

LIGHTING	POWER	POWER	SIGNAL	ABBREVIATIONS
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ABBREVIATIONS

NOTE: NOT ALL SYMBOLS SHOWN ON LEGEND APPEAR ON DRAWINGS.

DEMOLITION SCOPE OF WORK

- SCOPE:** THE SCOPE OF WORK INCLUDES THE REMOVAL OF THE EXISTING POOL EQUIPMENT BUILDING AND SITE . THE WORK WILL INCLUDE BUT NOT BE LIMITED TO DEMOLITION (SEE BELOW) OF THE LIGHTING, POWER, AND DISTRIBUTION EQUIPMENT SYSTEMS. THE DEMO OF ALL MECHANICAL EQUIPMENT AND EQUIPMENT PROVIDED BY OTHERS, ELECTRICAL CONTRACTOR WILL DISCONNECT ALL MECHANICAL EQUIPMENT.

DEMOLITION; ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. DEMOLITION INFORMATION HAS BEEN SHOWN ON THE CONSTRUCTION DRAWINGS. IN THE SPECIFICATIONS OR INDICATED BELOW. ELECTRICAL DEVICES AND EQUIPMENT ARE FROM EXISTING RECORD DRAWINGS AND / OR SITE OBSERVATIONS. THEIR ACCURACY IS NOT GUARANTEED. IT WILL BE THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO VISIT THE SITE PRIOR TO BID AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID AND INCLUDE ALL LABOR AND MATERIAL REQUIRED FOR THE WORK INDICATED IN THE CONSTRUCTION SET

THE PURPOSE OF THE DEMOLITION INFORMATION IS TO OUTLINE A GENERAL DIRECTION OF WHAT NEEDS TO BE REMOVED TO ACCOMPLISH THE RENOVATION WORK. THE WORK IS DIAGRAMMATIC IN NATURE AND IS NOT INTENDED TO BE ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING CONDITIONS AT THE SITE AND INCLUDE ALL WORK EVIDENT BY SITE INSPECTION WHETHER OR NOT SHOWN ON THE DRAWINGS, TO ACHIEVE THE DESIRED RESULTS INDICATED ON THE DOCUMENTS FOR THE FINISHED SPACES.

**BEAVERTON SCHOOL DISTRICT
BARNES ELEMENTARY SCHOOL**
13730 SW WALKER ROAD, BEAVERTON, OR 97006

KEYPLAN

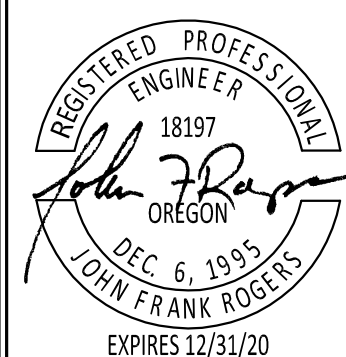
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Sheet Title
ELECTRICAL
LEGEND &
SCHEDULES



E1.00
Job No: BSD1901



- ① 1. DISCONNECT EXISTING ELECTRICAL CONNECTION FROM EACH EXISTING MECHANICAL UNIT NOTED TO BE REMOVED
2. REMOVE ONE (1) CONDUCTOR FROM CONDUIT.
3. REMOVE EXISTING 30A-3P CIRCUIT BREAKER FROM PANEL DESIGNATED. RETURN CIRCUIT BREAKERS TO OWNER
4. REMOVE EXISTING 20A-2P CIRCUIT BREAKER FROM PANEL DESIGNATED. RETURN CIRCUIT BREAKERS TO OWNER
5. REMOVE EXISTING FEEDER TO PANEL INCLUDING BUT NOT BE LIMITED TO CONDUCTORS, CONDUIT, DISCONNECT AND SUPPORTS. MARK EXISTING BREAKER AS SPARE
6. UPDATE PANELS SCHEDULES WITH NEW INFORMATION. SCHEDULES WILL BE TYPED

