

ALF SORENSEN COMMUNITY CENTER - MINASIUM AIR HANDLER COIL REPLACEMENT



ALF SORENSON COMMUNITY
CENTER
1400 BARING BLVD
SPARKS, NV 89434



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VICINITY MAP

PWP-WA-2026-486
BID# 26/27/001

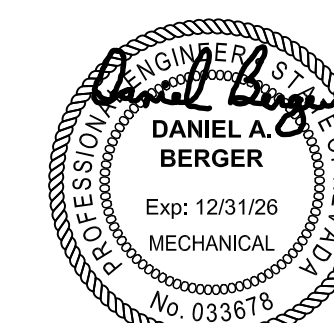
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DATE: 05/15/2026

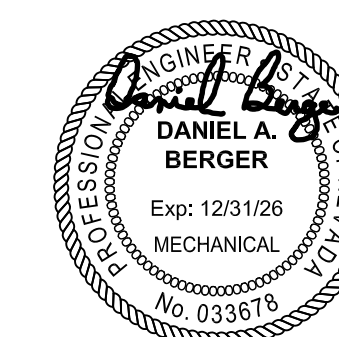
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CITY OF SPARKS

ALF SORENSEN
GYMNASIUM AIR
HANDLER COIL
REPLACEMENT

1400 BARING BLVD,
SPARKS NV 89434

CLIENT PROJECT INFO

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NO:	DATE	DRAWING ISSUE DESCRIPTION
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DESIGNED BY:

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DATE: 5/15/2026

PROJECT NO: 192079028

FILENAME: _____

TITLE SHEET

T0.1

DX COOLING COIL SCHEDULE														
MARK	REFRIGERANT TYPE	REFRIGERANT CHARGE	SUPPLY FAN AIRFLOW	MAX APD	COOLING COIL					ASSOCIATED UNIT	WEIGHT (LBS)	MANUFACTURER	MODEL	
					SENS CAP (MBH)	TOTAL CAP (MBH)	EAT		LAT					
							DB (°F)	WB (°F)	DB (°F)					WB (°F)
CC-1	R454B	7.22 lb	20000 CFM	0.25 in-wg	494.4	494.4	78.6	57.6	51.6	47.3	CU-2	785	RAE COILS	38D45x118-12-4-W-F-R

HOT WATER COIL SCHEDULE													
MARK	FLUID TYPE	FLUID FLOW (GPM)	SUPPLY FAN AIRFLOW	MAX FLUID PRESSURE DROP	SENS CAP (MBH)	HEATING WATER COIL				ASSOCIATED UNIT	WEIGHT (LBS)	MANUFACTURER	MODEL
						AIR		WATER					
						EAT DB (°F)	LAT DB (°F)	EWLT (°F)	LWT (°F)				
HWC-1	WATER	20.00 lb	20000 CFM	6.05 in-wg	523.9	59.9	83.6	180.0	126.6	B-1	150	RAE COILS	58W45x118-10-1-W-Q-R

OUTDOOR CONDENSING UNIT SCHEDULE															
NOTES: 1. REFRIGERANT SHALL BE R-454B															
MARK	TOTAL CAPACITY (MBH)	COOLING				VOLTAGE	PHASE	HZ	ELECTRICAL		ASSOCIATED UNIT	WEIGHT (LBS)	MANUFACTURER	MODEL	NOTES
		SUMMER AMBIENT		EER	REFRIGERANT TYPE				MCA	MOCp					
		DB (°F)	WB (°F)												
CU-2	460.7	96.9	61.3	9.9	R454B	460 V	3	60	78 A	90 A	AHU-2	2500	AAON	CFA-040	1

FAN SCHEDULE														
NOTES: 1. PROVIDE RUBBER IN SHEAR ISOLATION AND ALL-THREAD HANGING RODS. 2. FAN TO BE SPARK B RESISTANT. 3. PROVIDE WITH FACTORY MOTOR WITH CAPACITOR START. 4. FANS TO BE OPERATED VIA WALL MOUNTED MOTION SENSOR OR IF REFRIGERANT IS DETECTED VIA THE REFRIGERANT MONITORING SYSTEM. 5. PROVIDE WITH OPD MOTOR ENCLOSURE AND NEMA PREMIUM EFFICIENCY. 6. PROVIDE WITH FACTORY NEMA-3R TOGGLE TYPE DISCONNECT SWITCH, SHIPPED LOOSE. 7. FAN TO BE MOUNTED VERTICALLY WITH MANUFACTURER'S MOUNTING KIT. 8. CONTROL CONTRACTOR TO PROVIDE AND INSTALL R454B REFRIGERANT DETECTOR AND INTERLOCK WITH EF TO PURGE WHEN REFRIGERANT IS DETECTED.														
MARK	LOCATION	MOUNTING	AIRFLOW (CFM)	ESP (IN W.C.)	FAN RPM	DRIVE	ELECTRICAL				WEIGHT	MANUFACTURER	MODEL	NOTES
							VOLTAGE	PHASE	HZ	MOTOR HP				
EF-1	MECHANICAL ROOM	INLINE - VERTICAL	860	0.20	871	BELT	460 V	3	60	0.3	150 lb	GREENHECK	QEI-12	1-7

SEQUENCE OF OPERATION

SEQUENCE WHEN PERSONNEL ARE PRESENT:

1. MOTION DETECTOR TO ACTIVATE FAN (EF-1)
2. FAN (EF-1) TO SHUT FOWN AFTER 15 MINUTES (ADJUSTABLE) OF NO MOTION.

SEQUENCE UPON REFRIGERATION DETECTION:

1. REFRIGERATION MONITOR TO ACTIVATE FAN (EF-1) UPON DETECTION OF REFRIGERANT FROM ANY SAMPLING PORT.
2. FAN (EF-1) TO SHUT DOWN AFTER REFRIGERATION MONITOR NO LONGER DETECTS THE PRESENCE OF REFRIGERATION.

