BID DOCUMENTS

DESIGNER: SUD ASSOCIATES, P.A.

COMPANY LICENSE C-0315
PROJECT NUMBER 19215
DRAWING DATE 12/10/2019

OWNER'S REPRESENTATIVE: MR. JAMIE MESSER,

PROJECT MANAGER

	Sheet List Table
Sheet Number	Sheet Title
	COVER
M-0.1	MECHANICAL - DEMOLITION
M-0.2	MECHANICAL - DEMOLITION
M-1.1	MECHANICAL - CONSTRUCTION
M-1.2	MECHANICAL - CONSTRUCTION
M-1.3	MECHANICAL - CONSTRUCTION
M-1.4	MECHANICAL - CONSTRUCTION
M-2.1	MECHANICAL — GENERAL
M-2.2	MECHANICAL - GENERAL
E-0.1	ELECTRICAL - DEMOLITION
E-0.2	ELECTRICAL - DEMOLITION
E-1.1	ELECTRICAL - POWER
E-1.2	ELECTRICAL - POWER
E-2.1	ELECTRICAL - SCHEDULES, LEGEND AND NOTES

LEICESTER ELEMENTARY SCHOOL 31 GILBERT ROAD LEICESTER, NC. 28748



2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS (EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES) (Reproduce the following data on the building plans sheet 1 or 2)

ONTACT: SIGNER FIRM NAME LICENSE # TELEPHONE # E-MAIL rehitectural vil ectrical SUD ASSOCIATES DAVID BRIGGS 30835 (828)255-4691 dbriggs@sudassociates.or e Alarm umbing echanical SUD ASSOCIATES MICHAEL SAENGER 18486 (828) 255-4691 msaenger@sudassociatorinkler-Standpipe ructural staining Walls >5' High ther Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc. 18 NC BUILDING CODE: Renovation PROPOSED OCCUPANCY(S) (Ch. 3): EDUCATION RENOVATED: (date) 1937 CURRENT OCCUPANCY(S) (Ch. 3): ISK CATEGORY (Table 1604.5): Current: N/A Proposed: N/A ASIC BUILDING DATA construction Type: II-A corinklers: No N/A andpipes: No N/A andpipes: No M/A andpipe		GILBERT ROAD LEIC Agent: JAMIE MESSEI		828) 232 – 42	Zip Code 2 244 E-Mail		abcsemail.or
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BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS MECHANICAL DESIGN

(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

	JA
winter dry bulb: _	15.4 °F 88.0 °F
summer dry bulb:	88.0 °F
Interior design conditions	
winter dry bulb:	68ºF
summer dry bulb:	74°F
winter dry bulb: _ summer dry bulb: _ relative humidity: _	50%
Building heating load:	_2,860,591 BTUH
Building cooling load:	2,027,255 BTUH (Approx. 480,000 BTUH met by existing DX)
Mechanical Spacing Cond	litioning System
Unitary	SEE MECHANICAL SCHEDULES
description of u	ınit:
heating efficien	ncy:
cooling efficien	
size category of	f unit:
Boiler	
d.	If oversized, state reason.: 2) at 1,987,000 BTUH sized for redundancy
Size category.	•
Size category. Chiller	
Chiller	If oversized, state reason.: 1,560,000 BTUH

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS ELECTRICAL DESIGN

(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Select one

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture

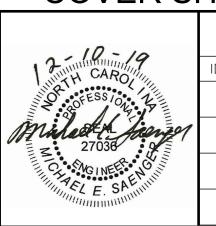
total wattage per fixture total interior wattage specified vs. allowed (whole building or space by space) total exterior wattage specified vs. allowed

Additional Efficiency Package Options (When using the 2018 NCECC; not required for ASHRAE 90.1)

C406.2 More Efficient HVAC Equipment Performance
C406.3 Reduced Lighting Power Density
C406.4 Enhanced Digital Lighting Controls

☐ C406.5 On-Site Renewable Energy
 ☐ C406.6 Dedicated Outdoor Air System
 ☐ C406.7 Reduced Energy Use in Service Water Heating

COVER SHEET



 PROJECT NUMBER
 19215

 REVISIONS
 REVIEWED BY
 JCH

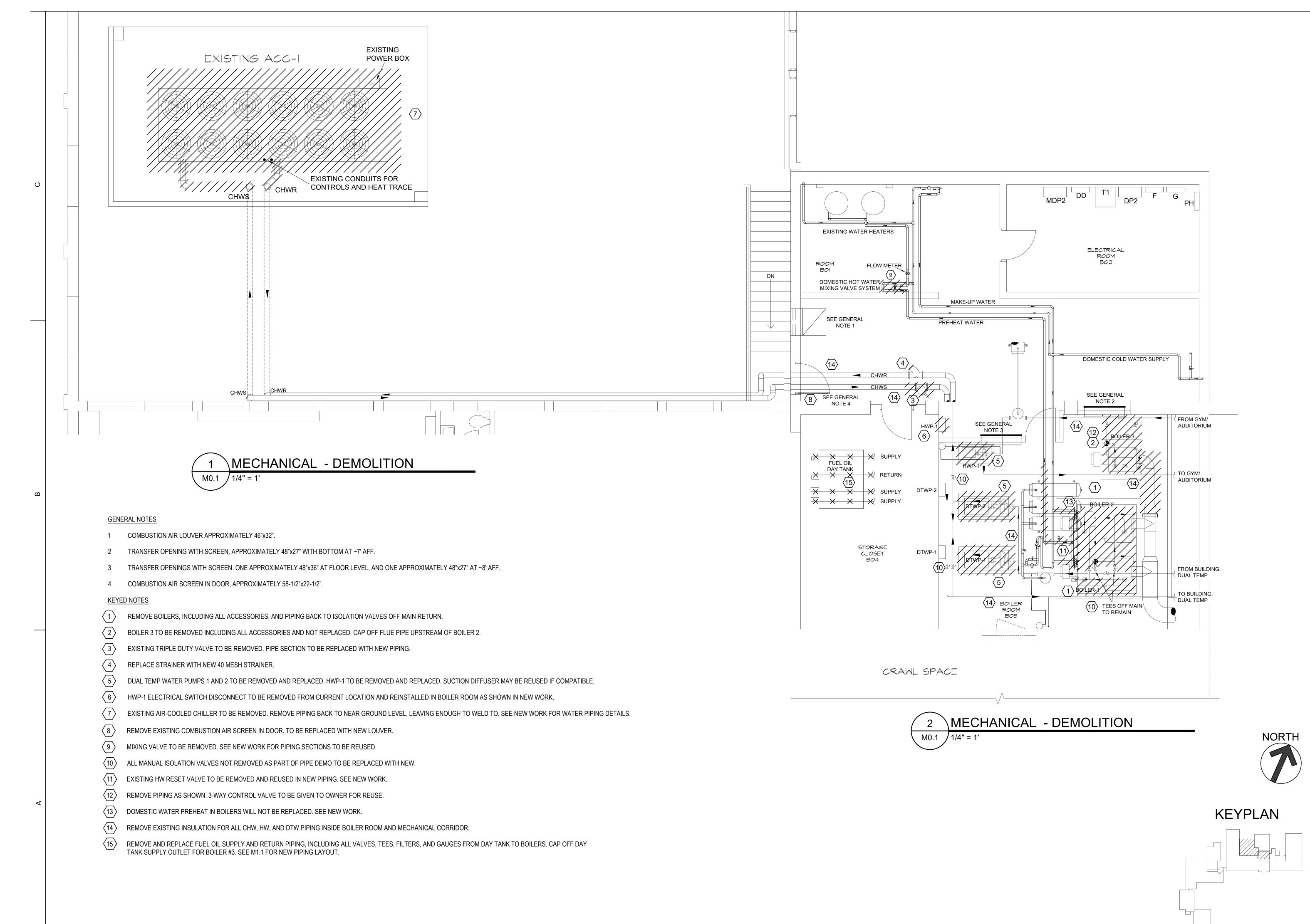
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 COMMENTS
 DESIGNED BY
 MES

 DRAWN BY
 PSD

 DRAWING DATE
 12-10-2019

 SHEET NUMBER

COVER



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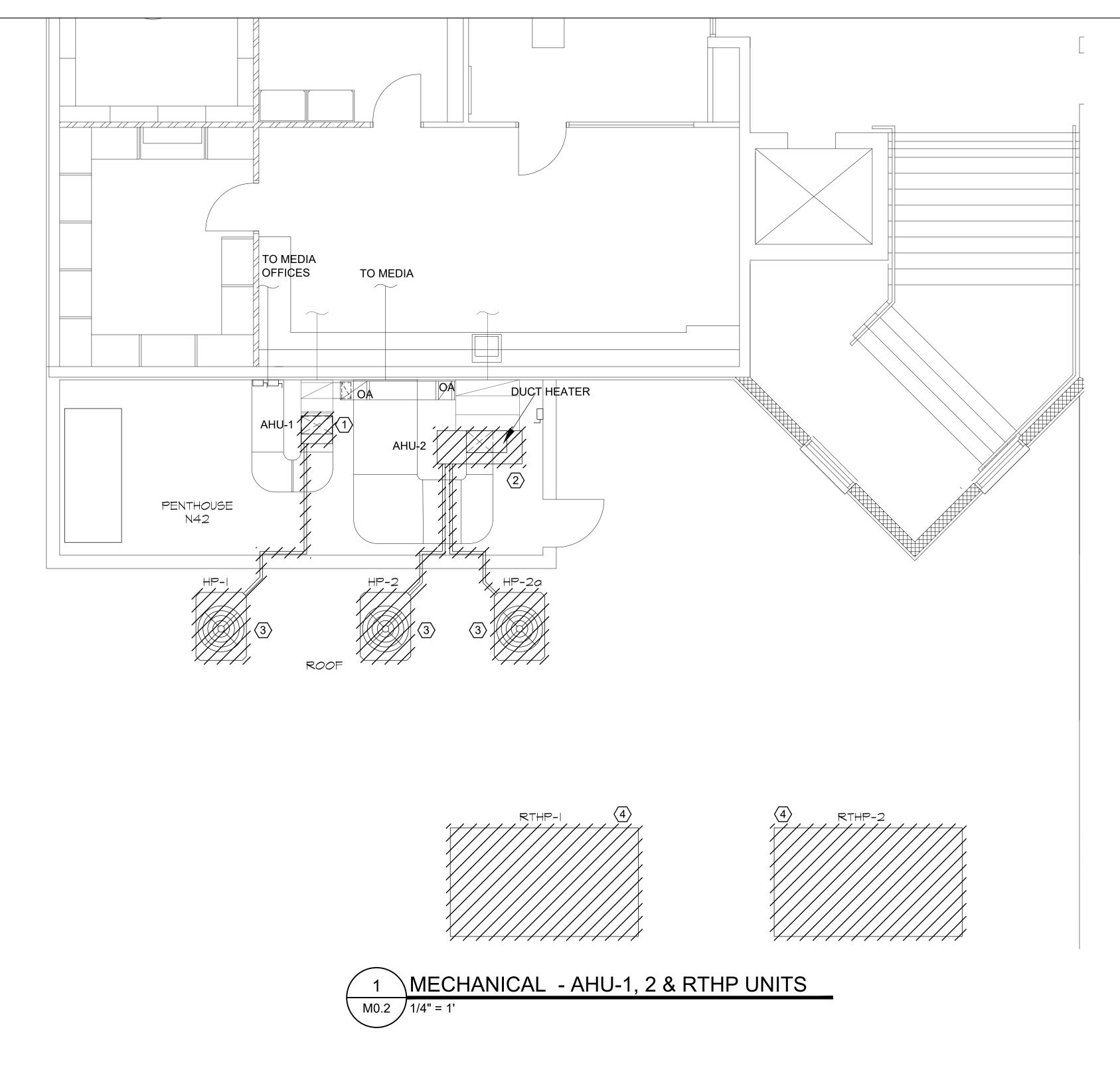
infringement will be subject to legal REVISIONS