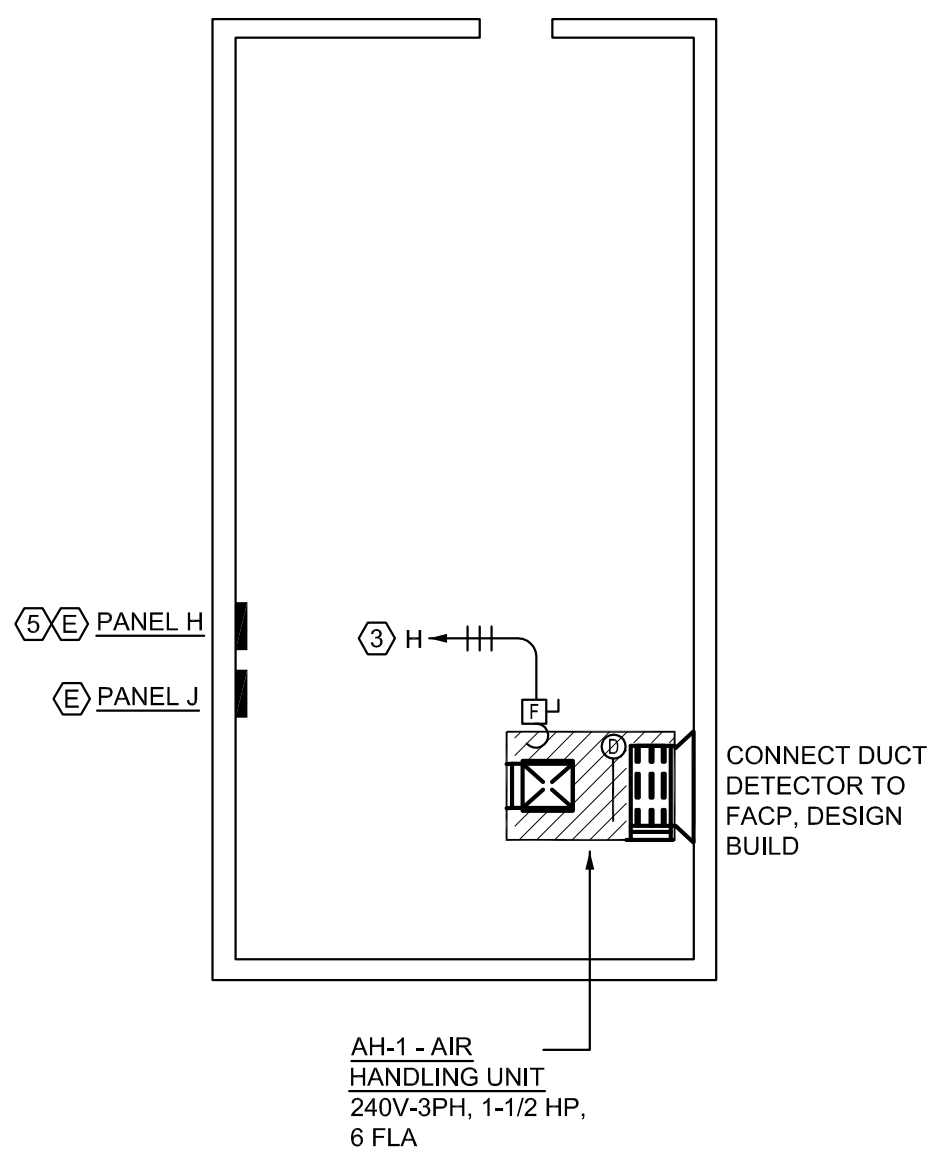
BEAVERTON SCHOOL DISTRICT
BARNES ELEMENTARY SCHOOL
13730 SW WALKER ROAD, BEAVERTON, OR 97006

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REGISTERED PROFESSIONAL
ENGINEER
18197
John Frank Rogers
OREGON
DEC. 6, 1995
JOHN FRANK ROGERS
EXPIRES 12/31/20