REFRIGERANT VENTILATION CALCULATION

VENTILATION RATE WHEN PERSONNEL ARE PRESENT:	
RATE:	50 CFM / SQUARE FOOT
ROOM AREA:	1718 SQUARE FEET
VENTILATION REQUIRED:	859 CFM

VENTILATION UPON REFRIGERANT DETECTION:
FORMULA (ASHRAE 15 - SECTION 8.9.8.2): $Q = 100 * G^{0.5}$, WHERE Q IS THE AIRFLOW AND G IS THE MASS (LBS) OF REFRIGERANT IN THE LARGEST REFRIGERATION SYSTEM LOCATED IN THE MECHANICAL ROOM.

MASS OF REFRIGERANT (G):	7.22 LBS
VENTILATION REQUIRED (Q):	269 CFM

FAN SELECTED FOR 860 CFM TO SATISFY BOTH CODE REQUIREMENTS.

CALCULATION BASED ON:

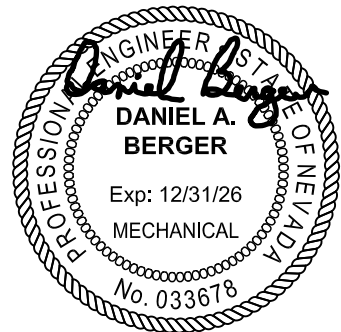