ID DATE COMMENTS

PROJECT NUMBER 12/10/2019

SHEET NUMBER

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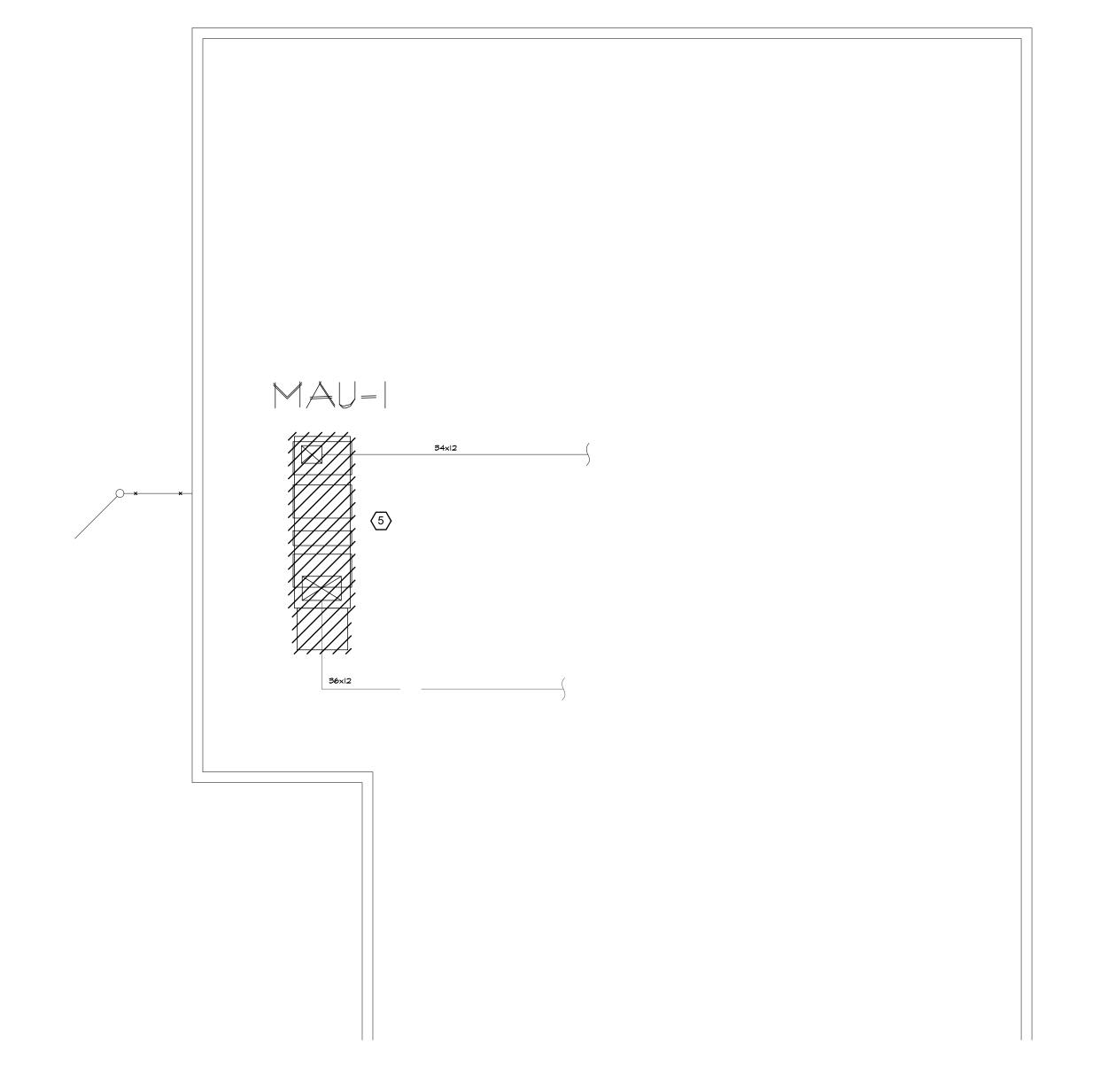


GENERAL NOTES

ROOF REPAIR TO BE BY OWNER APPROVED CONTRACTOR. CONTACT MANUFACTURER HOLDING ROOF WARRANTY FOR CONTRACTOR RECOMMENDATIONS. APPLIES TO ALL REPAIRS INCLUDING ANY RESULTING FROM CONDENSER RAIL MODIFICATION, RTHP REMOVAL, AND MAU REPLACEMENT.

KEYED NOTES

- REMOVE AND REPLACE EXISTING AHU-1 (5 TON HP).
- REMOVE AND REPLACE EXISTING AHU-2 (10 TON HP) AND ELECTRIC DUCT HEATER.
- REMOVE EXISTING REFRIGERANT, THEN REMOVE CONDENSER, PIPING, AND ALL ACCESSORIES. RAILS TO REMAIN TO BE REUSED.
- REMOVE EXISTING PACKAGED UNIT. UNITS NOT TO BE REPLACED. PROVIDE TEMPORARY COVER. IF NECESSARY, ROOF TO BE REPAIRED BY OWNER APPROVED CONTRACTOR.
- REMOVE AND REPLACE MAU-1. EXISTING UNIT IS ELECTRIC HEAT.



2 MECHANICAL - MAU-1 OVER KITCHEN ALT 2



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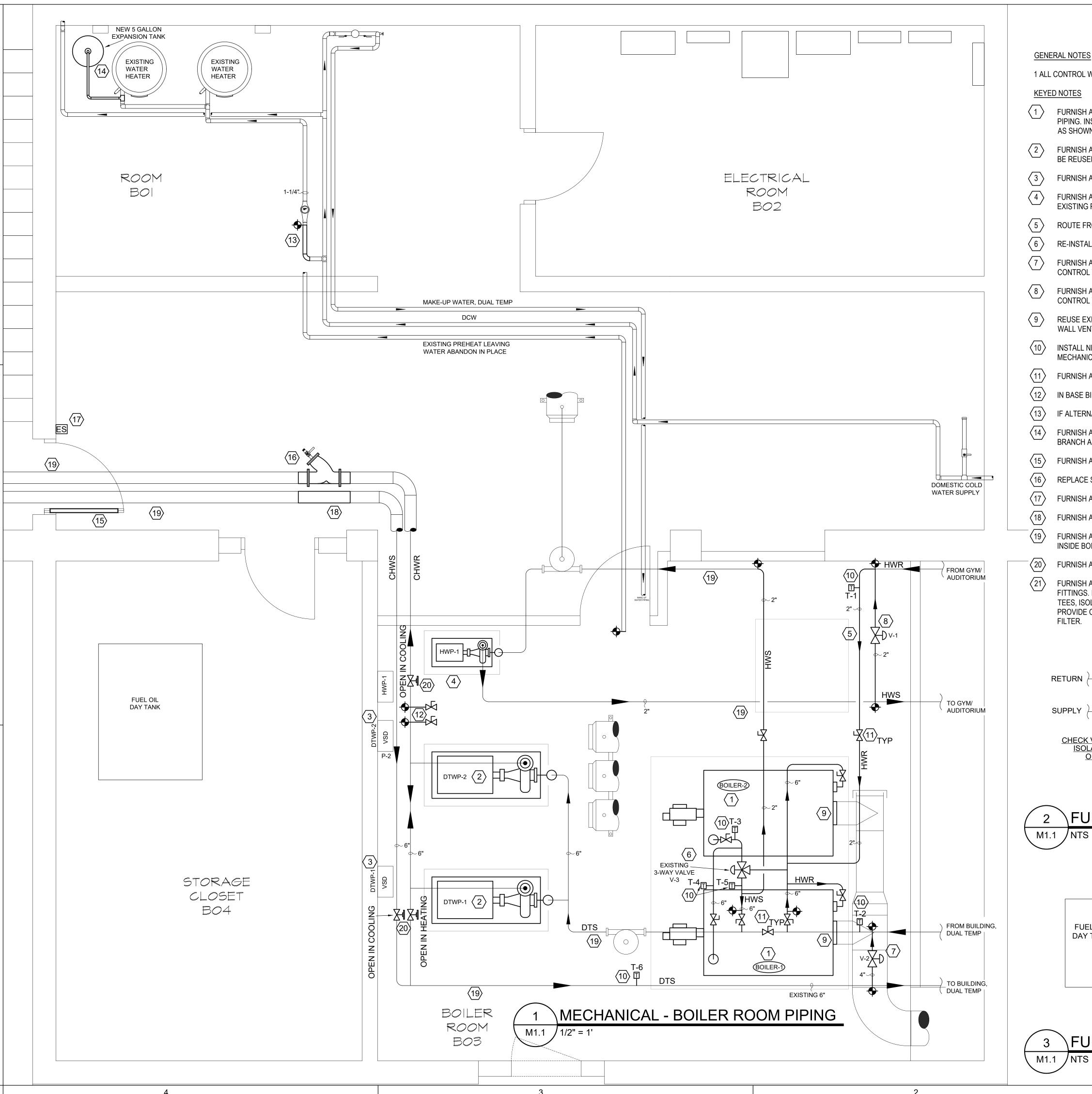
REVISIONS

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M0.2

NORTH

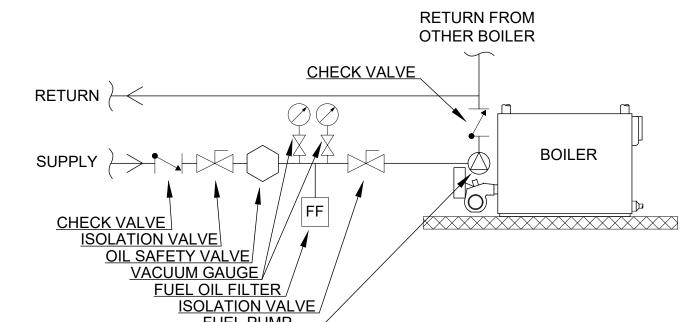
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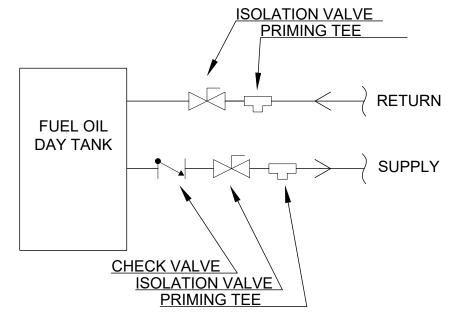
GENERAL NOTES

1 ALL CONTROL WIRING, INTERFACE, AND PROGRAMMING TO BE BY OWNER

- FURNISH AND INSTALL NEW CAST IRON SECTIONAL BOILER ON EXISTING HOUSEKEEPING PAD. REUSE EXISTING VENT PIPING. INSTALL NEW OIL PIPING AS NEEDED TO CONNECT TO EXISTING. INSTALL NEW HW PIPING AND ISOLATION VALVES AS SHOWN. PROVIDE AND INSTALL ALL REQUIRED ACCESSORIES AND SAFETIES.
- FURNISH AND INSTALL NEW DUAL TEMP WATER PUMP ON EXISTING HOUSEKEEPING PAD. EXISTING SUCTION DIFFUSER MAY BE REUSED IF COMPATIBLE. EXISTING PUMP IS TACO EE4013E2M1G2LOA. INSTALL NEW TRIPLE DUTY VALVE.
- FURNISH AND INSTALL NEW VSD AS SHOWN FOR CORRESPONDING DUAL TEMP WATER PUMP.
- FURNISH AND INSTALL NEW HOT WATER PUMP ON EXISTING HOUSEKEEPING PAD TO MATCH EXISTING SUCTION DIFFUSER. EXISTING PUMP IS TACO FE1510E2E1F2LOA. INSTALL NEW TRIPLE DUTY VALVE. HWP-1 WILL REMAIN CONSTANT SPEED.
- ROUTE FROM EXISTING RETURN PIPE TO NEW BOILERS AND BACK.
- RE-INSTALL EXISTING 3-WAY CONTROL VALVE AS SHOWN TO ALLOW FOR HOT WATER SUPPLY TEMPERATURE CONTROL.
- FURNISH AND INSTALL 6"x4" TEES AND PIPE BRIDGE BETWEEN EXISTING SUPPLY AND RETURN PIPING. INSTALL NEW 2-WAY CONTROL VALVE TO ALLOW FOR BOILER ENTERING WATER TEMPERATURE CONTROL.
- FURNISH AND INSTALL 2" TEES AND PIPE BRIDGE BETWEEN EXISTING SUPPLY AND RETURN PIPING. INSTALL NEW 2-WAY CONTROL VALVE TO ALLOW FOR BOILER ENTERING WATER TEMPERATURE CONTROL.
- REUSE EXISTING FLUE AND VENT PIPE. TRANSITION BRANCH CONNECTION TO NEW BOILER AS NECESSARY WITH DOUBLE WALL VENT PIPE.
- (10) INSTALL NEW THERMOWELLS. THERMOWELLS TO BE FURNISHED BY OWNER'S CONTROL CONTRACTOR AND INSTALLED BY
- MECHANICAL CONTRACTOR. TEMPERATURE SENSOR TO BE INSTALLED BY OWNER'S CONTROL CONTRACTOR.
- FURNISH AND INSTALL NEW APOLLO BRAND BUTTERFLY ISOLATION VALVES. TYPICAL OF ALL ISOLATION VALVES SHOWN.
- (12) IN BASE BID INSTALL 1" TAPS FOR WWHP (ALTERNATE 1) WITH ISOLATION VALVES.
- (13) IF ALTERNATE 1 NOT TAKEN, CONNECT 1-1/4" COLD WATER SUPPLY TO PIPING THROUGH FLOW METER.
- FURNISH AND INSTALL NEW FLOOR-MOUNTED 5 GALLON DHW EXPANSION TANK. CONNECT TO TANK COLD WATER SUPPLY BRANCH AS SHOWN.
- $\langle 15 \rangle$ FURNISH AND INSTALL NEW DOOR LOUVER FOR COMBUSTION AIR, APPROXIMATELY 58½"X22½".
- (16) REPLACE STRAINER WITH NEW 40 MESH STRAINER. PROVIDE 1" BLOW DOWN WITH HOSE ADAPTER.
- FURNISH AND INSTALL BOILER EMERGENCY SHUTOFF SWITCH NEXT TO ENTRY DOOR AS SHOWN.
- FURNISH AND INSTALL SHORT SECTION OF PIPE WHERE TDV WAS REMOVED.
- FURNISH AND INSTALL 2" NEW INSULATION WITH CANVAS JACKET ON ALL NEW AND EXISTING CHW, HW, AND DTW PIPING INSIDE BOILER ROOM AND MECHANICAL CORRIDOR.
- FURNISH AND INSTALL NEW CHAIN-OPERATED APOLLO BRAND BUTTERFLY ISOLATION VALVES.
- FURNISH AND INSTALL FUEL OIL SUPPLY AND RETURN PIPING FROM DAY TANK TO BOILERS WITH 3/4" COPPER PIPE AND