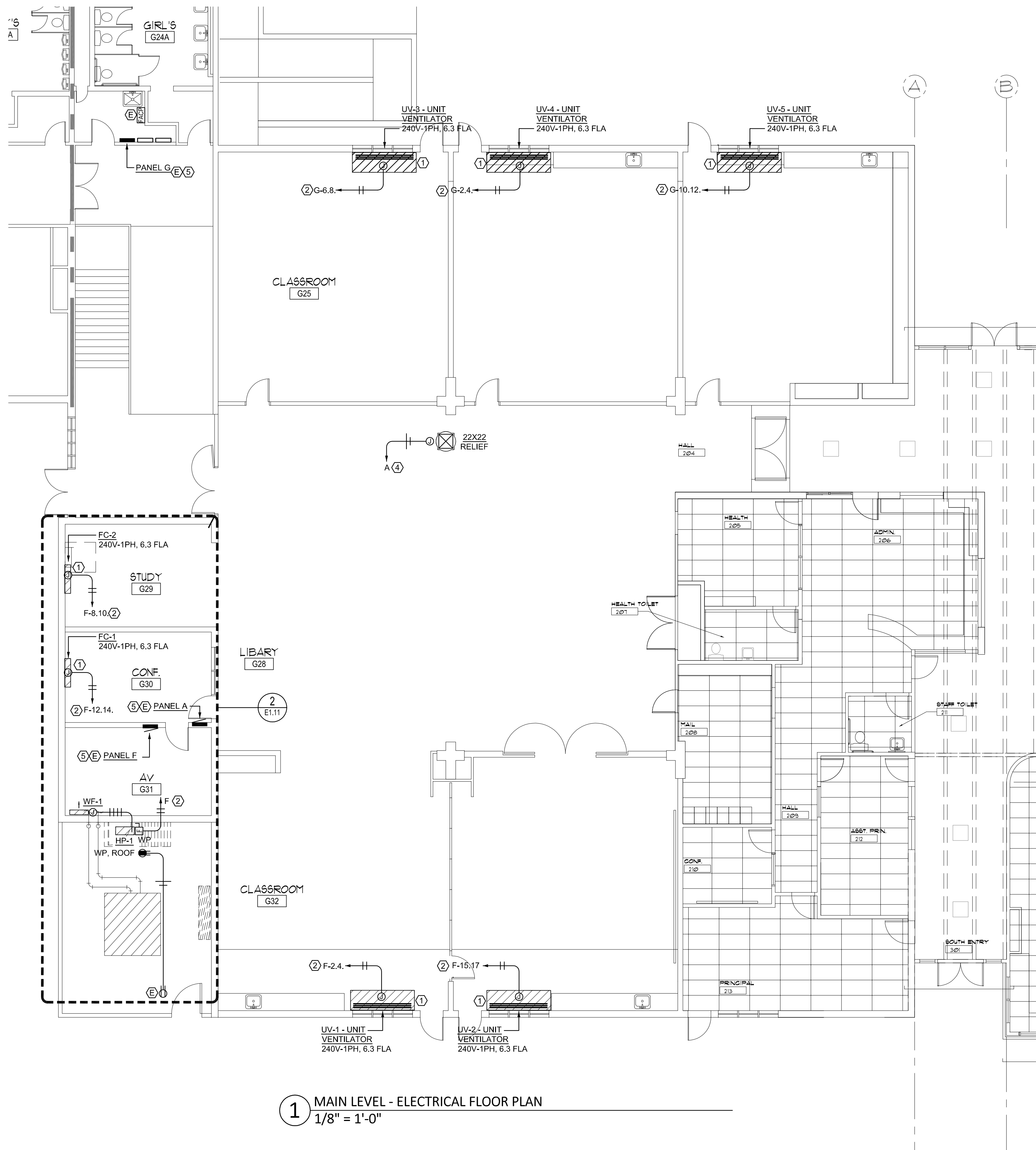
E1.10
Job No: BSD1901



2 ELECTRICAL MEZZANINE FLOOR PLAN
1/8" = 1'-0"

SERVICE: EXISTING				
VOLTAGE: 120/240 VOLT, 3 PHASE, 4 WIRE				
PANEL F: 120/240 VOLT, 3 PHASE, 3 WIRE				
DELETED LOADS:				
UNIT VENT:	20.0 FLA	3 PH	8300	WATTS
UNIT VENT:	20.0 FLA	3 PH	8300	WATTS
CABINET HEATER:	6.0 FLA	1 PH	2490	WATTS
CABINET HEATER:	6.0 FLA	1 PH	2490	WATTS
DELETED CONNECTED:			21580	Watts
AVERAGE AMPS:			52	Amps
NEW LOADS:				
UV-1:	6.3 FLA	1 PH	1512	WATTS
UV-2:	6.3 FLA	1 PH	1512	WATTS
FC-1:	12.0 FLA	1 PH	2880	WATTS
FC-2:	12.0 FLA	1 PH	2880	WATTS
HP-1:	12.1 MCA	1 PH	2904	WATTS
CONNECTED:			11688	Watts
AVERAGE AMPS:			28	Amps
PANEL G: 120/240 VOLT, 3 PHASE, 3 WIRE				
DELETED LOADS:				
UNIT VENT:	20.0 FLA	3 PH	8300	WATTS
UNIT VENT:	20.0 FLA	3 PH	8300	WATTS
UNIT VENT:	20.0 FLA	3 PH	8300	WATTS
DELETED CONNECTED:			24900	Watts
AVERAGE AMPS:			60	Amps
NEW LOADS:				
UV-3:	6.3 FLA	1 PH	1512	WATTS
UV-4:	6.3 FLA	1 PH	1512	WATTS
UV-5:	6.3 FLA	1 PH	1512	WATTS
CONNECTED:			4536	Watts
AVERAGE AMPS:			11	Amps
PANEL H: 120/240 VOLT, 3 PHASE, 3 WIRE				
DELETED LOADS:				
AIR HANDLER:	54.0 FLA	3 PH	22240	WATTS
DELETED CONNECTED:			22240	Watts
AVERAGE AMPS:			54	Amps
NEW LOADS:				
AHU-1:	6.0 FLA	3 PH	2490	WATTS
CONNECTED:			2490	Watts
AVERAGE AMPS:			6	Amps
SUMMARY:				
DELETED LOADS:				
Panel F:	3 PH	21580	WATTS	
Panel G:	3 PH	24900	WATTS	
Panel H:	3 PH	22240	WATTS	
DELETED CONNECTED:			68720	Watts
AVERAGE AMPS:			166	Amps
NEW LOADS:				
Panel F:	3 PH	11688	WATTS	
Panel G:	3 PH	4536	WATTS	
Panel H:	3 PH	2490	WATTS	
DELETED CONNECTED:			18714	Watts
AVERAGE AMPS:			45	Amps

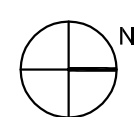
3 ELECTRICAL LOAD SUMMARY



1 MAIN LEVEL - ELECTRICAL FLOOR PLAN
1/8" = 1'-0"

SHEET NOTES:

1. RECONNECT EXISTING CONDUCTORS TO NEW MECHANICAL UNIT TO BE INSTALLED. VERIFY CONNECTION LOCATION PRIOR TO ROUGH-IN AND EXTEND CONDUCTORS AS REQUIRED.
2. PROVIDE NEW 15A-2P CIRCUIT BREAKER IN PANEL DESIGNATED. MATCH PANEL MANUFACTURER.
3. PROVIDE NEW 15A-3P CIRCUIT BREAKER IN PANEL DESIGNATED. MATCH PANEL MANUFACTURER.
4. PROVIDE NEW 20A-1P CIRCUIT BREAKER IN PANEL DESIGNATED. MATCH PANEL MANUFACTURER.
5. UPDATE PANELS SCHEDULES WITH NEW INFORMATION. SCHEDULES WILL BE TYPED



REVISIONS		
NO.	DESCRIPTION	DATE

CONSTRUCTION DOCUMENT SET

BEAVERTON SCHOOL DISTRICT

MARCH 2020

MECHANICAL UPGRADE: BARNES ELEMENTARY SCHOOL

13730 SW WALKER RD. BEAVERTON, OREGON 97006

CONTACTS

OWNER

BEAVERTON SCHOOL DISTRICT
16550 SW MERLO ROAD
BEAVERTON, OREGON 97006
503.591.4575 FAX: 503.591.4469

MECHANICAL

SYSTEM DESIGN CONSULTANTS, INC
333 SE SECOND AVENUE, SUITE 100
PORTLAND, OREGON 97214
503.248.0227 FAX: 503.248.0240
CONTACT: GARY BARNES

ELECTRICAL

SYSTEM DESIGN CONSULTANTS, INC
333 SE SECOND AVENUE, SUITE 100
PORTLAND, OREGON 97214
503.248.0227 FAX: 503.248.0240
CONTACT: JEFFREY DAVIS

