

## **GENERAL NOTES:**

- 1. INSTALL ERV WEATHER HOODS PER MANUFACTURER'S RECOMMENDATIONS.
- 2. INSULATE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
- 3. PROVIDE WEATHER SLEEVE FOR EXTERIOR REFRIGERANT PIPING; ROUTE PIPING IN SLEEVE EXCEPT FOR CONNECTIONS TO EXTERIOR UNITS.
- 4. ROUTE ALL INTERIOR EQUIPMENT CONDENSATE DRAINS TO NEAREST UTILITY SINK OR VENT STACK. PROVIDE CONDENSATE PUMPS AND, IF CONNECTING TO A VENT STACK, PROVIDE FUNNEL DRAINS WITH AIR GAPS.

### **CONSTRUCTION KEYED NOTES:**

- 4" Ø COMBUSTION AIR AND EXHAUST VENT LINE UP TO CONCENTRIC VENT ADAPTER BOX, THEN 6" Ø OUTER DUCT & 4" Ø INNER DUCT UP THROUGH
- SUSPEND UH-1 FROM BOTTOM OF ROOF SUPPORT STRUCTURE PER MANUFACTURER'S INSTRUCTIONS AT 12'-0" A.F.F.
- 3 SINGLE THERMOSTAT TO CONTROL TWO UNIT HEATERS. PROVIDE RELAYS/ADAPTER KITS AS NECESSARY TO FACILITATE THIS CONTROL METHODOLOGY.
- 4 EXHAUST FAN TO BE OPERATED VIA SIGNAL FROM ROOM OCCUPANCY SENSOR. COORDINATE CONTROLS WITH ELECTRICAL CONTRACTOR.
- DOAS TEMPERATURE SENSOR BELOW DROP CEILING FOR UNOCCUPIED OPERATION. COORDINATE FINAL LOCATION IN FIELD WITH ENGINEER.
- 6 DOAS PRESSURE SENSOR BELOW DROP CEILING FOR OCCUPIED OPERATION. COORDINATE FINAL LOCATION IN FIELD WITH ENGINEER.
- MOUNT UNIT FROM ROOF STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS.

UNAUTHORIZED ALTERATION OR ADDITION TO A PLAN BEARING A Date: September 17, 2024 LICENSED PROFESSIONAL ENGINEER'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE N.Y. STATE EDUCATION LAW. Revisions: FELLENZER ENGINEERING, LLP CERTIFICATE OF AUTHORIZATION #: 0017795 ENGINEERING LLP www.fellp.com 22 Mulberry St., Suite 2A, 181 Church St., Suite 100, Middletown, NY 10940 Poughkeepsie, NY 12601 t 845-454-9704 fx 855-320-8735 t 845-343-1481 fx 845-343-4986 FE PROJECT #: DESIGNED BY

REFERENCE SCALE

A R C H I T E C T

Joseph G. Thompson Architect, PLLC

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IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A

LICENSED ARCHITECT OR ENGINEER

ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS

ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO HIS

ITEM THE SEAL AND THE NOTATION
"ALTERED BY" FOLLOWED BY HIS

SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN.

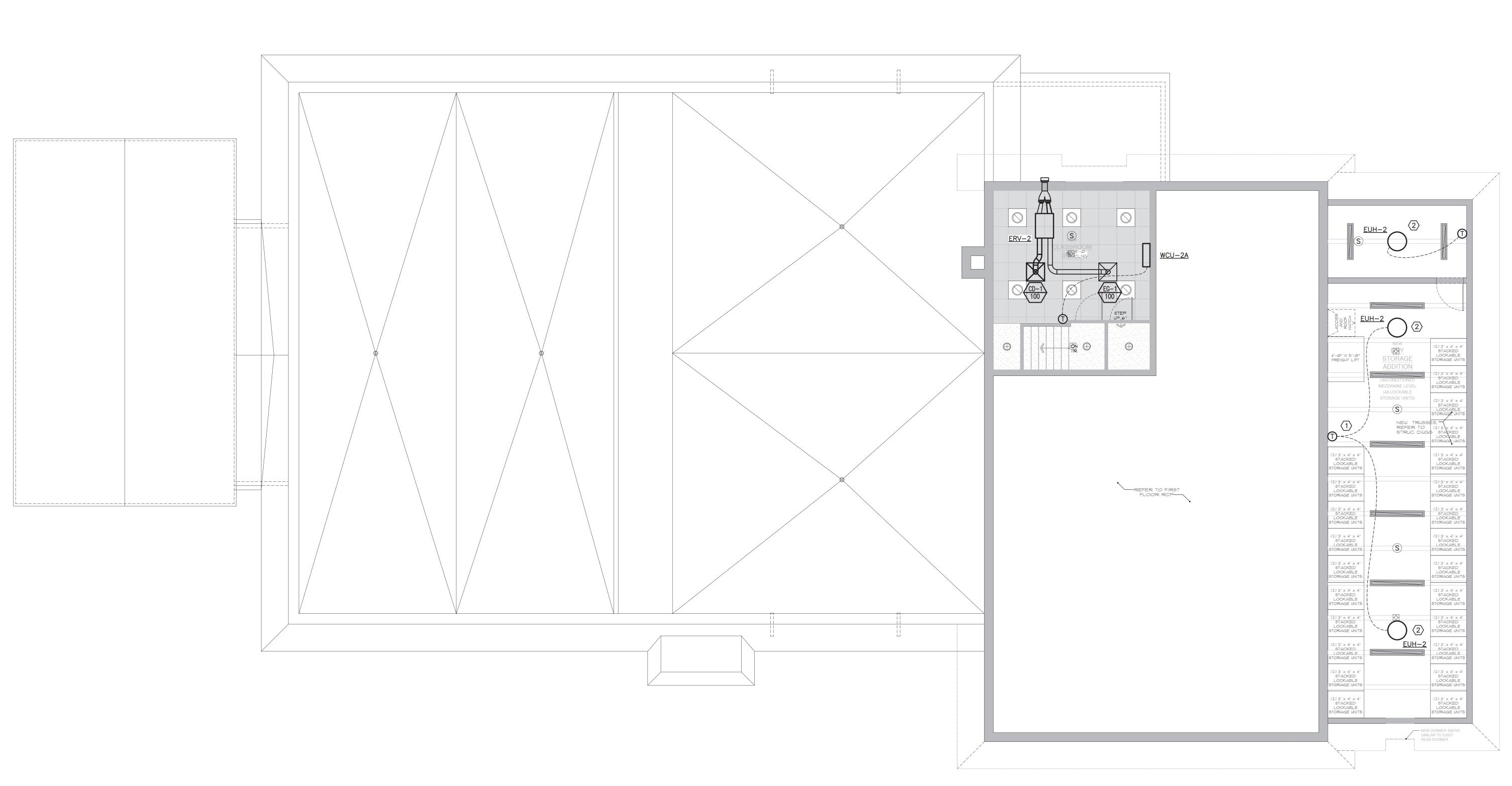
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NY PROFESSIONAL ENGINEER NO. 073084-1 ISSUED 1995; EXP. 8/25

