

LOWELL HOUSING AUTHORITY
AIR HANDLER REPLACEMENT PROJECT
ARMAND P. MERCIER COMMUNITY CENTER

IFB 2024-12A MERCIER CENTER HVAC IMPROVEMENTS

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF COMMUNITIES AND DEVELOPMENT
LOWELL HOUSING AUTHORITY
350 MOODY STREET
LOWELL, MA 01854

PROJECT CONTACT

RITA BROUSSEAU, MCPPO - CHIEF PROCUREMENT OFFICER

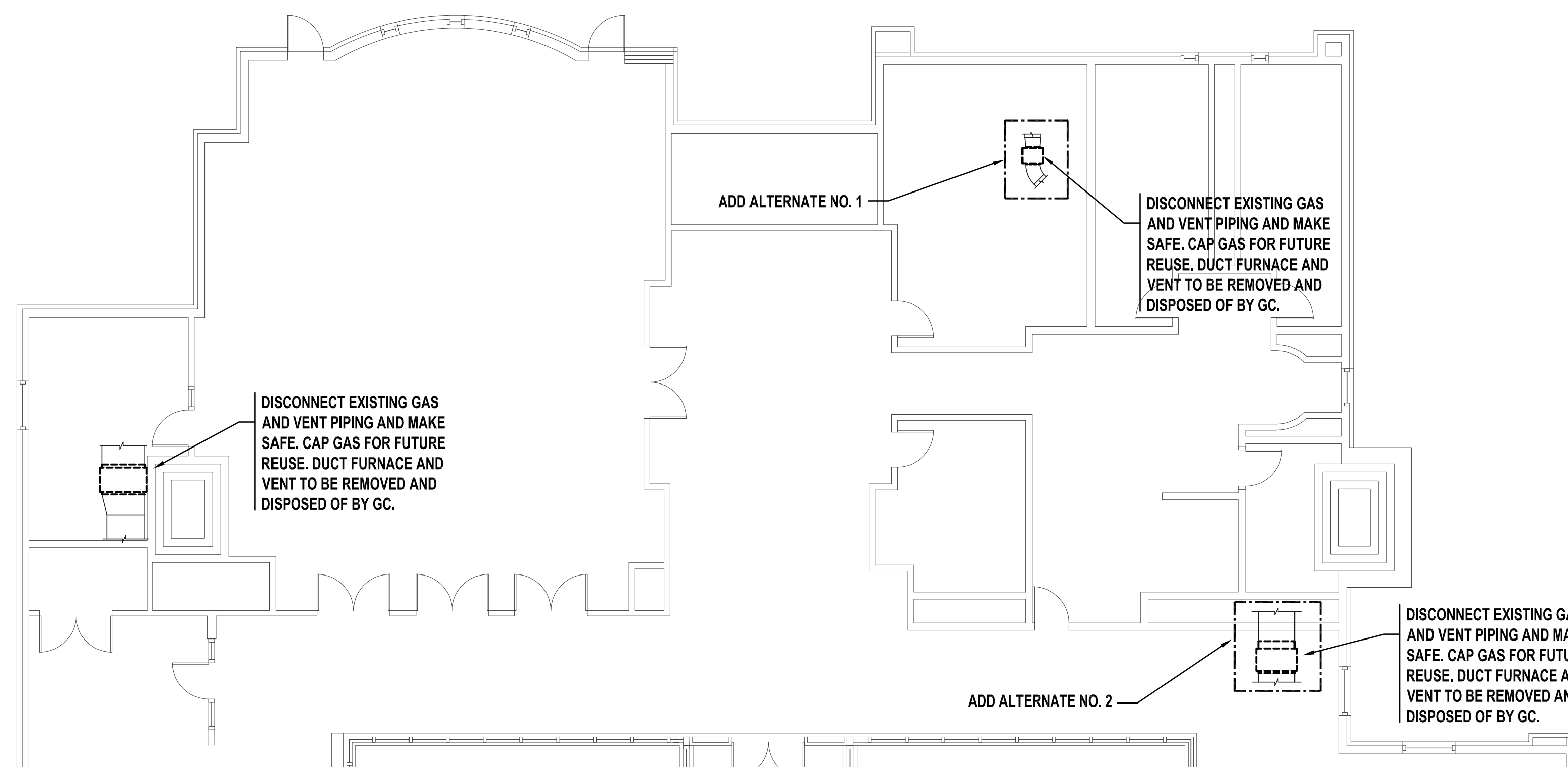
MECHANICAL ENGINEER

C.A. CROWLEY ENGINEERING, INC.
645 COUNTY STREET, UNIT 6
TAUNTON, MA 02780
TELEPHONE NO. (508) 884-5094

MAY 3, 2024

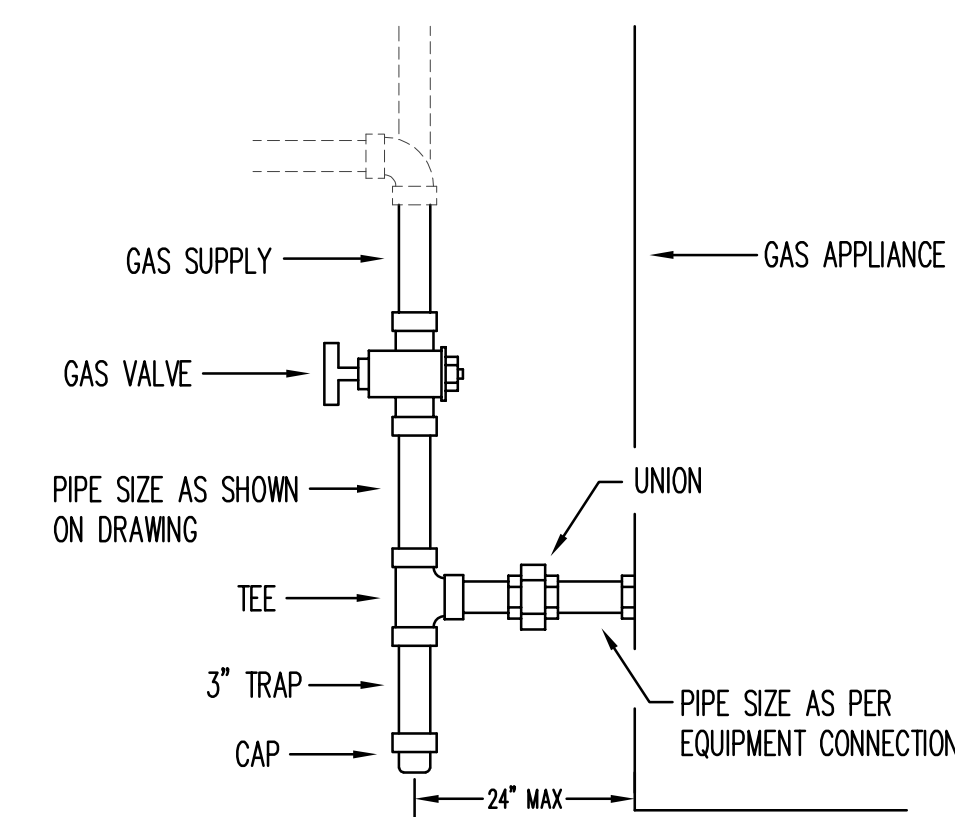
LIST OF DRAWINGS	
T-1	TITLE SHEET
<u>PLUMBING</u>	
P-1	DEMOLITION & NEW WORK PLANS
<u>MECHANICAL</u>	
M-1	FIRST FLOOR DEMOLITION & NEW WORK PLANS
M-2	LEGEND, SCHEDULES & DETAILS