STANDARD SYMBOLS



NORTH ARROW



REVISION TAG



GRID BUBBLE & GRID LINE

ROOM NAME

101

FLOOR PLAN ROOM LABEL & NUMBER

DRAWING INDEX

M0.00 COVER PAGE

MECHANICAL SCHEDULES

M1.00 MECHANICAL SCHEDULE AND DETAILS

M1.10 MECHANICAL DEMO FLOOR PLANS

M1.11 MECHANICAL NEW FLOOR PLANS

ELECTRICAL SCHEDULES

E1.00 ELECTRICAL LEGEND & SCHEDULES

E1.10 ELECTRICAL DEMO FLOOR PLANS

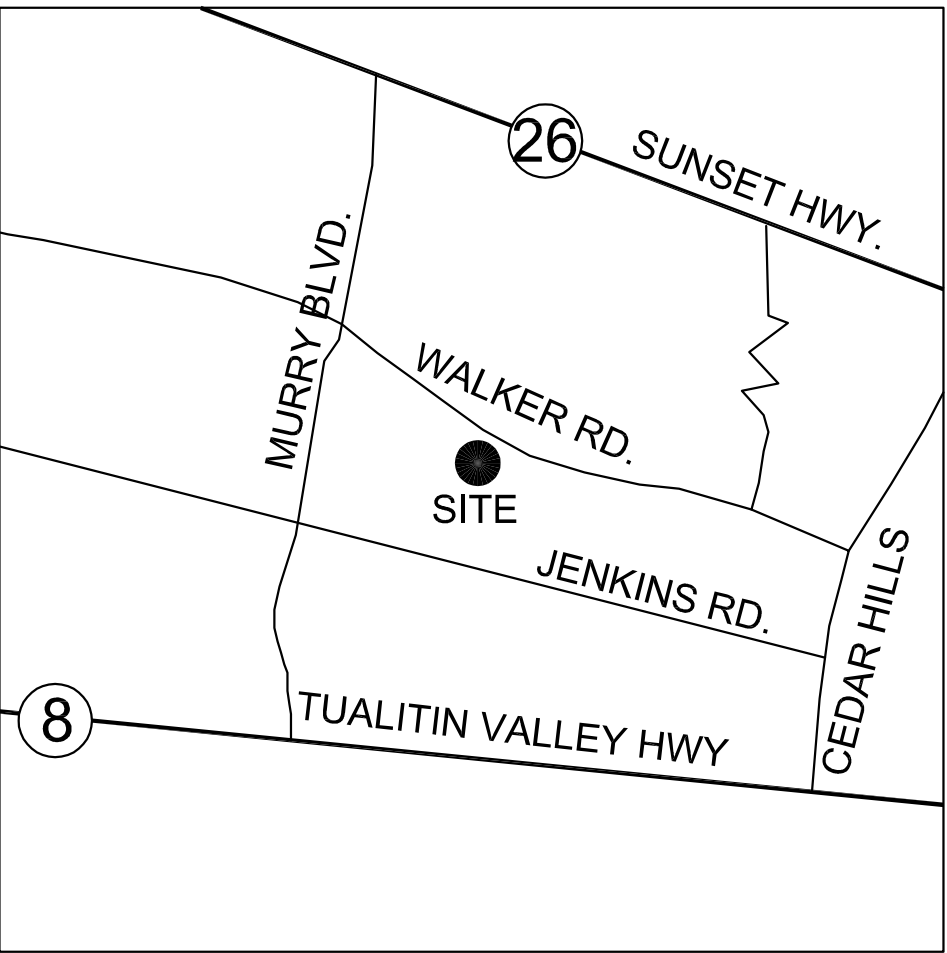
E1.11 ELECTRICAL NEW FLOOR PLANS

GENERAL NOTES

- COORDINATE ALL WORK WITH THE DRAWINGS AND SPECIFICATIONS.
- DO NOT SCALE FROM DRAWINGS.
- CONTRACTOR AND SUB-CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS, LOCATIONS, AND PROJECT REQUIREMENTS PRIOR TO SUBMITTING A BID.
- CONTRACTOR AND SUB-CONTRACTORS SHALL FIELD VERIFY DIMENSIONS, AND FAMILIARIZE THEMSELVES WITH PROJECT REQUIREMENTS PRIOR TO COMMENCING WITH THE WORK. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO ARCHITECT.
- WORK SHALL INCLUDE ALL REQUIRED TRADE PERMITS, LABOR, MATERIALS, AND EQUIPMENT TO COMPLETE ALL WORK INDICATED ON DRAWINGS AND SPECIFICATIONS.
- PROVIDE TEMPORARY DUST-PROOF PARTITIONS AS REQUIRED TO PROTECT ALL EXISTING AREAS AND EQUIPMENT FROM DAMAGE DUE TO DEMOLITION OR NEW CONSTRUCTION ACTIVITIES. COORDINATE LOCATIONS AND REQUIREMENTS WITH OWNER.
- GENERAL CONTRACTOR TO PATCH, REPAIR AND PAINT (REFINISH) SURFACES AND BUILDING ELEMENTS DAMAGED BY MECHANICAL, ELECTRICAL, AND PLUMBING WORK AND WHERE ITEMS ARE REMOVED, RELOCATED OR ADDED.
- REPAIR FLOORS WHERE DAMAGED BY THE WORK OF THIS PROJECT.
- PATCH AND REPAIR ALL SURFACES TO MATCH EXISTING WHERE ITEMS ARE REMOVED OR ALTERED - FIELD VERIFY EXTENT REQUIRED.
- CONTRACTOR IS RESPONSIBLE FOR FINAL CLEANUP OF WORK AREA AND ALL EXPOSED BUILDING SURFACES AT SUBSTANTIAL COMPLETION.
- ALL TRASH AND TOOLS SHALL BE REMOVED FROM PREMISES EACH DAY AND THE AREA LEFT CLEAN WHENEVER UNATTENDED. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP. COORDINATE WITH OWNER IF SECURE STORAGE IS NEEDED ONSITE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO FINISHED SURFACES, EQUIPMENT, FURNITURE, EXISTING MATERIALS OR FINISHES, CAUSED AS A RESULT OF HIS WORK. REPAIR OR REPLACE DAMAGED ITEMS AS DIRECTED BY BEAVERTON SCHOOL DISTRICT
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.
- WORK SHALL BE DONE BY THOSE SKILLED AND EXPERIENCED IN THEIR RESPECTIVE TRADES. WORK SHALL BE OF THE HIGHEST QUALITY WORKMANSHIP.