TO ALTER AN ITEM IN ANY WAY. IF AN

23-369



HVAC: CONSTRUCTION SECOND FLOOR DUCTWORK PLAN 1 ) SCALE: 3/16"=1'-0"

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## CONSTRUCTION KEYED NOTES:

- SINGLE THERMOSTAT TO CONTROL TWO UNIT HEATERS. PROVIDE RELAYS/ADAPTER KITS AS NECESSARY TO FACILITATE THIS CONTROL
- 2 MOUNT UNIT FROM ROOF STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS.

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t 845-343-1481 fx 845-343-4986 t 845-454-9704 fx 855-320-8735 FE PROJECT #: DESIGNED BY: 23-369 EDF ½" ½" ½" REFERENCE SCALE

ARCHITECT

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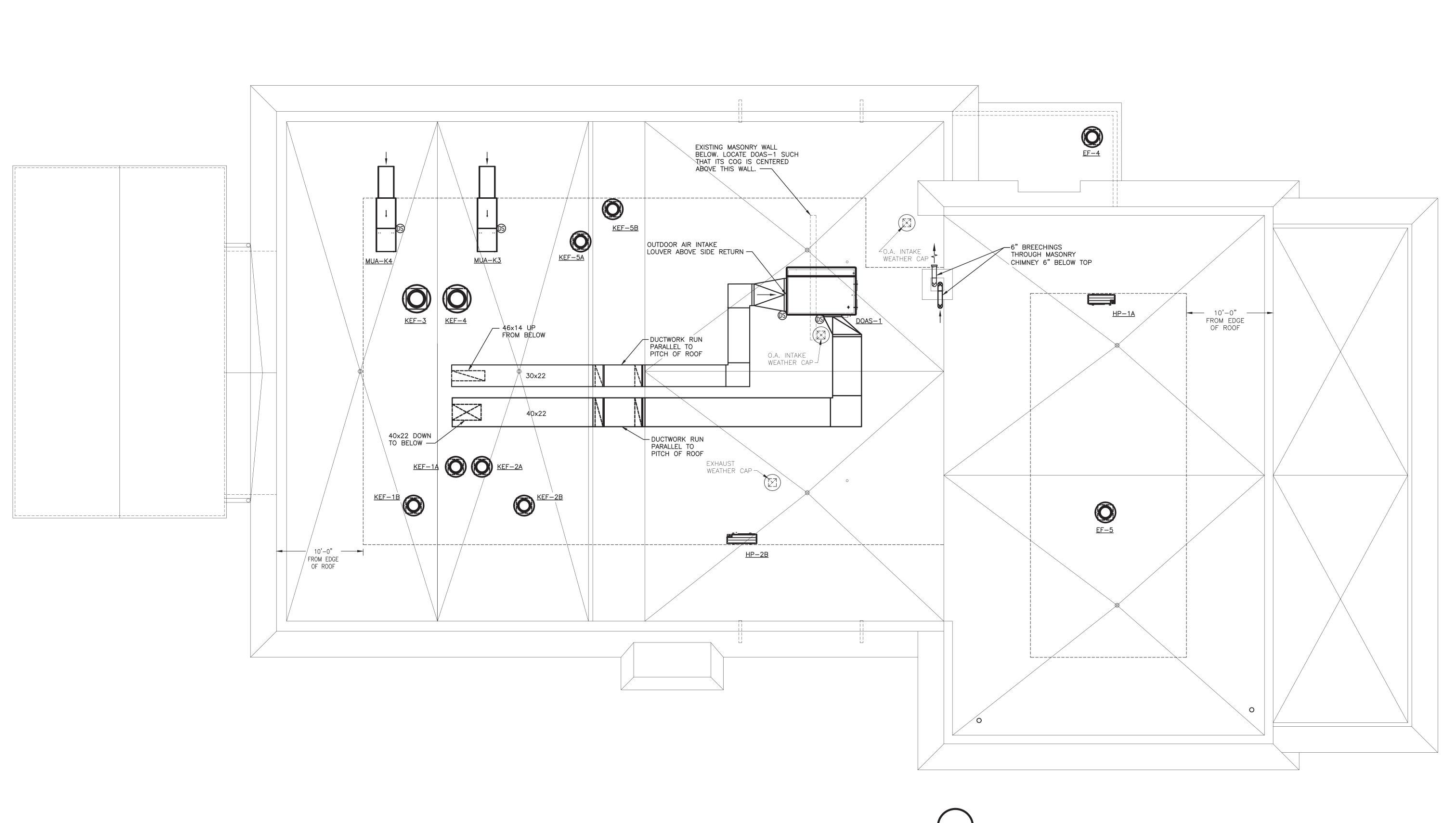
OR

PERMIT

FOR

NOT

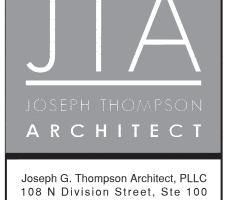
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1 HVAC: CONSTRUCTION ROOF EQUIPMENT PLAN Z