T-1



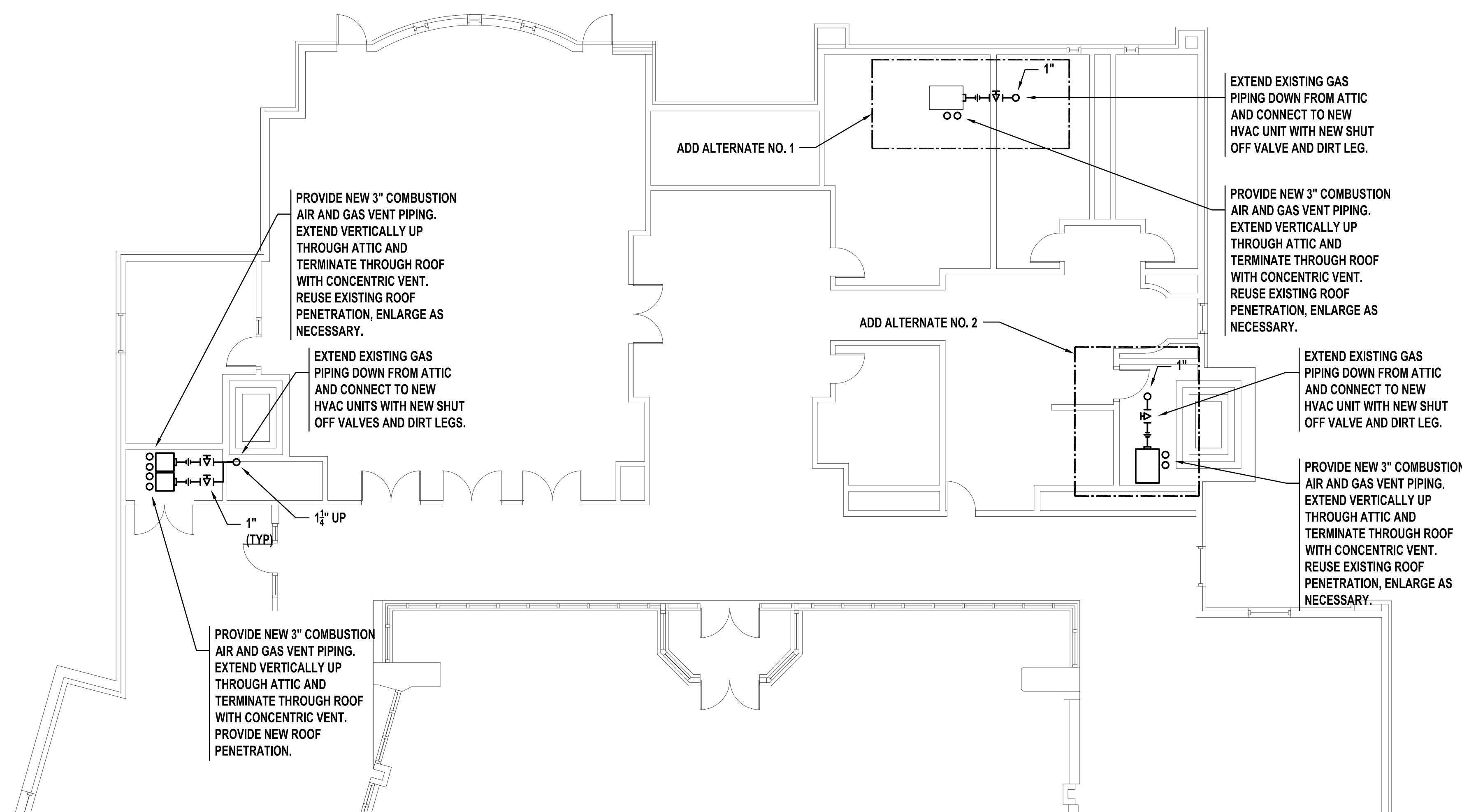
DEMOLITION FIRST FLOOR PART PLAN

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



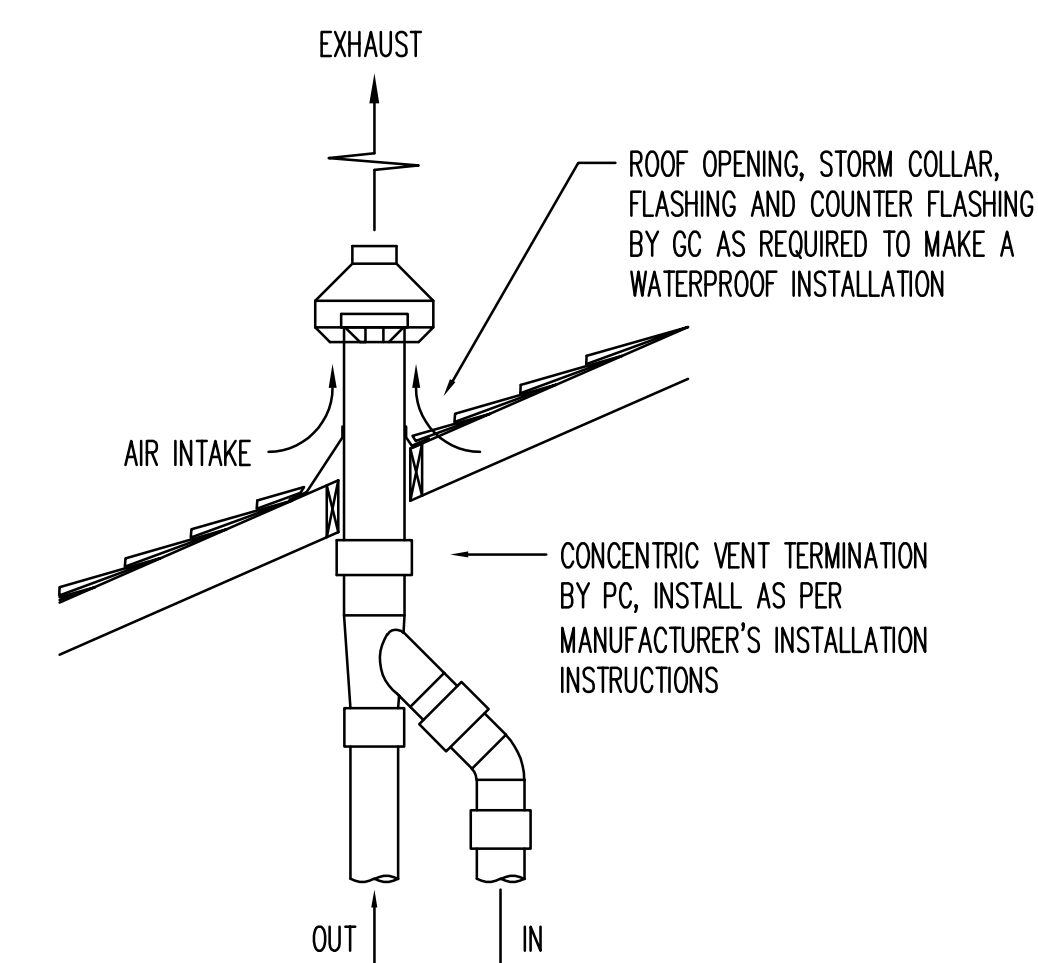
GAS CONNECTION DETAIL

NO SCALE



NEW WORK FIRST FLOOR PART PLAN

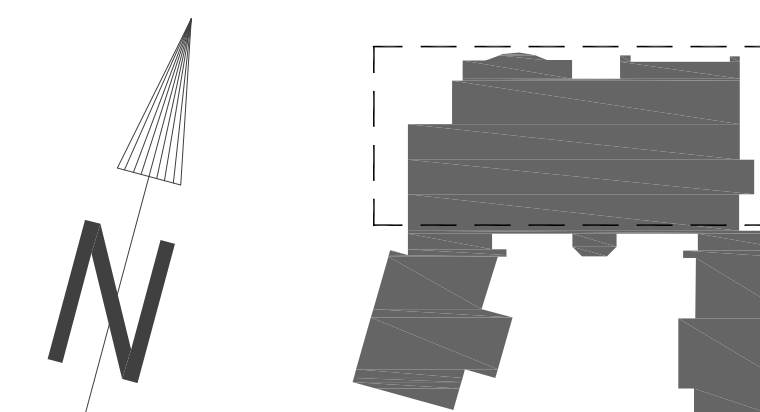
SCALE: 1/8" = 1'-0"



NOTES: 1.) DIRECT VENT SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE BOILER'S LISTING.