- ASHRAE 15-2024 - SAFETY STANDARDS FOR REFRIGERATION SYSTEMS

1. SECTION 8.9.8 - VENTILATION AIRFLOW FOR MACHINERY ROOMS



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ALF SORENSEN GYMNASIUM AIR HANDLER COIL REPLACEMENT

CLIENT PROJECT INFO

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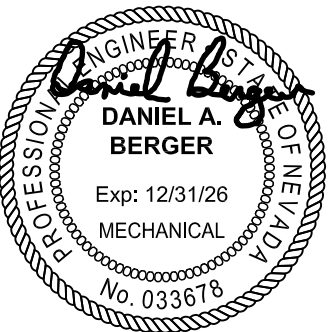
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FILENAME:

M0.2

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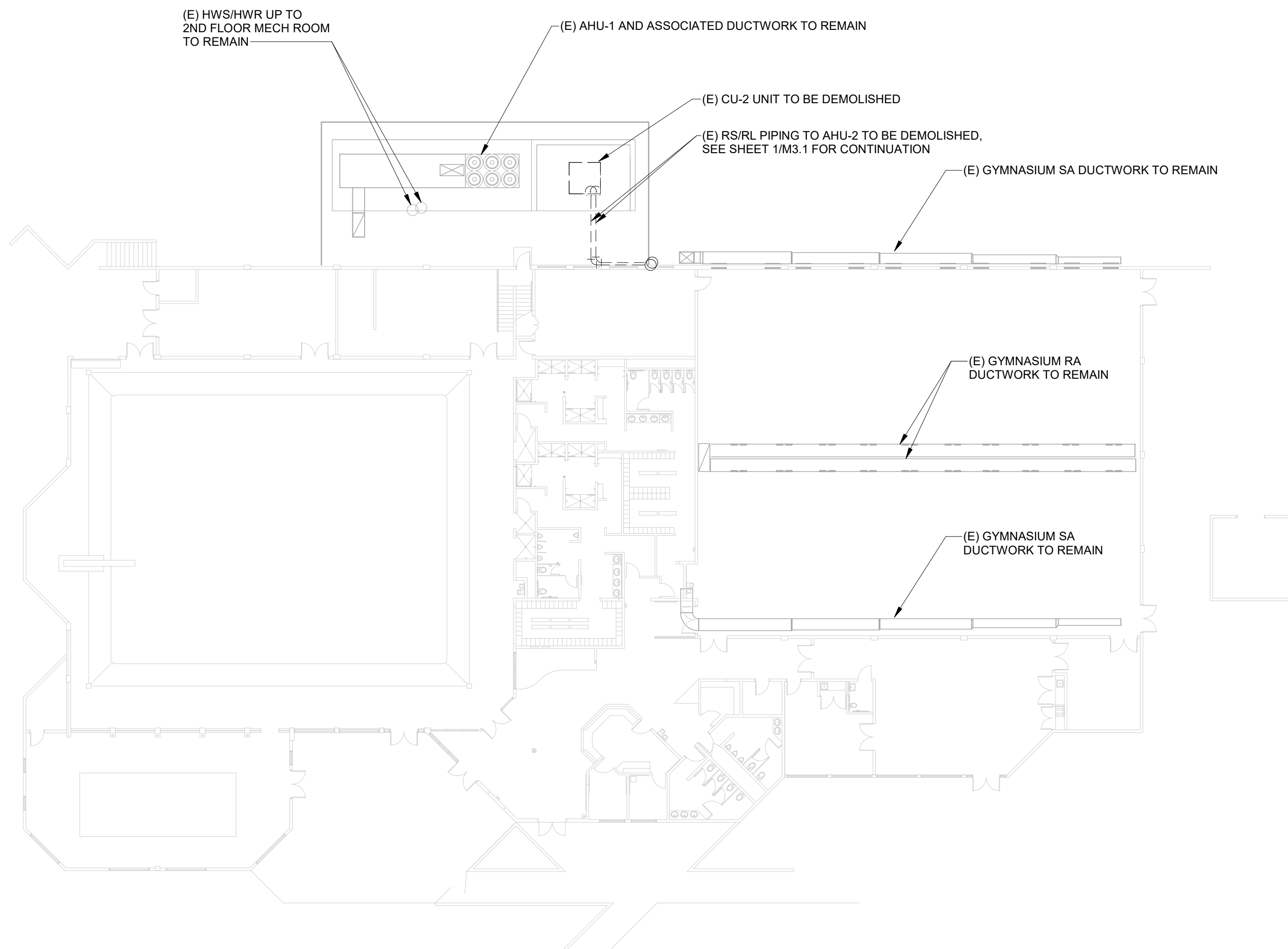
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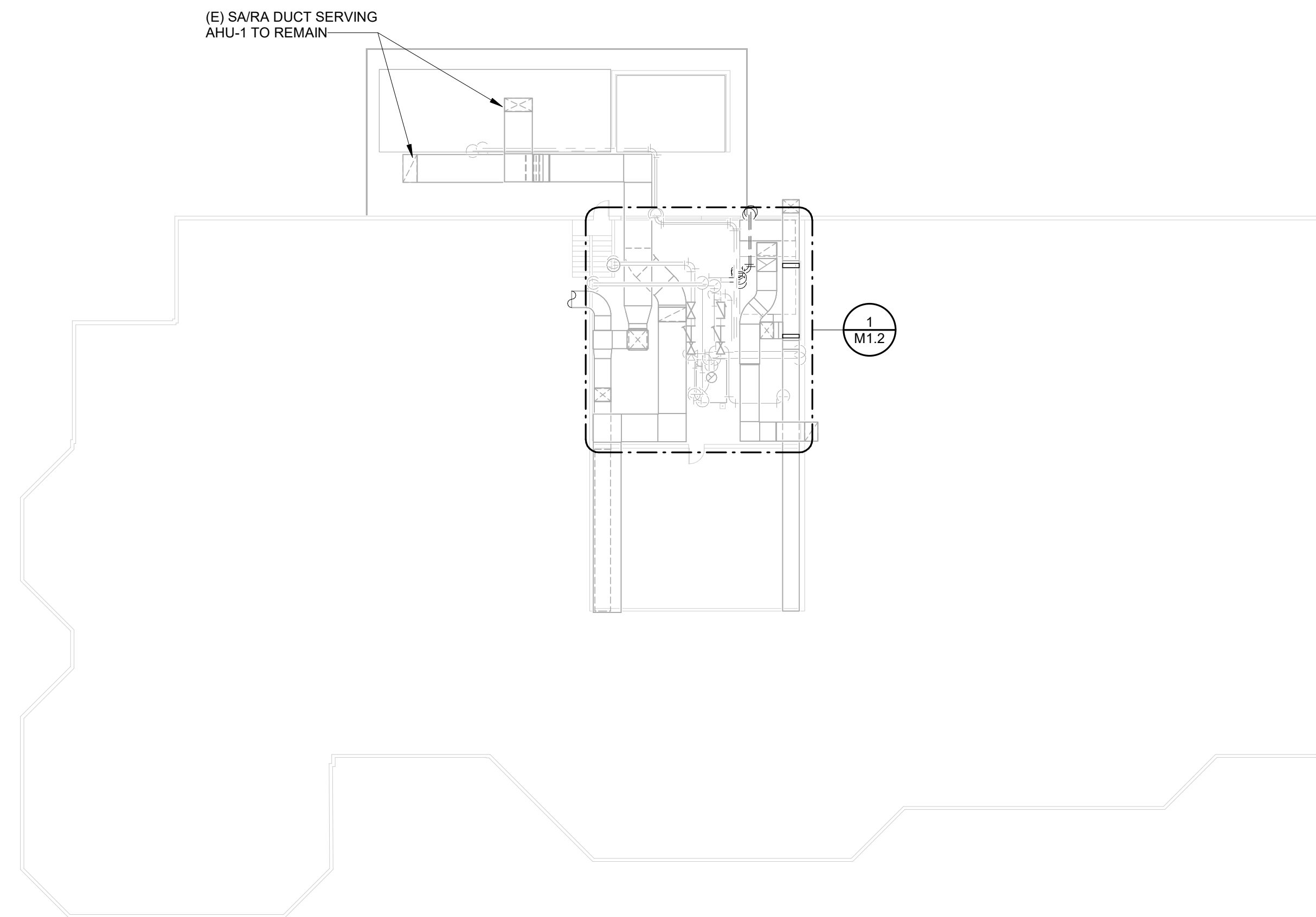
FILENAME:

MECHANICAL OVERALL DEMOLITION PLAN

M1.1



1 MECHANICAL DEMO PLAN - LEVEL 1



2 MECHANICAL DEMO PLAN - LEVEL 2

SHEET KEYNOTES

M02 (E) 1-1/2" HWS/HWR PIPING TO AIR HANDLER TO BE DISCONNECTED AND PREPARED FOR RECONNECTION TO NEW HOT WATER COIL. EXISTING HOT WATER COIL TO BE REMOVED FROM UNIT. UNIT TO BE PREPARED FOR NEW HOT WATER COIL INSTALLATION.

M04 (E) SA AND RA DUCT SERVING AHU-1 TO REMAIN, SHOWN FOR REFERENCE ONLY. SEE SHEET M1.1 FOR CONTINUATION

M06 (E) DUCT WORK AND PIPING ATTACHED TO OUTDOOR AHU TO REMAIN. SEE SHEET M1.1 FOR CONTINUATION

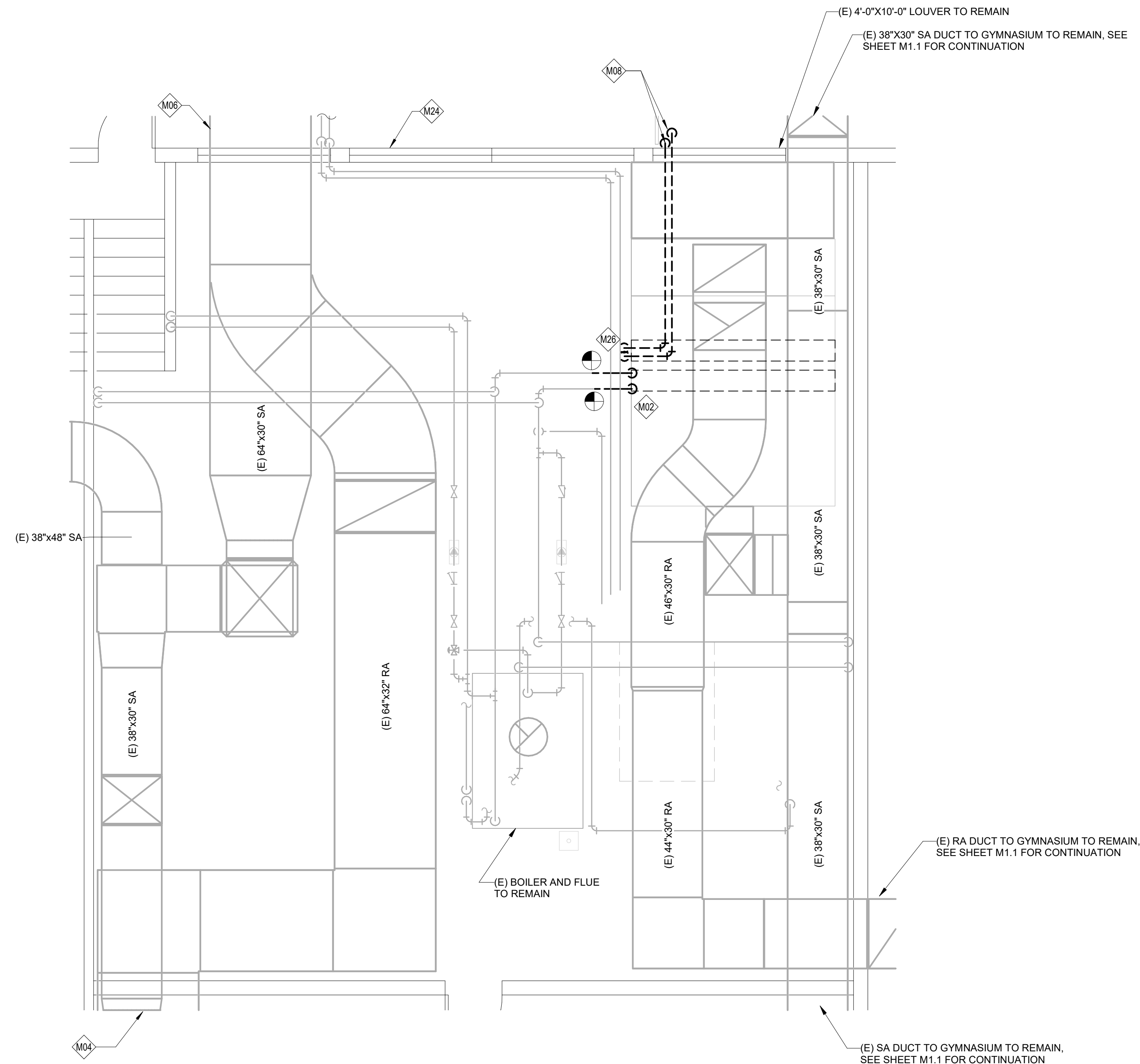
M08 (E) RS/RL PIPING DN (E) CU-2 TO BE DEMOLISHED. SEE SHEET M1.1 FOR CONTINUATION

M24 14" X 7'-0" HINGED LOUVER TO OPEN FOR UNIT INSTALL AND REMOVAL.

M26 (E) REFRIGERANT LINES AND COOLING COIL TO BE REMOVED FROM UNIT. UNIT TO BE PREPARED FOR INSTALLATION OF NEW COOLING COIL.

GENERAL NOTES:

1. CONTRACTOR TO CONFIRM NEW COIL SIZE PRIOR TO DEMOLITION



MECHANICAL ENLARGED DEMO PLAN - MECHANICAL ROOM LEVEL 2

1/4" = 1'-0"

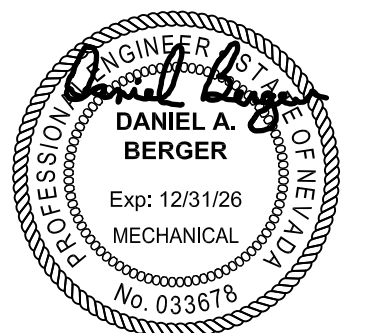
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MECHANICAL
ENLARGED
DEMOLITION PLAN

M1.2

 SHEET KEYNOTES

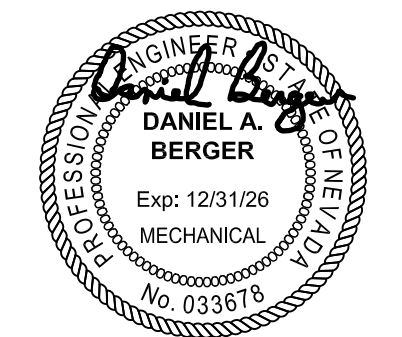
M10 (E) SA TERMINAL, 1000 CFM (TYP. 10)
M11 (E) RA TERMINAL, 1000 CFM (TYP. 20)