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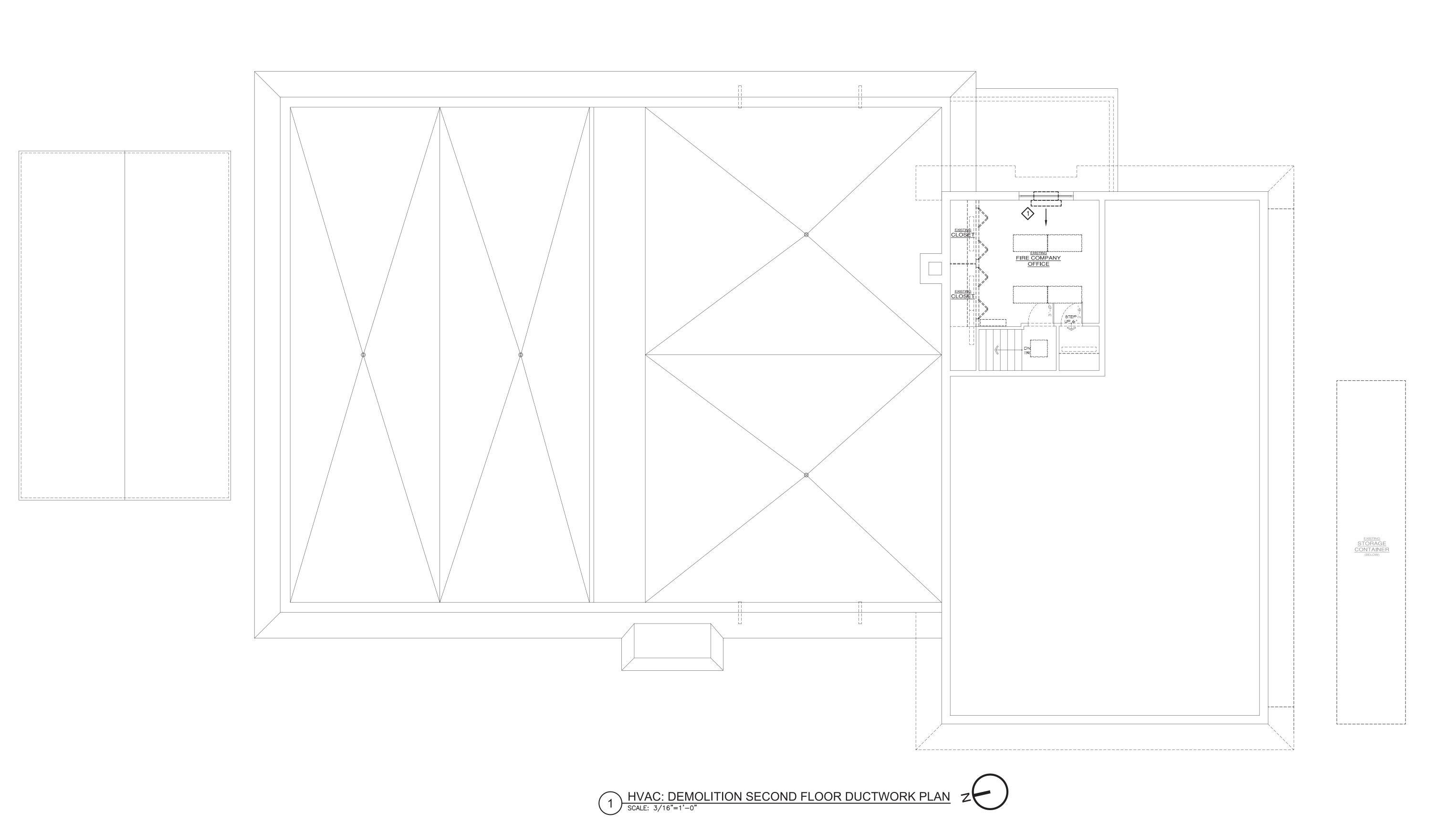
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**DEMOLITION KEYED NOTE:** 

DEMOLISH PTAC UNIT AND LOUVER. G.C. TO INFILL OPENING WITH BLOCK TO MATCH EXISTING. PATCH, SEAL AND REPAIR INTERIOR AND EXTERIOR WALL TO MATCH EXISTING.

## **DEMOLITION NOTE:**

COORDINATE DEMOLITION, INCLUDING PATCHING, SEALING, AND REPAIR WORK, WITH ARCHITECTURAL WORK.

- 3. REMOVAL OF ALL POWER CONNECTIONS TO DEMOLITION ITEMS SHALL BE BY THE E.C.
- 4. ANY DISCREPANCIES BETWEEN THE DEMOLITION PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER. ANY DEMOLITION WORK WHICH MAY BE QUESTIONABLE DUE TO UNFORESEEN FIELD CONDITIONS SHALL NOT BE REMOVED UNTIL REVIEWED BY THE ARCHITECT, ENGINEER OR BUILDING FACILITIES MANAGER.
- 5. DEMOLITION WORK SHALL INCLUDE THE PREPARATION OF EXISTING EQUIPMENT FOR CONNECTION TO NEW EQUIPMENT. COORDINATE DEMOLITION WORK WITH THE CONSTRUCTION PLANS.
- 6. ALL EQUIPMENT REMOVALS SHALL BECOME THE PROPERTY OF THIS CONTRACTOR. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER REMOVAL AND DISPOSAL OF DEMOLITION ITEMS OFF-SITE, UNLESS OTHERWISE NOTED.
- 7. ALL CUTTING AND PATCHING NECESSARY FOR THE DEMOLITION WORK SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
- 8. IT SHALL BE THE OWNER'S RESPONSIBILITY TO REMOVE ANY LOOSE EQUIPMENT, FURNITURE, SUPPLIES, ETC. THAT MAY BE LOCATED IN THE AREA OF WORK.
- 9. THE PLANS ARE INTENDED TO CONVEY THE EXTENT AND SCOPE OF THE DEMOLITION WORK. EVERY ITEM INTENDED FOR REMOVAL MAY NOT BE SHOWN. THE CONTRACTOR IS ADVISED TO SURVEY THE PROJECT SITE BEFORE SUBMITTING A BID FOR DEMOLITION WORK.