CONCENTRIC VENT DETAIL

NO SCALE

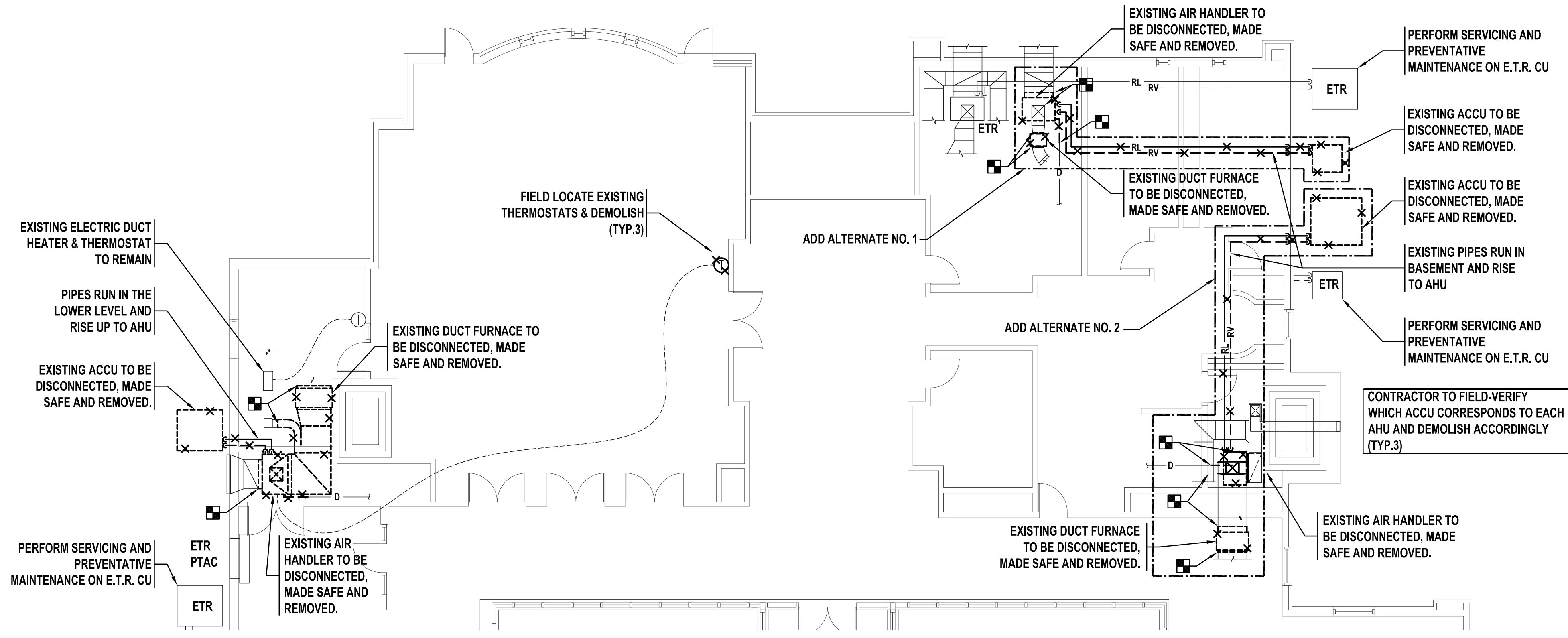


REVISION DATES	LOWELL HOUSING AUTHORITY ARMAND MERCIER COMMUNITY CENTER 21 SALEM ST, LOWELL, MA 01854 HVAC IMPROVMENTS	STAMP
05/03/2024 - ISSUED FOR BID		
	PLUMBING	
	DEMOLITION & NEW WORK PLANS	
DATE: 05/03/2024	c.a. crowley. ENGINEERING, INC. 645 County Street, Suite 6 Taunton, MA 02780 tel . (508) 884.5094 www.crowleyeng.com fax . (508) 884.5099	DRAWING NUMBER
SCALE: AS SHOWN		P-1
DRAWN BY: RCV		
CHECKED BY: RCV		
PROJECT NO. 23063.00		