FUEL OIL PIPING AT DAY TANK

KEYPLAN

NORTH

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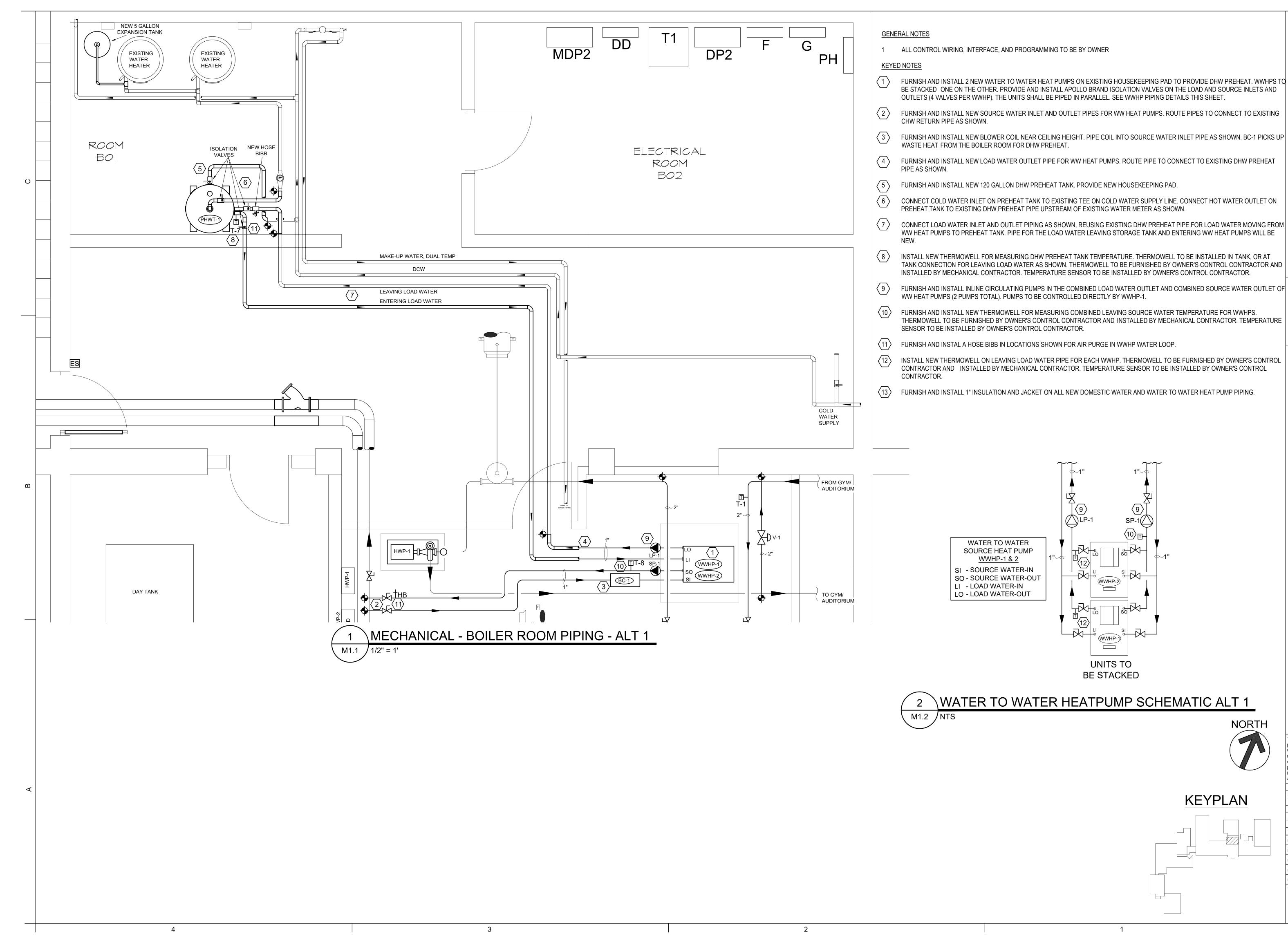
REVISIONS ID DATE COMMENTS

ROJECT NUMBER

12/10/2019 RAWING DATE SHEET NUMBER

M1.1

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LEICESTER, NC 28748

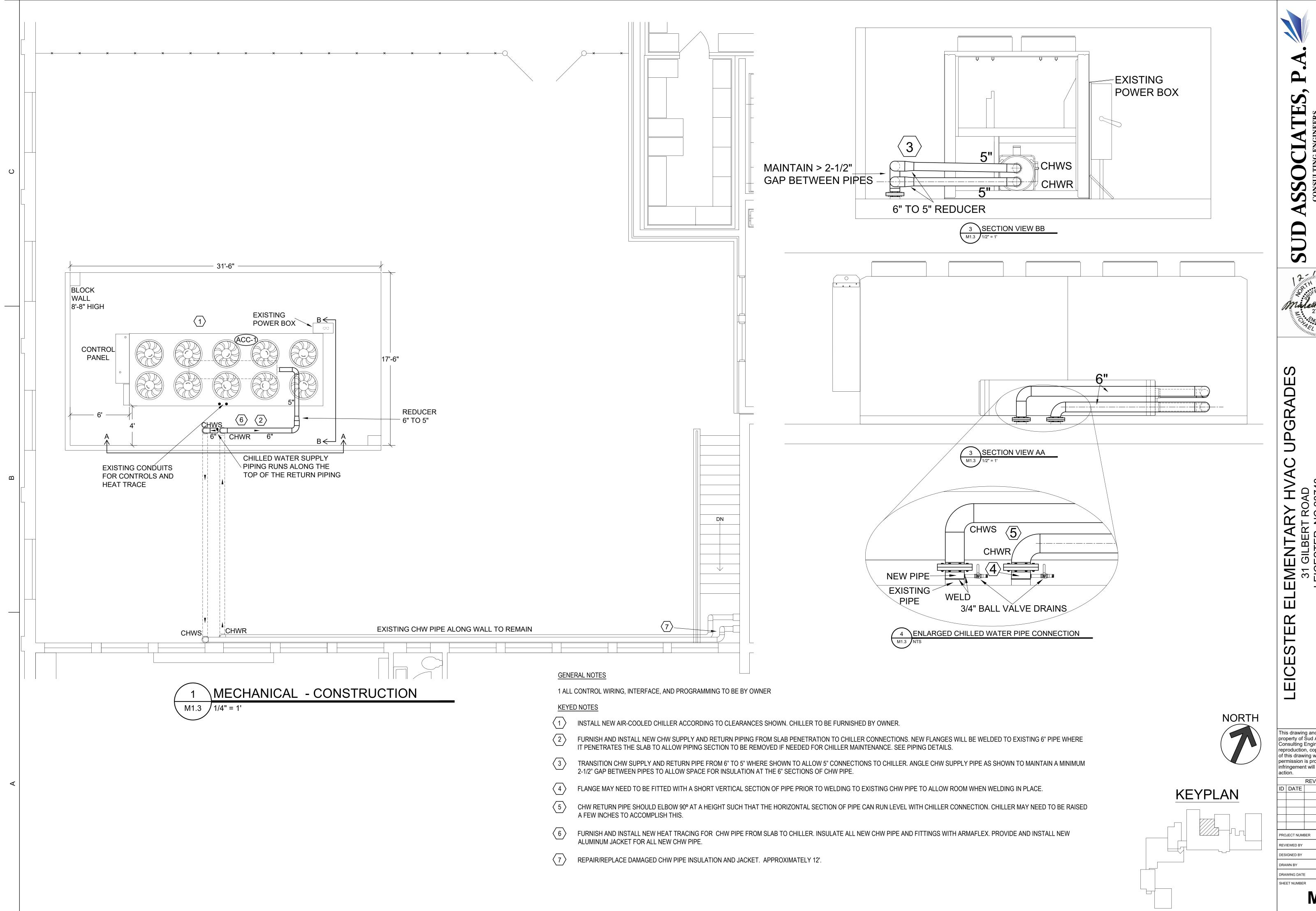
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REVISIONS

ID DATE COMMENTS PROJECT NUMBER

PSD 12/10/2019

M1.2



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M1.3



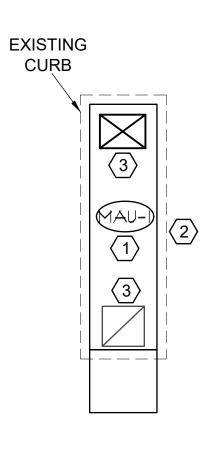
GENERAL NOTES

- ALL CONTROL WIRING, INTERFACE, AND PROGRAMMING TO BE BY OWNER.
- TRANSITIONS FROM AHU OUTLET TO DIFFERENT SIZED DUCTS SHALL BE ANGLED AS MUCH AS POSSIBLE FOR SMOOTH TRANSITION AND BETTER AIRFLOW. TRANSITIONS BETWEEN DIFFERENT SIZED DUCTS SHALL BE SIMILARLY ANGLED.
- ROOF REPAIR TO BE BY OWNER APPROVED CONTRACTOR. CONTACT MANUFACTURER HOLDING ROOF WARRANTY FOR CONTRACTOR RECOMMENDATIONS. APPLIES TO ALL REPAIRS INCLUDING ANY RESULTING FROM CONDENSER RAIL MODIFICATION, RTHP REMOVAL, AND MAU REPLACEMENT.

KEYED NOTES

- FURNISH AND INSTALL NEW SPLIT SYSTEM HEAT PUMP AHU IN LOCATION SHOWN. CONNECT TO EXISTING SUPPLY AND RETURN DUCTWORK USING NEW DUCT AS NEEDED FOR TRANSITION.
- FURNISH AND INSTALL NEW REFRIGERANT LINES FOLLOWING EXISTING ROUTE. REUSE EXISTING EXTERIOR WALL PENETRATION, SEAL WITH SILICONE CAULK. EXTERIOR REFRIGERANT LINES TO HAVE ALUMINUM COVER. FLOW DRY NITROGEN THROUGH LINES DURING BRAZING. FOLLOW MANUFACTURERS SIZING RECOMMENDATION. INSTALL SOLENOID VALVES ON 10 TON FOR EACH CIRCUIT, FILTERS WHERE RECOMMENDED.
- FURNISH AND INSTALL NEW 5 TON CONDENSING UNIT ON EXISTING RAILS. MODIFY RAILS IF NEEDED TO ACCOMMODATE CONDENSER SIZE.
- FURNISH AND INSTALL NEW 10 TON CONDENSING UNIT USING EXISTING RAILS. EXISTING RAILS WERE DESIGNED FOR TWO 5 TON UNITS; SPAN AND MODIFY THEM AS NEEDED TO ACCOMMODATE NEW 10 TON UNIT.
- INSULATE ALL NEW DUCTING. REPAIR OR REPLACE DAMAGED DUCT INSULATION AS NEEDED.
- PROVIDE 2" FILTER RACK IN AHU-2.

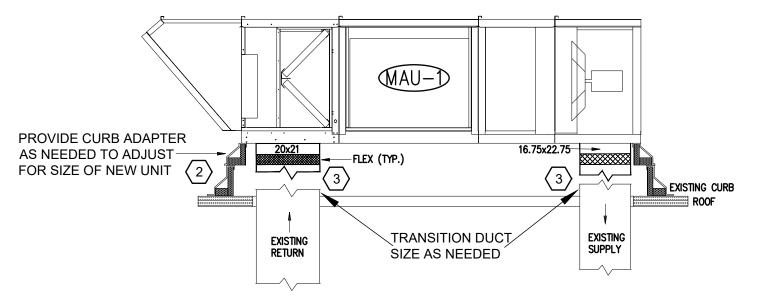
ROOF OVER KITCHEN



KEYED NOTES

- IN ALT 2 FURNISH AND INSTALL NEW KITCHEN HEATING/MAKE-UP AIR UNIT. SEE ELEVATION.
- FURNISH AND INSTALL ADAPTER TO EXISTING CURB FOR NEW UNIT. ESTIMATED NEW UNIT IS SMALLER THAN ORIGINAL
- PROVIDE DUCT TRANSITIONS IN CURB TO ADAPT FROM EXISTING DUCT SIZE TO NEW UNIT CONNECTION SIZE.

