



ADDENDUM NUMBER: ONE (1)

TO: PROJECT MANUAL AND DRAWINGS

FOR: UAF Jean Tyson CDC HVAC Upgrades
University of Arkansas
Fayetteville, Arkansas
Pettit & Pettit Project #25-120

DATE: August 26, 2026

This Addendum forms a part of the Contract Documents and modifies or interprets the Project Manual and Drawings, as noted below.

ADDENDUM ITEMS - Drawings:

MECHANICAL:

- A1.** REFER TO SHEET T1.0 – ADDED NEW SHEET M1.2 AND E1.2 LISTINGS.
- A2.** REFER TO SHEET M1.1 – REVISED LOCATION OF FLOW METER AND MINIMUM FLOW BYPASS VALVE.
- A3.** REFER TO SHEET M1.2 – ADDED NEW SHEET.
- A4.** REFER TO SHEET M2.1 – REVISED LOCATION OF FLOW METER AND MINIMUM FLOW BYPASS VALVE.
- A5.** REFER TO SHEET M3.0 – REVISED FAN COIL UNIT SCHEDULE.
- A6.** REFER TO SHEET M4.1 – REVISED DETAIL #4 – NATURAL GAS PIPING DETAIL
- A7.** REFER TO SHEET M5.1 – REVISED LOCATION OF FLOW METER AND MINIMUM FLOW BYPASS VALVE.
- A8.** REFER TO SHEET M5.2 – ADDED NOTE ABOUT RELOCATION OF HEATING WATER FLOW METER TRANSMITTER.

PLUMBING:

NO ADDENDA

ELECTRICAL:

- A9.** REFER TO SHEET E1.0 – ADDED NOTE ABOUT RELOCATION OF THE EXISTING LIGHT SWITCH.
- A10.** REFER TO SHEET E1.1 – ADDED NOTE ABOUT RELOCATION OF THE EXISTING LIGHT SWITCH AND RELOCATED CHILLER AND HEAT TRACE DISCONNECTS.
- A11.** REFER TO SHEET E1.2 – ADDED NEW SHEET.

ADDENDUM ITEMS - Specifications:

- A12.** REFER TO SECTION 23 64 23 – AIR-COOLED LIQUID SCROLL CHILLER, PARAGRAPH 2.01 – APPROVED MANUFACTURERS. ADD Daikin to the list of Approved Manufacturers.

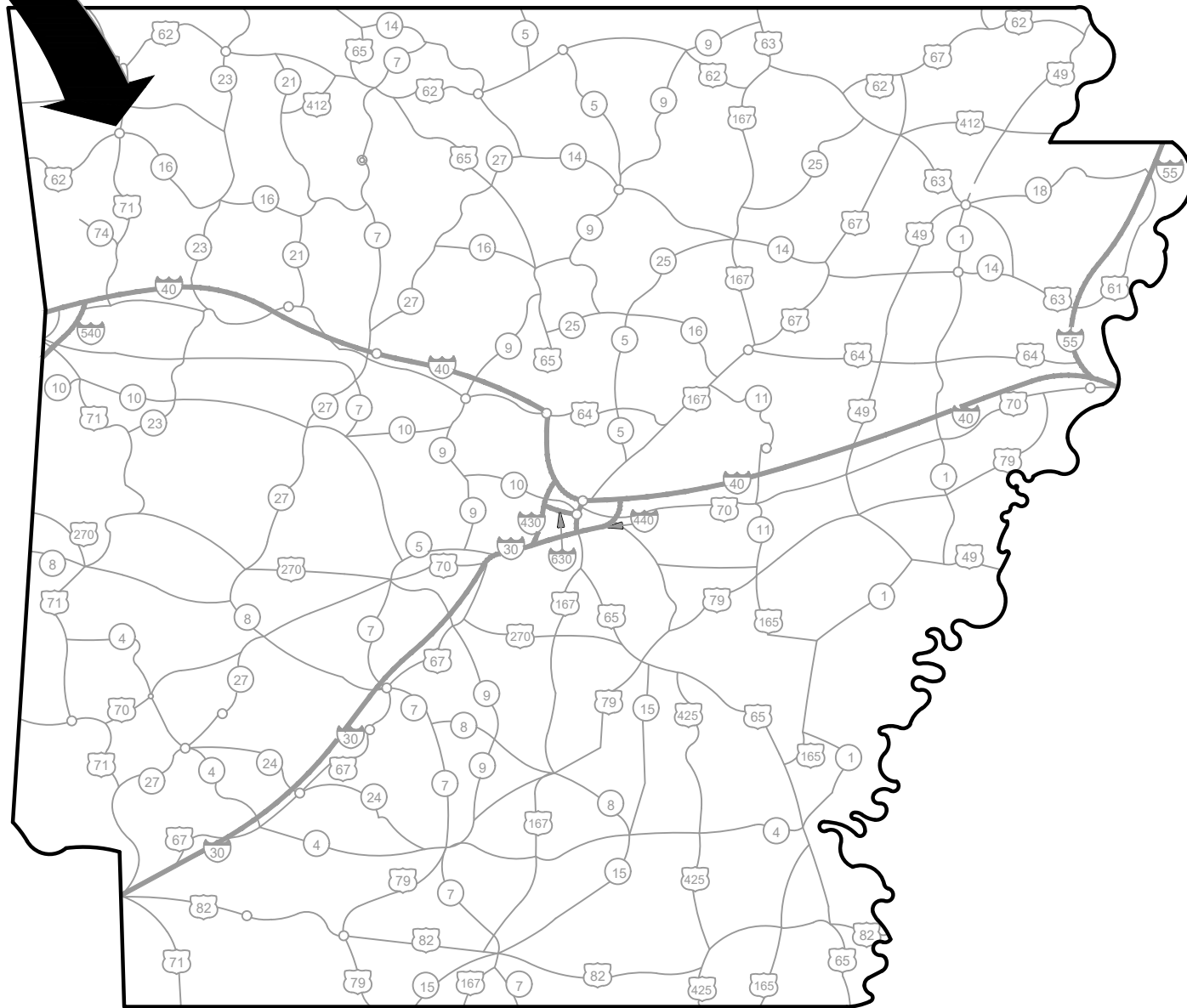
END OF THE ADDENDUM

UAF JEAN TYSON CDC HVAC UPGRADES

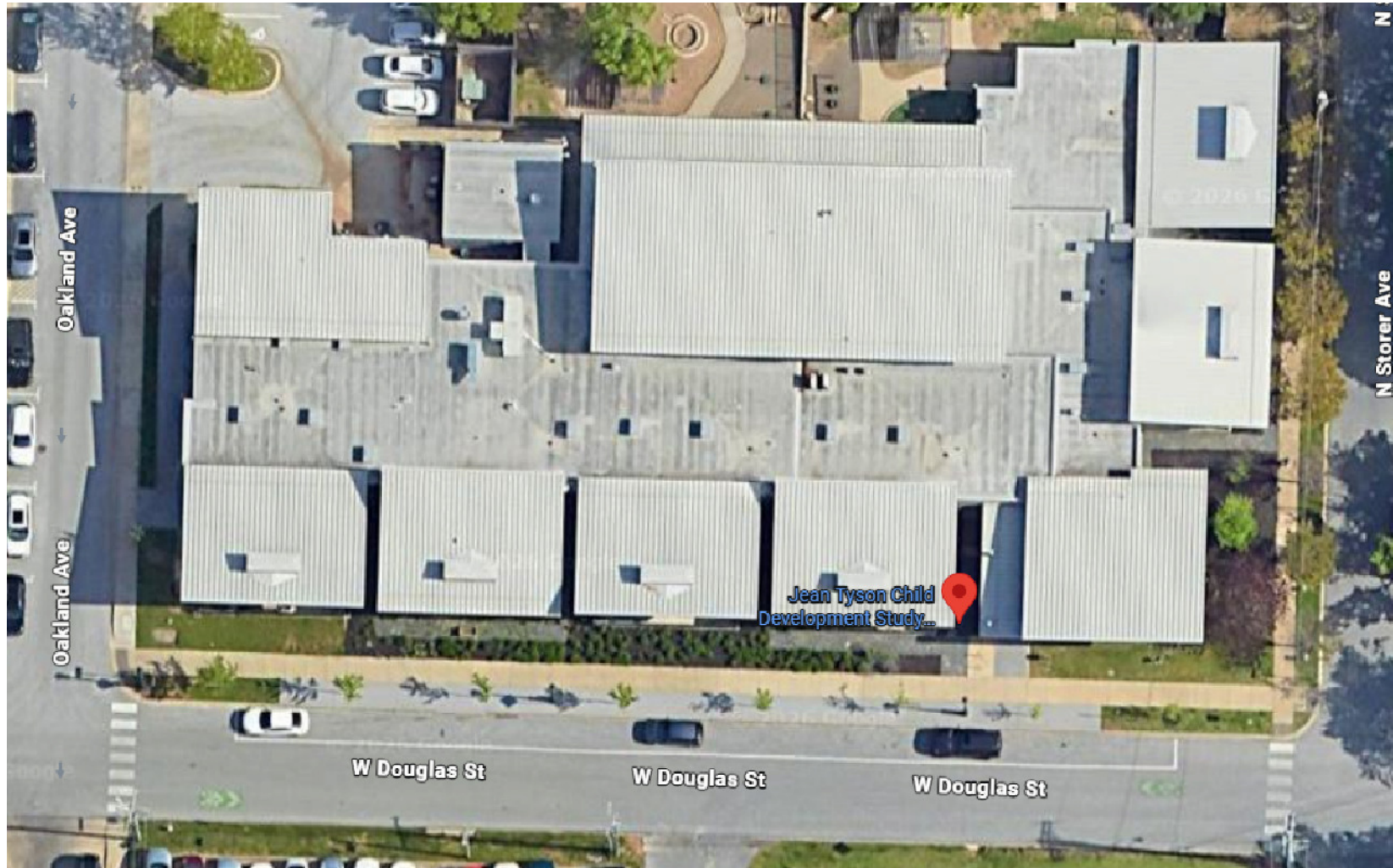
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VICINITY MAP
N.T.S.



AREA MAP
N.T.S.



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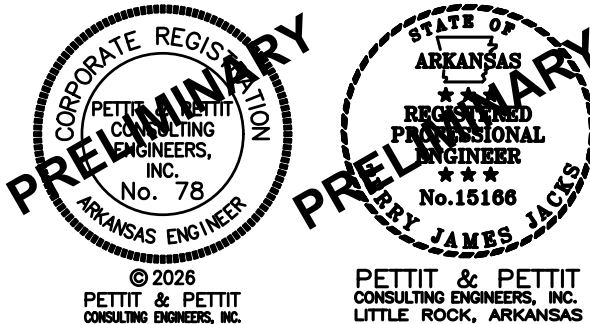
"I HEREBY CERTIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED BY ME OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THESE PLANS AND SPECIFICATIONS ARE AS REQUIRED BY LAW AND IN COMPLIANCE WITH THE ARKANSAS FIRE PREVENTION CODE FOR THE STATE OF ARKANSAS"