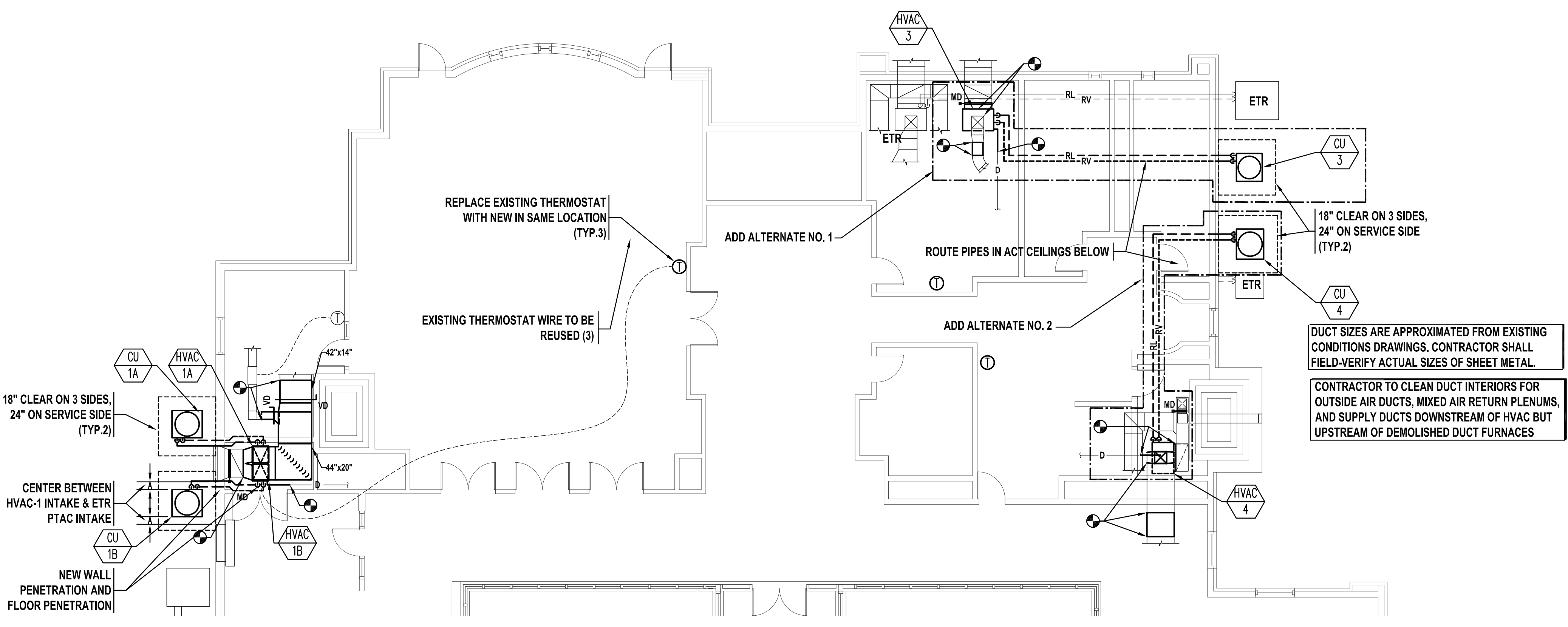
ELECTRICAL NOTES

THE GENERAL CONTRACTOR FOR THIS PROJECT SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK. ALL ELECTRICAL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.

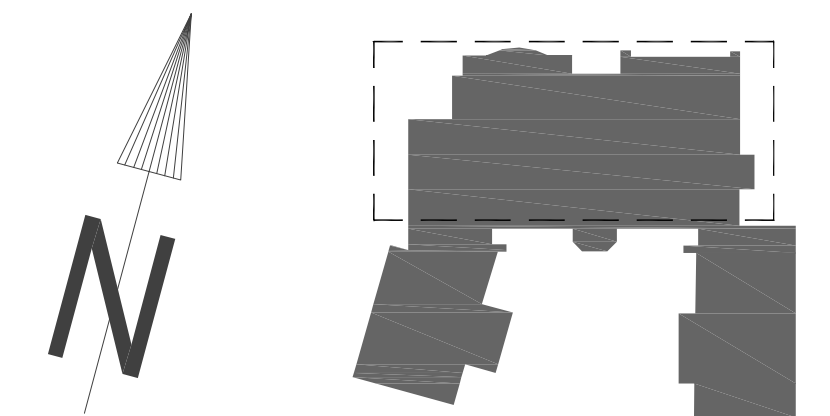
1. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO DETERMINE ALL EXISTING CONDITIONS AND WORK NECESSARY.
2. DRAWINGS ARE DIAGRAMMATIC ONLY; EXACT LOCATION, MOUNTING HEIGHTS OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED WITH THE EQUIPMENT REQUIREMENTS AND FIELD CONDITIONS.
3. THE ELECTRICAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, ALL ELECTRICAL POWER REQUIREMENTS INDICATED.
4. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE ELECTRICAL WORK COMPLETE AND READY FOR OPERATION.
5. ALL NEW INDOOR WIRING SHALL BE INSTALLED IN ELECTRIC METALLIC TUBING AND ALL NEW EXTERIOR WIRING SHALL BE INSTALLED IN INTERMEDIATE METAL CONDUIT UNLESS NOTED OTHERWISE, PROVIDE MINIMUM SIZE OF 3/4" DIAMETER.
6. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH OSHA, THE MASSACHUSETTS ELECTRICAL CODE AND LOCAL GOVERNING AUTHORITIES. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.
7. ALL CABLE AND CONDUIT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE.
8. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL MANUFACTURER'S SHOP DRAWINGS FOR EXACT LOCATION AND ROUGH-IN DIMENSIONS OF ALL EQUIPMENT AND SHALL MAKE ALL FINAL CONNECTIONS AS REQUIRED.
9. FLEXIBLE CONDUIT SHALL BE USED FOR CONNECTING RIGID CONDUIT TO A MOTOR TERMINAL BOX. IT SHALL BE THE SAME SIZE AS THE RIGID CONDUIT CONTAINING THE MOTOR LEADS. A JUMPER WIRE SHALL BE INSTALLED BETWEEN THE RIGID CONDUIT AND THE MOTOR FRAME TO INSURE A POSITIVE GROUND CONNECTION. THIS GROUND WIRE SHALL BE #4 AWG UNLESS OTHERWISE NOTED.
10. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE 98 PERCENT CONDUCTIVITY COPPER MINIMUM #12 AWG SIZE, THWN INSULATION, 75 DEGREE C., RATED 600 VOLTS, UNLESS OTHERWISE NOTED.
11. ALL ELECTRICAL WORK RELATED TO THE MECHANICAL EQUIPMENT NOTED ON THE DRAWINGS SHALL BE DONE BY THE LICENSED ELECTRICIAN. THE LICENSED ELECTRICIAN SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR ALL WORK CONCERNING EXISTING MECHANICAL AND ELECTRICAL EQUIPMENT AND SERVICES IN THE BUILDING.
12. GROUND CONDUCTORS SHALL BE SIZED FROM MASSACHUSETTS ELECTRICAL CODE GROUNDING CONDUCTOR TABLE 250-122. A GROUND WIRE SHALL BE INCLUDED IN ALL BRANCH CIRCUITS.
13. DISCONNECT AND MAKE SAFE THE EXISTING GAS-FIRED FURNACE. PROVIDE NEW WIRING AND DISCONNECT SWITCH FOR NEW GAS FIRED FURNACE AND RECONNECT TO EXISTING CIRCUIT WIRING PREVIOUSLY CONNECTED TO THE REMOVED GAS-FIRED FURNACE. PROVIDE NEW CIRCUIT WIRING AS REQUIRED.
14. PROVIDE NEW EMERGENCY SHUT OFF SWITCH CONTROL FOR THE NEW GAS-FIRED FURNACE. PROVIDE NEW WIRING AND EMERGENCY SHUT OFF SWITCH CONTROL FOR THE NEW GAS-FIRED FURNACE ON THE OUTSIDE OF THE EXISTING MECHANICAL ROOM. COORDINATE EXACT LOCATION WITH THE HOUSING AUTHORITY FOR EASE OF ACCESS AND CONTROL PRIOR TO INSTALLATION.
15. DISCONNECT AND MAKE SAFE THE EXISTING AIR COOLED CONDENSING UNIT. PROVIDE A NEW 240V-30 AMP GENERAL DUTY WEATHER PROOF DISCONNECT SWITCH FOR THE CONDENSING UNIT. PROVIDE NEW WIRING FROM WALL MOUNTED DISCONNECT SWITCH TO THE NEW AIR COOLED CONDENSING UNIT. DISCONNECT SWITCH SHOULD BE SIZED APPROPRIATELY FOR THE NEW AIR COOLED CONDENSING UNIT. PROVIDE A NEW WEATHER PROOF ENCLOSURE AND FLEXIBLE CONDUIT FOR THE NEW CONTROL WIRING SERVING THE ACCU.