#### **GENERAL NOTES**

- 1. THE DRAWINGS ON THESE PLANS ARE DIAGRAMMATIC. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL HVAC WORK WITH OTHER TRADES AND THE BUILDING STRUCTURE. NO EXTRA PAYMENTS WILL BE AUTHORIZED FOR REROUTING OR REMOVAL OF INSTALLED WORK DUE TO LACK OF COORDINATION WITH OTHER
- 2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF WALLS, FLOORS AND CEILINGS AS REQUIRED FOR INSTALLATION OF HIS WORK.
- 3. ACCESS PANELS SHALL BE PROVIDED IN CEILINGS, WALLS, FLOORS, ETC., AS REQUIRED TO MAINTAIN ACCESSIBILITY TO VALVES, DAMPERS, TRAPS, COILS, ETC.
- 4. PROVIDE DUCT ACCESS DOORS AT ALL MOTORIZED DAMPERS, FIRE DAMPERS, AND SMOKE DAMPERS.
- 5. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS SHALL BE SEALED FIRE AND SMOKE TIGHT WITH AN APPROPRIATE U.L. LISTED FIRESTOPPING MATERIAL AND OR SYSTEM.
- 6. ALL DUCTWORK PASSING THROUGH A FIRE RATED PARTITION SHALL BE PROVIDED WITH A FIRE DAMPER TO MAINTAIN THE FIRE RATING OF THE PARTITION.
- 7. LOCATIONS OF DIFFUSERS AND GRILLES ARE APPROXIMATE, REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS.
- 8. ALL BRANCHES AND TAKE-OFFS SHALL BE EQUIPPED WITH VOLUME CONTROL DAMPERS. DAMPERS TO BE OPPOSED BLADE TYPE. 4" MAX. BLADE HEIGHT. VOLUME DAMPERS TO BE LOCATED AS NEAR TO THE POINT OF TAKE-OFF AS PRACTICAL.
- 9. FLEXIBLE DUCT CONNECTIONS SHALL BE LIMITED TO A MAXIMUM LENGTH OF FIVE (5) FEET AND SUPPORTED AT MID-POINT.
- 10. ALL SUPPLY & RETURN AIR DUCTWORK SHALL BE INSULATED.
- 11. PROVIDE SHUT-OFF VALVES AT ALL PIPING BRANCH TAKE-OFFS AND AT ALL CONNECTIONS TO EQUIPMENT.
- 12. PROVIDE DRAINS WITH HOSE ADAPTERS AND CAPS ON PIPING AT ALL LOW POINTS. PROVIDE MANUAL VENTS ON PIPING AT ALL HIGH
- 13. COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL CONTRACTOR.
- 14. ALL MOTOR STARTERS SHALL BE FURNISHED BY THE HVAC CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- 15. ALL REQUIRED CONTROL EQUIPMENT AND WIRING SHALL BE FURNISHED & INSTALLED BY THE HVAC CONTRACTOR.
- 16. THE TERMS "PROVIDE" OR "FURNISH", AS USED ON THESE PLANS, INDICATE THAT THE CONTRACTOR IS TO FURNISH AND INSTALL THE REFERENCED EQUIPMENT OR SYSTEMS IN THEIR ENTIRETY AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- 17. CONTRACTOR SHALL PROVIDE AND INSTALL ALL COMPONENTS INDICATED ON DETAIL SHEETS. PLANS, SPECIFICATIONS AND ALL PERTINENT EQUIPMENT REQUIRED FOR A COMPLETE AND WORKABLE
- 18. CONTRACT CLOSE OUT: IN THE PRESENCE OF THE OWNER, ENGINEER OR ARCHITECT; DEMONSTRATING OPERATION OF SYSTEMS AND THAT ALL SPECIFICATIONS HAVE BEEN MET TO THE SATISFACTION OF ALL
- 19. IT IS THE INTENTION THAT THESE SPECIFICATIONS, AND DRAWINGS ACCOMPANYING SAME, SHALL PROVIDE FOR THE FURNISHING AND INSTALLING OF THE HVAC SYSTEMS COMPLETE AS SPECIFIED AND SHOWN. ANY WORK SHOWN ON THE DRAWINGS AND NOT PARTICULARLY DESCRIBED IN THE SPECIFICATIONS OR VICE VERSA, OR ANY WORK CHANGES WHICH MAY BE EVIDENTLY NECESSARY TO COMPLETE THE INSTALLATION SHALL BE FURNISHED BY THIS CONTRACTOR.
- 20. IT IS THE INTENT AND PURPOSE OF THESE SPECIFICATIONS AND DRAWINGS TO INCLUDE AND PROVIDE FOR ALL MATERIALS, APPLIANCES AND LABOR TO PROPERLY COMPLETE AND LEAVE IN PERFECT WORKING CONDITION THE ENTIRE SYSTEM HEREINAFTER SPECIFIED. ANY MATERIAL, LABOR OR APPLIANCE NOT SPECIFICALLY MENTIONED IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS, BUT NECESSARY FOR A COMPLETE INSTALLATION MUST BE FURNISHED BY THIS CONTRACTOR.
- 21. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO PROVIDE ALTERATIONS AND/OR NEW CONSTRUCTION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS TO PROVIDE COMPLETE NEW SYSTEMS IN EVERY RESPECT, CAPABLE OF OPERATING AS DESIGNED. IT IS NOT INTENDED THAT EVERY FITTING, MINOR DETAIL OR FEATURE BE SHOWN ON DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DETAIL NECESSARY FOR COMPLETION OF THESE SYSTEMS IN ACCORDANCE WITH GOOD PRACTICE.