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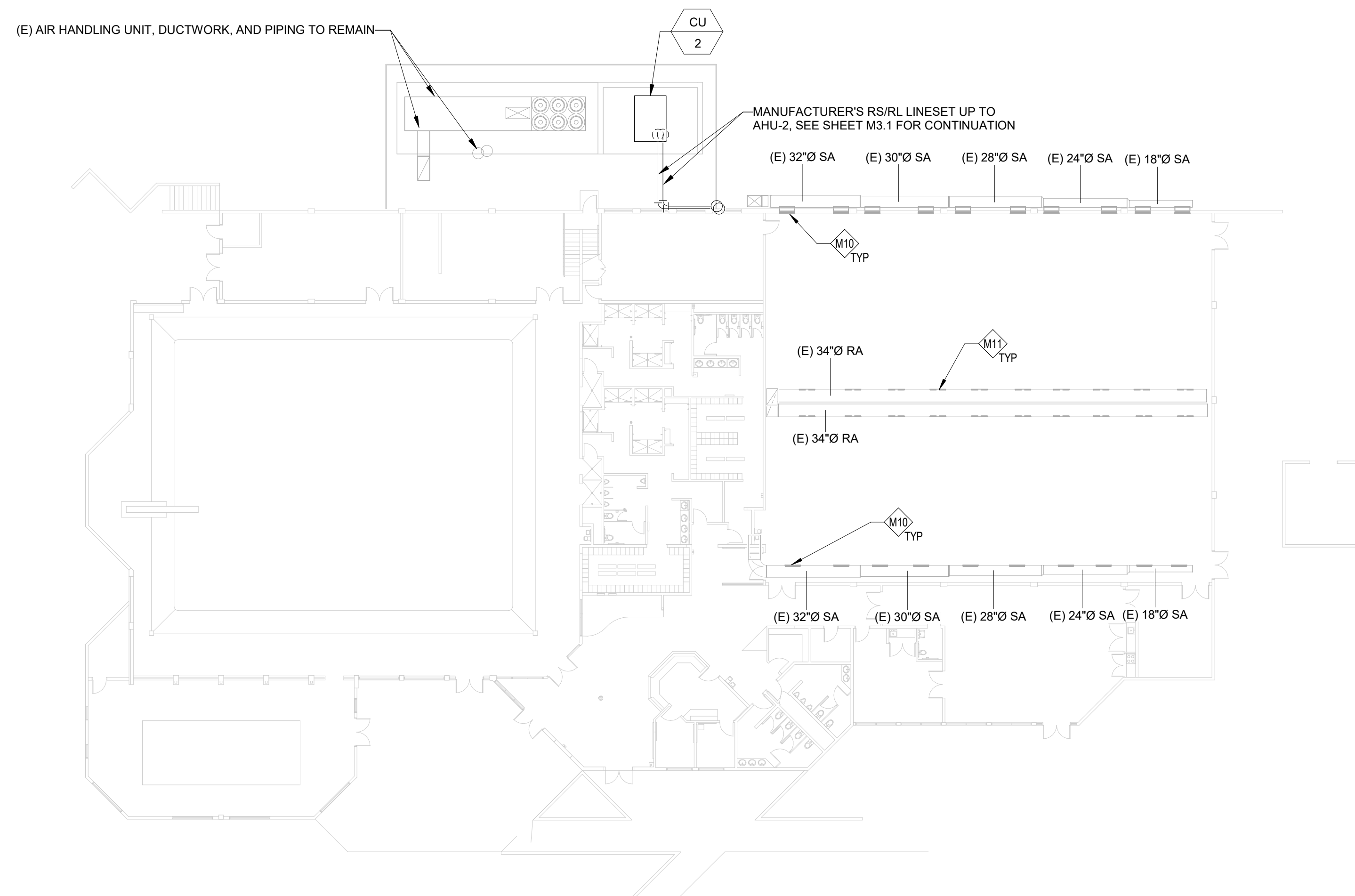
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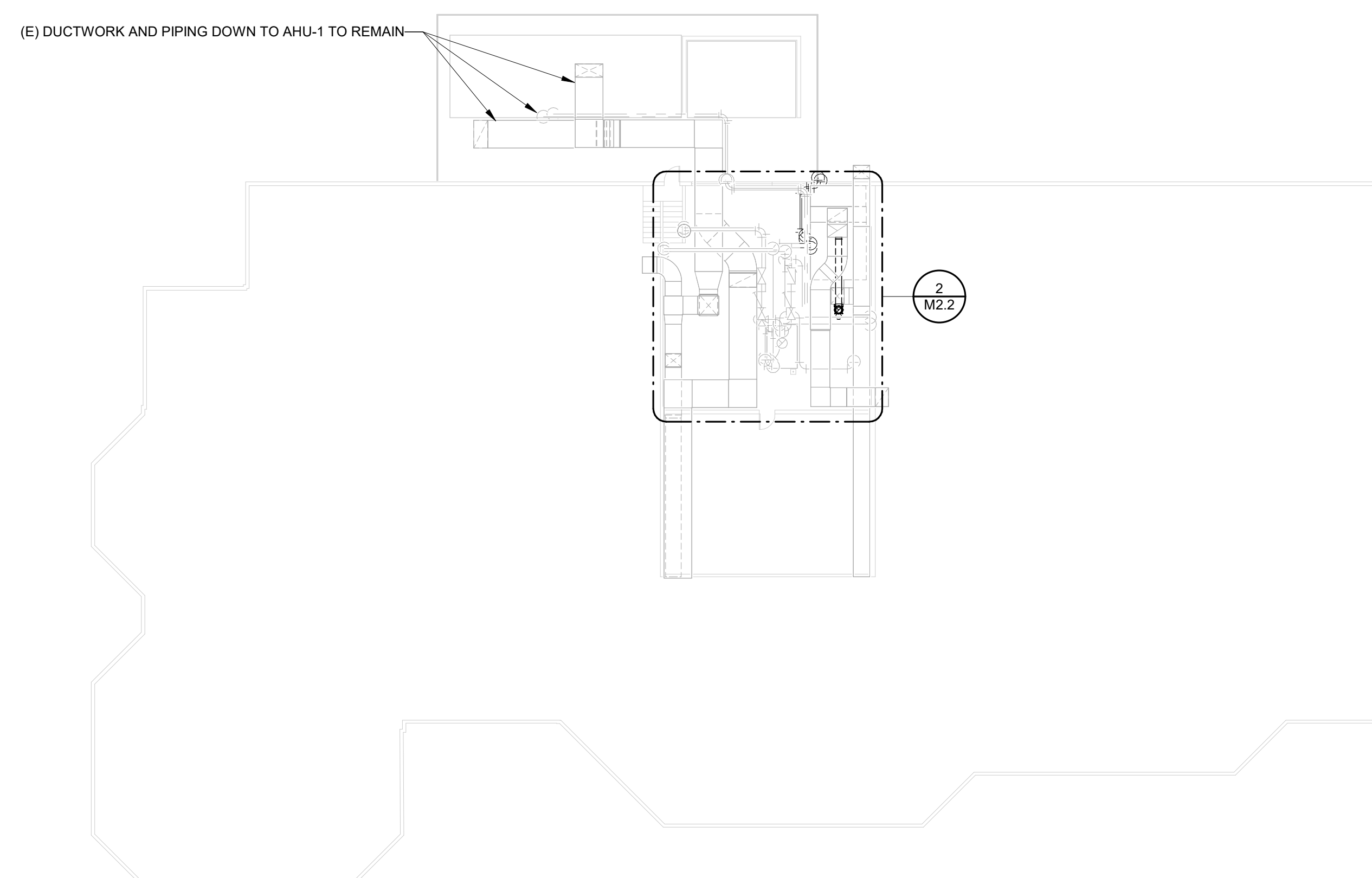
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FILENAME: _____

MECHANICAL
OVERALL FLOOR
PLAN

M2.1



1 MECHANICAL FLOOR PLAN - LEVEL 1



2 MECHANICAL FLOOR PLAN - LEVEL 2

M12 (E) SA AND RA DUCT SERVING AHU-1 TO REMAIN, SHOWN FOR REFERENCE ONLY. SEE SHEET M2.1 FOR CONTINUATION

M16 (E) DUCT WORK AND PIPING ATTACHED TO OUTDOOR AHU-1 TO REMAIN, SHOWN FOR REFERENCE ONLY. SEE SHEET M2.1 FOR CONTINUATION

M17 MANUFACTURER'S 1-5/8" RS AND 7/8" RL LINESET ROUTED TO AHU-2 FROM CU-2

M19 14"x14" EA DUCT, TERMINATE 12" AFF AND COVER OPENING WITH BIRD SCREEN. INTERLOCK EF-1 TO ACTIVATE OUTSIDE AIR MOTORIZED DAMPER.