DEMOLITION FIRST FLOOR PART PLAN
SCALE: 1/8" = 1'-0"



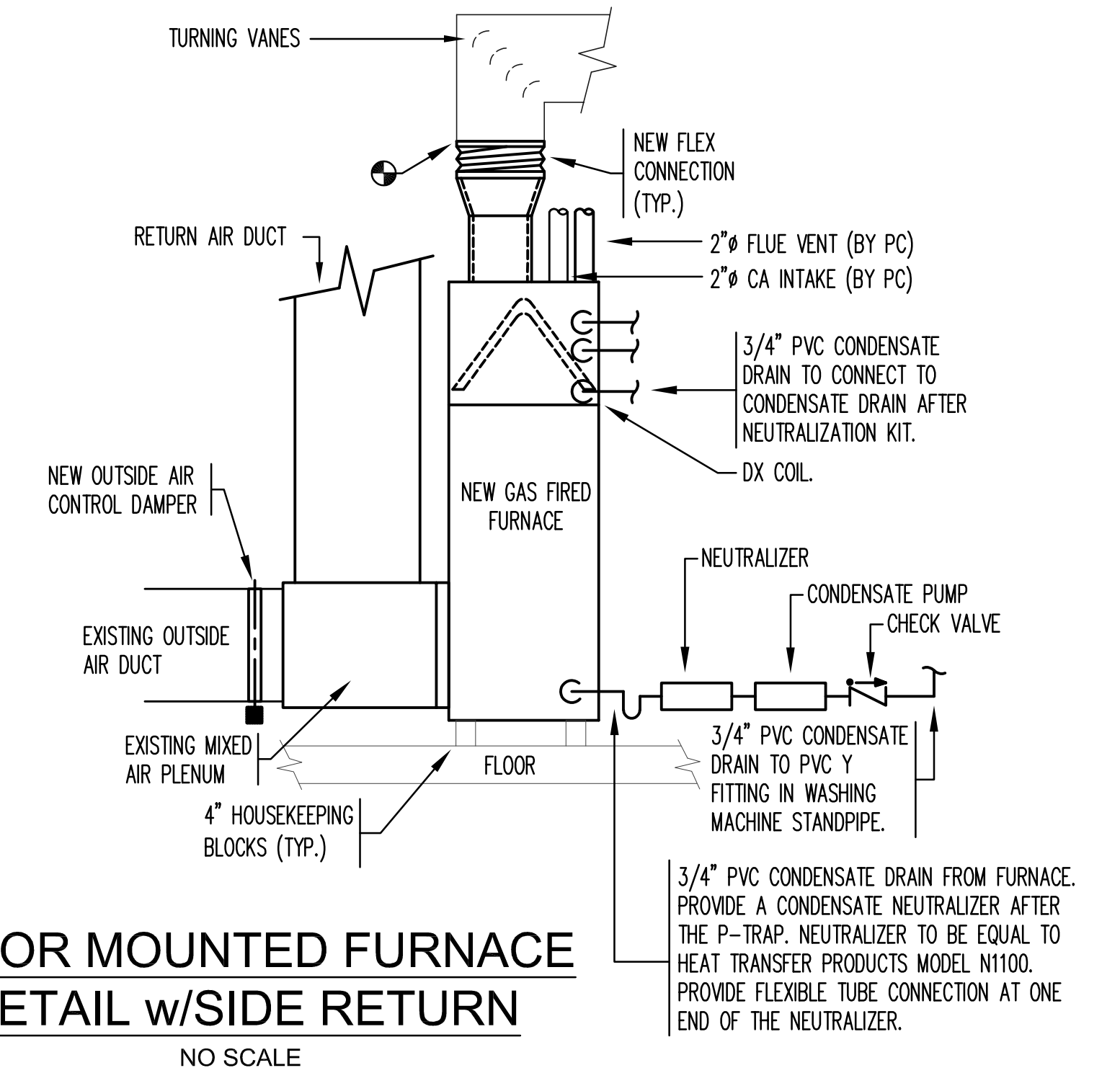
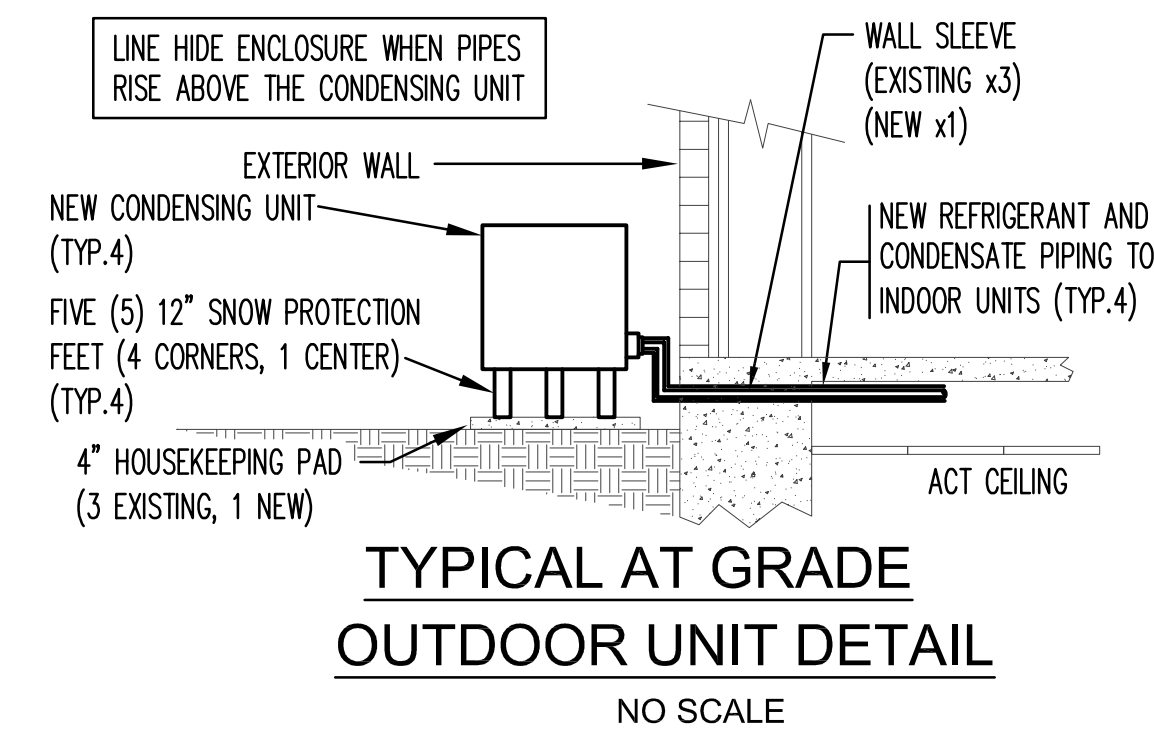
NEW WORK FIRST FLOOR PART PLAN
SCALE: 1/8" = 1'-0"



