- F. PROVIDE CLEAR, TYPED, P-TOUCH LABELS ON THE COVERPLATE OF ALL RECEPTACLES INDICATING THE PANEL AND CIRCUIT NUMBER ITS IS TIED TO. LABEL SHALL BE 1/8" LONGER THAN TEXT ON BOTH ENDS.
- G. PROVIDE UPDATED TYPED CIRCUIT DIRECTORY WITH UNIQUE CIRCUIT DESCRIPTIONS PER NEC 408.4 FOR PANELS AFFECTED BY THIS PROJECT.
- H. DEVICES/EQUIPMENT SHOWN IN GRAY ARE EXISTING TO REMAIN. PRESERVE AND PROTECT. MAINTAIN EXISTING CIRCUIT INTEGRITY.



1 ELECTRICAL PLAN - LOWER LEVEL  
EP100 SCALE: 1/8"=1'-0"



2 ENLARGED BOILER ROOM PLAN  
EP100 SCALE: 1/4"=1'-0"



## KEYED NOTES

1. NEW EQUIPMENT TO BE INSTALLED BY MECHANICAL CONTRACTOR REQUIRING CONNECTIONS BY DIVISION 28. EC SHALL ROUTE CONDUIT ABOVE CEILINGS WHERE POSSIBLE. WHERE NECESSARY EC SHALL COORDINATE WITH MECHANICAL CONTRACTOR TO REMOVE GLUED ON TILES FOR ACCESS. HOLES SHOULD BE PATCHED TO MATCH EXISTING CONDITIONS.
2. EC IS TO PROVIDE NEW FUSED DISCONNECT, PER EQUIPMENT SCHEDULE, AND RECONNECT EXISTING CIRCUIT REMOVED DURING THE DEMOLITION PHASE TO NEW MAU. VERIFY EXISTING CONDUIT AND CONDUCTOR SIZING IS SUFFICIENT PER THE EQUIPMENT SCHEDULE.

## GENERAL NOTES

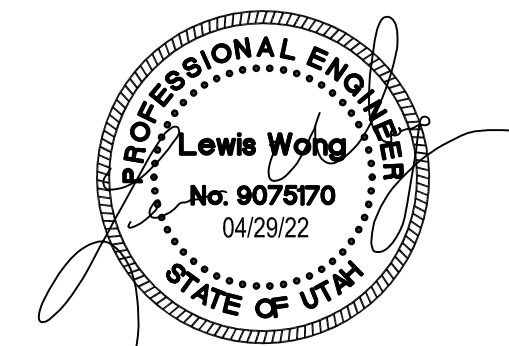
- A. EC SHALL ROUTE CONDUIT ABOVE CEILINGS WHERE POSSIBLE. WHERE NECESSARY EC SHALL COORDINATE WITH MECHANICAL CONTRACTOR TO REMOVE GLUED ON TILES FOR ACCESS. WHOLELS SHOULD BE PATCHED TO MATCH EXISTING CONDITIONS.
- B. EC SHALL COORDINATE WITH ALL OTHER TRADES DURING DEMOLITION AND CONSTRUCTION TO FACILITATE TIMELY WORK.
- C. ALL AREAS ARE TO BE KEPT CLEAN AND CLEAR OF DEBRIS AT ALL TIMES.
- D. CONTRACTOR SHALL PATCH AND REPAIR ALL WALLS, CEILINGS ETC. TO MATCH EXISTING CONDITIONS.
- E. ROUTE ALL CONDUIT IN A NEAT AND ORDERLY FASHION. ALL CONDUIT IN FINISHED SPACES SHALL BE CONCEALED ABOVE CEILINGS OR IN WALLS UNLESS OTHERWISE INDICATED ON THE PLANS.
- F. PROVIDE CLEAR, TYPED, P-TOUCH LABELS ON THE COVERPLATE OF ALL RECEPTACLES INDICATING THE PANEL AND CIRCUIT NUMBER ITS IS TIED TO. LABEL SHALL BE 1/8" LONGER THAN TEXT ON BOTH ENDS.
- G. PROVIDE UPDATED TYPED CIRCUIT DIRECTORY WITH UNIQUE CIRCUIT DESCRIPTIONS PER NEC 408.4 FOR PANELS AFFECTED BY THIS PROJECT.
- H. DEVICES/EQUIPMENT SHOWN IN GRAY ARE EXISTING TO REMAIN. PRESERVE AND PROTECT. MAINTAIN EXISTING CIRCUIT INTEGRITY.

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Suite 200  
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NO	DATE	REVISION

## BID SET

PROJECT NAME:  
**Ogden High School Boiler And  
ROTC Building HVAC  
Replacement**

2828 Harrison BLVD  
Ogden, UT 84403

DRAWING TITLE:

**ELECTRICAL PLAN -  
UPPER LEVEL**

DATE: MAY 2, 2022  
DRAWN BY: AC  
CHECKED BY: KC  
PROJ. NO: 21323  
DRAWING NO:

**EP101**