Signed _____



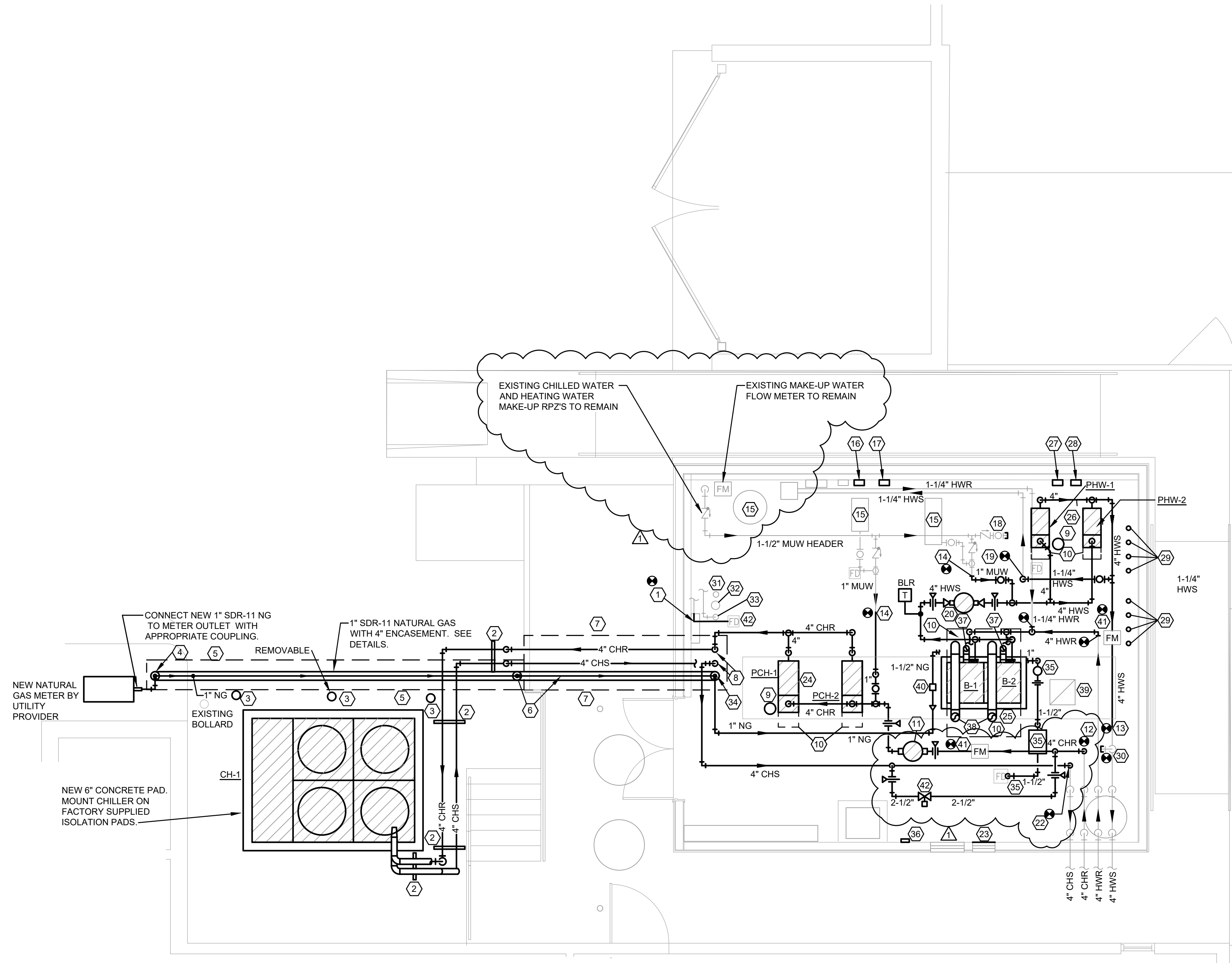
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REVIEW DRAWINGS



REVISION #1 - 8-26-2026

DATE:	8-11-26
JOB NUMBER:	25-120
SHEET NUMBER:	T1.0



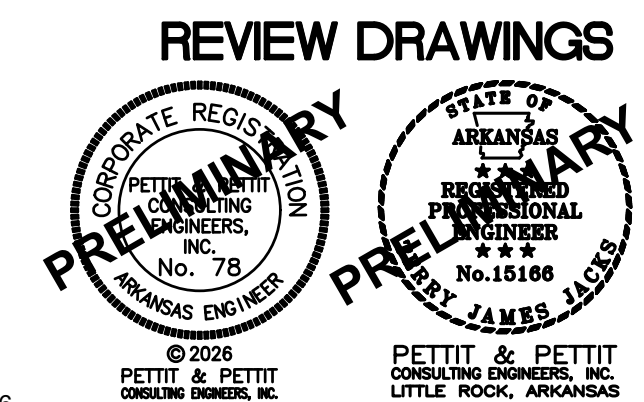
1 MECHANICAL ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"

HVAC KEYED NOTES

- 1 RE-ROUTE EXISTING 4" PVC DRAIN TO RELOCATED FLOOR DRAIN.
- 2 PIPING SUPPORT (TYP). SEE DETAILS.
- 3 ADD NEW PIPE BOLLARD.
- 4 DROP 1" SDR-11 GAS PIPING AND 4" SCH 40 STEEL ENCASEMENT PIPING BELOW GRADE.
- 5 SAW CUT EXISTING PAVEMENT FOR INSTALLATION OF NEW NATURAL GAS PIPING. REPLACE PAVEMENT AFTER INSTALLATION.
- 6 RISE ABOVE GRADE AND RUN NEW 1" NG LINE AND ENCASEMENT BELOW EXISTING SLAB.
- 7 SAW CUT EXISTING SLAB FOR INSTALLATION OF NEW NATURAL GAS AND CHILLED WATER PIPING. REPLACE SLAB AFTER PIPING INSTALLATION.
- 8 NEW 4" CHS/CHR RISERS ABOVE FLOOR.
- 9 NEW CHEMICAL POT FEEDER.
- 10 MAINTENANCE CLEARANCE SPACE.
- 11 NEW CHILLED WATER SYSTEM AIR/DIRT SEPARATOR. SPIROTHERM 4" VDN.
- 12 CONNECT NEW 4" CHR TO EXISTING.
- 13 CONNECT NEW 4" HWS TO EXISTING.
- 14 CONNECT NEW 1" MAKE-UP WATER (MUW) TO EXISTING.
- 15 EXISTING EXPANSION TANK TO REMAIN.
- 16 NEW VFD FOR NEW CHILLED WATER PUMP PCH-1.
- 17 NEW VFD FOR NEW CHILLED WATER PUMP PCH-2.
- 18 CAP EXISTING 1" MUW AT END OF EXISTING BALL VALVE.
- 19 CONNECT NEW 1-1/4" HWS TO EXISTING.
- 20 NEW HEATING WATER SYSTEM AIR/DIRT SEPARATOR. SPIROTHERM 3" VDN.
- 21 CONNECT NEW 4" HWR TO EXISTING.
- 22 CONNECT NEW 4" CHS TO EXISTING.
- 23 CAP INSIDE OF EXISTING DUCT CONNECTION AT EXISTING LOUVER.
- 24 NEW CHILLED WATER PUMPS WITH SUCTION DIFFUSERS.
- 25 NEW HEATING WATER BOILERS B-1 AND B-2. PROVIDE WITH NEW 6" CONCRETE PAD.
- 26 NEW HEATING WATER PUMPS WITH SUCTION DIFFUSERS.
- 27 NEW VFD FOR NEW HEATING WATER PUMP PHW-1.
- 28 NEW VFD FOR NEW HEATING WATER PUMP PHW-2.
- 29 CAP EXISTING 3" GROUND SOURCE WELL LOOP RISERS JUST ABOVE FLOOR. FIELD VERIFY SIZES.
- 30 CAP EXISTING 1-1/4" HWS.
- 31 EXISTING 4" FIRE DEPARTMENT CONNECTION LINE.
- 32 EXISTING 6" SPRINKLER RISER.
- 33 EXISTING 2" DOMESTIC COLD WATER SERVICE.
- 34 NEW 1" SDR-11 NATURAL GAS PIPING RISER ABOVE FLOOR. TERMINATE 6" ENCASEMENT PIPING. TRANSITION TO 1" SCH 40 STEEL NATURAL GAS PIPING AND EXTEND TO BOILER.
- 35 NEW BOILER GAS FLUE CONDENSATE PIPING, TRAP, AND NEUTRALIZATION KIT. SEE PIPING SCHEMATICS.
- 36 RELOCATED EXISTING HEATING WATER AND CHILLED WATER FLOW CONTROL SYSTEM DISPLAYS.
- 37 4" COMBUSTION AIR DUCT UP THROUGH ROOF.
- 38 6" BOILER FLUE UP THROUGH ROOF.
- 39 EXISTING ROOF MOUNTED EXHAUST FAN TO REMAIN.
- 40 NEW NATURAL GAS PRESSURE REGULATOR. SEE PIPING SCHEMATICS.
- 41 RELOCATE AND INSTALL EXISTING FLOW METER. VERIFY LOCATION OF EXISTING METER.
- 42 CHILLER MINIMUM FLOW BYPASS VALVE.
- 43 RELOCATED FLOOR DRAIN. RECONNECT TO 3" DAIN EXISTING 4" SEWER MAIN.

GENERAL NOTES:

1. USE LONG RADIUS ELBOWS WHERE POSSIBLE.
2. ALL NEW INDOOR INSULATED PIPING SHALL HAVE PVC JACKETING INSTALLED WITH COLOR TO MATCH EXISTING PIPE COVERS.
3. PROVIDE HEAT TRACE FOR CHILLED WATER PIPING INSTALLED OUTDOORS.
4. ADD NEW BAS SENSORS AND DEVICES TO THE EXISTING CONTROL SYSTEM.
5. CORE-DRILL ALL PENETRATIONS OF CONCRETE WALLS AND FLOORS.



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JOB NO. 25-120

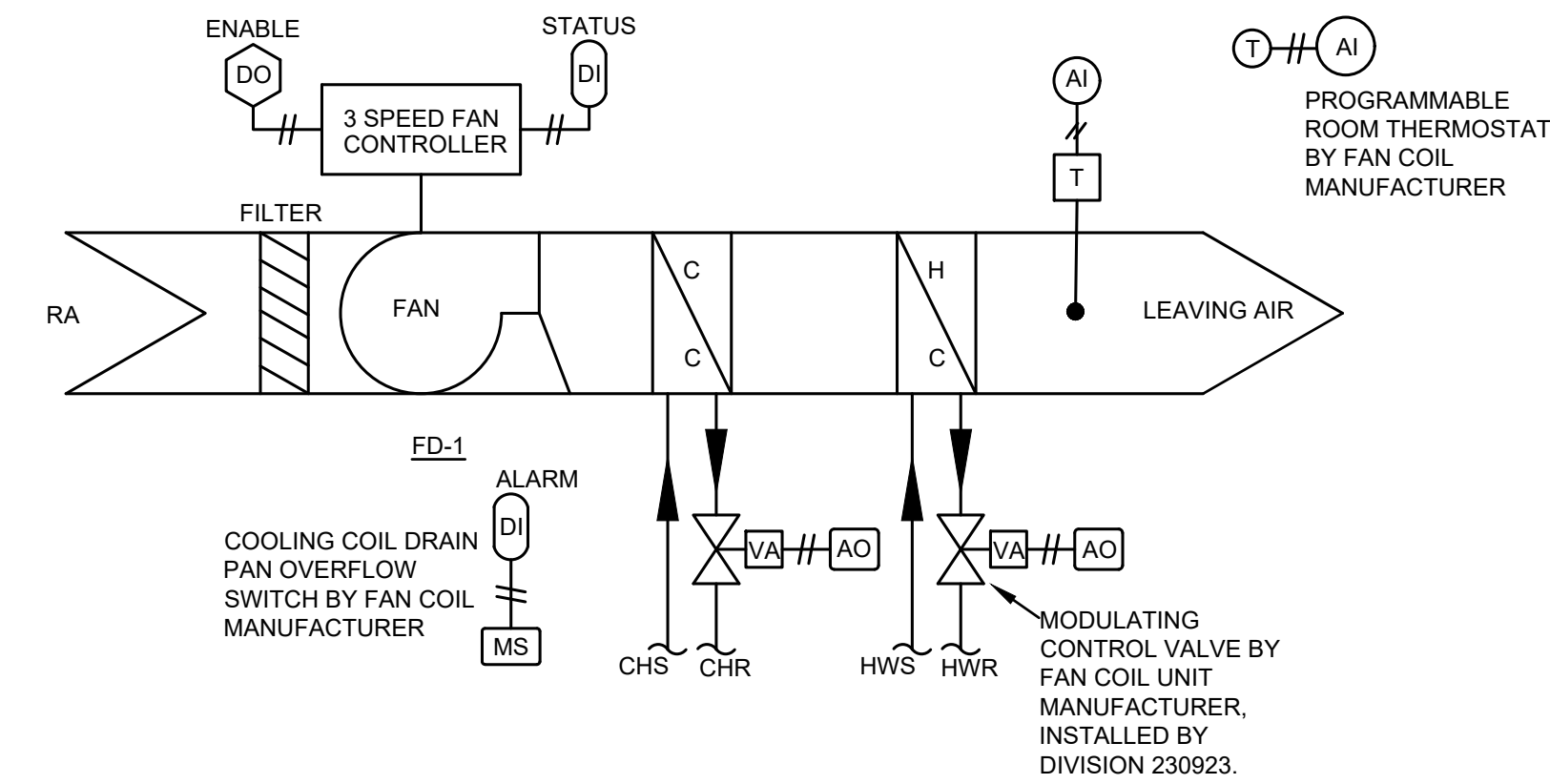
DESIGN TJJMEE

DATE 8-11-26

SHEET NO.

M1.1

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FAN COIL UNIT CONTROLS

SEQUENCE OF OPERATION

FAN OPERATION SHALL BE ENABLED/DISABLED THROUGH THE BAS. FAN SHALL OPERATE THROUGH MANUFACTURER'S CONTROLLER.

COOLING MODE: MODULATE THE CONTROL VALVE AS REQUIRED TO MAINTAIN A DISCHARGE TEMPERATURE SETPOINT OF 55 DEG. F (ADJ) WHEN THE UNIT IS CALLING FOR COOLING. THE FAN SPEED SHALL BE MODULATED FROM MINIMUM FAN SPEED SETPOINT TO MAXIMUM FAN SPEED SETPOINT TO MAINTAIN THE SPACE TEMPERATURE AT SET POINT (ADJ).