#### **GAS PIPING NOTES**

- GAS PRESSURE WITHIN BUILDING SHALL NOT EXCEED 1/2 PSIG. PRIOR TO CONNECTION TO GAS SERVICE. ALL INDOOR ABOVE GROUND GAS PIPING (NOT COATED OR WRAPPED) SHALL BE TESTED WITH AIR PRESSURE AT 15 PSIG FOR A PERIOD OF 1 HOUR WITH NO LOSS IN PRESSURE. ALL COATED OR WRAPPED GAS PIPING SHALL BE TESTED W/AIR PRESSURE AT 100 PSIG FOR A MINIMUM OF 1 HOUR WITH NO LOSS IN PRESSURE.
- 2. COORDINATE INSTALLATION AND FINAL CONNECTION OF GAS LINES WITH KITCHEN CONTRACTOR & G.C.
- 3. ALL GAS PIPING SHALL BE IN ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES, AS WELL AS NFPA-54.
- 4. GAS PIPING UNDER SLABS, AND CROSSING CORRIDORS SHALL HAVE GAS TIGHT VENTED SLEEVES. (VENTED DIRECTLY AND INDEPENDENTLY TO THE OUTDOORS).
- 5. RELIEF VALVES AND NORMALLY OPEN VENT VALVES SHALL BE VENTED DIRECTLY AND INDEPENDENTLY TO THE OUTDOORS.
- PRESSURE REGULATING & OVER PRESSURE PROTECTION DEVICES LOCATED OUTSIDE SHALL BE ENCLOSED IN A CABINET OR BE FENCED IN AN OUTSIDE AREA OF DURABLE STRUCTURAL MATERIALS WHICH WILL WITHSTAND ANY LOADS TO WHICH THEY MAY BE SUBJECTED.
- 7. ALL GAS PIPING 3"0 & LARGER SHALL HAVE WELDED FITTINGS & CONNECTIONS. ALL GAS PIPING 21/2" & SMALLER SHALL HAVE GAS-TIGHT THREADED CONNECTIONS WITH THREAD SEALANT APPROVED FOR NATURAL GAS SERVICE.
- CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR THE INSTALLATION OF THE NEW NATURAL GAS SERVICE TO BLDG. WITH LOCAL UTILITIES APPROXIMATELY THREE (3) WEEKS PRIOR TO START OF WORK. ALL GAS PIPING FROM MAIN UNDER STREET UP TO AND INCLUDING METER AT BLDG. SHALL BE BY UTILITY COMPANY. ALL TRENCHING, BEDDING & BACKFILL SHALL BE BY PLUMBING CONTRACTOR AS PER UTILITY COMPANY REQUIREMENTS. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL GAS PIPING FROM CONNECTION OF METER OUTLET TO THROUGHOUT BLDG. AS PER PLANS, SPECIFICATIONS, NYS FUEL GAS CODE, NFPA-54, LOCAL CODES, AS WELL AS UTILITY COMPANY REQUIREMENTS. PLUMBING CONTRACTOR SHALL COORDINATE SCHEDULING REQUIREMENTS WITH SITE CONTRACTOR AS WELL. PLUMBING CONTRACTOR SHALL APPLY & OBTAIN ALL PERMITS REQUIRED & PAY ALL FEES.
- 9. ALL GAS PIPING PASSING THROUGH MASONRY WALLS SHALL BE SLEEVED WITH SCH. 80 PVC.
- 10. COORDINATE INSTALLATION OF GAS PIPING WITH ALL OTHER TRADES PRIOR TO INSTALLATION.

#### DOAS CONTROL NOTES

- 1. THE DOAS SHALL BE ACTIVATED WHEN THE ROOM TEMPERATURE FALLS OUTSIDE OF THE ADJUSTABLE SET POINT RANGE.
- 2. THE DOAS SHALL OPERATE AT 100% RETURN AIR UNTIL DETECTION OF ROOM OCCUPANCY VIA A RELAY FROM THE ROOM OCCUPANCY SENSOR. THE EC SHALL PROVIDE THE OCCUPANCY SENSOR AND THIS CONTRACTOR SHALL WIRE FROM THE SENSOR TO THE DOAS.
- 3. UPON ACTIVATION, THE DOAS SHALL RUN AT ITS MINIMUM AIRFLOW RATE UNTIL THE TEMPERATURE SET POINT IS REACHED.
- 4. THE DOAS SUPPLY FAN SHALL BE VFD DRIVEN.
- 5. THE DOAS SHALL BE FED SIGNALS OF THE SPACE PRESSURE. AMBIENT PRESSURE, AND SPACE TEMPERATURE
- 6. ONCE OCCUPANCY IS DETECTED, THE UNIT SHALL ACTIVATE KEF'S K1A, K2A & K5A AND SWITCH TO 100% OUTDOOR AIR OPERATION.
- WHILE THE DOAS IS OPERATING AT ITS MINIMUM AIRFLOW RATE, IF THE SPACE PRESSURE SENSOR INDICATES THE SPACE IS NEGATIVELY PRESSURIZED, THE DOAS SHALL PROPORTIONALLY INCREASE ITS AIRFLOW UP TO ITS MAXIMUM FLOW UNTIL NEUTRAL PRESSURE IS DETECTED, THEN MAINTAIN THIS AIRFLOW. THERE SHALL BE AN ADJUSTABLE PRESSURE DEADBAND.
- 8. WHILE THE DOAS IS OPERATING ABOVE ITS MINIMUM AIRFLOW RATE, IF THE SPACE PRESSURE SENSOR INDICATES THE SPACE IS POSITIVELY PRESSURIZED, THE DOAS SHALL PROPORTIONALLY DECREASE ITS AIRFLOW DOWN TO ITS MINIMUM AIRFLOW THEN MAINTAIN THIS AIRFLOW. THERE SHALL BE AN ADJUSTABLE PRESSURE DEADBAND.

# **DUCTWORK SYMBOLS** AxB DUCTWORK DOUBLE LINE REPRESENTATION: "A" INDICATES DUCT WIDTH: "B" INDICATES DUCT DEPTH. DUCTWORK SINGLE LINE REPRESENTATION: "A" INDICATES DUCT WIDTH; "B" INDICATES DUCT DEPTH. SUPPLY AIR DUCT UP SUPPLY AIR DUCT DOWN RETURN AIR DUCT UP RETURN AIR DUCT DOWN EXHAUST AIR DUCT UP EXHAUST AIR DUCT DOWN FLEXIBLE DUCTWORK SUPPLY AIR FLOW RETURN/EXHAUST AIR FLOW VOLUME DAMPER MOTORIZED DAMPER w/ ACCESS DOOR FIRE DAMPER W/ ACCESS DOOR SUPPLY AIR TERMINAL RETURN AIR TERMINAL EXHAUST AIR TERMINAL —D— DROP DUCT RISE DUCT

PIPING SYMBOLS										
	DIRECTION OF FLOW									
×	ANCHOR									
	PIPE GUIDE									
D	REDUCER OR INCREASER									
	ECCENTRIC REDUCER									
	TOP CONNECTION, 45° OR 90°									
	BOTTOM CONNECTION, 45° OR 90°									
, <del>†</del> ,	SIDE CONNECTION									
	CAPPED OUTLET									
———	PIPE DOWN TURN									
<del></del>	PIPE RISE									
——————————————————————————————————————	UNION									
	DIRECTION OF PIPE PITCH (DOWN)									

DUCT INSULATION SCHEDULE "JOHNS MANVILLE" AS STANDARD OR APPROVED EQUAL											
INSIDE BUILDING THERMAL ENVELOPE		FIBERGLASS FLEXIBLE BLANKET, 1.0 LB/CF R=8.0 (INSTALLED @ 25% COMPRESSION)									
SERVICE	FACING	FACING INSTALLED THICKNESS (IN.)									
SUPPLY/RETURN AIR	FSK	FSK 2"									
OUTDOOR AIR	FSK	SK 2"									
EXHAUST AIR	_	NONE									
OUTSIDE BUILDING THERMAL ENVELOPE	FIBERGLASS R=12.0	S FLEXIBLE BLANKET, 1.0 LB/CF									
SERVICE	FACING	THICKNESS REQUIRED TO EXCEED ASHRAE 90.1 REQUIREMENTS									
SUPPLY/RETURN AIR	ASJ										