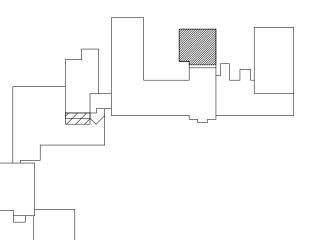
MECHANICAL - MAU-1 OVER KITCHEN ALT 2 M1.4 $\sqrt{1/4"} = 1'$



\MAKE UP AIR UNIT ELEVATION ALT 2 M1.4 NTS



KEYPLAN



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SHEET NUMBER M1.4

12/10/2019

MECHANICAL GENERAL NOTES:

- THE BUILDING PLANS ARE BASED ON INFORMATION PROVIDED BY THE OWNER. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, QUANTITIES, AND CONDITIONS PRIOR TO WORK. OWNER WILL NOT APPROVE ANY CHANGE ORDERS RESULTING FROM CONTRACTOR'S FAILURE TO FIELD VERIFY. DRAWINGS SHALL NOT BE SCALED TO DETERMINE ACTUAL DIMENSIONS.
- THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND INDICATE APPROXIMATE LOCATION OF EQUIPMENT, PIPING AND DUCTWORK. MINOR ADJUSTMENTS AND OFFSETS SHALL BE PROVIDED WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER. COORDINATE CHANGES IN ROUTING OR OTHER WORK WITH THE ENGINEER PRIOR TO PROCEEDING.
- EXISTING AREAS WHETHER WITHIN OR WITHOUT THE "GENERAL LIMITS OF CONSTRUCTION", SHALL BE REPAIRED WHERE ANY DAMAGE HAS OCCURRED DUE TO CONSTRUCTION BY THE CONTRACTOR.
- ALL PENETRATIONS SHOULD BE REUSED TO EXTENT POSSIBLE. PATCH NEW AND EXISTING PENETRATIONS TO MATCH EXISTING WALL CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR SEALING ALL PENETRATIONS THROUGH ALL WALLS TO PREVENT SOUND TRANSFER. GROUT OR GYPSUM WALL BD. "MUD" MAY BE USED FOR NON RATED WALLS. PENETRATIONS THROUGH RATED WALLS SHALL BE MADE PER THE UL DETAILS PROVIDED.
- ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THE NORTH CAROLINA STATE MECHANICAL CODE.
- UNLESS OTHERWISE INDICATED MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, CORE-DRILLING AND PATCHING OF FLOORING AND WALLS AS REQUIRED TO MATCH EXISTING CONDITIONS.
- MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING MECHANICAL RELATED WORK WITH OTHER TRADES. MECHANICAL CONTRACTOR IS CAUTIONED THAT IT IS TOTALLY HIS RESPONSIBILITY TO COORDINATE HANGERS AND SUPPORTS ETC. WITH OTHER TRADES.
- DUCT DIMENSIONS INDICATED ON THE PLANS ARE NET INSIDE DIMENSIONS. FIELD VERIFY ALL MEASUREMENTS AND DIMENSIONS BEFORE FABRICATING DUCTWORK.
- ALL SOLID DUCTWORK SHALL BE GALVANIZED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE CURRENT SMACNA DUCT CONSTRUCTION STANDARDS. DUCT SHALL BE CONSTRUCTED FOR ANTICIPATED STATIC PRESSURES. ALL JOINTS SHALL BE SEALED WITH MASTIC. MAXIMUM FLEX DUCT LENGTH IS 5'.
- 10 ALL NEW METAL SUPPLY DUCTWORK AND ALL RETURN DUCTWORK SHALL BE INSULATED WITH 2" EXTERNAL, 3/4 LB. DENSITY DUCT INSULATION, PROPERLY TAPED AND SEALED TO PROVIDE A CONTINUOUS VAPOR BARRIER. FRESH AIR DUCTS SHALL BE INSULATED SAME AS ABOVE. EXHAUST DUCTWORK DOES NOT HAVE TO BE INSULATED.
- 11 ALL SUPPLY DUCT ELBOWS SHALL CONTAIN TURNING VANES.
- 12 FIELD VERIFY UNIT & DUCT LOCATIONS. COORDINATE DUCT SIZING AND LAYOUT WITH BUILDING STRUCTURE PRIOR TO INSTALLATION. REVISE DUCTS TO EQUIVALENT SIZES AS NEEDED.
- 13 FURNISH AND INSTALL MANUAL DRAINS AT LOW POINTS IN PIPING AND VENTS AT HIGH POINTS.
- 14 MOUNT ROOM TEMPERATURE SENSORS AT 48" AFF. MOUNT THERMOSTATS AT 48" AFF. REPAIR WALL FROM REMOVAL OF EXISTING SENSOR TO MATCH EXISTING. ROUTE CONTROL WIRING IN WALL.
- 15 ALL SHUTDOWNS OF THE EXISTING UTILITIES SHALL BE SCHEDULED IN ADVANCE WITH OWNER.
- ALL EQUIPMENT, BOTH EXISTING AND NEW, SHALL BE LABELED WITH PERMANENT LABELS, PROPERLY AFFIXED TO THE EQUIPMENT.
- 17 TEST AND BALANCE BY OWNER.
- 18 PROPER FIRE WATCH TO BE MAINTAINED AT ALL TIMES DURING WELDING OR OPEN FLAME USE.
- 19 IF THE BUILDING WILL BE OCCUPIED DURING CONSTRUCTION. COORDINATE WORK SO THAT UTILITIES ARE OPERATIONAL WHEN NEEDED IN OCCUPIED AREAS.
- 20 ROOF REPAIRS TO BE BY OWNER-APPROVED CONTRACTOR. CONTACT MANUFACTURER HOLDING ROOF WARRANTY FOR CONTRACTOR RECOMMENDATIONS.

	GENERAL MECHANICAL LEGEND
SYMBOL	DESCRIPTION
	NEW PIPING OR EQUIPMENT
	EXISTING PIPING OR EQUIPMENT
++++	DEMO PIPING OR EQUIPMENT
——HWR——	HOT WATER RETURN PIPING
——HWS——	HOT WATER SUPPLY PIPING
——CHWR——	CHILLED WATER RETURN PIPING
——CHWS——	CHILLED WATER SUPPLY PIPING
CWR	CONDENSER WATER RETURN PIPING
CWS	CONDENSER WATER SUPPLY PIPING
DTR	DUAL TEMPERATURE WATER RETURN PIPING
DTS	DUAL TEMPERATURE WATER SUPPLY PIPING
M	AUTOMATIC DAMPER
S	SMOKE DAMPER
FD	FIRE DAMPER
F/S	COMBINATION FIRE/SMOKE DAMPER
K	BALL/BUTTERFLY VALVE
Ž	CHAIN OPERATED VALVE
\bowtie	GATE VALVE
Ř	CONTROL VALVE - TWO WAY
Ŕ	CONTROL VALVE - THREE WAY
TDV	TRIPLE DUTY VALVE
N	PRESSURE RELIEF VALVE
	AUTO FLOW VALVE
	CHECK VALVE
$\stackrel{\frown}{\oplus}$	CIRCUIT SETTER
1 1	UNION
	Y STRAINER
	PUMP
*	AIR VENT
VSD	VARIABLE SPEED DRIVE
T •++++	TEMPERATURE SENSOR AND THERMOMETER
P \(\)-\>-\	PRESSURE SENSOR AND PRESSURE GAUGE
AF	AIR FLOW MONITORING STATION
T	THERMOSTAT
CO2	CO2 SENSOR
SD	DUCT SMOKE DETECTOR
•	POINT OF CONNECTION - NEW TO EXISTING





RY HV T ROAD NC 28748

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PROJECT NUMBER REVIEWED BY PSD 12/10/2019 DRAWING DATE

SHEET NUMBER

M2.1

	III - *	LIOT WATER BOILER COLL	
CHILLER SCHED		HOT WATER BOILER SCH	
MARK	ACC-1	MARK	B-1 & B-2
MODEL **	30XV140H	MANUFACTURER *	WEIL MCLAIN
MANU. **	CARRIER	MODEL *	888
TYPE	VFD SCREW	SERVICE	BUILDING HEAT
CAPACITY (TONS)	130	TYPE	CAST IRON
EER	12.07		SECTIONAL
IPLV	20.67	FUEL	#2 OIL
REFRIGERANT	R134a	VENT MATERIAL	DOUBLE WALL
MAXIMUM LENGTH	255"	VENT WATERIAL	STEEL
EVAPORATO	R	VENT TYPE	I
WATER FLOW (GPM)	314.3	HEAT EXCHANGER	CASTIRON
MINIMUM WATER FLOW (GPM)	170	MIN. INPUT CAPACITY (MBH)	
EWT (F)	54	MAX. INPUT CAPACITY (GPH FUEL OIL	16.6
LWT (F)	44	OUTPUT CAPACITY (MBH)	1,987 ea.
MAX PRESSURE DROP (FT)	13.2	BLOWER MOTOR HP	1
FOULING FACTOR	0.0001	ပ္ MCA	
		MOCP WOLTS / PHASE	
CONDENSE	₹	□ VOLTS / PHASE	120/1
NUMBER OF FANS	10		
TOTAL FAN CFM	145,000	* BASIS OF DESIGN	
FAN POWER (KW)	8.2	1. PROVIDE BACNET CARD 2. FURNISH 5 YEAR FULL COVERAGE PARTS AT	
EAT (F)	95	2.1 SKNOTTO TEAKT SEE GOVERNGET AKTS AT	*D LADOIT WAINIANTI
VOLTS / PHASE	460 / 3	CONTROL	VALVE SCHEDULE
MCA	252.9	MARK MANU. * SERVICE LOCATION	TYPE

CV PIPE SIZE V-1BELIMOHVAC PIPINGBOILER ROOM2-WAY FLANGED BALL VALVE3504"V-2BELIMOHVAC PIPINGBOILER ROOM2-WAY NPT BALL VALVE1082" 300 SINGLE POINT POWER * CHILLER SCHEDULE FOR REFERENCE ONLY. CHILLER TO BE

* BASIS OF DESIGN

1. SPRING RETURN CLOSED ACTUATORS

2. PROVIDED BY CONTROL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR

									SPLIT SYSTEM HEA	T PUMP SCHE	DULE						·					
						INDO	OOR AIR	HANDLING	UNIT SECTION								OUTDO	OR CONE	ENSIN	G UNIT	SECTION	1
MARK	MANU.*	MODEL*	AREA SERVED	NOMINAL CFM	MINIMUM OA	ESP (IN)		ING (MBH)	TOTAL HEATING (MBH)		AUX. HEAT	FAN	МСА	МОСР	VOLTS/	MARK	MANU.*	MODEL *	MCA	МОСР	VOLTS/	EFF.
						(/	TOTAL	SENSIBLE	@ 47° F OAT	KW/STAGES	VOLT / PHASE	MOTOR HP			PHASE						PHASE	
AHU-1	CARRIER	FV4C	MEDIA CENTER (OFFICES)	1840	250	1	53.9	43.7	54.2	5, 10	208/3	3/4	47.7	50	208/3	HP-1	CARRIER	25HCE	10.5	15	460 /3	14 SEER
AHU-2	CARRIER	40RUQ	MEDIA CENTER	4,000	400	1.67	119.0	90.3	104.0	9.2, 13.8	460 / 3	3.7 BHP	43.7	50	460/3	HP-2	CARRIER	38AUQ	19	25	460/3	13.8 IEEF

* BASIS OF DESIGN

PROVIDED BY OWNER.