HEATING MODE: MODULATE THE CONTROL VALVE AS REQUIRED TO MAINTAIN THE DISCHARGE TEMPERATURE SETPOINT OF 99.7 DEG. F (ADJ) WHEN THE UNIT IS CALLING FOR HEATING. THE FAN SPEED SHALL BE MODULATED FROM MINIMUM FAN SPEED SETPOINT TO MAXIMUM FAN SPEED SETPOINT TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT (ADJ).

COOLING/HEATING OPERATION SHALL BE INDEXED AT THE PROGRAMMABLE THERMOSTAT. MODES OF OPERATION: FAN COIL MODE OF OPERATION IS EITHER "OCCUPIED", OR "UNOCCUPIED". OCCUPIED AND UNOCCUPIED MODES ARE DETERMINED BASED UPON A CALENDAR AND TIME OF DAY SCHEDULE. UNOCCUPIED MODE CAN BE OVERRIDDEN TO OCCUPIED MODE BY BUTTON AT THERMOSTAT FOR TWO HOURS (ADJ).

OCCUPIED MODE: DURING THE "OCCUPIED" MODE OF OPERATION, THE SETPOINT SHALL BE ADJUSTED THROUGH THE BAS BETWEEN A MINIMUM OF 71 DEG. F AND MAXIMUM OF 75 DEG. F. THERE SHALL BE A 1 DEG. F DEAD BAND ON EITHER SIDE OF THE SETPOINT.

UNOCCUPIED MODE: DURING THE "UNOCCUPIED" MODE OF OPERATION, THE SETPOINT SHALL BE ADJUSTED THROUGH THE BAS BETWEEN A MINIMUM OF 71 DEG. F AND A MAXIMUM OF 75 DEG. F. THERE SHALL BE A 6 DEG. F DEAD BAND ON EITHER SIDE OF THE SETPOINT.

MOISTURE DETECTOR TRIP: UPON ACTIVATION OF THE MOISTURE DETECTION SENSOR, AN ALARM WILL BE GENERATED AND SENT TO THE BAS. THE UNIT SHALL BE SHUT DOWN, AND CONTROL VALVE(S) SHALL BE COMMANDED CLOSED.

NOTE: SEE SHEET 5.0 FOR CONTROL NOTES.

PROVIDE THE FOLLOWING OPERATING, STATUS, AND ALARM POINTS TO THE BCS:

FAN COIL DISCHARGE TEMPERATURE SETPOINT

FAN COIL DISCHARGE AIR TEMPERATURE

SPACE TEMPERATURE SETPOINT

SPACE TEMPERATURE

HEATING COIL VALVE ENABLE

HEATING COIL VALVE POSITION

COOLING COIL VALVE ENABLE

COOLING COIL VALVE POSITION

OPERATOR OVERRIDE STATUS

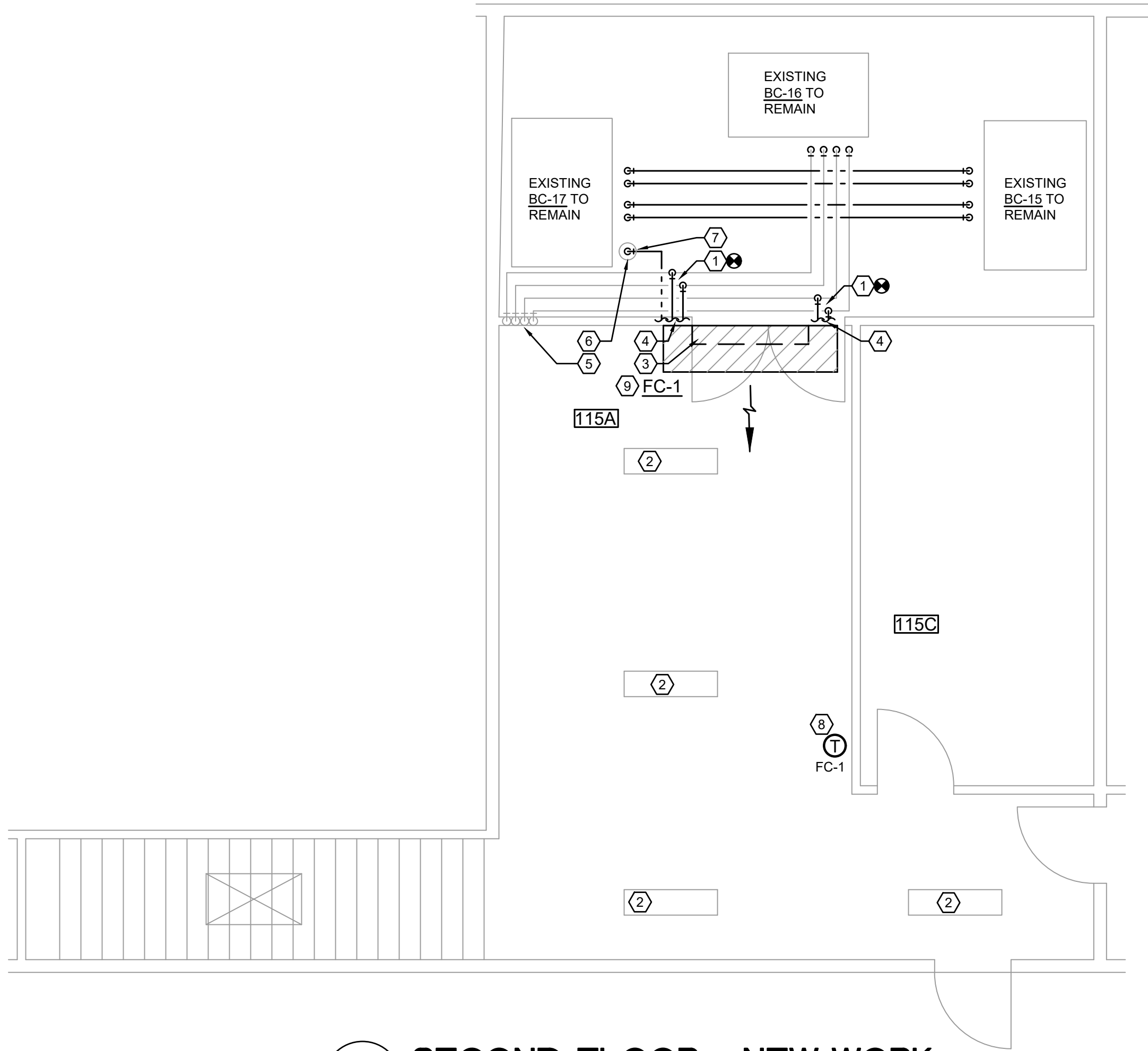
FAN - ENABLE

FAN - STATUS

FAN - SPEED

FAN - SPEED SETPOINT

MOISTURE SENSOR STATUS

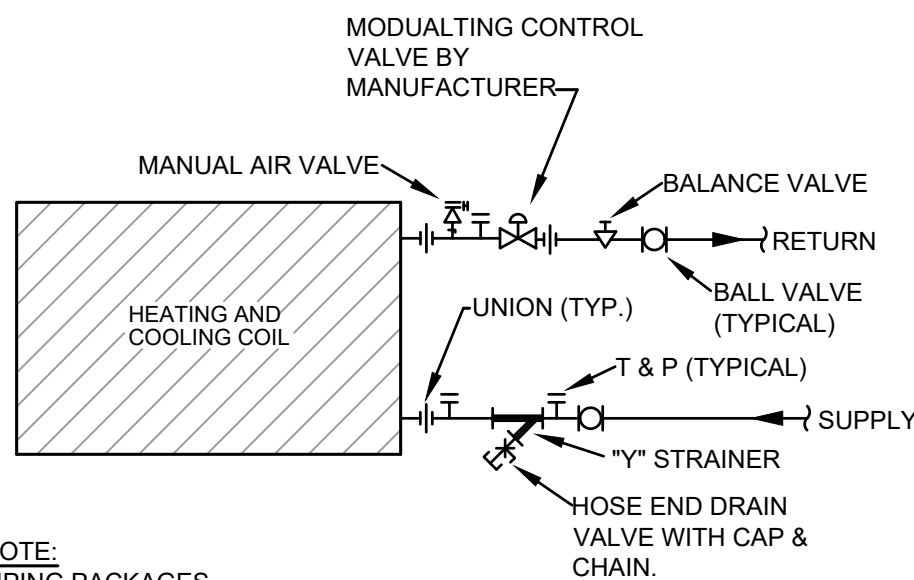


1 SECOND FLOOR - NEW WORK

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

HVAC KEYED NOTES

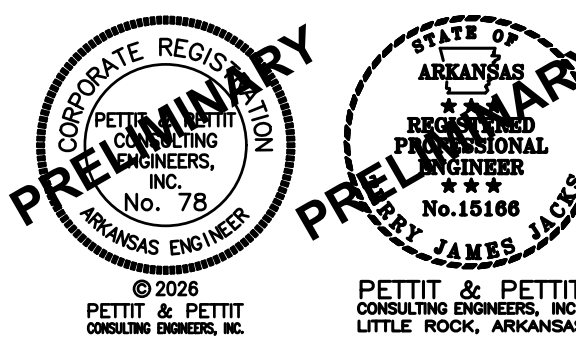
- CONNECT TO EXISTING 2" CHS, CHR, HWS, AND HWR MAIN PIPING. EXTEND 1" CHS/CHR 3/4" HWS/HWR PIPING TO FAN COIL FC-1.
- EXISTING LIGHT TO REMAIN.
- BOTTOM RETURN AIR GRILLE
- MOUNT NEW FAN COIL UNIT TIGHT TO CEILING ABOVE DOOR.
- EXISTING 2" CHS / CHR / HWS / HWR PIPING RISERS UP FROM BELOW TO REMAIN.
- EXISTING 2" CONDENSATE DRAIN INLET IN MECHANICAL ROOM.
- ROUTE 1" CONDENSATE DRAIN FROM FAN COIL UNIT TO EXISTING DRAIN INLET IN MECHANICAL ROOM.
- THERMOSTAT PROVIDED BY FAN COIL MANUFACTURER. INSTALLED BY CONTROL SYSTEM CONTRACTOR
- FAN MOTOR AT 425 WATTS, 120V/1PH.



NOTE:
PIPING PACKAGES SHALL BE SUPPLIED BY FAN COIL MANUFACTURER OR APPROVED EQUAL.

2 4-PIPE FAN COIL UNIT PIPING DETAIL N.T.S.