M20 14"x14" EA DUCT FROM EF-1 TO TAP INTO AHU-2 EXHAUST DUCT

M21 REFRIGERANT MONITORING SYSTEM SAMPLING POINT FROM MONITOR, ROUTE WITH 1/2" CONDUIT DOWN TO 12" AFF

M22 CHILLGARD 5000 REFRIGERANT MONITOR WITH FOUR MONITORING PORTS. CONTROL CONTRACTOR TO PROVIDE AND INSTALL RA548 REFRIGERANT DETECTOR AND INTERLOCK WITH EF-1 TO PURGE WHEN REFRIGERANT IS DETECTED.
ELECTRICAL: 120V/1, 200 VA
PROVIDE WITH MANUFACTURER'S
OPTIONAL HORN AND STROBE.

M24 14"-0" X 7'-0" HINGED LOUVER TO OPEN FOR UNIT INSTALL AND REMOVAL.

M27 INSTALL NEW COOLING COIL IN (E) AIR HANDLING UNIT. CONNECT NEW REFRIGERANT LINES PER MANUFACTURER INSTALLATION INSTRUCTIONS. RECONNECT EXISTING CONDENSATE TO NEW COOLING COIL DRIP PAN AS REQUIRED.

M28 INSTALL NEW HEATING WATER COIL IN (E) AIR HANDLING UNIT. CONNECT 1/2" HWY AND HWS PIPING PER TO COIL.

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MECHANICAL
ENLARGED FLOOR
PLAN

[illegible]

2 ROOM
1/4" = 1'-0"

$$1/4'' = 1'-0''$$

 SHEET KEYNOTES

D02	EXISTING CU-2 TO BE REMOVED. ELECTRICAL DISCONNECTING MEANS ASSOCIATED WITH UNIT TO BE DEMOLISHED.
E01	(P) CU-2. USE EXISTING (4) #1/0 AWG CU AND (1) #6 AWG CU GND MADE AVAILABLE FROM DEMOLITION OF (E) CU-2 TO CIRCUIT NEW EQUIPMENT TO (E) HDP. RELIABLE CIRCUIT DIRECTORY AS REQUIRED.

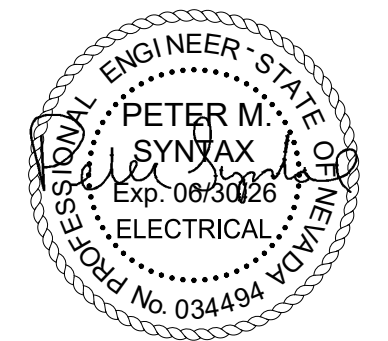
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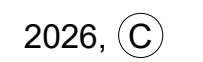
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ELECTRICAL FLOOR PLAN - LEVEL 1

E1.1

1 ELECTRICAL DEMO PLAN - LEVEL 1

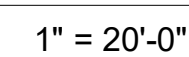
2 ELECTRICAL FLOOR PLAN - LEVEL 1



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E1.2



XXX-XX	FEEDER RATING (A)	CONDUCTOR MATERIAL (AL/CU)	# OF SETS	PHASE CONDUCTORS (AWG/KCMIL)	NEUTRAL CONDUCTOR (N) (AWG/KCMIL)	EQUIPMENT GROUND CONDUCTOR (AWG/KCMIL)	GROUNDING ELECTRODE (AWG/KCMIL)	BONDING JUMPER (AWG/KCMIL)	CONDUIT SIZE (IN) (30+IN-EG)
C150-4	150 A	CU	1	3 # 1/0	1 # 1/0	1 # 6	-	-	2"
C380-3	400 A	CU	1	2 # 500	1 # 500	1 # 3	-	-	4"

1. ALL FEEDERS AND GROUNDS SHALL BE COPPER.
2. FEEDER SIZE SHALL BE ADJUSTED AS REQUIRED BY CODE FOR VOLTAGE DROP BASED ON ACTUAL FEEDER LENGTH.
3. NEUTRALS ARE SHOWN AT 100% OF THE ASSUMED CONNECTED LOAD. FIELD VERIFY ACTUAL LOADS AND SIZE NEUTRALS BASED ON TOTAL UNBALANCED CONNECTED LOAD PER N.E.C.
4. FEEDERS ARE BASED ON THINW WIRE AND EMT CONDUIT. 60" CIRCULAR; 75° C>=100A
5. EG CONDUCTORS BASED ON N.E.C. TABLE 250.122
6. GC CONDUCTORS BASED ON N.E.C. TABLE 250.66

1. 1600NG=(4) SETS OF 3 #600 KCMIL PHASE CONDUCTORS + 1 #600 KCMIL NEUTRAL CONDUCTOR + 1 #4/0 GROUND CONDUCTOR (PER SET).