BACNET COMMUNICATION

** BASIS OF DESIGN

1. MANUFACTURER TO PROVIDE ANY REFRIGERANT PIPING SPECIALTIES

2. PROVIDE 2" MERV 13 PLEATED FILTER FOR AHU-2

1. PROVIDE FACTORY EVAPORATOR BARREL HEATER, AND

3. PROVIDE FACTORY 14" ROOF RAILS, SECURE CONDENSER TO RAILS 4. PROVIDE 5 YEAR FULL COVERAGE PARTS AND LABOR WARRANTY

						HYD	RONIC P	UMP SCHEDUL	E				
MARK	BRAND	MODEL	DRIVE	TYPE	SERVICE	FLOW (GPM)	HEAD (FT)	MIN PUMP EFFICIENCY	MOTOR HP	MOTOR RPM	VOLTS / PHASE	SUCTION x DISCHARGE SIZES	NOTES
DTWP-1	TACO OR B&G	BASE	VFD	BASE MOUNTED	HVAC	550	80	82%	20	1800	480/3/60	6 x 6	1, 2, 5
DTWP-2	TACO OR B&G	BASE	VFD	BASE MOUNTED	HVAC	550	80	82%	20	1800	480/3/60	6 x 6	1, 2, 5
HWP-1	TACO OR B&G	BASE	STANDARD	BASE MOUNTED	HVAC	75	40	70%	2	1800	480/3/60	2 x 2	3, 4, 5

1. PROVIDE INVERTER DUTY PREMIUM EFFICIENCY RATED MOTORS

2. PROVIDE NEW TRIPLE DUTY VALVE. EXISTING SUCTION DIFFUSER MAY BE USED IF IN GOOD CONDITION, AND IF IT MATCHES NEW PUMPS. EXISTING PUMP IS TACO #EE4013E2M1G2LOA. 3. PROVIDE NEW TRIPLE DUTY VALVE. EXISTING SUCTION DIFFUSER MAY BE USED IF IN GOOD CONDITION, AND IF IT MATCHES NEW PUMPS. EXISTING PUMP IS TACO #FE1510E2E1F2LOA.

4. PROVIDE MAIN SWITCH, RK-1 FUSES FOR UNIT.

5. FURNISH 5 YEAR FULL COVERAGE PARTS AND LABOR WARRANTY

	MARK	WWHP-1 & 2
	MANU. *	WATERFURNACE
	MODEL *	(NSW) 025
	TYPE	DHW/CHW
	REFRIGERANT	R-410A
	COOLING CAPACITY (MBH)	22.0 ea.
	HEATING CAPACITY (MBH)	30.5 ea.
	LOAD	
	FLOW RATE (GPM)	6.0 ea.
	ENTERING WATER TEMPERATURE (F)	110.0
	LEAVING WATER TEMPERATURE (F)	120.2
	PRESSURE DROP (FT)	7.9
r:	FOULING FACTOR	
8	SOURCE	
2	FLOW RATE (GPM)	6.0 ea.
	ENTERING WATER TEMPERATURE (F)	60.0
	LEAVING WATER TEMPERATURE (F)	52.7
	PRESSURE DROP (FT)	8.1
	FOULING FACTOR	
	ELECTRICAL	
	COMPRESSOR	
	VOLTS / PHASE	208/1
	RLA	13.5 ea.
	MCA	24.1 ea.
	MOCP	35.0 ea.
	* DAOIO OF DECION O DECIMPED	
	* BASIS OF DESIGN, 2 REQUIRED	
	1. FURNISH 5 YEAR FULL COVERAGE PARTS AND	LABOK WAKKANTY
- Λ -	F TANK COUEDIN E (ALTERNATE 4)	

WATER TO WATER HEAT PUMP (ALT - 1)

	PR	REHEAT TA	NK SCHEDULE	(ALTERNAT	E 1)								
MARK	MARK * MANU/MODEL QUANTITY STORAGE (GAL) HEIGHT (IN) DIAMETER (IN) REMARKS												
PHT-1	PVI/L 125A-TR	1	125	75"	29.5"	SEE DETAIL							
* BASIS OF DESIGN													

1. MANUFACTURER TO PROVIDE T & P RELIEF VALVE

2. PROVIDE 5 YEAR FULL COVERAGE PARTS AND LABOR WARRANTY

,	WWHP PUMP SCHEDULE (ALT-1)												
IARK	ARK BRAND MODEL DRIVE TYPE SERVICE FLOW HEAD MIN PUMP EFFICIENCY MOTOR HP VOLTS / PHASE NOTES												
LP-1	GRUNDFOS	UP 26-96	-	IN-LINE	LOAD SIDE	12	12	-	1/12	208/1	1, 3		
SP-1													
URNISH	AND INSTALL:												

1. NEW GRUNDFOS MODEL UP 26-96 PUMP, 208V, 12 GPM, 12' HEAD, BRONZE OR STAINLESS STEEL FOR LOAD SIDE OF WWHP. USE BRONZE FLANGES. 2. NEW GRUNDFOS MODEL UP 26-96 PUMP, 208V, 12 GPM, 12' HEAD, CAST IRON FOR SOURCE SIDE OF WWHP. 3. FURNISH 5 YEAR FULL COVERAGE PARTS AND LABOR WARRANTY

MAU-1 SCHEDULE (KITCHEN HEATING AND MAKEUP AIR UNIT, ALT-2)													
								SUPPL	Y FAN			HEATIN	IG COIL
MARK	MANU. *	MODEL *	AREA SERVED	TYPE	TOTAL	ESP	MIN	VED	VOLT /	NAC A	MOCD	CAPACITY	CTACING
					CFM	(IN)	HP	VFD	PHASE	MCA	MOCP	(kW)	STAGING
MAU-1	GREENHECK	MSX-P115-H12-MF	KITCHEN	RECIRCULATION; ELECTRIC HEAT ONLY	3,180	0.75	3	YES	460/3	94.1	100	70	MODULATING

* BASIS OF DESIGN

1. UNIT MUST COMMUNICATE WITH BMS (MUST BE CAPABLE OF RECEIVING SIGNAL FROM BMS FOR DAT AND DAMPER CONTROL)

2. UNIT TO COME WITH VFD AND INTEGRAL DISCONNECT

3. FURNISH 5 YEAR FULL COVERAGE PARTS AND LABOR WARRANTY

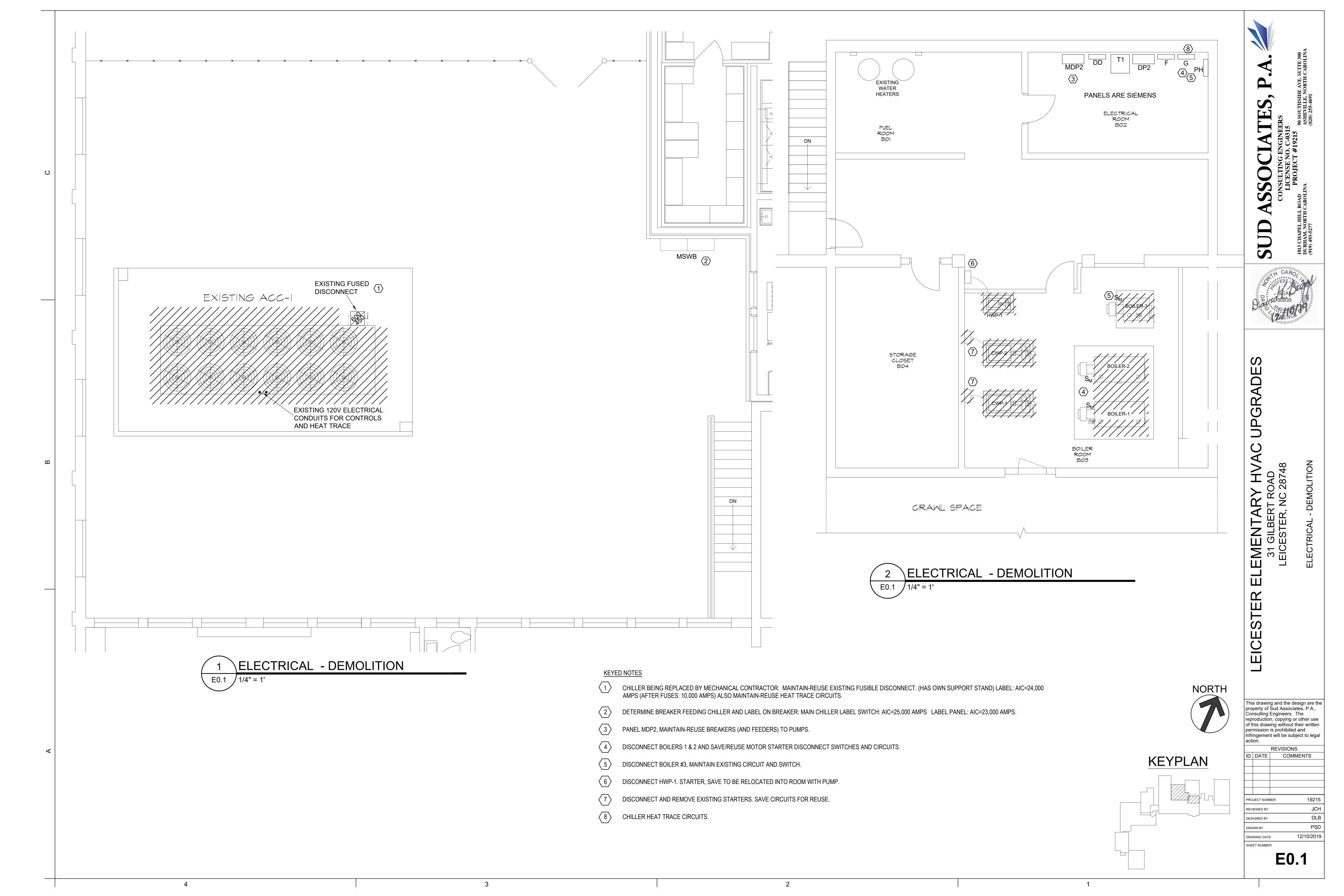
		<u> </u>															
	BLOWER COIL UNIT SCHEDULE (ALT-1)																
SUPPLY FAN COOLING COIL																	
IARK	MANU.*	MODEL *	TYPE	CEM	ESP (IN)	HP	VOLTS / PHASE	мсл	MOCP	COOLIN	G (MBH)	(MBH) FLOW WPD EWT .	LWT (F)	EAT (F)			
				CFINI	LSF (IIV)	ПГ	VOL13/PHASE	WCA	WIOCF	TOTAL	SENS.	(GPM)	(FT)	(F)	LVVI (F)	DB	WB
3C-1 ENVIROTEC HPE16 HORIZONTAL 1700 0.25 (2) @ 1/4 120 / 1 11.03 15 55.2 42.3 10.0 1.4 45.0 56.6 80 67																	
3ASIS C	ASIS OF DESIGN, APPROVED EQUALS BY ENVIRO-TECH OR CARRIER																

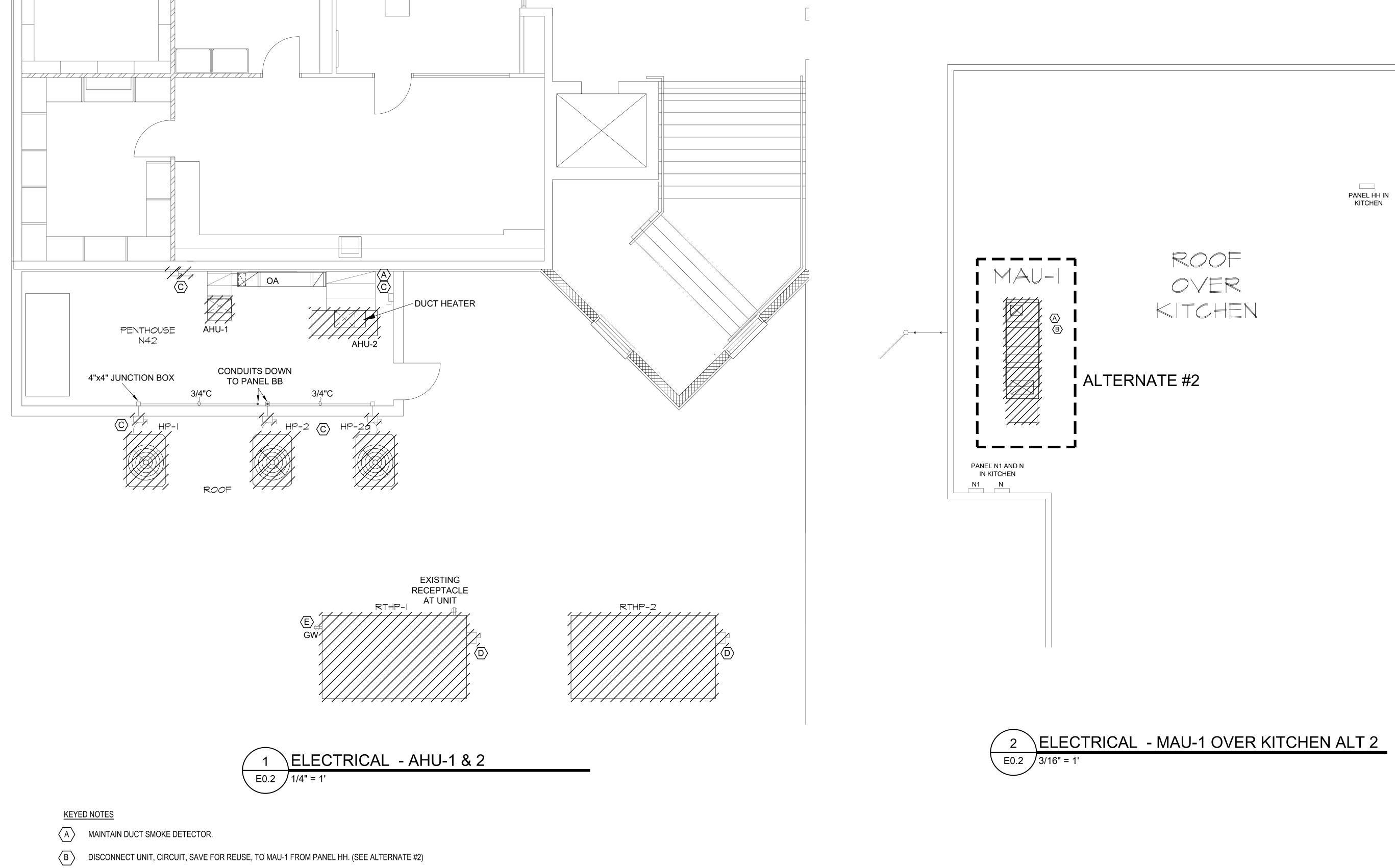
1. COORDINATE COIL CONNECTION SIDE WITH FIELD CONDITIONS 2. PROVIDE 5 YEAR FULL COVERAGE PARTS AND LABOR WARRANTY

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DISCONNECT CIRCUITS TO AHU-1, AHU-2, HP-1, HP-2, AND HP-2A. MAINTAIN CIRCUITS, REMOVE SWITCHES EXCEPT SAVE AHU-2. REMOVE CIRCUITING TO DUCT HEATER AND AHU-1. LABEL BREAKERS IN PANEL A: SPARE, SWITCH, FOR AHU-2 MAY BE REUSED.