REVIEW DRAWINGS



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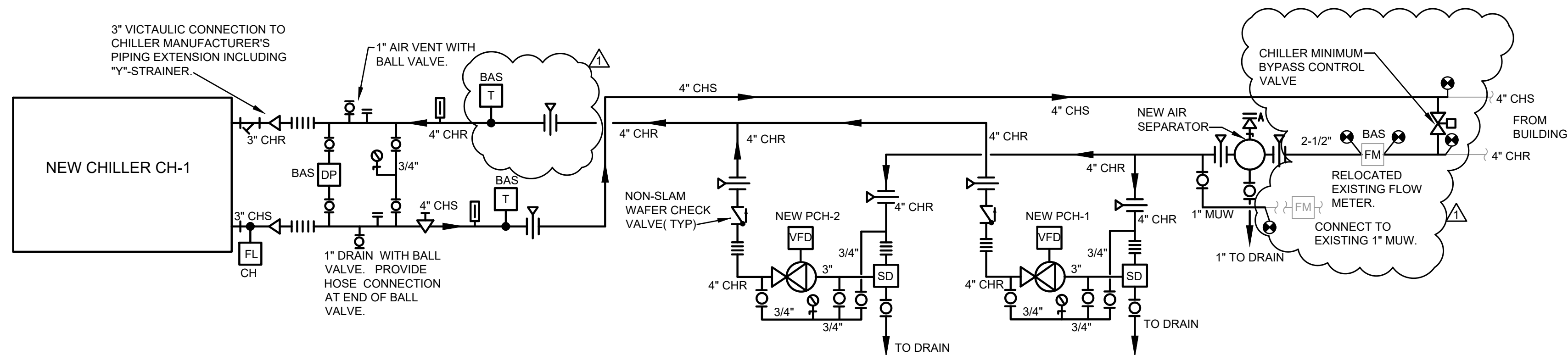
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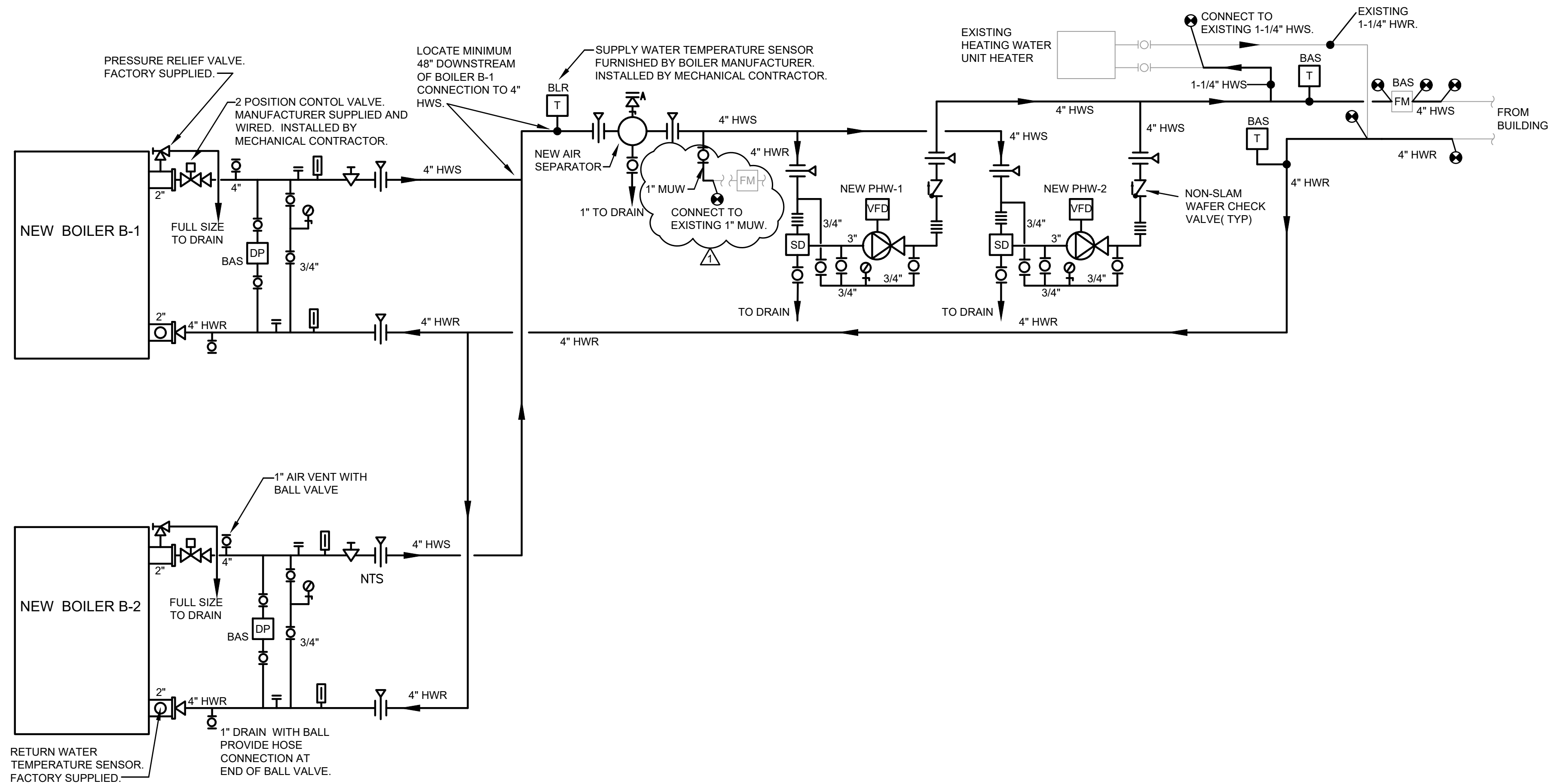
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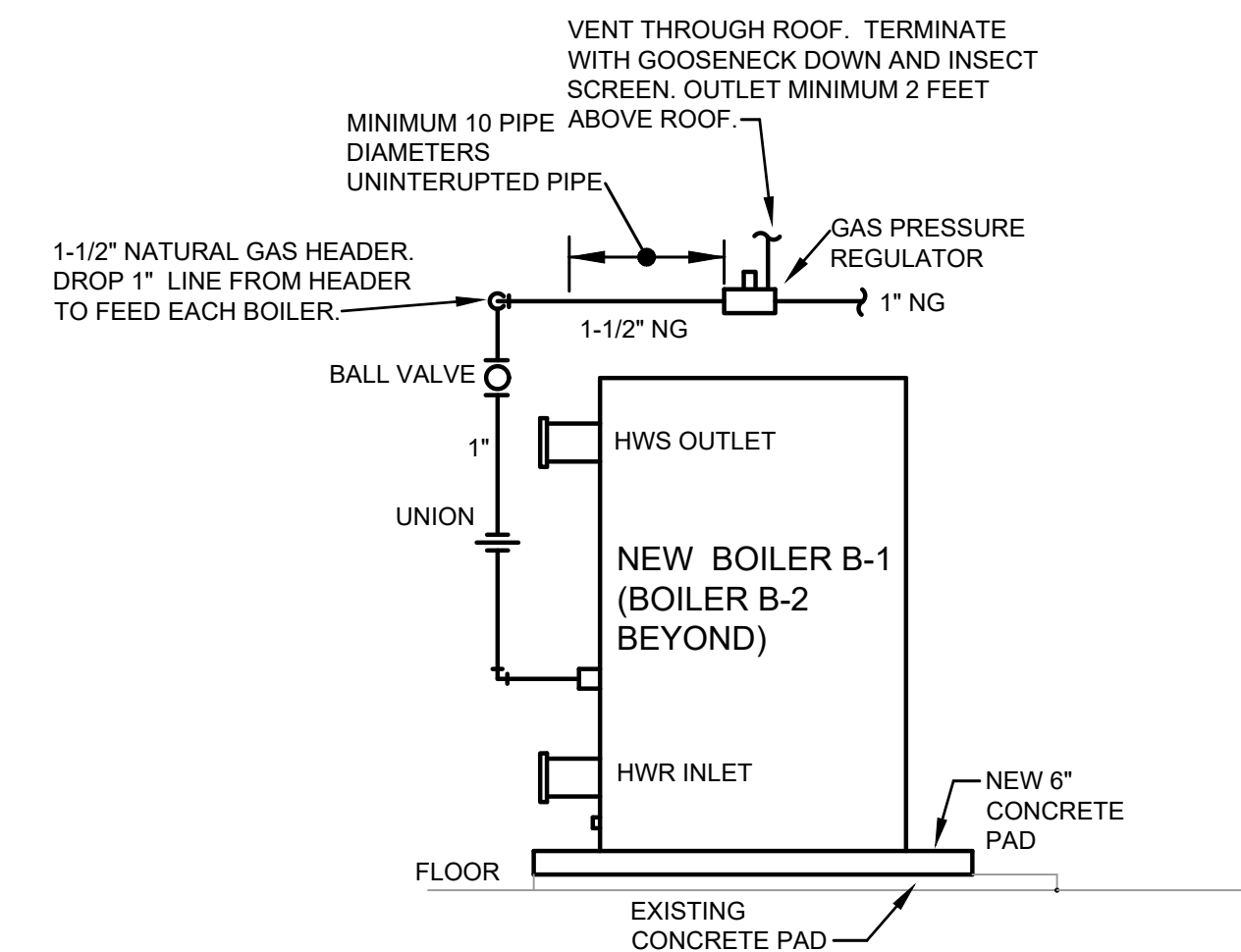
M1.2



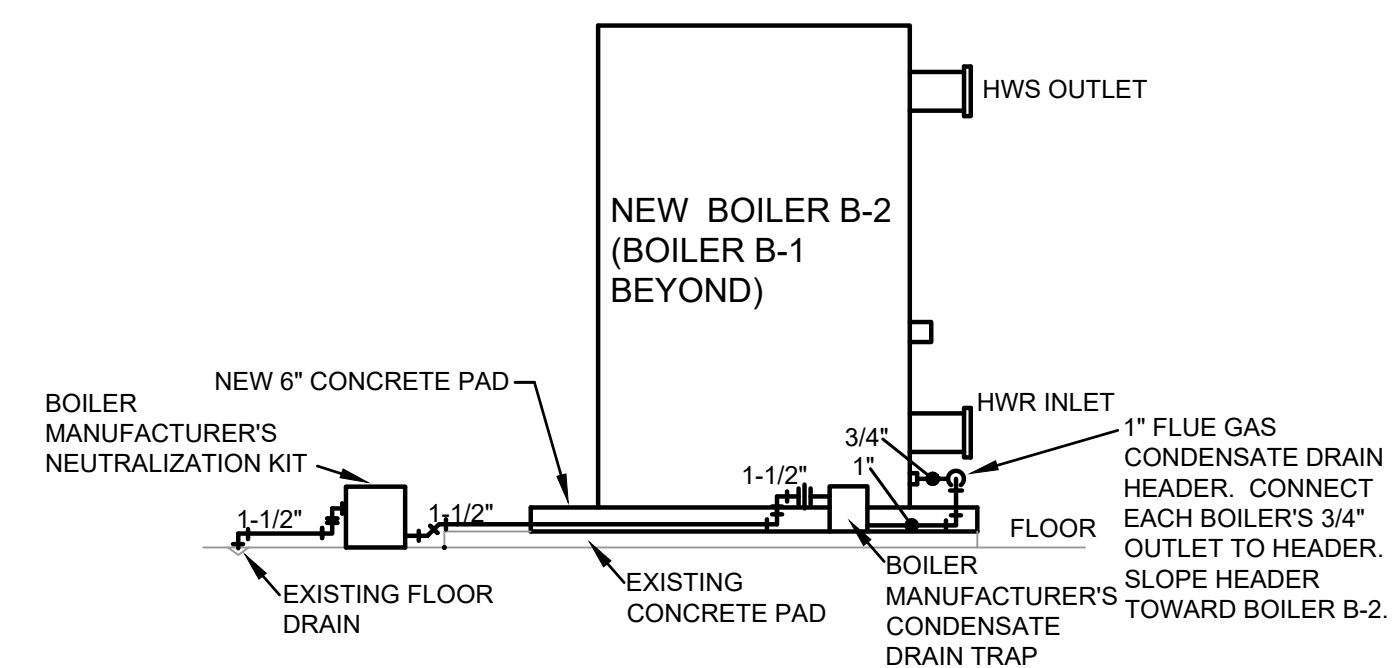
1 CHILLED WATER PIPING SCHEMATIC - NEW WORK
NTS



2 HEATING PIPING WATER SCHEMATIC - NEW WORK
NTS

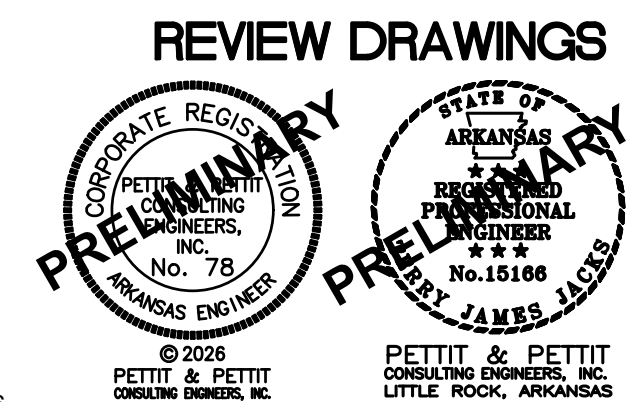


3 BOILER PIPING SCHEMATIC
NTS



4 BOILER CONDENSATE DRAIN PIPING SCHEMATIC
NTS

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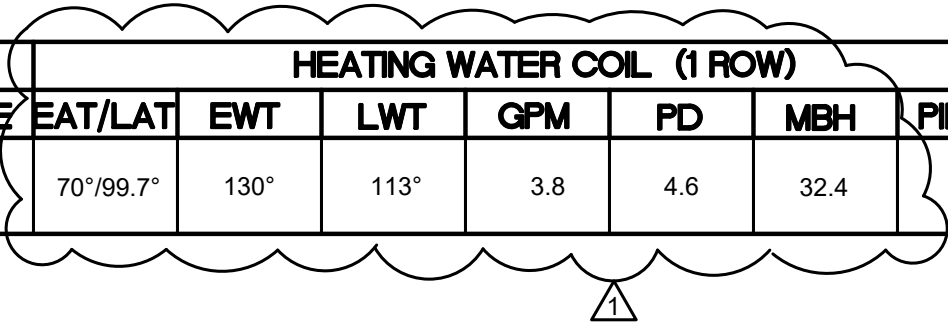
PUMP SCHEDULE												
DESIG.	MFR/MDL	SERVES	LOCATION	TYPE	FLOW (GPM)	HEAD (FT. WATER)	RPM	EFF.	MOTOR DATA			REMARKS
									BHP	HP	VOLT/PH	
PHW-1 PHW-2	TACO KS2009D	HEATING HOT WATER	MECHANICAL ROOM	VERTICAL SLIT CASE IN-LINE	122.7	60.0	1,760	71.0 %	2.59	5.0	480/3	INVERTER DUTY, PROVIDE MOTOR BEARING PROTECTION RING.
PCH-1 PCH-1	TACO KS3009D	CHILLED WATER	MECHANICAL ROOM	VERTICAL SLIT CASE IN-LINE	195.4	60.0	1,760	77.0 %	3.83	7.5	480/3	INVERTER DUTY, PROVIDE MOTOR BEARING PROTECTION RING.