DEFERRED SUBMITTAL

- SEISMIC EQUIPMENT DETAILS AND CALCULATIONS BY MECHANICAL CONTRACTOR



1 VICINITY MAP
M1.00 NTS



KEY PLAN



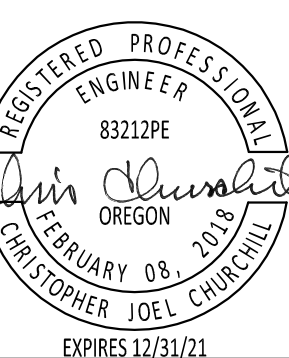
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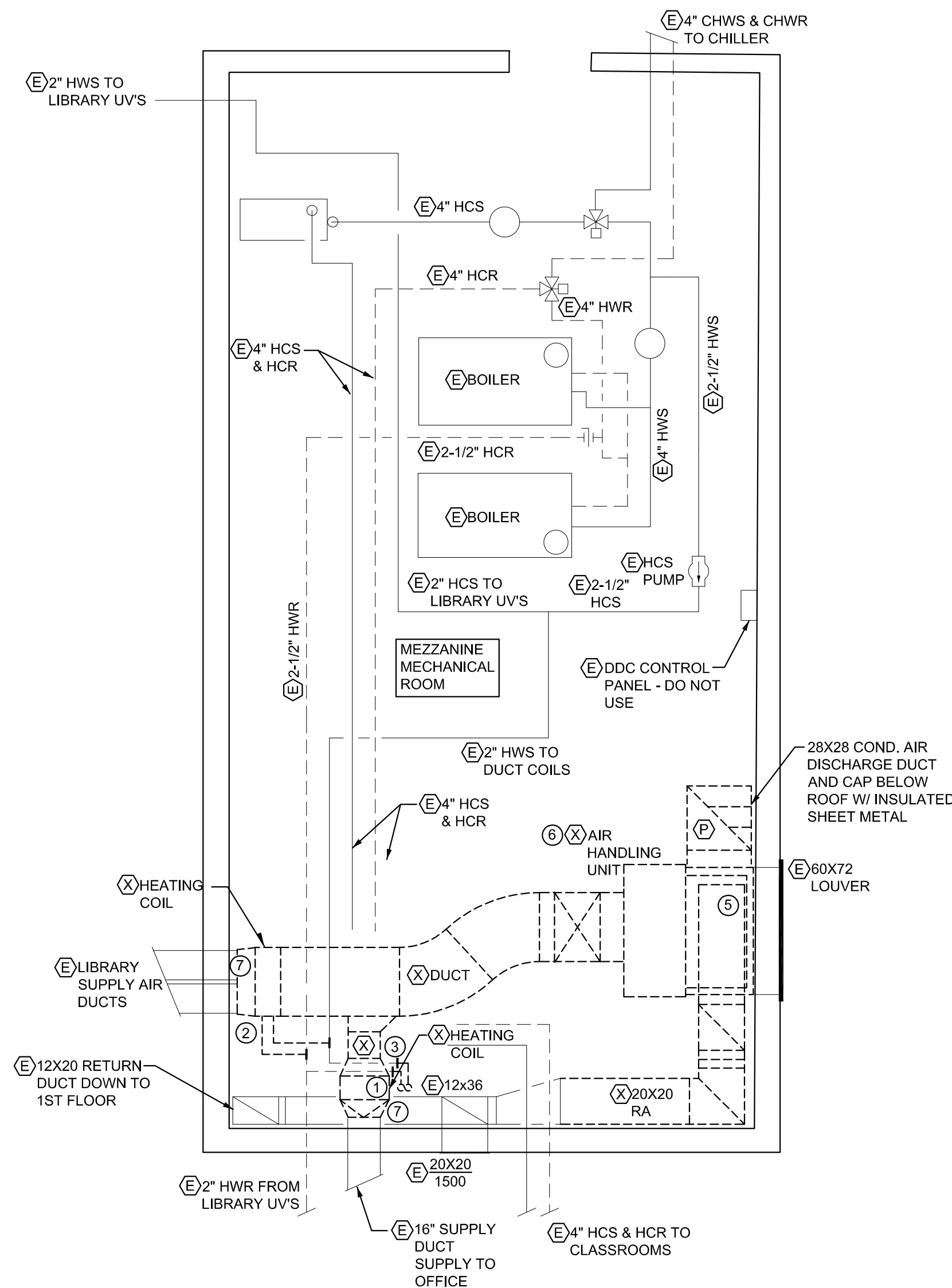
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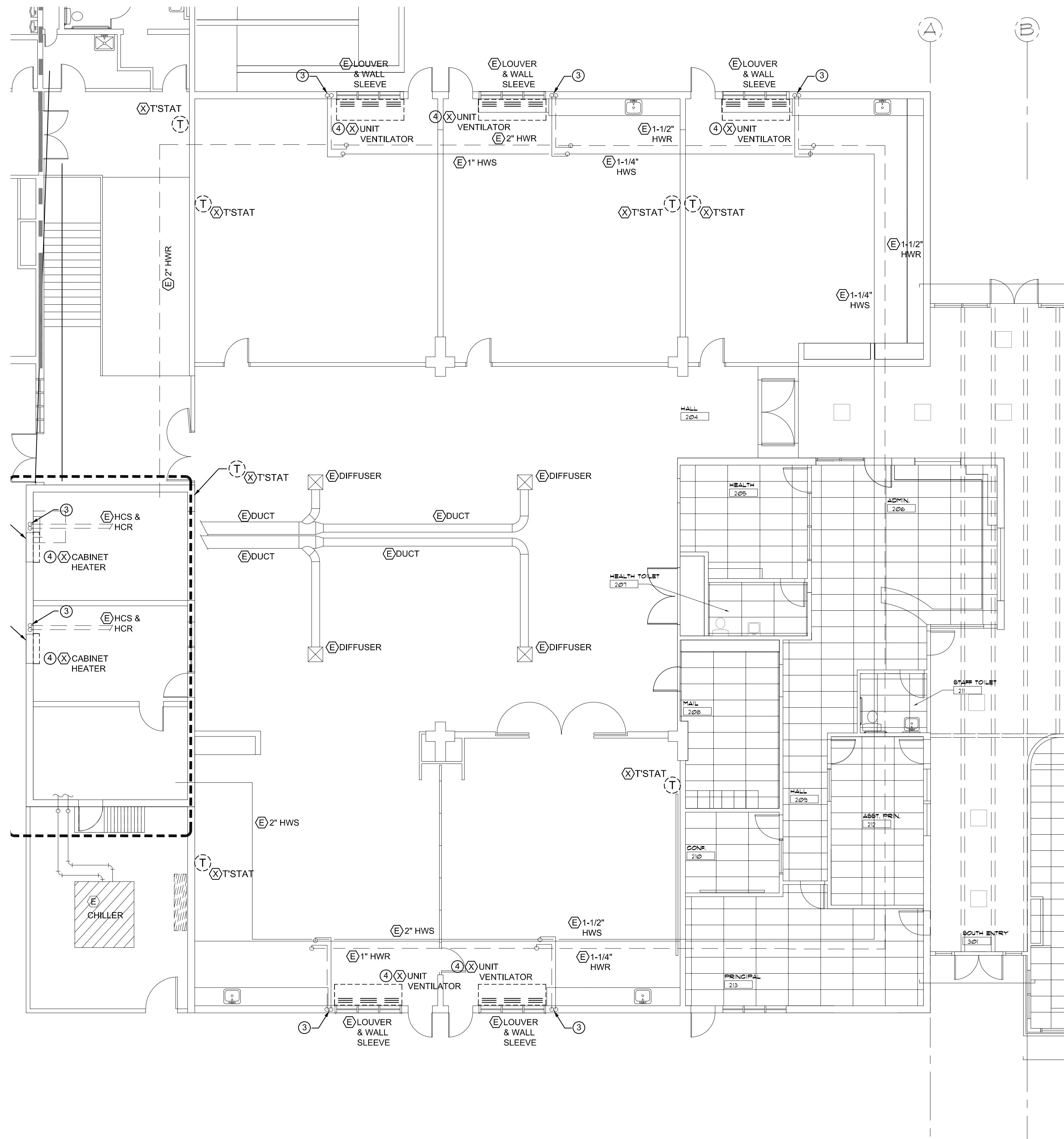
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Job No: BSD1901