REMOVE SWITCHES AND CIRCUITS TO RTHP UNITS, CAP CONDUITS AT ROOF PENETRATION. LABEL BREAKERS, IN PANEL BB, 'SPARE' AND TURN OFF.

REMOVE RECEPTACLE, SAVE FOR REUSE. LOCATE PANEL SOURCE AND LABEL: ROOF RECEPTACLE.



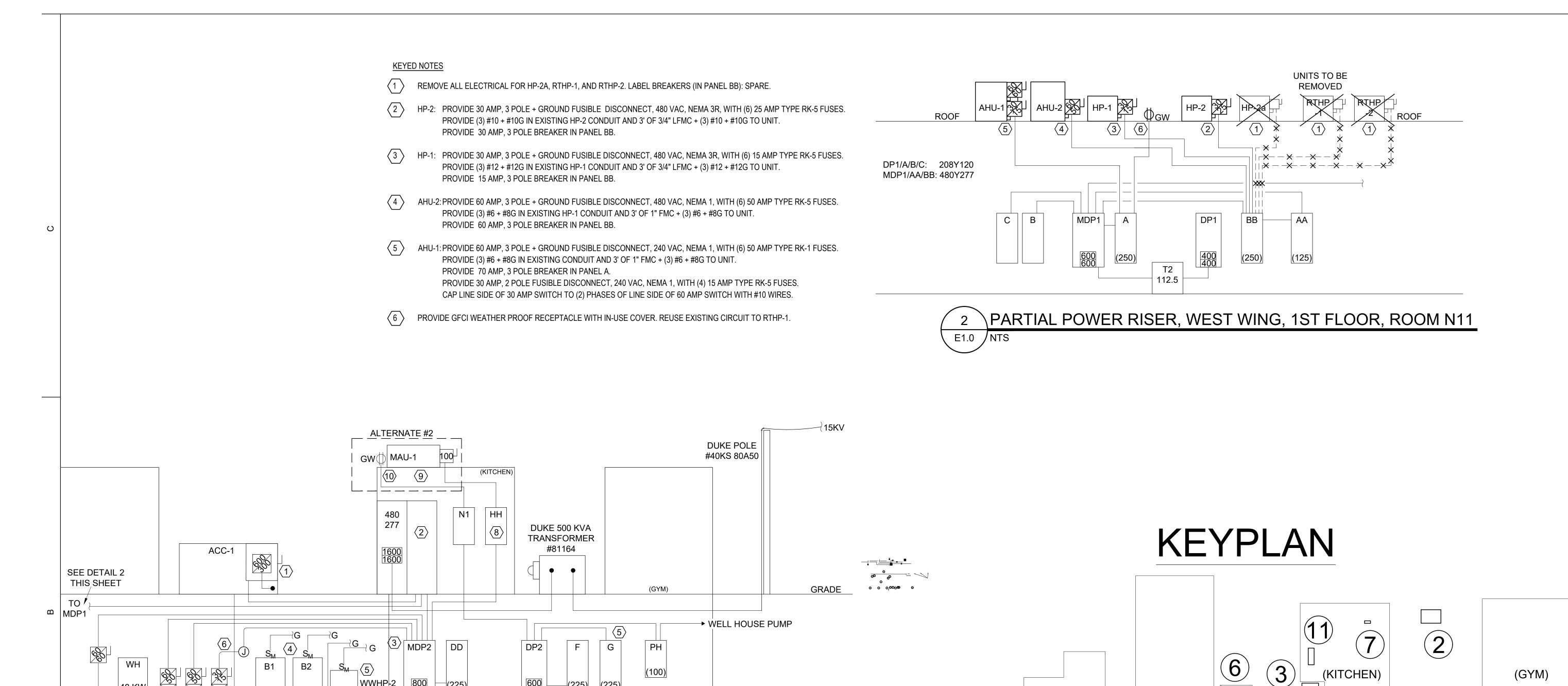
NORTH

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E0.2

KEYPLAN



BASEMENT

OLD BOILER ROOM ELECTRICAL SERVICE E1.0 NTS **KEYED NOTES**

- CHILLER BEING REPLACED BY MECHANICAL CONTRACTOR. MAINTAIN-REUSE EXISTING FUSIBLE DISCONNECT AND CIRCUIT FROM MSWB. PROVIDE (6) 300 AMP RK-5 FUSES (3 ARE SPARES). PROVIDE ADAPTER CLIPS IF NEEDED. LABEL: AIC=24,000 AMPS (AFTER FUSES: 10,000 AMPS) ALSO MAINTAIN-REUSE HEAT TRACE CIRCUITS. PROVIDE 2-1/2"C (6) 2/O + #2 GROUND (VERIFY LUG SIZES TO UNIT PANEL) FROM SWITCH TO UNIT MAIN LUGS SUPPORT ON UNIT FRAME 6"-12" AFG.
- DETERMINE BREAKER FEEDING CHILLER AND LABEL ON BREAKERS: LABEL MSWB: AIC = 25,000 AMPS.

BOILER BOILER

PANEL MDP2, MAINTAIN-REUSE BREAKERS (AND FEEDERS) TO PUMPS AND HOT WATER HEATER. LABEL MDP1: AIC = 23,000 AMPS.

WWHP-1

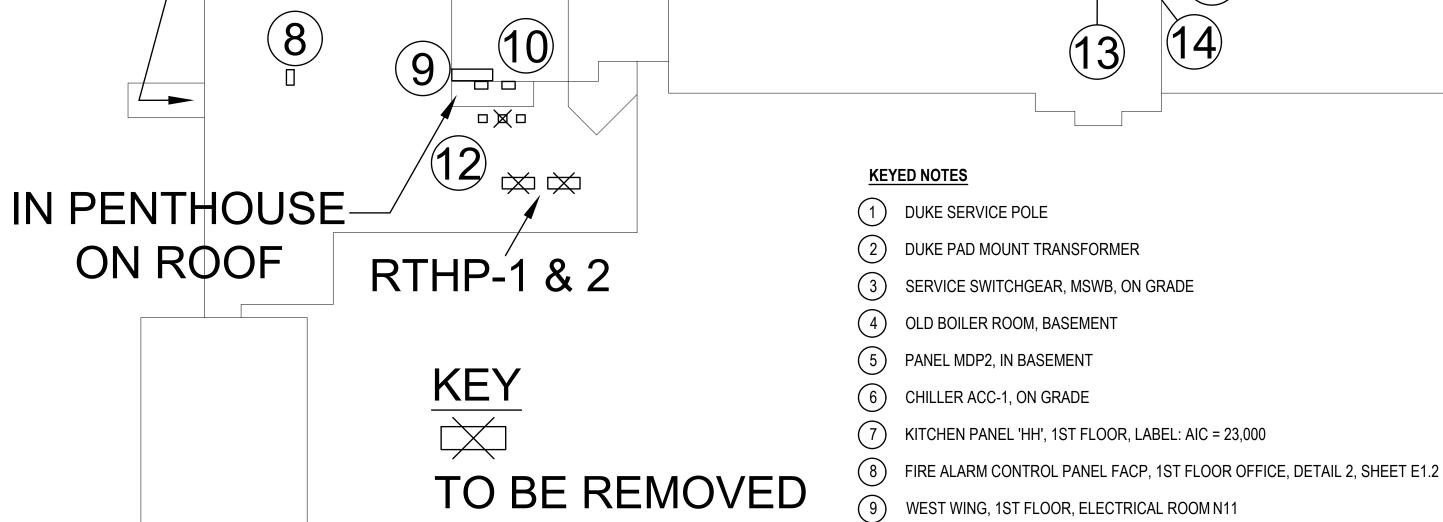
- RECONNECT NEW BOILERS 2 & 3 AND REUSE MOTOR STARTER DISCONNECT SWITCHES.
- MAINTAIN EXISTING CIRCUIT AND SWITCH TO BOILER #3. BOILER #3 TO BE DEMOED. WWHP-1 IS ALTERNATE #1. RELABEL BREAKER IN PANEL G: WATER TO WATER HEAT PUMPS #1. ALSO PROVIDE (1) POLE, 15 AMP BREAKER IN PANEL G. LABEL: EXHAUST FANS-BOILER ROOM. PROVIDE (1) 2 POLE 15 AMP BREAKER, LABEL WWHP CIRCUIT PUMPS: LP-1 AND SP-1.
- PROVIDE JUNCTION BOX AND RELOCATE STARTER TO WALL NEXT TO VFD FOR PUMP DTWP-2. LABEL: AIC=21,000 EXTEND CIRCUIT (3/4" C, (3) #12, #12G) PROVIDE 3/4" LFMC WITH (3) #12 + #12G.
- INSTALL (2) NEW VFD (DRIVES) FURNISHED BY MECHANICAL CONTRACTOR. REUSE EXISTING CIRCUITS. PROVIDE 1" LFMC WITH (3) #6 + #8G.
- MAINTAIN-REUSE 110 AMP BREAKER FOR MAU-1.

DTWP-1_{DTWP-2} HWP-1

(2) WATER

HEATERS - NIC

- MAINTAIN-REUSE CIRCUIT TO MAU-1. PROVIDE 3 POLE + GROUND, 100 AMP, FUSIBLE DISCONNECT, NEMA 3R, ON/AT UNIT WITH (6) 100 AMP TYPE RK-5 FUSES. PROVIDE 3'-4' LFMC FROM ROOF MOUNTED CONDUIT TO UNIT.
- PROVIDE 3/4"C, (2) #12 + #12G TO GFCI WEATHER PROOF RECEPTACLE (WITH IN-USE COVER) ON ROOF WITHIN 25' OF MAU-1. PROVIDE 1 POLE 20 AMP BREAKER IN KITCHEN PANEL. LABEL: ROOF RECEPTACLE. (OR USE EXISTING CIRCUIT BREAKER TO RECEPTACLE IN MAU-1).