- 1. ALL EDGES SHALL BE CLEAN CUT.
- 2. ALL SEAMS AND BUTT JOINTS SHALL BE ADHERED AND SEALED USING ARMAFLEX 520 ADHESIVE. HORIZONTAL JOINTS SHALL BE AT BOTTOM OF DUCTS & PIPES.
- 3. ALL EXPOSED ENDS CUTS SHALL BE COATED WITH ARMAFLEX 520 ADHESIVE.
- 4. FOR ALL OUTDOOR EXPOSED DUCTWORK, THE HORIZONTAL SURFACE SHALL BE SLOPED TO PREVENT POOLING ON THE SURFACE OF COATED INSULATION (2° MIN.)
- 5. ARMACELL ARMATUFF OR APPROVED EQUAL MAY BE USED IN LIEU OF THE EXTERIOR DUCT INSULATION/WEATHER RESISTANT SYSTEM DESCRIBED IN THE SCHEDULE

# VALVE CVMDOLC

	VALV	/E SYMBOLS
□ OR	∐ OR — INITIAL CONTROL OF CONTRO	- GATE VALVE — THREADED/FLANGED GATE VALVE WITH 3/4" HOSE ADAPTER
OR	OR — DOC   DOC	- GLOBE VALVE - THREADED/FLANGED
OR OR	OR ——	CHECK VALVE
□ OR	□ OR ···	STRAINER
		WYE STRAINER (WITH BALL VALVE & HOSE CONNECTION)
		STRAINER WITH VALVED DRAIN AND QUICK—COUPLE HOSE CONNECTOR
		FLEXIBLE CONNECTION
<del>1</del>	<b>}</b>	ANGLE GLOBE VALVE
OR OR	□ OR <b>—lø1</b> —	BUTTERFLY VALVE
₩ OR	б ОR <b>—б</b> —	BALL VALVE
	_ <del>_</del>	CONTROL VALVE (CV) - FLOAT-OPERATED
☐ OR	☐ OR ——————	MODULATING CONTROL VALVE
	<b>−₽</b>	MODULATING CONTROL BUTTERFLY VALVE
	, ———	TWO POSITION CONTROL VALVE
□ OR	OR ——	THREE-WAY MODULATING CONTROL VALVE
		THREE-WAY TWO POSITION CONTROL VALVE
O OR	OR ——	PRESSURE REGULATING VALVE
o OR	∯ OR — <b>⅓</b>	PRESSURE REDUCING VALVE (PRV)
⊚⊐ OR	OR P	TEMPERATURE & PRESSURE RELIEF VALVE
	<b>₽</b>	SAFETY OR PRESSURE RELIEF VALVE
○ OR	OR — H	AUTOMATIC BALANCING CONTROL VALVE
	—XXI—	WATER BALANCE DEVICE

⊐1	OR	OR		TEMPERATURE & PRESSURE RELIEF VALVE
			<b>₽</b>	SAFETY OR PRESSURE RELIEF VALVE
)===0	OR	OR		AUTOMATIC BALANCING CONTROL VALVE
			$-\bowtie$	WATER BALANCE DEVICE
			—≍—	WATER FLOW MEASURING DEVICE
0	OR	OR	$\dashv \Box \vdash$	CIRCUIT SETTER VALVE
			.≰N.	CATE VALVE WITH CLODE VALVED DYDACC

GATE VALVE WITH GLOBE-VALVED BYPASS TRIPLE DUTY VALVE

WATER LEVEL CONTROLLER FLOW METER COMBINATION BALANCING AND

SHUT-OFF VALVE MANUAL AIR VENT

TEST PLUG (PRESSURE/TEMPERATURE) LUBRICATED PLUG VALVE

# GENERAL SYMBOLS

POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK POINT OF DISCONNECT

- INDICATES SECTION LETTER INDICATES DRAWING NUMBER WHERE LOCATED - INDICATES TYPE OF AIR OUTLET

- INDICATES AIR FLOW REQUIREMENTS

ADJUSTABLE ANGLE THERMOMETER TO-DIAL THERMOMETER

PRESSURE GAUGE WITH NEEDLE VALVE WALL MOUNT THERMOSTAT

**ENERGY CODE STATEMENT:** 

**UNIFORM CODE STATEMENT:** 

TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF

AND PROFESSIONAL JUDGMENT. THESE PLANS AND/OR SPECIFICATIONS ARE IN

TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF

AND PROFESSIONAL JUDGMENT. THESE PLANS AND/OR SPECIFICATIONS ARE IN

COMPLIANCE WITH THE 2020 ENERGY CODE OF NEW YORK STATE.

COMPLIANCE WITH THE 2020 UNIFORM CODE OF NEW YORK STATE.

'A' DESIGNATES COMPONENT SERVED TEMPERATURE SENSOR

DUCT SMOKE DETECTOR FAN SWITCH WITH PILOT LIGHT

DOOR UNDERCUT (BY G.C.) LOUVERED DOOR (BY G.C.)