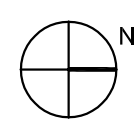
2 MECHANICAL MEZZANINE DEMOLITION FLOOR PLAN
1/4" = 1'-0"



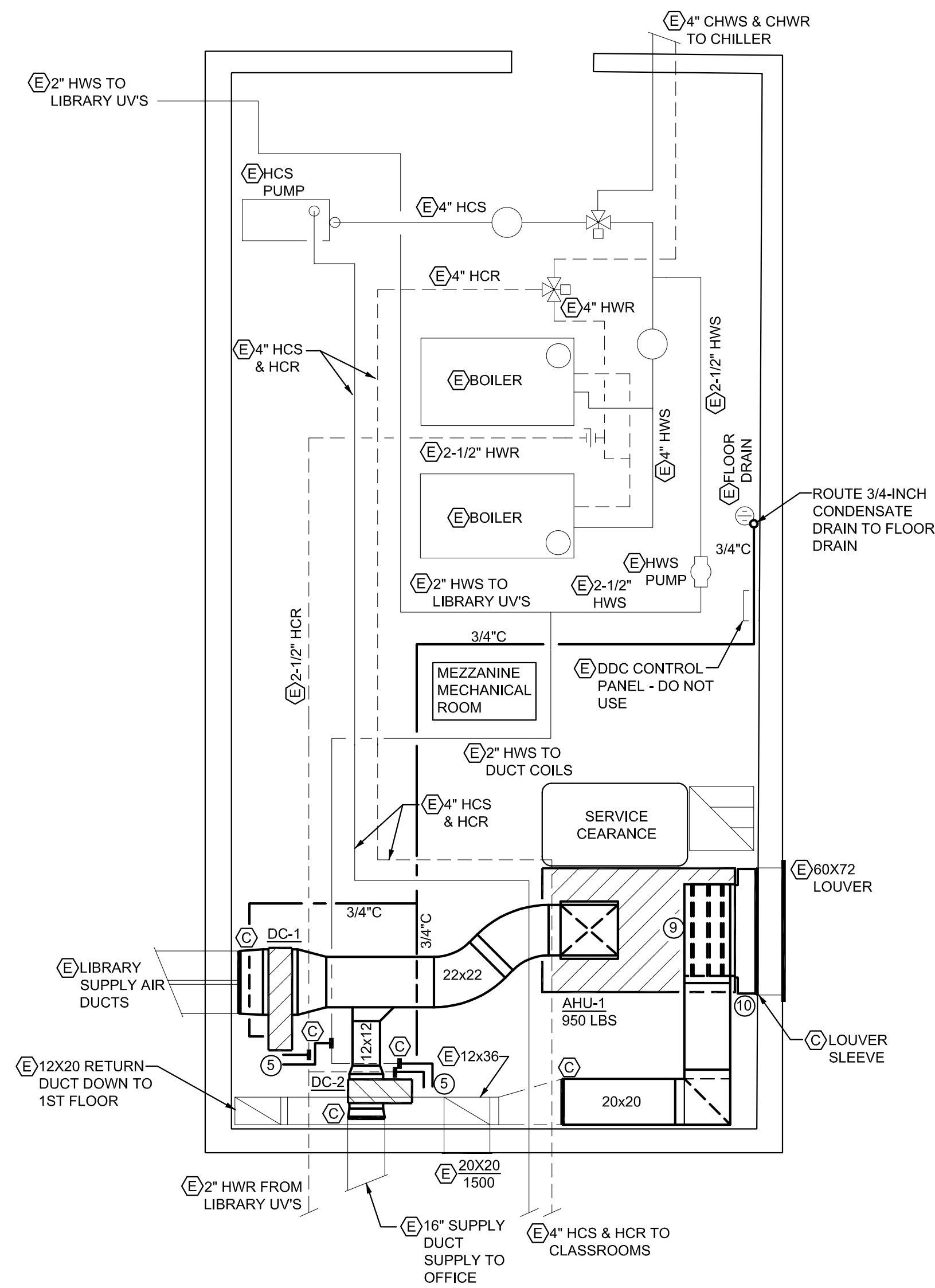
1 MAIN LEVEL - MECHANICAL DEMO FLOOR PLAN
1/8" = 1'-0"