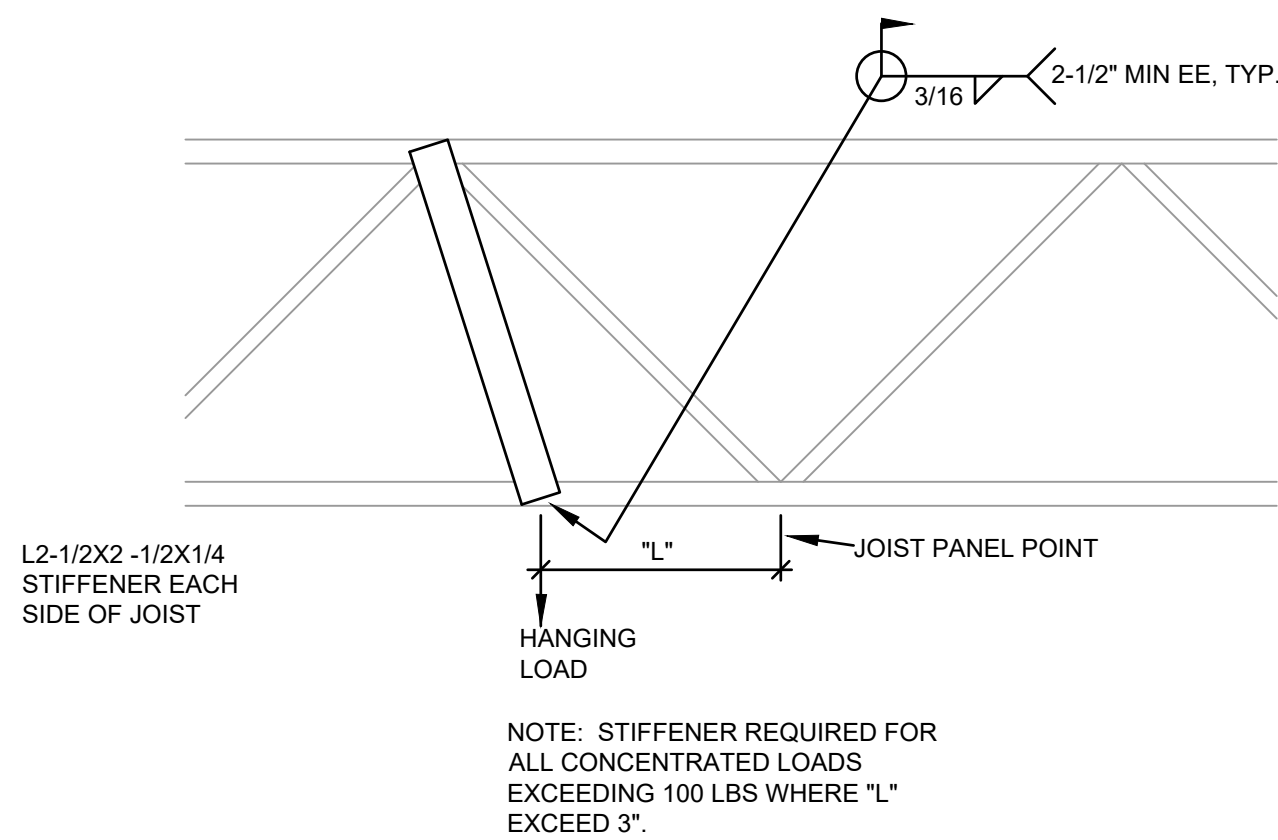
VARIABLE FREQUENCY DRIVES									
DESIG.	MFR/MDL	SERVES	LOCATION	TYPE	APPLICATION	RATED HORSEPOWER	EFFICIENCY %	VOLT/PH	REMARKS
VFD-PHW-1 VFD-PHW-2	DANFOSS	PHW-1 PHW-2	MECHANICAL ROOM	6 STEP WI	VARIABLE TORQUE	5.0	96	480/3	POVIDED BY CONTROL SYSTEM CONTRACTOR. FURNISH WITH INPUT DISCONNECT SWITCH, IN-LINE REACTORS, AND EMS INTERFACE.
VFD-PCH-1 VFD-PCH-2	DANFOSS	PCH-1 PCH-1	MECHANICAL ROOM	6 STEP WI	VARIABLE TORQUE	7.5	96	480/3	POVIDED BY CONTROL SYSTEM CONTRACTOR. FURNISH WITH INPUT DISCONNECT SWITCH, IN-LINE REACTORS, AND EMS INTERFACE.

CHILLER SCHEDULE (AIR-COOLED)																						
DESIG.	MFR/MDL	TYPE	TONS	AMBIENT	INPUT KW	NPLV/ EER	EVAPORATOR						ELECTRICAL DATA				POWER DATA			DESIGN OPERATING WEIGHT	REMARKS	
							GPM	WPD	MIN. GPM	WPD AT MIN GPM	EWT	LWT	COMPRESSORS		CONDENSER FANS		VOLT/PH	MOP	MCA			
													QTY.	TOTAL POWER FOR ALL	QTY.	TOTAL POWER FOR ALL						
CH-1	YORK YLA0089SJ46XF	AIR- COOLED SCROLL	81.86	95°	96.46	17.72/10.18	195.4	12.6 FT	100.0	3.31 FT	55.0°	45.0°	6	89.74 KW	4	6.72 KW	480/3Ø	200	186.0	4,502 LBS	DUAL REFRIGERANT CIRCUITS. PROVIDE WITH FACTORY DISCONNECT, LOW SOUND PACKAGE, INLET STRAINER, CHILLED WATER FLOW SWITCH, AND SINGLE POINT WIRING. SEE SPECIFICATIONS.	

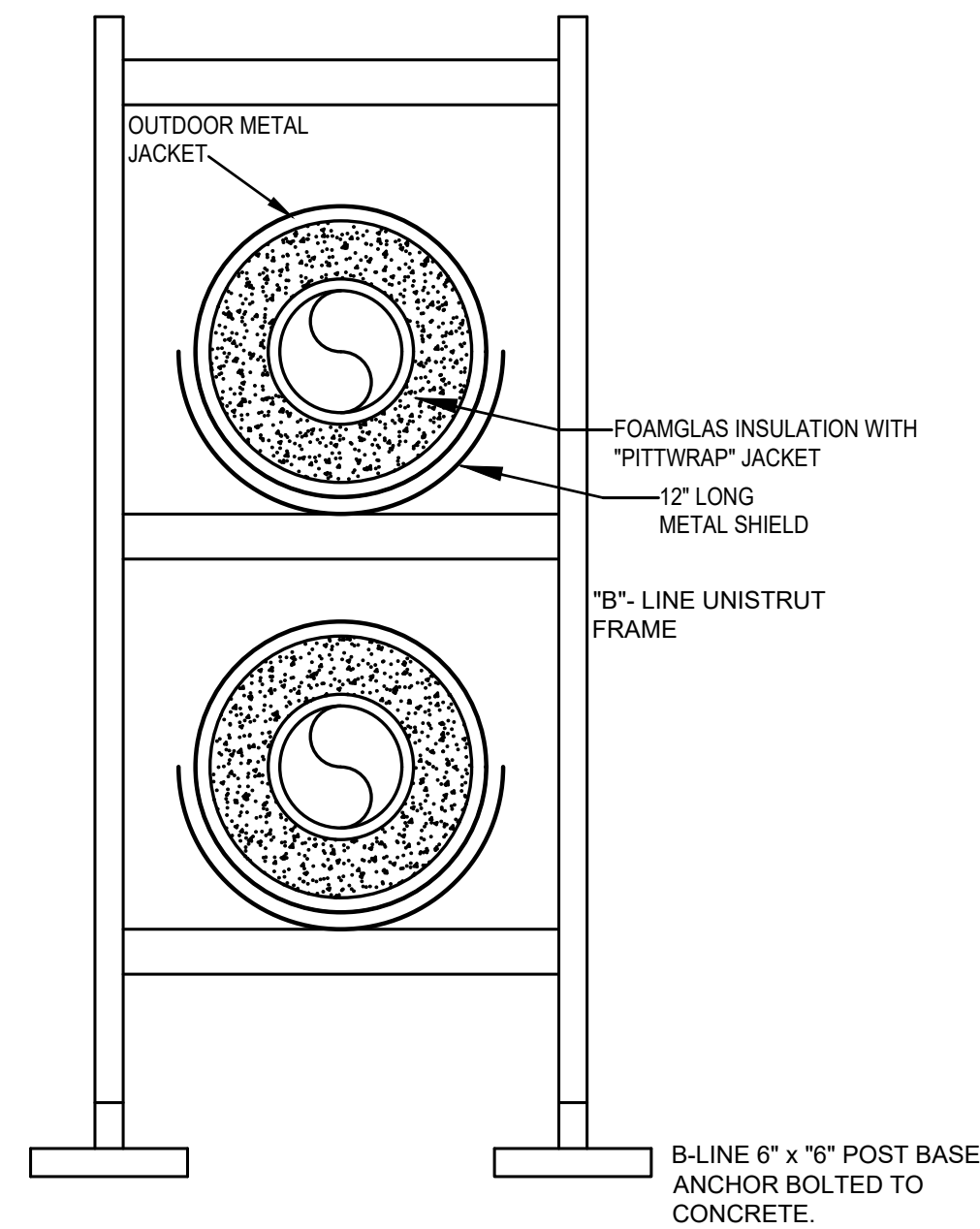
HOT WATER BOILER SCHEDULE													
DESIG.	MFR/MDL	TYPE	GAS RATE	INPUT MBH	OUTPUT MBH	GPM	EWT	LWT	WPD	ELECTRICAL			REMARKS
										VOLT/PH	MCA	MOP	
B-1 B-2	FULTON ENDURA XE-750	NATURAL GAS	735 SCFH	750.0	720.0	87.8	113.6°	130.0°	2.8 PSI	120/1Ø	10.0	15.0	PROVIDE WITH SUPPLY WATER MAIN SENSOR, RETURN WATER TEMPERATURE SENSOR, LINKED FACTORY CONTROLS, FLUE GAS CONDENSATER TRAP, AND FLUE GAS CONDENSATE NEUTRALIZATION KIT. SEE SPECIFICATIONS.

FANCOIL UNIT SCHEDULE																								
UNIT	MFR/MDL	TYPE	CFM	OSA	ESP	CHILLED WATER COIL (4 ROW)								HEATING WATER COIL (1 ROW)								MOTOR		REMARKS
						EAT	LAT	EWT	LWT	GPM	PD	TH(MBH)	SH(MBH)	PIPE SIZE	EAT/LAT	EWT	LWT	GPM	PD	MBH	PIPE SIZE	H.P.	VOLT/PHASE	
FC-1	IEC / CXB 12	HORIZONTAL EXPOSED	1,204	--	--	75° D.B. 63° W.B.	55.8° D.B. 54.3° W.B.	45°	54.9°	6.0	4.7	30.3	25.1	1"	70°/99.7°	130°	113°	3.8	4.6	32.4	3/4"	--	120V/1PH	REFER TO SPECIFICATIONS.