REVISIONS

VISITOR

ENTRANCE

(10) PANEL MDP1, 1ST FLOOR, DETAIL 2, SHEET E1.2

(12) HP-1, HP2, HP2a + RTHP-1, RTHP-2 (ON ROOF)

(13) HWP-1, DTWP-1, DTWP-2, BOILER-1, 2, & 3, IN BASEMENT

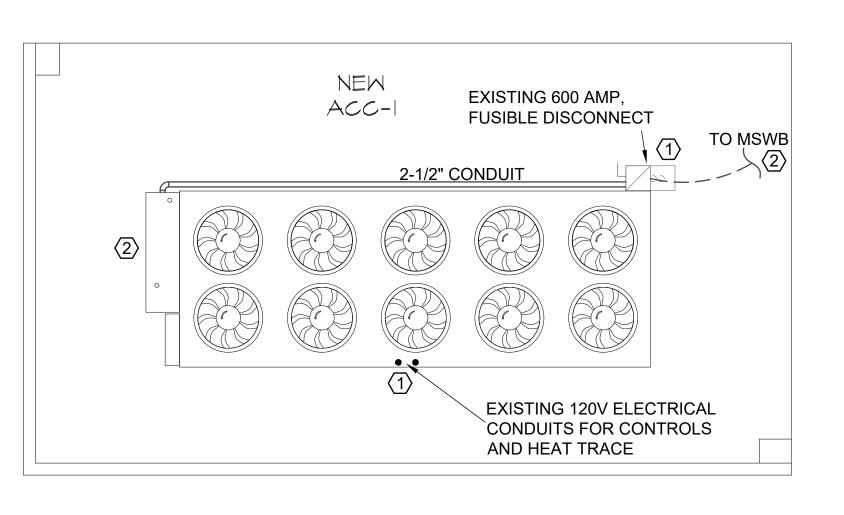
(11) MAU-1 (ON ROOF) ALTERNATE 2

(14) WWHP-1 & 2, ALTERNATE 1

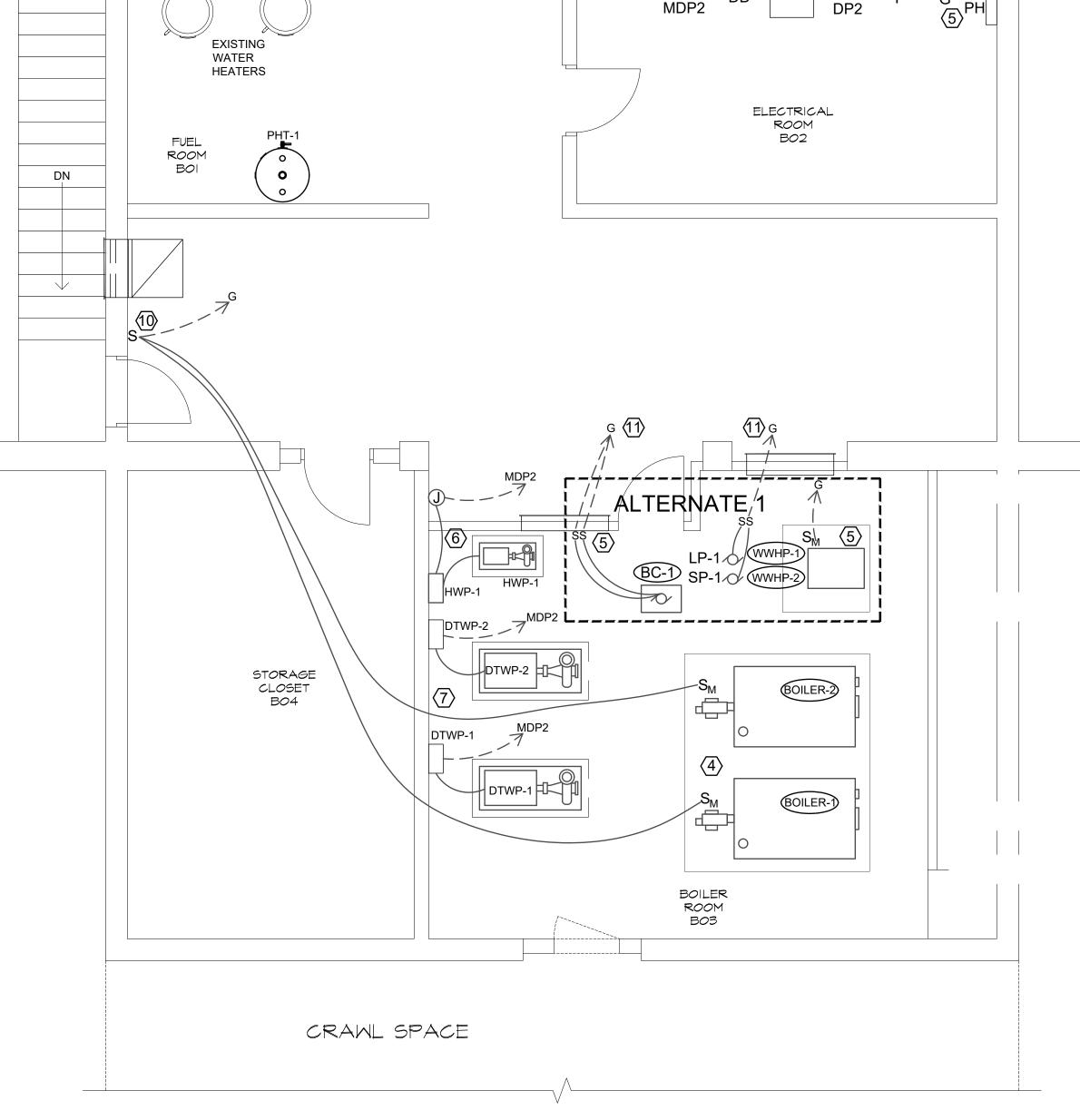
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12/10/2019 SHEET NUMBER

E1.0



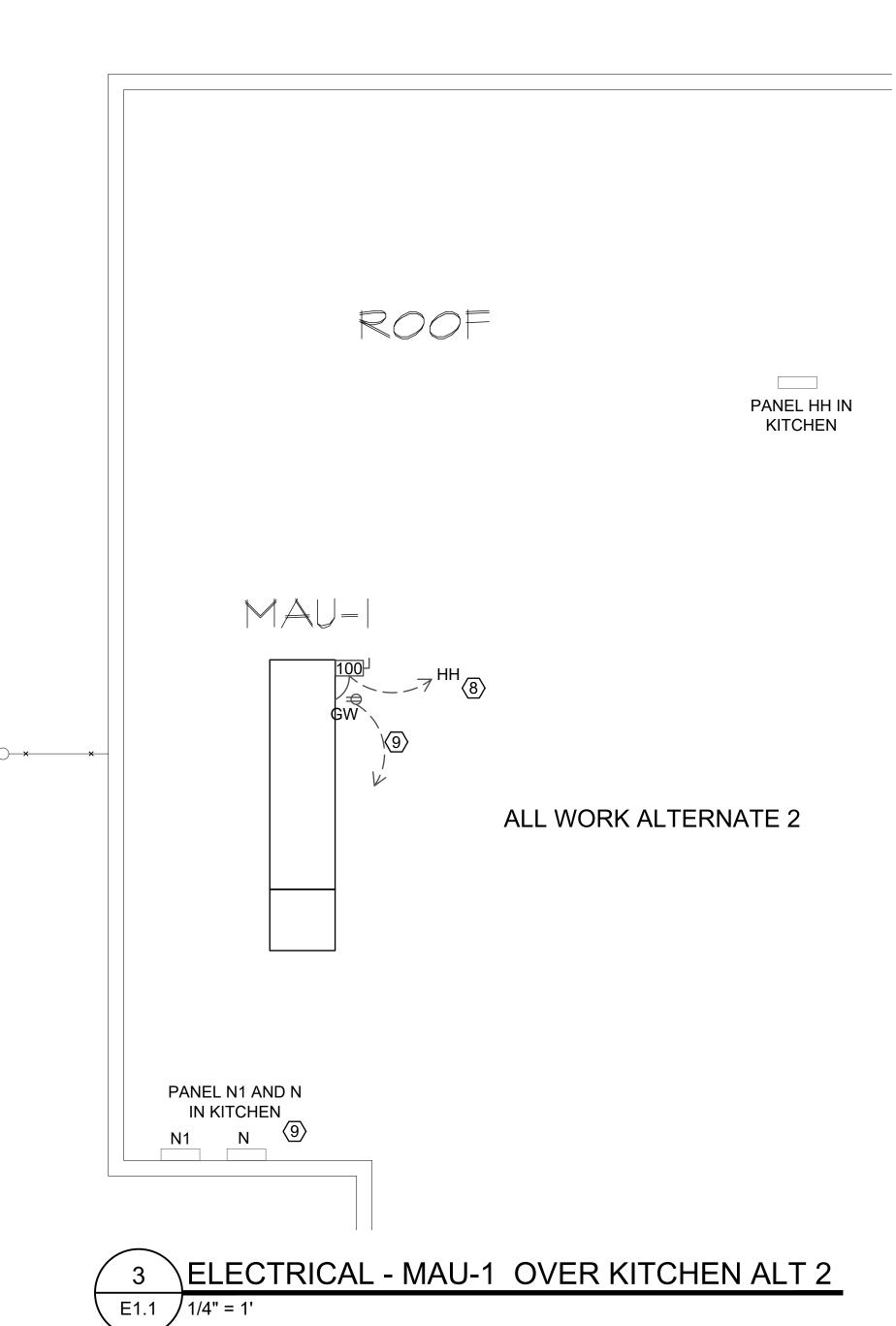
POWER - NEW CHILLER E1.1 $\int 1/4$ " = 1'



POWER - BOILER ROOM

KEYED NOTES

- CHILLER BEING REPLACED BY MECHANICAL CONTRACTOR. MAINTAIN-REUSE EXISTING FUSIBLE DISCONNECT. PROVIDE (6) 300 AMP RK-5 FUSES (3 ARE SPARES). PROVIDE ADAPTER CLIPS IF NEEDED. LABEL: AIC=24,000 AMPS (AFTER FUSES: 10,000 AMPS) ALSO MAINTAIN-REUSE HEAT TRACE CIRCUITS. PROVIDE 2-1/2"C (6) 2/O + #2 GROUND (VERIFY LUG SIZES TO UNIT PANEL).
- DETERMINE BREAKER FEEDING CHILLER AND LABEL ON BREAKERS: LABEL SWITCH: AIC=23,000 AMPS LABEL PANEL: AIC=10,000 AMPS.
- PANEL MDP2, MAINTAIN-REUSE BREAKERS (AND FEEDERS) TO PUMPS.
- RECONNECT NEW BOILERS 1 & 2 AND REUSE MOTOR STARTER DISCONNECT SWITCHES.
- MAINTAIN EXISTING CIRCUIT AND SWITCH TO BOILER #3. BOILER #3 TO BE DEMOED. WWHP-1 & 2 IS ALTERNATE 1. RELABEL BREAKER IN PANEL G: WATER TO WATER HEAT PUMPS #1 & #2. ALSO PROVIDE TWO (1) POLE, 15 AMP BREAKERS IN PANEL G. LABEL: EXHAUST FANS-BOILER ROOM AND WWHP CIRCUIT PUMP 3. PROVIDE (1) LIGHT SWITCH DISCONNECTS, BY DOOR, AND CIRCUIT TO WWHP DISCONNECTS TO CONTROL BC-1 FAN AND PUMPS.
- EXTEND CIRCUIT (3/4" C, (3) #12, #12G) RELOCATE STARTER TO WALL NEXT TO VFD FOR PUMP DTWP-2. PROVIDE 3/4" LFMC WITH (3) #12 + #12G LABEL: HWP-1 AND AIC=21,000 AMPS.
- INSTALL (2) NEW VFD (DRIVES) FURNISHED BY MECHANICAL CONTRACTOR. REUSE EXISTING CIRCUITS. PROVIDE 1" LFMC WITH (3) #6 + #8G.
- MAINTAIN-REUSE CIRCUIT TO MAU-1. PROVIDE 3 POLE + GROUND FUSIBLE DISCONNECT, NEMA 3R WITH (6) 100 AMP TYPE RK-5 FUSES, ON/AT UNIT. PROVIDE 3'-4' LFMC FROM CONDUIT TO UNIT.
- PROVIDE 3/4"C, (2) #12 + #12G TO GFCI WEATHER PROOF RECEPTACLE (WITH IN-USE COVER) ON ROOF WITHIN 25' OF MAU-1. PROVIDE 1 POLE 20 AMP BREAKER IN KITCHEN PANEL N1. LABEL: ROOF RECEPTACLE.
- PROVIDE 2 POLE LIGHT SWITCH AND CIRCUIT TO SHUT DOWN (2) BOILERS. LABEL: BOILERS SHUTOFF.
- PROVIDE 3/4"C WITH (3) #12 + #12G FOR CIRCUITS TO BC-1, LP-1, AND SP-1.