SHEET NOTES

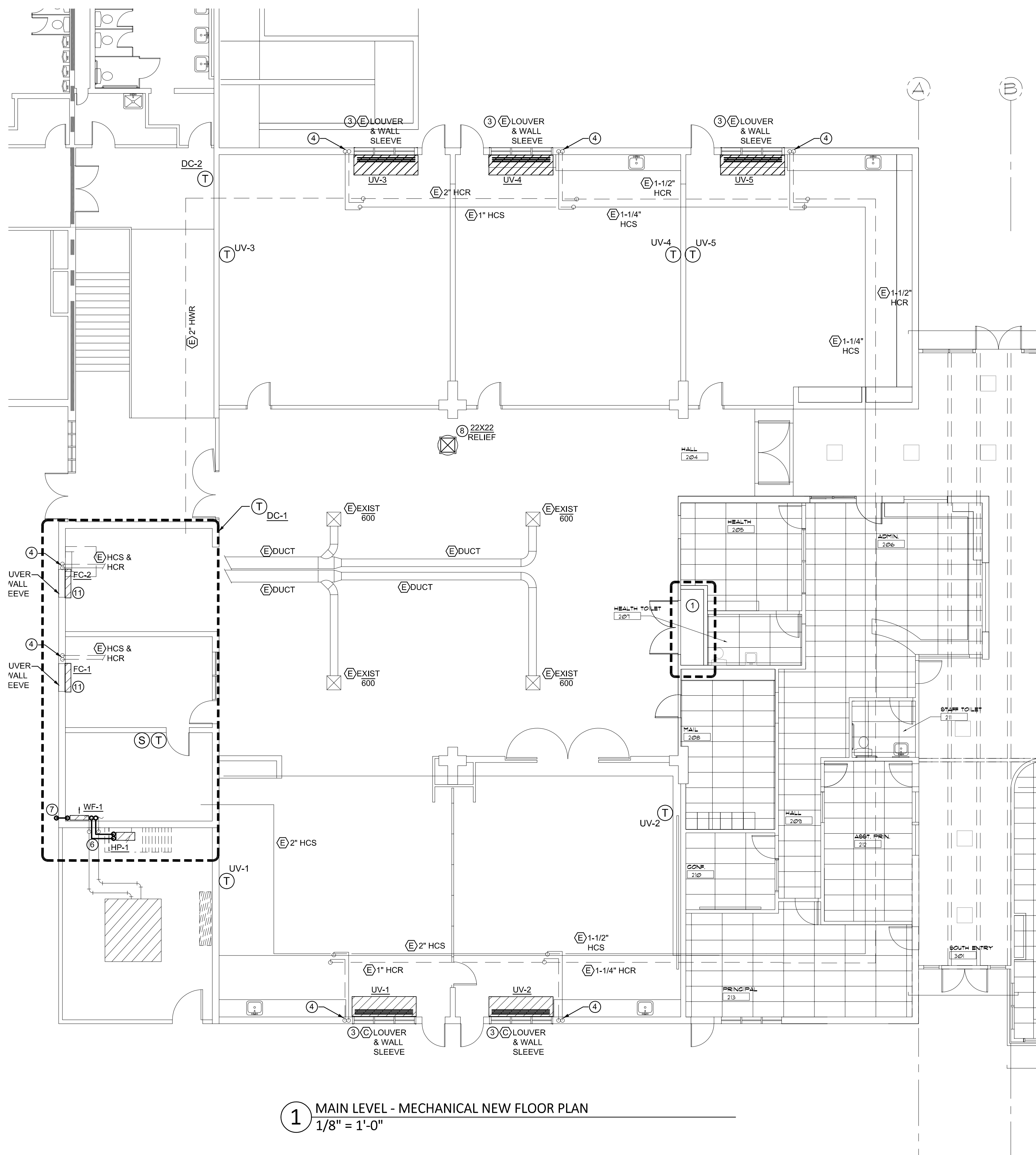
- 1 REMOVE EXISTING HOT WATER COIL, VALVES AND 3/4-INCH CONNECTION PIPING - PROTECT PIPING FOR CONNECTION TO NEW COIL
- 2 REMOVE EXISTING HOT WATER COIL, VALVES AND 1-INCH CONNECTION PIPING
- 3 EXISTING RUNOUT SUPPLY AND RETURN PIPING - PROTECT WATER PIPING FOR CONNECTION OF NEW UNIT VENTILATOR / FAN COIL
- 4 REMOVE EXISTING UNIT VENTILATOR / FAN COIL - PROTECT WALL SLEEVE AND EXTERIOR LOUVER FOR USE WITH NEW UNIT VENTILATOR INSTALLATION
- 5 REMOVE OUTSIDE AIR DUCT, RETURN AIR DUCT AND CONDENSER INTAKE DUCT - PROTECT LOUVER AND SLEEVE FOR REUSE
- 6 EXISTING AIR HANDLING UNIT HAS INTEGRAL COMPRESSOR / CONDENSER / REFRIGERATION SYSTEM - BEAVERTON SCHOOL DISTRICT WILL EVACUATE THE REFRIGERANT - INCLUDE COST IN THE BID PRICE FOR VERIFICATION THAT REFRIGERANT IS REMOVED IN COMPLIANCE WITH CURRENT CODES AND DISPOSAL OF OIL AND REMAINING REFRIGERATION COMPONENTS FROM THE EQUIPMENT AND REMOVAL FROM SITE
- 7 REMOVE EXISTING COIL TRANSITION DUCTWORK AND PROTECT DOWNSTREAM DUCTWORK IN THE MECHANICAL ROOM FOR FUTURE CONNECTIONS