LOCATION: SEE FLOOR PLAN				VOLTS: 480/277 Wye				A.I.C. RATING: 14K					
SUPPLY FROM: (E) HDP				PHASES: 3				MAINS TYPE: MCB					
MOUNTING: SURFACE				WIRES: 4				MAINS RATING: 225 A					
ENCLOSURE: NEMA 1								MCB RATING: 225 A					
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	(E) 120,122,124,128	20 A	1	1300 VA	2600 VA					1	20 A	(E) 114,116,118	2
3	(E) 121,123,125,126,127	20 A	1			1500 VA	525 VA			1	20 A	(E) 106,108	4
5	(E) 111 GYM	20 A	1					2000 VA	600 VA	1	20 A	(E) 200	6
7	(E) 111 GYM	20 A	1	3200 VA	1700 VA					1	20 A	(E) 102,103,105,107,113	8
9	(E) 111 GYM	20 A	1			2000 VA	2900 VA			1	20 A	(E) 113,115,117	10
11	(E) 110 NAT	20 A	1					3000 VA	0 VA	1	20 A	(E) SPARE	12
13	(E) 110 NAT	20 A	1	3000 VA	0 VA					1	20 A	(E) SPARE	14
15	(E) 110 NAT	20 A	1			3000 VA	0 VA			1	20 A	(E) SPARE	16
17	(E) 110 DIVING	20 A	1					2800 VA	0 VA	1	20 A	(E) SPARE	18
19	(E) 110 DIVING	20 A	1	1000 VA	0 VA					1	20 A	(E) SPARE	20
21	(E) 100 LOBBY	20 A	1			175 VA	1200 VA			1	20 A	(E) COVE	22
23	(E) 100 LOBBY	20 A	1					2025 VA	0 VA	1	20 A	(E) SPARE	24
25	(E) SPARE	20 A	1	0 VA	0 VA					1	20 A	(E) SPARE	26
27	(E) SPARE	20 A	1			0 VA	0 VA			1	20 A	(E) SPARE	28
29	(E) SPARE	20 A	1					0 VA	0 VA	1	20 A	(E) SPARE	30
31				10198 VA	305 VA								32
33	(E) AHU-2	40 A	3			10198 VA	305 VA			3	15 A	EF-1	34
35								10198 VA	305 VA				36
37	(E) EMERG LTS	20 A	1	1000 VA	700 VA					1	20 A	(E) EXIT LTS	38
39	(E) 111 GYM	20 A	1			400 VA	1000 VA			1	20 A	(E) 110 NAT	40
41	(E) WALKWAY LTS	20 A	1					2000 VA	1300 VA	1	20 A	(E) BLDG LTS	42
TOTAL LOAD:				25003 VA		23203 VA		24228 VA					
TOTAL AMPS:				91 A		84 A		88 A					
LOAD CLASSIFICATION				CONNECTED LOAD		DEMAND FACTOR		EST. DEMAND		PANEL TOTALS			
HVAC				915 VA		100.00%		915 VA					
Motor				30595 VA		125.00%		38244 VA		TOTAL CONN. LOAD:		72435 VA	
LIGHTING				40925 VA		125.00%		51156 VA		TOTAL EST. DEMAND:		90315 VA	
										TOTAL CONN.:		87 A	
										TOTAL EST. DEMAND:		109 A	
NOTES:													

D02 EXISTING CU-2 TO BE REMOVED. ELECTRICAL
DISCONNECTING MEANS ASSOCIATED WITH UNIT TO BE
DEMOLISHED.

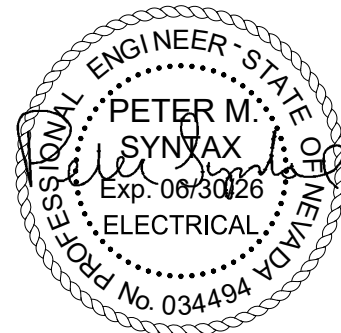
E02 (P) CIRCUIT FOR CU-2 MADE AVAILABLE FROM DEMOLITION
OF CU-2.

E04 CONTRACTOR SHALL CALCULATE THE UNKNOWN LOAD
VALUES BASED ON THE MAXIMUM DEMAND CONTINUOUSLY
RECORDED OVER A MINIMUM 30-DAY PERIOD. MAXIMUM
DEMAND SHALL BE RECORDED USING AN AMMETER OR
WATTMETER CONNECTED TO HIGHEST LOADED PHASE
OF THE FEEDER OR SERVICE. THE HIGHEST LOADED PHASE
SHALL BE BASED ON THE INITIAL LOADING AT THE START OF
THE RECORDING. THE RECORDING SHALL INCLUDE
MEASUREMENT OF ELECTRICAL LOADS ON ALL
EQUIPMENT THAT LOAD(S) THAT MAY BE PERIODIC IN NATURE
DUE TO SEASONAL OR SIMILAR CONDITIONS. THE
CONTRACTOR SHALL VERIFY THE OVERALL LOAD ON THE
PANEL WITH THE ADDITIONAL LOADS DOES NOT EXCEED
MAXIMUM PANEL LOAD PROVIDED BY THE
DIRECTOR OF PANEL SCHEDULE ONE COMPLETED.