# **ABBREVIATIONS**

	ADDITE	IATIONO	
AC	AIR CONDITIONING UNIT	GPM	GALLONS PER MINUTE
ACT	ACOUSTIC CEILING TILE	H.C.	HVAC CONTRACTOR
ACCU	AIR COOLED CONDENSING UNIT	HF	HEPA FILTER
AD	ACCESS DOOR	HP	HORSEPOWER
AF	AFTER FILTER	HRP	HYDRONIC RADIANT CEILING PANEL
AFF	ABOVE FINISHED FLOOR	HV	HEATING AND VENTILATING UNIT
AFM	AIR FLOW MEASURING DEVICE	IV	INLET VANES
AHU	AIR HANDLING UNIT	LCD	LINEAR CEILING DIFFUSER
A.L.D.	AUTOMATIC LOUVER DAMPER (PNEUMATIC)	LFD	LAMINAR FLOW DIFFUSER
AP	ACCESS PANEL	LF	LINEAR FEET
BDD .	BACK DRAFT DAMPER	LPG	LP GAS PIPING
BG	BOTTOM GRILLE (WALL TYPE)	LPR	LOW PRESSURE STEAM CONDENSATE
BR	BOTTOM REGISTER (WALL TYPE)	LPS	LOW PRESSURE STEAM
BTUH	BRITISH THERMAL UNITS/HOUR	LBS/HR	POUNDS PER HOUR
CC	COOLING COIL	MA	MIXED AIR
CD	CEILING DIFFUSER	MB	MIXING BOX
CFM	CUBIC FEET PER MINUTE	MD	MOTORIZED DAMPER
CG	CEILING GRILLE	MER	MECHANICAL EQUIPMENT ROOM
CLG	CEILING	MAX.	MAXIMUM
CO	CLEAN OUT	MBH	ONE THOUSAND BTUH
CP	CONDENSATE PUMP	MIN.	MINIMUM
CR	CEILING REGISTER	NOM.	NOMINAL
CUH	CABINET UNIT HEATER	OA	OUTSIDE AIR
CW	COLD WATER	P	PUMP
D	DRAIN	P.C.	PLUMBING CONTRACTOR
Db	DRY BULB TEMPERATURE, *F	PD	PRESSURE DROP (FEET OF WATER)
dB	DECIBELS	PF	PRE-FILTER
DN	DOWN	PGW	PROPYLENE GLYCOL-WATER SOLUTION
DP	DIFFERENTIAL PRESSURE	PH	PREHEAT
Dp	DEW POINT TEMPERATURE, *F	PRV	PRESSURE REDUCING VALVE
DS	DUCT SMOKE DETECTOR	PSI	POUNDS PER SQUARE IN.
DX	DIRECT EXPANSION	RA	RETURN AIR
EA	EXHAUST AIR	RF	RETURN FAN
EAT	ENTERING AIR TEMP	RHC	REHEAT COIL
E.C.	ELECTRICAL CONTRACTOR	Rh	RELATIVE HUMIDITY
ECC	ENGINEERING CONTROL CENTER	RPZ	REDUCED PRESSURE ZONE
EER	ENERGY EFFICIENCY RATIO	SA	SUPPLY AIR
EF	EXHAUST FAN	SD	SMOKE DAMPER
EGW	ETHYLENE GLYCOL-WATER SOLUTION	Sp. Gr.	SPECIFIC GRAVITY
EMD	END OF MAIN DRIP (STEAM)	SH	STEAM HUMIDIFIER
ERC	ENERGY RECOVERY COIL	SP	STATIC PRESSURE
ERP	ELECTRIC RADIANT CEILING PANEL	SPD	SPLITTER DAMPER
ET	EXPANSION TANK	SPS	STATIC PRESSURE SENSOR
EUH	ELECTRIC UNIT HEATER	S.S.	STAINLESS STEEL
EXIST	EXISTING	TG	TOP GRILLE (WALL TYPE)
F.A.I.	FRESH AIR INTAKE	TR	TOP REGISTER (WALL TYPE)
	FLEXIBLE CONNECTION	TWU	THRU WALL UNIT
	FAN COIL UNIT	UH	UNIT HEATER
FD	FIRE DAMPER	U.N.O.	UNLESS NOTED OTHERWISE
FLR	FLOOR	UV	UNIT VENTILATOR
F.O.R.	FUEL OIL RETURN	V	VALVE
F.O.S.	FUEL OIL SUPPLY	VD	VOLUME DAMPER
FPC	FIRE PROTECTION CONTRACTOR	VE	VOLUME EXTRACTOR
F/SD	COMBINATION FIRE/SMOKE DAMPER	VI	VIBRATION ISOLATOR
FTR	FIN TUBE RADIATION	VIF	VERIFY IN FIELD
G	NATURAL GAS PIPE	Wb	WET BULB TEMPERATURE, *F
G.C.	GENERAL CONTRACTOR	WFM	WATER FLOW MEASURING DEVICE
GH	GRAVITY HOOD	WMS	WIRE MESH SCREEN

# **HVAC LINE TYPES**

-/-/- or ----- EXISTING EQUIPMENT/DUCT TO BE REMOVED EXISTING EQUIPMENT/DUCT TO REMAIN NEW EQUIPMENT / DUCT BOILER BLOWDOWN HWR LOW TEMPERATURE HOT WATER RETURN LOW TEMPERATURE HOT WATER SUPPLY 

PRESSURE DU	JCT GAUG	SE SCHEDULE	2000 FPM
FLAT OVAL DUCT DIM. OF MAJOR AXIS	ROUND DUCT	RECTANGULAR DUCT GREATEST DIMENSION	GAUGE GALVANIZED STEEL
_	3" TO 8"	UP TO 12"	26
UP TO 24"	9" TO 14"	13" TO 30"	24
25" TO 48"	15" TO 36"	31" TO 54"	22
49" TO 70"	_	55" TO 84"	20