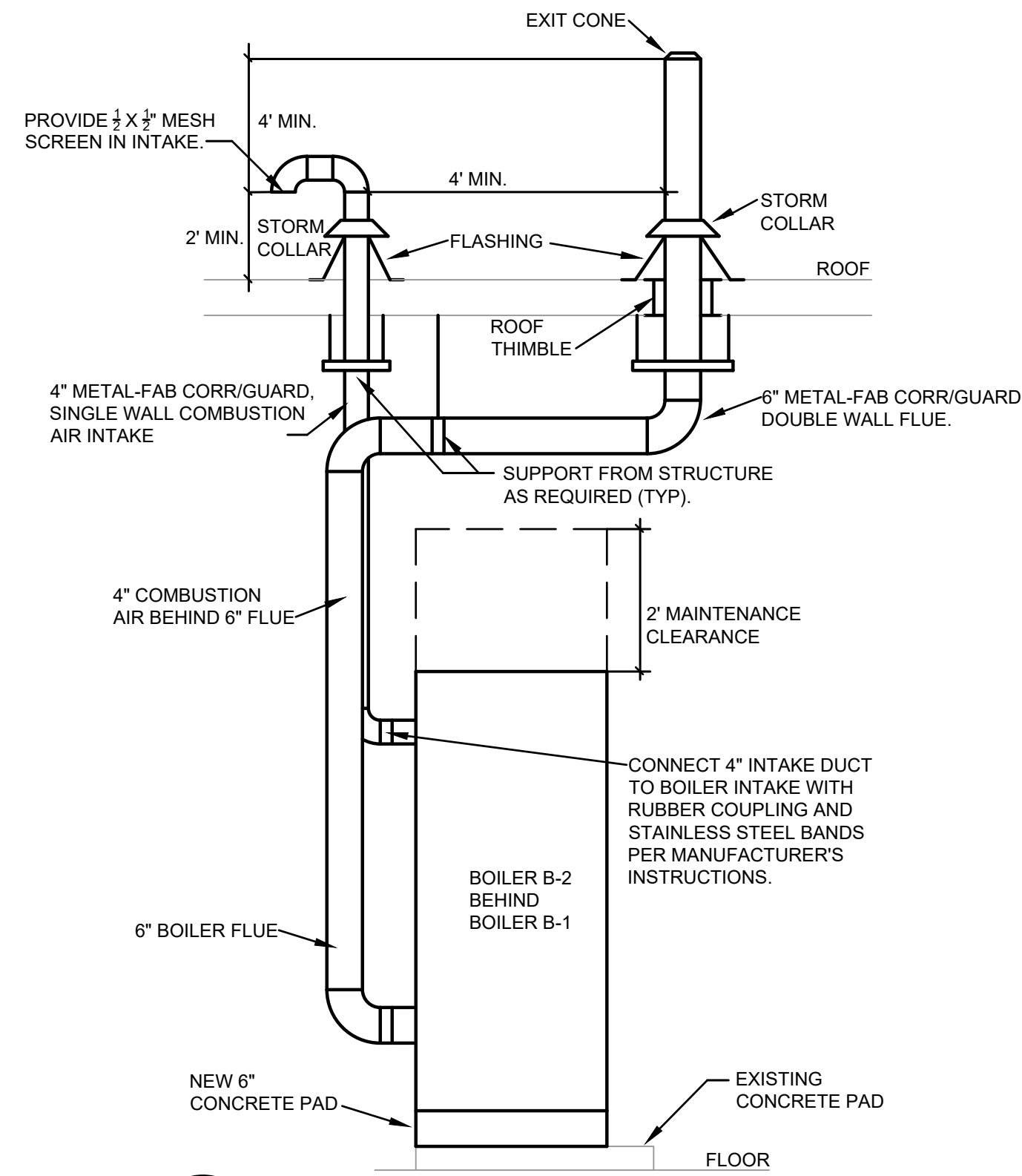




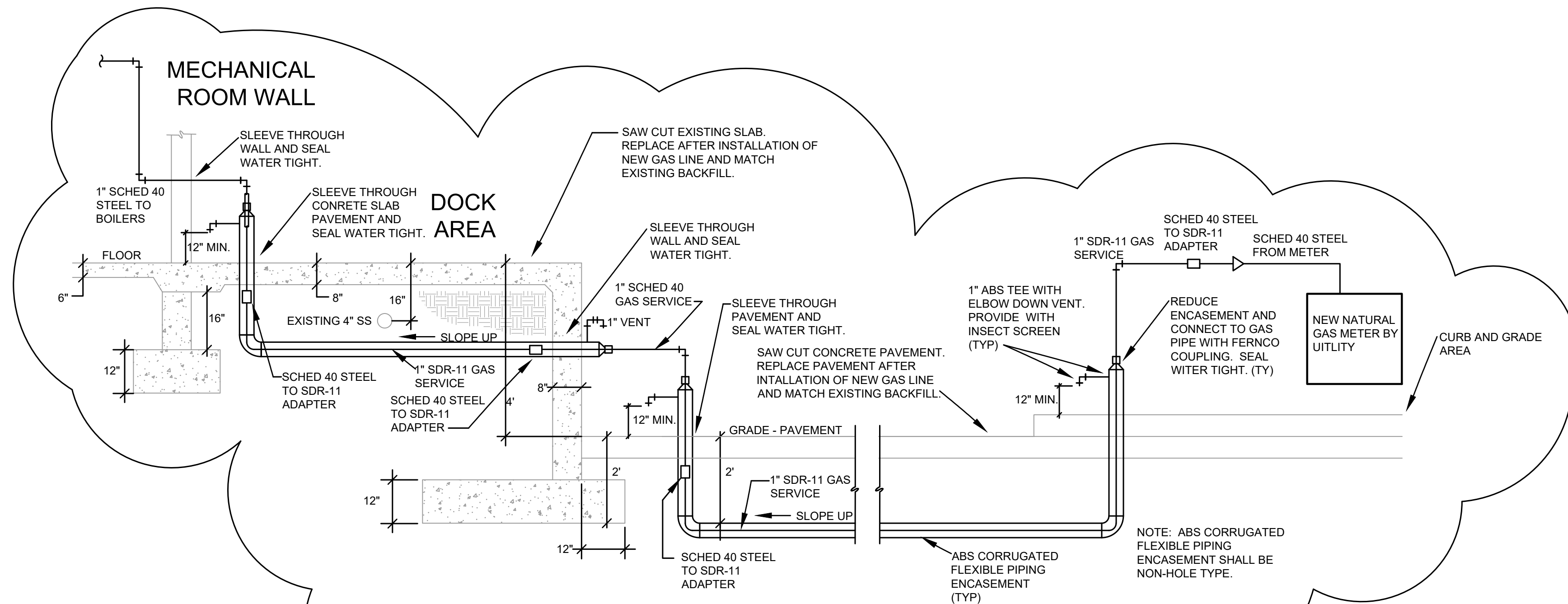
1 **TYPICAL JOIST CHORD SUPPORT DETAIL**
NTS



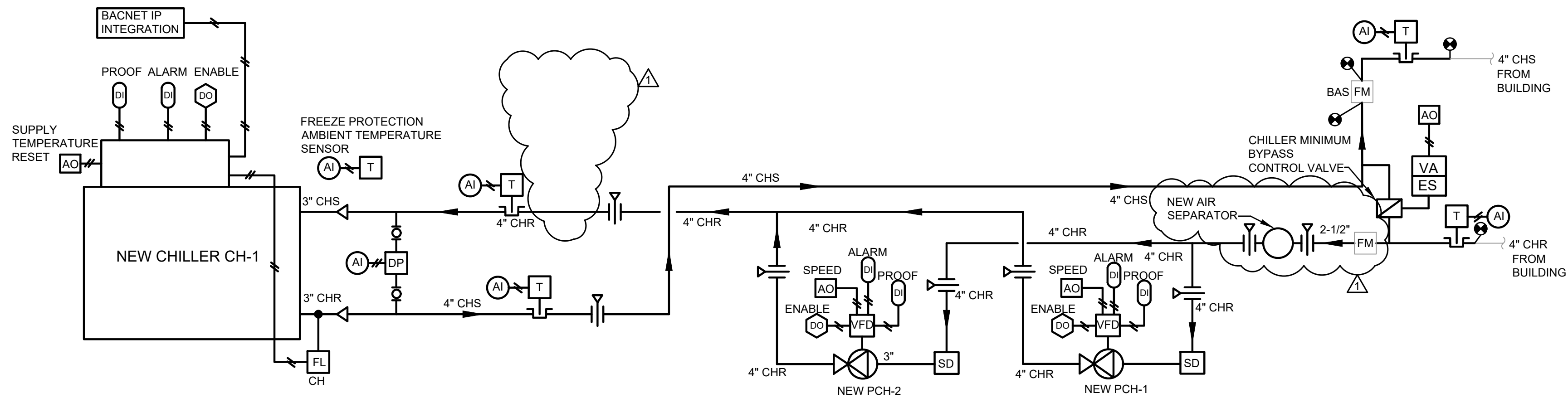
2 **CHILLED WATER PIPING SUPPORT AT CHILLER**
NTS



3 **BOILER INTAKE DUCT AND FLUE DETAIL**
NTS



4 **NATURAL GAS PIPING DETAIL**
NTS



1 CHILLED WATER SYSTEM - NEW WORK
NTS

NOTE:

RELOCATE CHILLED WATER EXISTING FLOW METER TRANSMITTER, SEE E1.0.

SEQUENCE OF OPERATION

GENERAL CONTROL NOTES

THE BUILDING AUTOMATION SYSTEM EXISTS WITH SEQUENCES OF OPERATION, CONTROL DEVICES, AND CONTROL POINTS FOR THE EXISTING GROUND SOURCE HEAT PUMP CHILLER, CHILLED WATER SYSTEM, HEATING WATER SYSTEM, AND GROUND SOURCE WATER SYSTEM. MODIFY AND UPGRADE THE EXISTING CONTROL SYSTEMS TO DELETE THE GROUND SOURCE HEAT PUMP CHILLER AND ASSOCIATED GROUND SOURCE WATER SYSTEM, REPLACE THE EXISTING HEATING WATER PUMPS AND VFDs, REPLACE THE EXISTING CHILLED WATER PUMPS AND VFDs; AND TO ADD A NEW AIR COOLED CHILLER, AND TWO NATURAL GAS BOILERS. RELOCATE EXISTING CHILLED WATER AND HEATING WATER FLOW METERS.

CHILLED WATER SEQUENCE OF OPERATION

NEW CHILLED WATER PUMPS PCH-1 AND PCH-2 SHALL BE STARTED BY THE BAS THROUGH EACH PUMPS VFD. THE PUMPS SHALL OPERATE AS DUTY PUMP AND LAG PUMP. THE BAS SHALL ALTERNATE DUTY PUMP AND LAG PUMP STATUS. EACH PUMP IS CAPABLE OF PROVIDING PEAK DEMAND FLOW.

ONCE ENABLED, LEAD PUMP SHALL OPERATE TO MAINTAIN CHILLED WATER DEMAND FLOW AS DETERMINED BY THE EXISTING REMOTE DIFFERENTIAL PRESSURE CALLING FOR THE GREATEST DEMAND.

IN THE EVENT OF A FAILURE OF THE LEAD PUMP, THE LAG PUMP SHALL BE ENABLED TO RUN AND AN ALARM SHALL BE SENT TO THE BAS.

THE NEW CHILLED WATER SYSTEM SHALL BE ENABLED TO RUN BASED ON ITS EXISTING SCHEDULE OR BY MANUAL COMMAND AT THE LOCAL OR A REMOTE OPERATOR'S WORK STATION. ONCE ENABLED THE CHILLER INLET CONTROL VALVE SHALL OPEN. WHEN FULLY OPENED AS VERIFIED BY THE CONTROL VALVE END SWITCH, THE BAS SHALL START THE LEAD CHILLED WATER PUMP. AFTER PROOF OF FLOW FROM THE CHILLERS FLOW SWITCH AND FLOW THROUGH THE CHILLER AS SENSED BY THE CHILLER'S DIFFERENTIAL PRESSURE SENSOR EXCEEDS CHILLER MINIMUM FLOW, CHILLER SHALL START. ONCE STARTED, CHILLER SHALL OPERATE THROUGH ITS FACTORY CONTROL SYSTEM TO MAINTAIN THE CHILLER'S LEAVING WATER TEMPERATURE SETPOINT OF 45 DEG. F (ADJ).

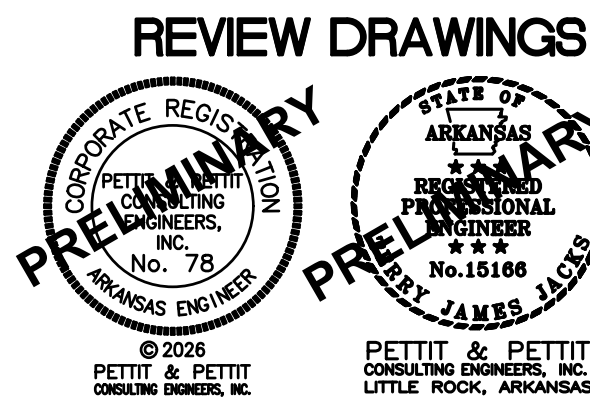
DURING PERIODS OF LOW CHILLED WATER DEMAND, THE BAS SHALL MODULATE THE CHILLER MINIMUM FLOW BYPASS CONTROL VALVE TO MAINTAIN CHILLER MINIMUM FLOW AS SENSED BY THE CHILLER'S DIFFERENTIAL PRESSURE SENSOR OF 100.0 GPM CORRESPONDING TO 3.3 FT OF WATER.

UNOCCUPIED MODE: UNOCCUPIED PERIODS SHALL BE AS DEFINED BY EXISTING SCHEDULE. CHILLER SHALL OPERATE DURING UNOCCUPIED PERIODS AS DETERMINED BY THE EXISTING CONTROL SYSTEM SEQUENCE OF OPERATION.