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2 MECHANICAL MEZZANINE NEW FLOOR PLAN
1/4" = 1'-0"



1 MAIN LEVEL - MECHANICAL NEW FLOOR PLAN
1/8" = 1'-0"

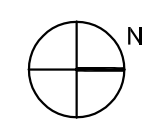
GENERAL NOTES

PIPING IS DIAGRAMMATIC - CONTRACTOR IS TO SITE VERIFY PRIOR TO SITE WORK.

SHEET NOTES

- 1 ESTABLISH COMMUNICATION TO THE NEW EQUIPMENT THROUGH BACNET IP PROTOCOL VIA THE EXISTING MSTP CONTROLLERS IN THIS AREA. DO NOT ESTABLISH COMMUNICATION THROUGH THE EXISTING N2 CONTROLLER(S) IN THE MEZZANINE MECHANICAL ROOM. BRING THE SYSTEM DDC POINTS INTO THE DISTRICT SERVER AND INTEGRATE THE SYSTEM GRAPHICS TO MATCH BEAVERTON SCHOOL DISTRICT (BSD) STANDARDS
- 2 SEE DETAIL 7/M1.00. EXISTING LOUVER USED FOR OUTSIDE AIR AND INTEGRAL REFRIGERATION SYSTEM AIR DISCHARGE - BLANK OFF LOUVER AREA NOT USED FOR NEW OUTSIDE AIR INTAKE WITH SHEET METAL AND RIGID INSULATION (R21). PROVIDE A MOTORIZED DAMPER IN THE OUTSIDE AIR DUCT SLEEVE WITH ACCESSIBLE ACTUATOR
- 3 SEE DETAIL 7/M1.00. EXISTING LOUVER USED FOR OUTSIDE AIR AND INTEGRAL REFRIGERATION SYSTEM AIR DISCHARGE - BLANK OFF LOUVER AREA NOT USED FOR NEW OUTSIDE AIR INTAKE WITH SHEET METAL AND RIGID INSULATION (R21)
- 4 CONNECT NEW HCS AND HCR RUNOUT PIPING TO THE NEW UNIT VENTILATOR / FAN COIL - SEE DETAIL 1/M1.00
- 5 SEE DETAIL 1/M1.00 FOR DUCT COIL CONNECTION DETAIL - SEE COIL SCHEDULE FOR RUNOUT PIPING SIZES
- 6 ROUTE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS FROM HEAT PUMP TO FAN COIL
- 7 ROUTE 3/8-INCH CONDENSATE FROM WF-1 THROUGH WALL AND DOWN TO 12-INCHES ABOVE FINISHED GRADE
- 8 ROUTE 22X22 LINED RELIEF DUCT UP TO ROOFCAP WITH MOTORIZED DAMPER - INSTALL DAMPER / ACTUATOR IN ROOFCAP NECK ACCESSIBLE FROM ROOF THROUGH HINGED ROOFCAP. SEE DETAIL 8/M1.00
- 9 CONNECT RETURN DUCT TO RETURN AIR DAMPER ASSEMBLY
- 10 PROVIDE A LINED PLENUM BOX FOR CONNECTION OF UNIT OUTSIDE AIR DAMPER TO EXISTING LOUVER SLEEVE
- 11 INSTALL FAN COIL UNITS TO ALLOW NEC CLEARANCE FOR ELECTRICAL BOX ACCESS

KEYPLAN



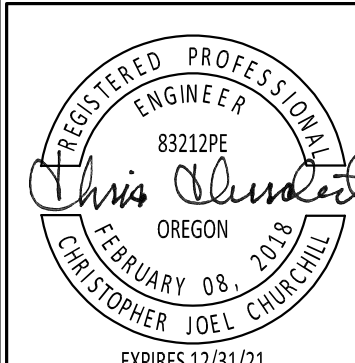
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Sheet Title
MECHANICAL
NEW FLOOR
PLANS



M1.11
Job No: BSD1901