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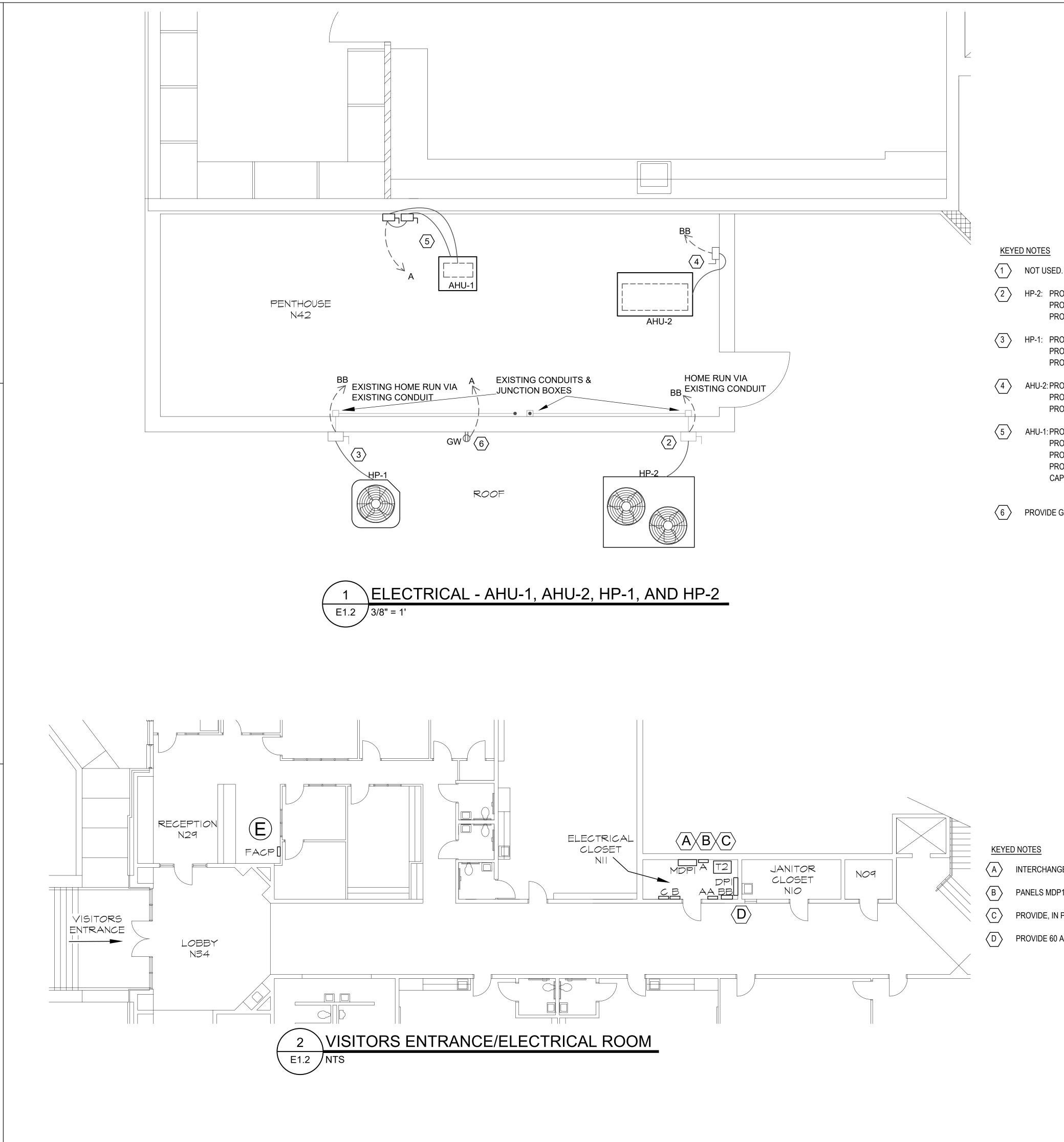
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- HP-2: PROVIDE 30 AMP, 3 POLE + GROUND FUSIBLE DISCONNECT, 480 VAC, NEMA 3R, WITH (6) 25 AMP TYPE RK-5 FUSES. PROVIDE (3) #10 + #10G IN EXISTING HP-2 CONDUIT AND 3' OF 3/4" LFMC + (3) #10 + #10G TO UNIT. PROVIDE 30 AMP, 3 POLE BREAKER IN PANEL BB.
- HP-1: PROVIDE 30 AMP, 3 POLE + GROUND FUSIBLE DISCONNECT, 480 VAC, NEMA 3R, WITH (6) 15 AMP TYPE RK-5 FUSES. PROVIDE (3) #12 + #12G IN EXISTING HP-1 CONDUIT AND 3' OF 3/4" LFMC + (3) #12 + #12G TO UNIT. PROVIDE 15 AMP, 3 POLE BREAKER IN PANEL BB.
- AHU-2: PROVIDE 60 AMP, 3 POLE + GROUND FUSIBLE DISCONNECT, 480 VAC, NEMA 1, WITH (6) 50 AMP TYPE RK-5 FUSES. PROVIDE (3) #6 + #8G IN EXISTING HP-1 CONDUIT AND 3' OF 1" FMC + (3) #6 + #8G TO UNIT. PROVIDE 60 AMP, 3 POLE BREAKER IN PANEL BB.
- AHU-1: PROVIDE 60 AMP, 3 POLE + GROUND FUSIBLE DISCONNECT, 240 VAC, NEMA 1, WITH (6) 50 AMP TYPE RK-1 FUSES. PROVIDE (3) #6 + #8G IN EXISTING CONDUIT AND 3' OF 1" FMC + (3) #6 + #8G TO UNIT. PROVIDE 70 AMP, 3 POLE BREAKER IN PANEL A. PROVIDE 30 AMP, 2 POLE FUSIBLE DISCONNECT, 240 VAC, NEMA 1, WITH (4) 15 AMP TYPE RK-5 FUSES. CAP LINE SIDE OF 30 AMP SWITCH TO (2) PHASES OF LINE SIDE OF 60 AMP SWITCH WITH #10 WIRES.
- PROVIDE GFCI WEATHER PROOF RECEPTACLE WITH IN-USE COVER. REUSE EXISTING CIRCUIT TO RTHP-1.

- A INTERCHANGE LABEL TAGS ON MDP1 AND DP1.
- PANELS MDP1 AND A LABEL: AIC = 20,000 AMPS.
- PROVIDE 60 AMP, 3 POLE BREAKER IN PANEL BB FOR NEW AHU-1.



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REVISIONS ID DATE COMMENTS KEYPLAN

PROJECT NUMBER

12/10/2019 DRAWING DATE SHEET NUMBER

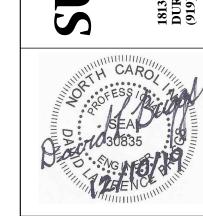
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ABBREVIATIONS AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AL ALUMINUM BFG BELOW FINISHED GRADE CONDUIT (AND DEVICE COUNTER HEIGHT) CU COPPER OR CONDENSING UNIT EC ELECTRICAL CONTRACTOR EF EXHAUST FAN ER REMTOE EMERGENCY LIGHT EWH ELECTRIC WALL HEATER EX EXIT SIGN FMC FLEXIBLE METAL CONDUIT G GROUND GC GENERAL CONTRACTOR GFI GROUND FAULT INTERRUPTER MC MECHANICAL CONTRACTOR MCA MINIMUM CIRCUIT AMPACITY MCB MAIN CIRCUIT BREAKER MDS MAIN DISCONNECT SWITCH MDP MAIN DISTRIBUTION PANEL N NEUTRAL NIC NOT IN CONTRACT OEM ORIGINAL EQUIPMENT MANU. PC PLUMBING CONTRACTOR PE PHOTOCELL PVC POLYVINYL CHLORIDE PIPE PNL PANELBOARD RSC RIGID STEEL CONDUIT RTU ROOF TOP UNIT SA SURGE ARRESTER VAC VOLTAGE AC WET LOCATION RATED WIR WIRE (SIZE/RATING)

GENERAL ELECTRICAL LEGEND SYMBOL DESCRIPTION NEW EQUIPMENT EXISTING EQUIPMENT **— - — - —** 1 HOUR FIRE RATED WALL — - - — 2 HOUR FIRE RATED WALL 4 HOUR FIRE RATED WALL DISCONNECT SWITCH - AMP RATING/NO. OF POLES/FUSE SIZE INDICATED NON-FUSIBLE DISCONNECT SWITCH, 60 AMP RATED, HP RATED FOR MOTORS NEMA ENCLOSURE RATING(3R) AS SHOWN. 3R: RAIN TIGHT. ELECTRICAL POWER SUPPLY CONNECTION TO EQUIPMENT - EQUIPMENT TAG OR DESIGNATION INDICATED. COORDINATE LOCATION AND CONNECTION DETAILS WITH EQUIPMENT PROVIDER. SPECIAL PURPOSE RECEPTACLE, MATCH RECEPTACLE TO EQUIPMENT PLUG. MAY ALSO BE HARDWIRED JUNCTION BOX OR TOGGLE DISCONNECT SWITCH, COORDINATE WITH EQUIPMENT. DUPLEX RECEPTACLE, NEMA CONFIGURATION 5-20R GFCI DUPLEX RECEPTACLE WEATHER TIGHT DUPLEX RECEPTACLE 20A, 120/277VAC SINGLE POLE SNAP SWITCH 20A, 120/277VAC DOUBLE POLE SNAP SWITCH 20A, 120/277VAC THREE WAY SNAP SWITCH MOTOR STARTER TOGGLE SWITCH, #POLE TO MATCH # CIRCUITS NEMA 4 WET RATED MOTOR STARTER TOGGLE SWITCH JUNCTION BOX TRANSIENT SUPPRESSOR, TYPE II ●────
UNDERGROUND CONDUIT SWITCHED CIRCUIT UNSWITCHED CIRCUIT HOMERUN CIRCUIT TO PANEL - CIRCUIT INDICATED



/ HV OAD 28748

31 C

PROVIDE ALL ELECTRICAL SHOWN ON DRAWINGS AND SPECIFICATIONS AND AS NEEDED TO PROVIDE A COMPLETE FUNCTIONAL INSTALLATION

IN COMPLIANCE WITH STATE AND LOCAL CODES. PROVIDE FIELD COORDINATION WITH OTHER TRADES AND PROVIDE RED-LINE MARKED UP DRAWINGS TO OWNER OF ALL FIELD CHANGES.

PROVIDE TEMPORARY CONSTRUCTION PHASE POWER AND LIGHTING FOR ALL TRADES AS NEEDED.

PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR FROM DATE OF PROJECT ACCEPTANCE

TEST ALL MOTORS FOR CORRECT ROTATION.

UON UNLESS OTHERWISE NOTED ASSIST OTHER TRADES IN TESTING OF HVAC EQUIPMENT.

SCOPE OF WORK

TEST AND CERTIFY ALL FIRE ALARM EQUIPMENT.

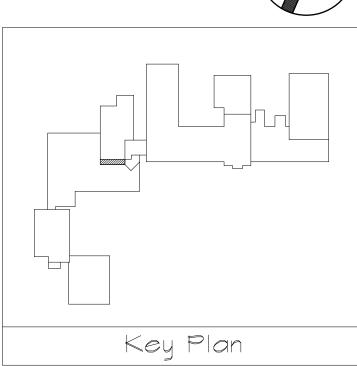
PROVIDE SUBMITTALS ON ALL POWER.

PROVIDE ALL REQUIRED ELECTRICALLY RELATED PERMITS AND INSPECTIONS.

GENERAL NOTES (ALL ELECTRICAL SHEETS)

- THIS DRAWING IS DIAGRAMMATIC AND INDICATES THE APPROXIMATE LOCATION OF DEVICES AND EQUIPMENT. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS ON SITE. MINOR ADJUSTMENTS AND OFFSETS SHALL BE PROVIDED WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- 2 PROVIDE ALL WORK IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND IN AN INDUSTRY STANDARD WORKMANLIKE MANNER.
- NMC (ROMEX AND SE CABLE FOR FEEDERS) IS NOT ACCEPTABLE. AC/MC CABLE IS ONLY ACCEPTABLE WHEN FISHED INSIDE EXISTING WALLS, OKAY FOR WHIPS UP TO 6'. EMT CONDUITS WITH CRIMP COUPLINGS AND CONDUCTORS SHALL BE USED IN ALL OTHER LOCATIONS.CONDUIT MINIMUM 3/4".
- RACEWAYS SHALL NOT BE RUN ON THE EXTERIOR OF BUILDING OR EXPOSED IN FINISHED USER/PUBLIC AREAS.
- ALL WALLS AND PENETRATIONS SHALL BE REPAIRED AND SEALED.
- 6 ALL WIRE SIZES SHOWN ARE FOR COPPER, UNLESS OTHERWISE NOTED. WIRES #10 OR LESS SHALL BE SOLID.
- RECEPTACLE AND SWITCH COVER PLATES SHALL BE STAINLESS STEEL, DEVICES SHALL BE WHITE.
- EC TO PROVIDE DATA BOXES WHERE SHOWN WITH CONDUIT, CABLES, AND DEVICES.
- ALL SPARE BREAKERS SHALL BE TURNED OFF AND LABELED "SPARE" ON DIRECTORY CARD.
- 10 PROVIDE ALL CONDUIT AND WIRE TERMINATIONS TO EQUIPMENT.
- 11 DO NOT USE "WIRE TIES" TO SUPPORT CONDUIT OR BOXES.
- 12 THE ENGINEER HAS ATTEMPTED TO PROVIDE A COMPLETE DESIGN, COMPLIANT WITH ALL CODES. THE CONTRACTOR IS STILL RESPONSIBLE FOR MAKING MINOR ADJUSTMENTS TO MEET CODES AND THE DESIGN INTENT.





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