CHILLER FREEZE PROTECTION MODE: CHILLER FREEZE PROTECTION MODE SHALL BE CAPABLE OF INITIATION BY OPERATING PERSONNEL THROUGH EITHER LOCAL OR A REMOTE OPERATOR'S WORK STATION. IF NOT INITIATED BY OPERATING PERSONNEL, THE FREEZE PROTECTION MODE SHALL BE INITIATED WHEN THE CHILLER'S AMBIENT TEMPERATURE SENSOR FALLS BELOW IT'S SETPOINT OF 36 DEG. F (ADJ). ONCE INITIATED, THE CHILLER'S ENTERING WATER CONTROL VALVE SHALL OPEN. WHEN FULLY OPENED AS VERIFIED BY THE CONTROL VALVE'S END SWITCH, THE BAS SHALL OPEN THE MINIMUM FLOW BYPASS CONTROL VALVE AND IN SEQUENCE START THE LEAD CHILLED WATER PUMP. IN THE EVENT THE LEAD PUMP FAILS TO START, THE LAG PUMP SHALL START. IF EITHER PUMP FAILS TO START, AN ALARM SHALL BE SENT TO THE BAS. OPERATING PUMP SHALL RUN AT 50 GPM (ADJ). WHEN THE CHILLER'S AMBIENT TEMPERATURE SENSOR EXCEEDS 36 DEG. F (ADJ) FOR A PERIOD OF 30 MINUTES (ADJ), THE PUMP SHALL STOP, AND IN SEQUENCE THE CHILLER'S MINIMUM BYPASS CONTROL VALVE SHALL CLOSE.

PROVIDE THE FOLLOWING OPERATING, STATUS, AND ALARM POINTS TO THE BAS:

- CHILLER ENTERING AND LEAVING WATER TEMPERATURES
- BUILDING ENTERING AND RETURN WATER TEMPERATURES
- BUILDING CHILLED WATER FLOW
- CHILLER ENTERING CONTROL VALVE STATUS
- CHILLER ENTERING CONTROL VALVE POSITION
- CHILLER PROVIDED FLOW SWITCH - PROOF OF FLOW
- CHILLER ENABLE
- CHILLER STATUS
- CHILLER ALARM
- CHILLED WATER MINIMUM FLOW CONTROL VALVE STATUS
- CHILLED WATER MINIMUM FLOW CONTROL VALVE POSITION
- CHILLED WATER PUMPS - VFD PROOF OF OPERATION
- CHILLED WATER PUMPS - VFD ENABLE
- CHILLED WATER PUMPS - VFD ALARM
- CHILLED WATER PUMPS - VFD - SPEED
- TEMPERATURE AT CHILLER AMBIENT AIR TEMPERATURE SENSOR
- CHILLED WATER SUPPLY RESET TEMPERATURE



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RELOCATE HEATING WATER EXISTING FLOW METER TRANSMITTER, SEE E1.0.

BOILER LEAD/LAG STATUS
BOILER ENABLE AT EACH BOILER
BOILER ALARM AT EACH BOILER
ENTERING AND LEAVING WATER TEMPERATURES AT EACH BOILER
HEATING WATER FLOW AT EACH BOILER
LEAVING WATER VALVE STATUS AT EACH BOILER
SYSTEM SUPPLY WATER TEMPERATURE
AMBIENT AIR TEMPERATURE
SUPPLY WATER SETBACK TEMPERATURE
HEATING WATER PUMPS - VFD PROOF OF OPERATION
HEATING WATER PUMPS - VFD ENABLE
HEATING WATER PUMPS - VFD ALARM
HEATING WATER PUMPS - VFD SPEED
HEATING WATER TEMPERATURES TO AND FROM BUILDING
BUILDING HEATING WATER FLOW

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FERRY JAMES JACKS

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LITTLE ROCK, ARKANSAS

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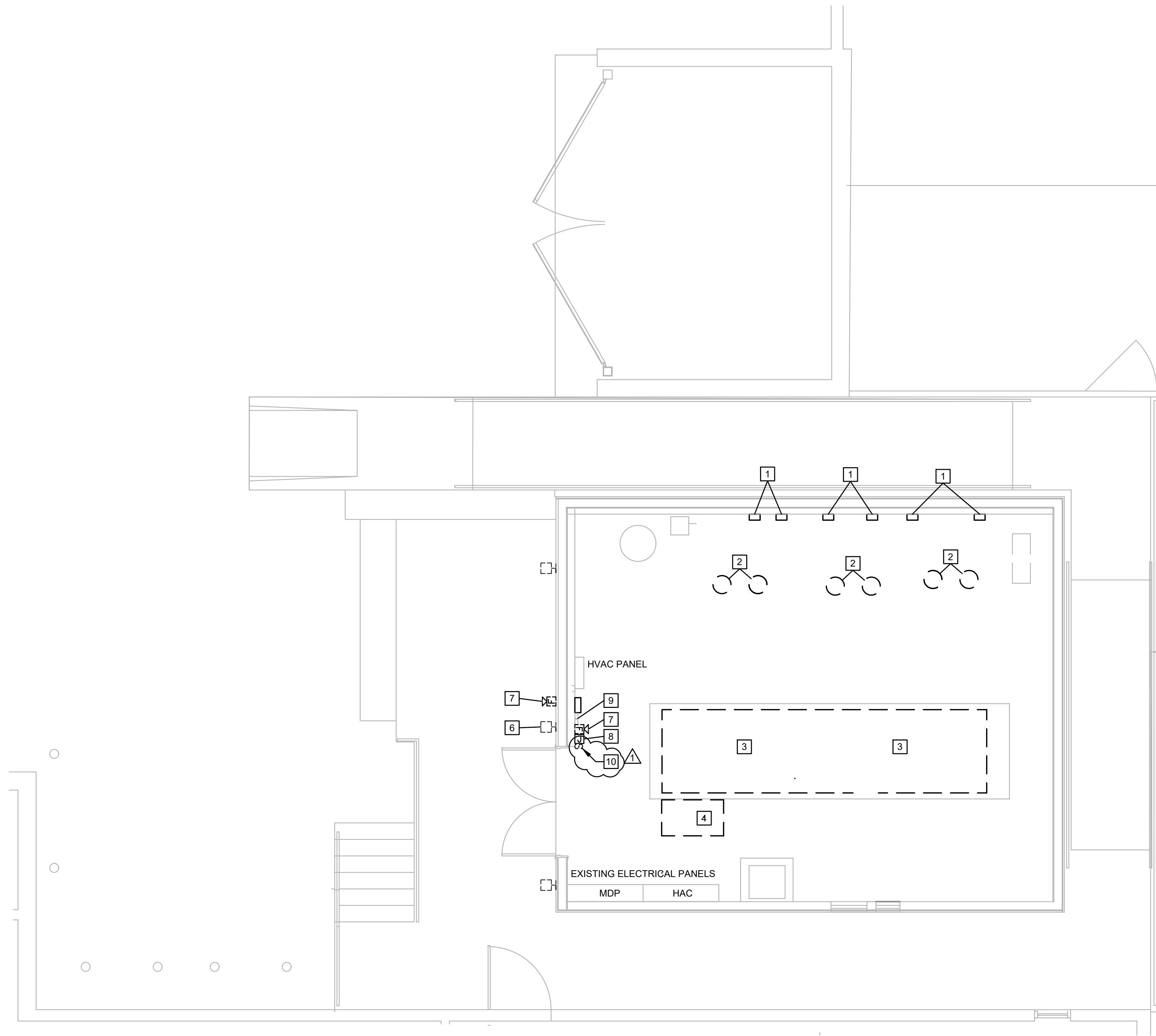
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SHEET NO.

M5.2



1 ELECTRICAL ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

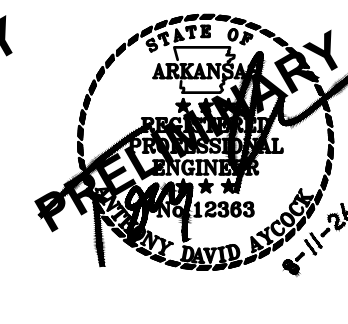
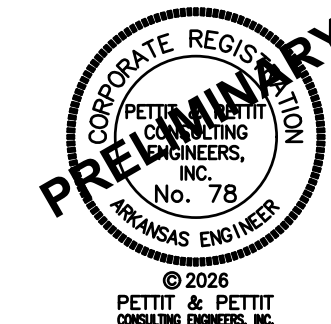
DEMOLITION KEYED NOTES

- 1 DEMO ALL ELECTRICAL CONNECTIONS TO THE PUMP CONTROLS/VFD'S. COMPLETELY REMOVE ALL CONDUIT AND WIRE. THE CIRCUIT MAY BE RE-USED. LABEL THE CIRCUIT AS SPARE IF IT IS NOT RE-USED.
- 2 DEMO ALL ELECTRICAL CONNECTIONS TO THE PUMPS. COMPLETELY REMOVE ALL CONDUIT AND WIRE.
- 3 DEMO ALL ELECTRICAL CONNECTIONS TO THE HEAT PUMP CHILLER. COMPLETELY REMOVE ALL CONDUIT AND WIRE. LABEL THE CIRCUIT AS SPARE IF IT IS NOT RE-USED.
- 4 DEMO ALL ELECTRICAL CONNECTIONS TO THE TEMPORARY COOLING UNITS. COMPLETELY REMOVE ALL CONDUIT AND WIRE. LABEL THE CIRCUIT AS SPARE IF IT IS NOT RE-USED.
- 5 DISCONNECT THE POWER TO THE EXISTING HVAC CONTROLS AS NEEDED TO INSTALL THE NEW CONTROL PANEL.
- 6 MOVE AND RELOCATE THE EXISTING LIGHT AS NEEDED TO INSTALL THE NEW PIPING.
- 7 MOVE AND RELOCATE THE EXISTING STROBES AS NEEDED TO INSTALL THE NEW PIPING.
- 8 MOVE AND RELOCATE THE EXISTING JUNCTION BOX AS NEEDED TO INSTALL THE NEW PIPING.
- 9 MOVE AND RELOCATE THE EXISTING FLOW METERS AS NEEDED TO INSTALL THE NEW PIPING. COORDINATE WITH THE CONTROLS CONTRACTOR.
- 10 RELOCATE EXISTING LIGHT SWITCH.

GENERAL DEMOLITION NOTES

1. THE ELECTRICAL CONTRACTOR SHALL BE REQUIRED TO VISIT THE SITE TO FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BID.
2. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL DEMOLITION INDICATED ON THESE DRAWINGS. ALL WIRING DEVICES, LIGHT FIXTURES, WIRE, & CONDUIT THAT IS TO BE REMOVED SHALL BE STORED AS DIRECTED BY THE OWNER OR RELOCATED AS SHOWN ON THE NEW FLOOR PLAN. APPROPRIATE MEASURES SHALL BE TAKEN TO ASSURE CONTINUITY OF EXISTING CIRCUITS WHERE REQUIRED, AND ALL OUTAGES WHICH MAY RESULT SHALL BE COORDINATED WITH THE OWNER PRIOR TO THE WORK.
3. ALL EXISTING BRANCH CIRCUITS NOT USED SHALL BE REMOVED BACK TO SERVING PANELBOARD. THE CIRCUIT BREAKERS SHALL BE LABELED AS SPARE.
4. DASHED LINES INDICATE EXISTING FIXTURES, EQUIPMENT, DEVICES, ETC., TO REMAIN UNLESS OTHERWISE NOTED.