REVISION DATES	LOWELL HOUSING AUTHORITY ARMAND MERCIER COMMUNITY CENTER 21 SALEM ST, LOWELL, MA 01854 HVAC IMPROVMENTS	STAMP
05/03/2024 - ISSUED FOR BID		
	FIRST FLOOR - DEMOLITION & NEW WORK PLANS	
DATE: 05/03/2024	c.a. crowley. ENGINEERING, INC. 645 County Street, Suite 6 Taunton, MA 02780 tel. (508) 884.5094 WWW.CROWLEYENG.COM fax. (508) 884.5099	DRAWING NUMBER
SCALE: AS SHOWN		M-1
DRAWN BY: FV		
CHECKED BY: MHV		
PROJECT NO. 23063.00		

LEGEND

	ROUND AIR DUCT UP		ROOFTOP UNIT
	ROUND AIR DUCT DOWN		EXHAUST FAN
	SUPPLY AIR DUCT UP		OUTDOOR CONDENSING UNIT
	SUPPLY AIR DUCT DOWN		INDOOR EVAPORATIVE UNIT
	RETURN/EXHAUST AIR DUCT UP		CEILING DIFFUSER
	RETURN/EXHAUST AIR DUCT DOWN		RETURN AIR REGISTER
	ACOUSTICALLY LINED DUCTWORK (1")		EXHAUST AIR REGISTER
	FLEXIBLE CONNECTION		THERMOSTAT
	CEILING DIFFUSER		HUMIDISTAT
	RETURN REGISTER		TEMPERATURE SENSOR
	SUPPLY DIFFUSER-SIDEWALL		CARBON MONOXIDE DETECTOR
	SQUARE TO ROUND DUCT TRANSITION		CARBON DIOXIDE DETECTOR
	INCLINED RISE OR DROP, IN DIRECTION OF ARROW		STATIC PRESSURE SENSOR
	LINEAR SUPPLY DIFFUSER		SMOKE DETECTOR
	CEILING DIFFUSER W/FLEXIBLE CONNECTION		UNDER CUT DOOR
	RETURN AIR EGGCRATE-24X24		CONNECT NEW TO EXISTING
	RETURN AIR EGGCRATE-48X24		LIMIT OF DEMOLITION
	VOLUME DAMPER		CONDENSATE DRAIN FLOOR CLEAN-OUT
	FIRE DAMPER		PLUMBING CONTRACTOR
	MOTORIZED DAMPER		HEATING, VENTILATING & AIR CONDITIONING
	CONDENSATE DRAIN		ELECTRICAL CONTRACTOR
	REFRIGERANT LIQUID		GENERAL CONTRACTOR
	REFRIGERANT VAPOR		UNDER CUT DOOR
	PIPE UP		DRAIN-OFF VALVE
	PIPE DOWN		DUCT CLEAN-OUT
	PIPE TEE DROP		RETURN AIR REGISTER
			EXHAUST AIR REGISTER
			GALLONS PER MINUTE
			CUBIC FEET PER MINUTE
			OUTDOOR AIR