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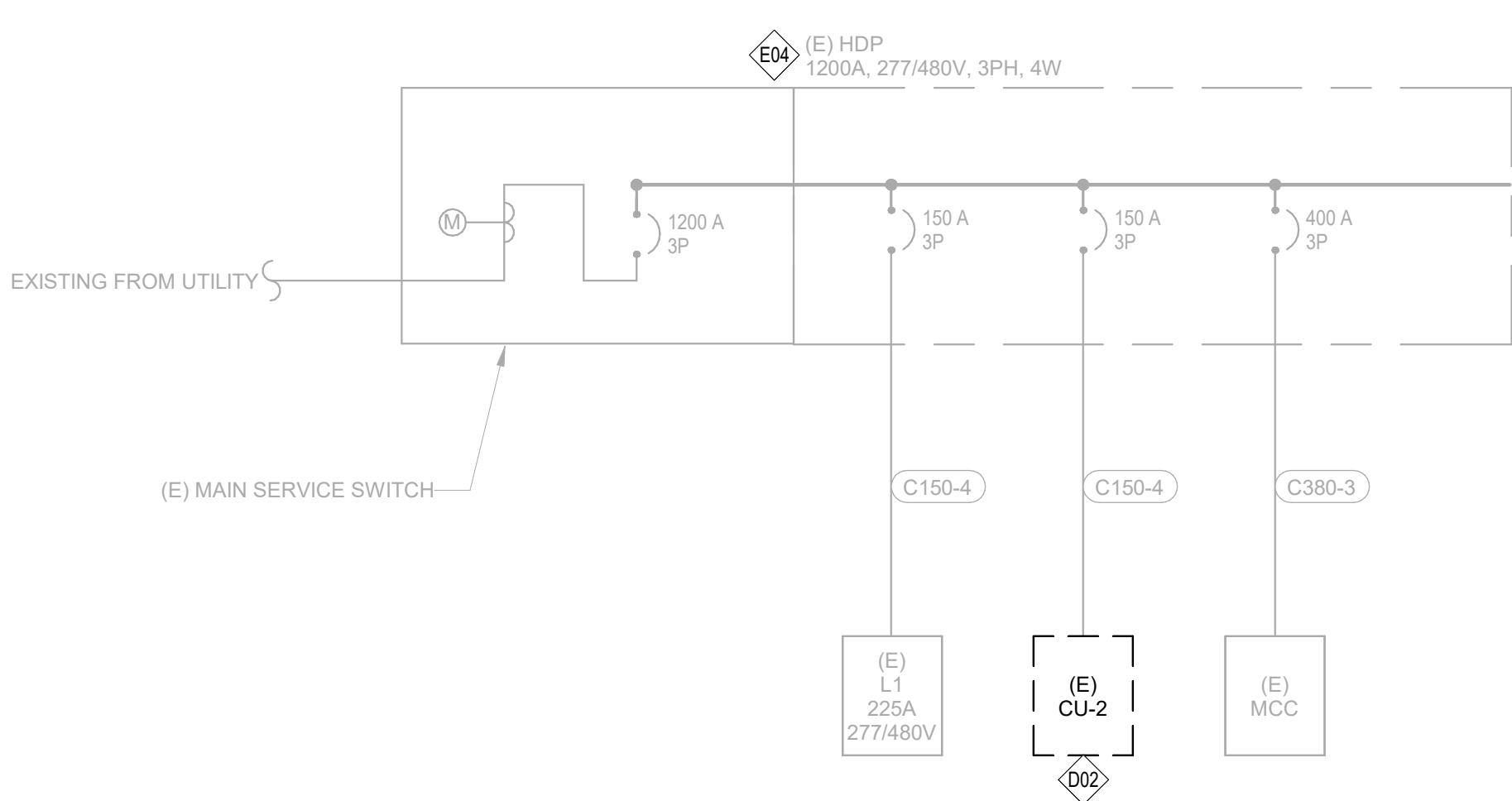
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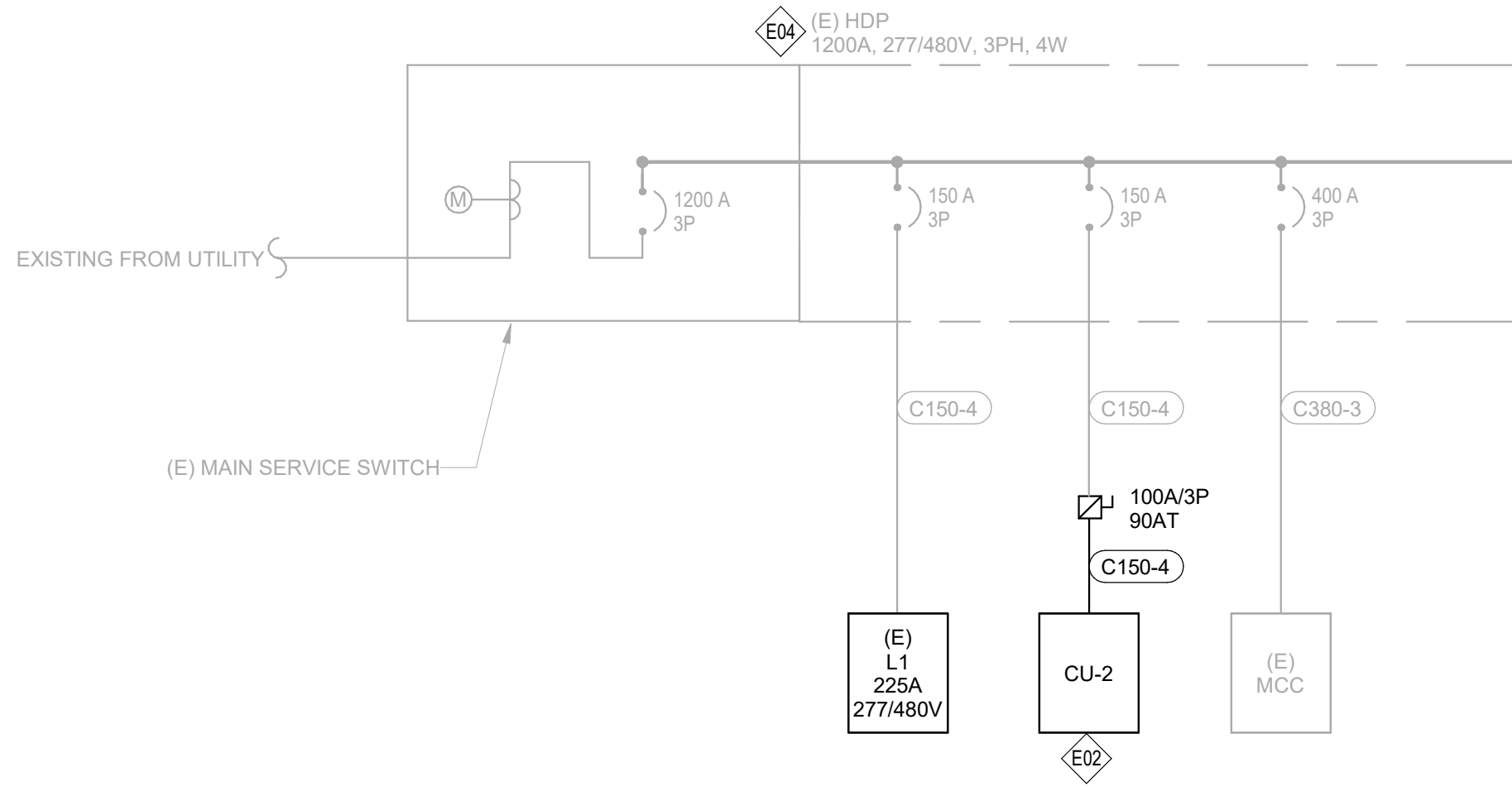
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E2.1

N.T.S



EQUIP ID	VOLTAGE / POLES-LOAD	CONDUCTOR / CONDUIT SIZE	NEMA RATING	PANEL - CIRCUIT	DISCONNECT TYPE	FLA	FRAME	FUSE	NOTES
CU-2	480 V/3-58959 VA	(4) #1/0 AWG CU + (1) #6 AWG CU GND IN 1-1/2" C.	3R	(E) HDP-3	FUSED	74 A	100 A	90 A	



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