REVIEW DRAWINGS



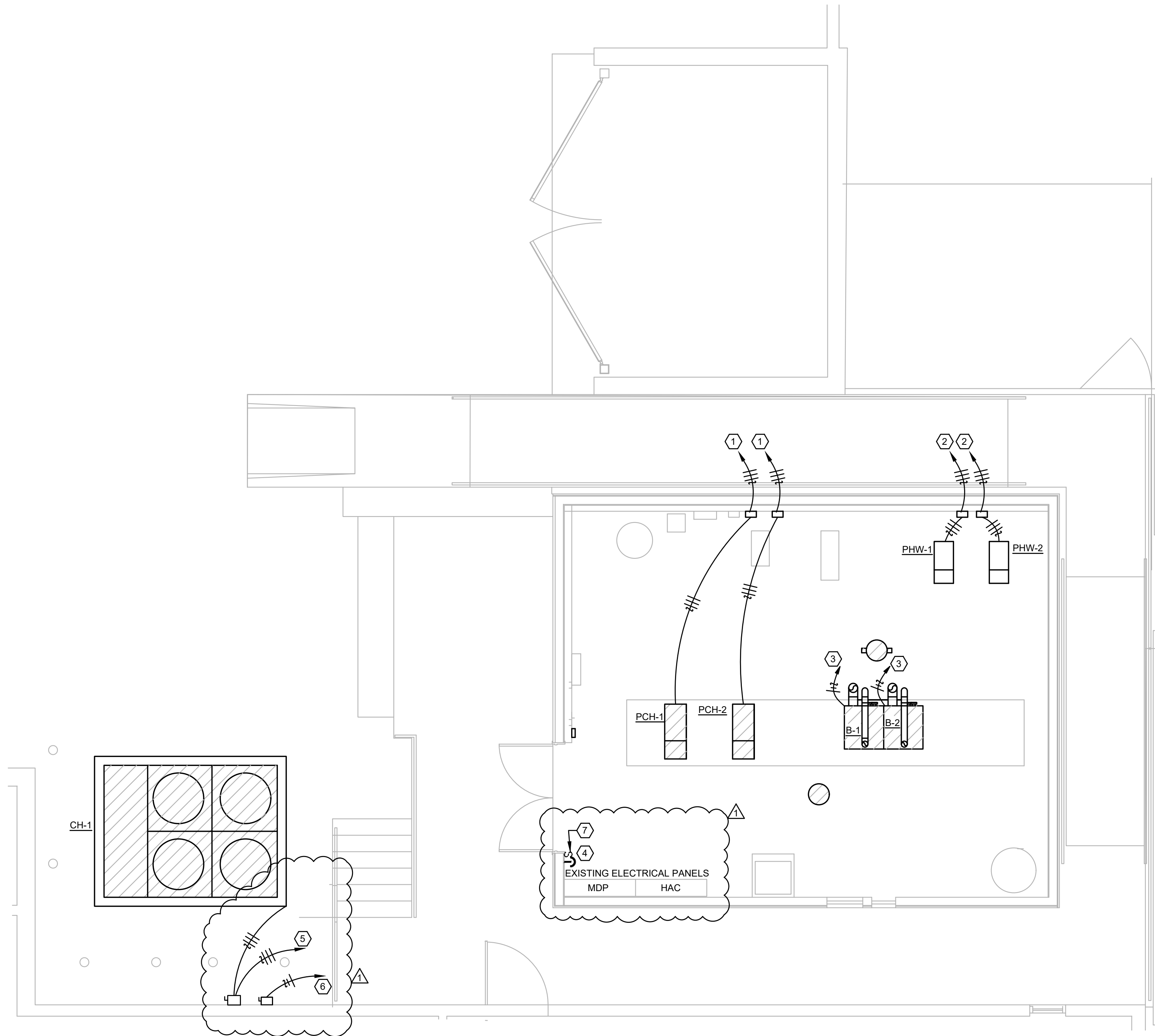
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E1.0



1 ELECTRICAL ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"

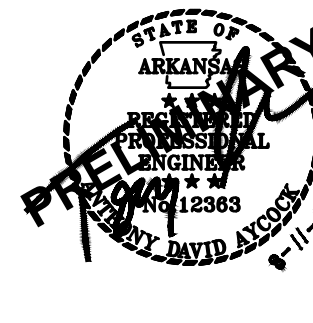
ELECTRICAL KEYED NOTES

- 1 PCH 1 AND 2 - PROVIDE AND INSTALL A NEW 25A/3P 480V BREAKER IN PANEL HAC. CONNECT THE PUMPS WITH #10'S VIA THE VFD. THE VFD WILL BE PROVIDED BY THE CONTROLS CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE ALL INSTALLATION WITH THE GENERAL CONTRACTOR.
- 2 PHW 1 AND 2 - PROVIDE AND INSTALL A NEW 20A/3P 480V BREAKER IN PANEL HAC. CONNECT THE PUMPS WITH #12'S VIA THE VFD. THE VFD WILL BE PROVIDED BY THE CONTROLS CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE ALL INSTALLATION WITH THE GENERAL CONTRACTOR.
- 3 B-1 AND 2 - PROVIDE AND INSTALL A NEW 20A/1P 120V BREAKER IN EXISTING PANEL PANEL LC OR LAC FOR EACH BOILER. THE CONDUIT AND WIRE SHALL BE RUN FROM THE MECH ROOM TO THE BUILDING VIA THE PIPE CHASE. THE CONTRACTOR SHALL VERIFY ALL INSTALLATION REQUIREMENTS PRIOR TO BID. CONNECT THE BOILERS WITH #10'S VIA THE BOILER SHUTDOWN SWITCH.
- 4 BOILER SHUTDOWN - PROVIDE AND INSTALL A 2 POLE 120V 50MM BOILER SHUT SHUTDOWN E-STOP. LABEL "BOILER SHUTDOWN" INTERLOCK WITH THE NEW BOILERS.
- 5 CH-1 - PROVIDE AND INSTALL A NEW 200A/3P 480V BREAKER IN PANEL MDP AND A 200A 480V/3P HD NF 3R DISCONNECT. CONNECT THE PUMPS WITH 3/0'S AND #6EG. VERIFY ALL BREAKER INSTALLATION REQUIREMENTS **PRIOR TO BID**. THE CONDUIT FROM THE GENERATOR SHALL BE INSTALLED IN A TRENCH WITH THE WATER PIPING. COORDINATE ALL INSTALLATION WITH THE GENERAL CONTRACTOR.
- 6 HEAT TRACE CIRCUIT - PROVIDE AND INSTALL A NEW 20A/1P 120V BREAKER IN EXISTING PANEL PANEL LC OR LAC. THE CONDUIT AND WIRE SHALL BE RUN FROM THE MECH ROOM TO THE BUILDING VIA THE PIPE CHASE. THE CONTRACTOR SHALL VERIFY ALL INSTALLATION REQUIREMENTS PRIOR TO BID. CONNECT THE BOILERS WITH #10'S VIA THE BOILER SHUTDOWN SWITCH.
- 7 RELOCATE EXISTING LIGHT SWITCH.

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
2. CIRCUITS OF DIFFERENT PHASES MAY SHARE EQUIPMENT GROUND. EQUIPMENT GROUND CONDUCTOR SIZE SHALL NOT BE LESS THAN #12 AWG OR AS INDICATED ON THE DRAWINGS.
3. ALL CONDUCTORS #10 AND SMALLER SHALL BE SOLID COPPER THW, THHN, THWN, AND ALL CONDUCTORS #8 AND LARGER SHALL BE STRANDED COPPER USING BOLTED LUGS AT TERMINALS.
4. MINIMUM WIRE SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED.
5. PULL ALL THE CONDUCTORS THROUGH RACEWAY AT THE SAME TIME.
6. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS OTHERWISE NOTED. SEE SPECS FOR CONDUIT REQUIREMENTS. ALL CONDUIT SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
7. 6'-0" MAXIMUM LENGTH ON FLEXIBLE CONDUIT.
8. USE COMPRESSION FITTINGS ON CONDUIT. SET SCREW FITTINGS ARE NOT ALLOWED.
9. PROVIDE PULL STRING AND PROTECTIVE BUSHINGS IN ALL SPARE CONDUITS.
10. LABEL ALL CIRCUITS ON PANEL SCHEDULES.
11. TURN ALL UNUSED CIRCUIT BREAKERS TO OFF POSITION.
12. FIRE PROOF ALL PENETRATIONS MADE THROUGH FIRE RATED WALLS.
13. ALL DEVICES SHALL BE RATED 20 AMP MINIMUM. VERIFY COLOR WITH ARCHITECT.
14. CONNECT DEVICES BY WRAPPING WIRE AROUND SCREW TERMINAL IN A CLOCKWISE DIRECTION AND TIGHTEN SCREW. BACK-CONNECTED SPRING DEVICES ARE NOT ALLOWED.
15. ALL BOXES SHALL BE INDEPENDENTLY SUPPORTED TO THE BUILDINGS STRUCTURE.
16. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL ELEVATIONS AND MILLWORK DETAILS FOR EXACT LOCATIONS OF ALL WIRING DEVICES AND LIGHT FIXTURES.
17. THE SPECIFICATIONS ARE AS BINDING ON THE CONTRACTOR AS THE DRAWINGS. THE CONTRACTOR SHALL READ THE SPECIFICATIONS AND SHALL INCLUDE ALL ITEMS REQUIRED BY THE SPECIFICATIONS BEFORE SUBMITTING A BID.
18. ELECTRICAL CONTRACTOR SHALL CLOSELY COORDINATE WITH MECHANICAL CONTRACTORS FOR EXACT LOCATION OF HVAC AND PLUMBING EQUIPMENT.
19. ALL CONDUIT LOCATED IN THE MECH/ELECTRICAL ROOM SHALL BE RIGID CONDUIT.
20. ALL EXTERIOR CONDUIT SHALL BE RIGID CONDUIT.
21. ALL CONNECTIONS TO THE HVAC EQUIPMENT SHALL BE MADE WITH STEEL SEAL TYPE CONDUIT. NOT MORE THEN 6FT.
22. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SIZING OF ALL MOTOR OVERLOAD DEVICES (HEATERS) IN STARTERS BASED ON ACTUAL NAMEPLATE RATINGS ON THE MOTOR BEING INSTALLED.

REVIEW DRAWINGS



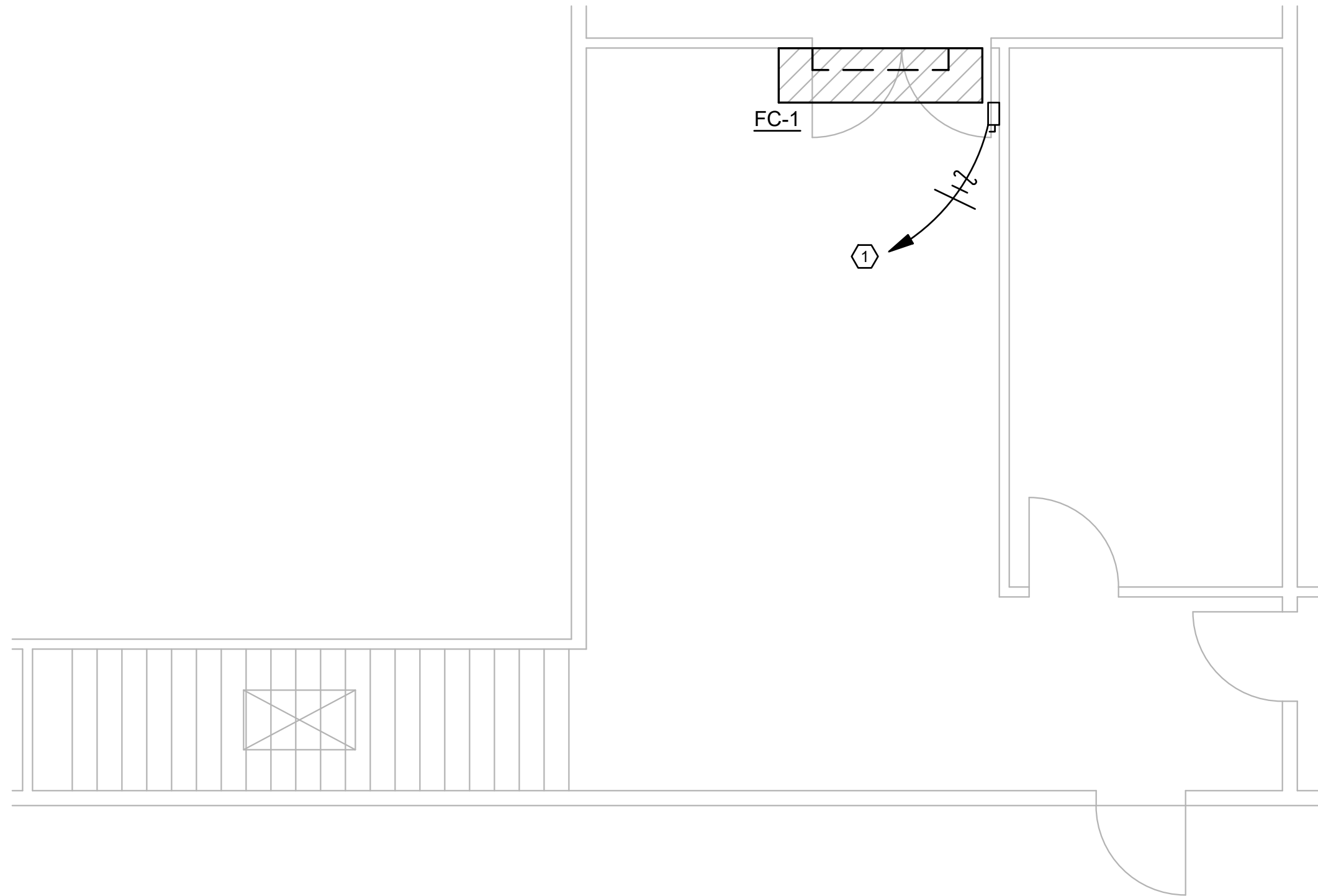
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1 SECOND FLOOR - ELECTRICAL
SCALE: 1/4" = 1'-0"

ELEC KEYED NOTES	
①	HVAC FANCOIL - PROVIDE AND INSTALL A NEW 20A/1P 120V BREAKER IN EXISTING PANEL PANEL LC OR LAC. THE CONTRACTOR SHALL VERIFY ALL INSTALLATION REQUIREMENTS PRIOR TO BID. CONNECT FC-1 WITH #12'S.

REVIEW DRAWINGS

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