HEATING, VENTILATING & AIR-CONDITIONING AIR-HANDLING UNIT (HVAC) SCHEDULE																									
ITEM NO.	MODEL	SUPPLY FAN			HEATING (NAT. GAS)			ELECTRICAL				DIMENSIONS / WEIGHT		EVAP. COIL						S.A. CONN	REMARKS				
		CFM	HP	ESP	MBH IN.	MBH OUT.	AFUE	V	PH	HZ	AMPS	REC. BREAKER	L"xW"xH"	LBF	MODEL	T.MBH	S.MBH	TEDB	EWB			RLØ	RVØ	DIMENSIONS / WEIGHT	
HVAC-1A	TM9E120D2OMP12	2000	1.0	0.5"	120	114	95%	115	1	60	15.8	20	30"x25"x33"	156	XAFD60JXXN1	57.5	42.3	80	67	3/8"	7/8"	24"Lx25"Wx33"H	73 LB	23.5"x19"	①②③④⑤
HVAC-1B	TM9E120D2OMP12	2000	1.0	0.5"	120	114	95%	115	1	60	15.8	20	30"x25"x33"	156	XAFD60JXXN1	57.5	42.3	80	67	3/8"	7/8"	24"Lx25"Wx33"H	73 LB	23.5"x19"	①②③④⑤
HVAC-3	TM9E080B12MP12	1304	0.5	0.5"	80	76	95%	115	1	60	10.0	15	30"x18"x33"	126	XAFB36DXXN1	35.3	25.8	80	67	3/8"	3/4"	17"Lx18"Wx26"H	48 LB	16.5"x19"	①②③④⑤
HVAC-4	TM9E120D2OMP12	2000	1.0	0.5"	120	114	95%	115	1	60	15.8	20	30"x25"x33"	156	XAFD60JXXN1	57.5	42.3	80	67	3/8"	7/8"	24"Lx25"Wx33"H	73 LB	23.5"x19"	①②③④⑤

BASED ON FRASER JOHNSTON
 ① PROVIDE WITH NEUTRALIZATION KIT.
 ② PROVIDE NEW THERMOSTAT WITH NEW FURNACE AND AIR COOLED CONDENSING UNIT.
 ③ PROVIDE NEW CONCENTRIC KIT, INSTALLED BY DIV 22 0000.
 ④ ADD ALTERNATE NO.1.
 ⑤ ADD ALTERNATE NO.2.

AIR-COOLED CONDENSING UNIT SCHEDULE																						
ITEM NO.	MODEL	NOMINAL TONS	DX COOLING PERFORMANCE *					DX HEATING PERFORMANCE **					ELECTRICAL			MCA	MOP	SOUND	WEIGHT	CHARGE R-410A	DIMENSIONS L"xW"xH"	REMARKS
			TOTAL MBH	SENS. MBH	LVG DEW PT.	SEER2	EER2	HTG MBH	L.A.T.	COP	HSPF2	V	PH	HZ								
ACCU-1A	THF2B60T21S	5	57.5 MBH	42.3 MBH	56.5°F	15.20	11.00	58.5 MBH	87.1°F	4	8.1	208	1	60	31.5	50	76 dBA	282 LB	15#10oz	40" x 36" x 43"	①②	
ACCU-1B	THF2B60T21S	5	57.5 MBH	42.3 MBH	56.5°F	15.20	11.00	58.5 MBH	87.1°F	4	8.1	208	1	60	31.5	50	76 dBA	282 LB	15#10oz	40" x 36" x 43"	①②	
ACCU-3	THF2B36T21S	3	35.3 MBH	25.8 MBH	56.7°F	14.30	11.00	36.5 MBH	85.9°F	4	7.5	208	1	60	20.6	35	76 dBA	204 LB	6#15oz	37" x 34" x 43"	①②⑤	
ACCU-4	THF2B60T21S	5	57.5 MBH	42.3 MBH	56.5°F	15.20	11.00	58.5 MBH	87.1°F	4	8.1	208	1	60	31.5	50	76 dBA	282 LB	15#10oz	40" x 36" x 43"	①②⑥	

BASED ON FRASER JOHNSTON
 ① PROVIDE W/ 10 YEAR WARRANTY ON PARTS AND COMPRESSOR.
 ② PROVIDE W/ FIVE (5) 12" SUPPORT FEET (4 CORNERS, 1 CENTER) FOR SNOW PROTECTION.
 ③ PROVIDE W/ 2-STAGES OF COOLING
 ④ PROVIDE W/ STANDARD LOW AMBIENT CONTROL KIT, LOW TEMPERATURE CUTOUT, COMPRESSOR START ASSIST KIT
 * PERFORMANCE BASED ON 95°F AMBIENT
 ** PERFORMANCE BASED ON 47°F AMBIENT & 60°F E.A.T.
 ⑤ ADD ALTERNATE NO.1.
 ⑥ ADD ALTERNATE NO.2.

REVISION DATES	LOWELL HOUSING AUTHORITY ARMAND MERCIER COMMUNITY CENTER 21 SALEM ST, LOWELL, MA 01854 HVAC IMPROVMENTS	STAMP
05/03/2024 - ISSUED FOR BID	LEGEND, SCHEDULES & DETAILS	
DATE: 05/03/2024 SCALE: AS SHOWN DRAWN BY: FV CHECKED BY: MHV PROJECT NO. 23063.00	c.a. crowley. ENGINEERING, INC. 645 County Street, Suite 6 Taunton, MA 02780 tel. (508) 884.5094 WWW.CROWLEYENG.COM fax. (508) 884.5099	DRAWING NUMBER M-2