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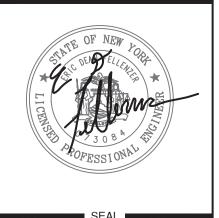
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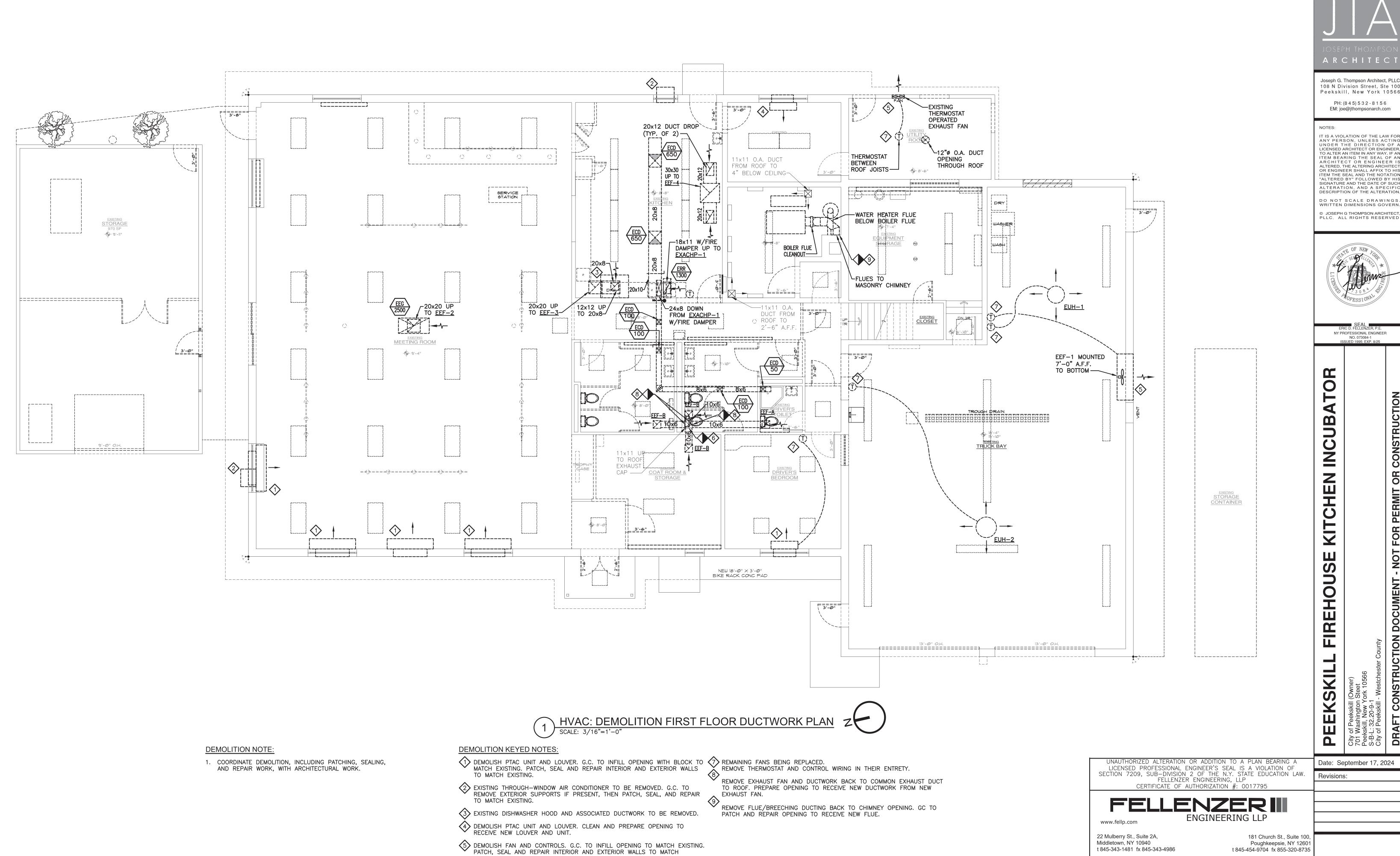
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EXISTING.

REMOVE EXHAUST FAN AND DUCTWORK BACK TO COMMON EXHAUST DUCT TO ROOF. PATCH AND SEAL COMMON DUCT FOR AIR-TIGHT OPERATION OF ARCHITECI

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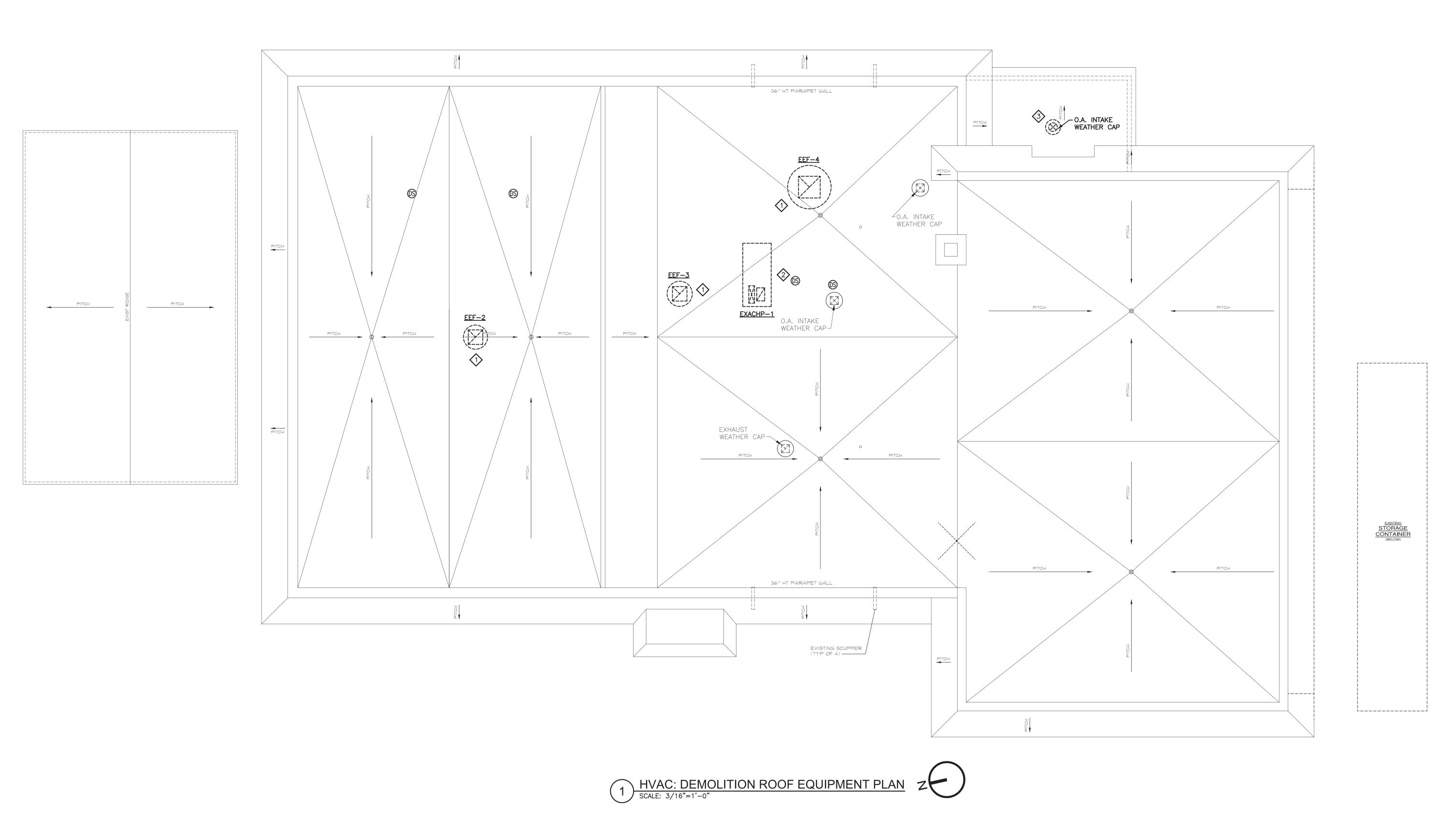
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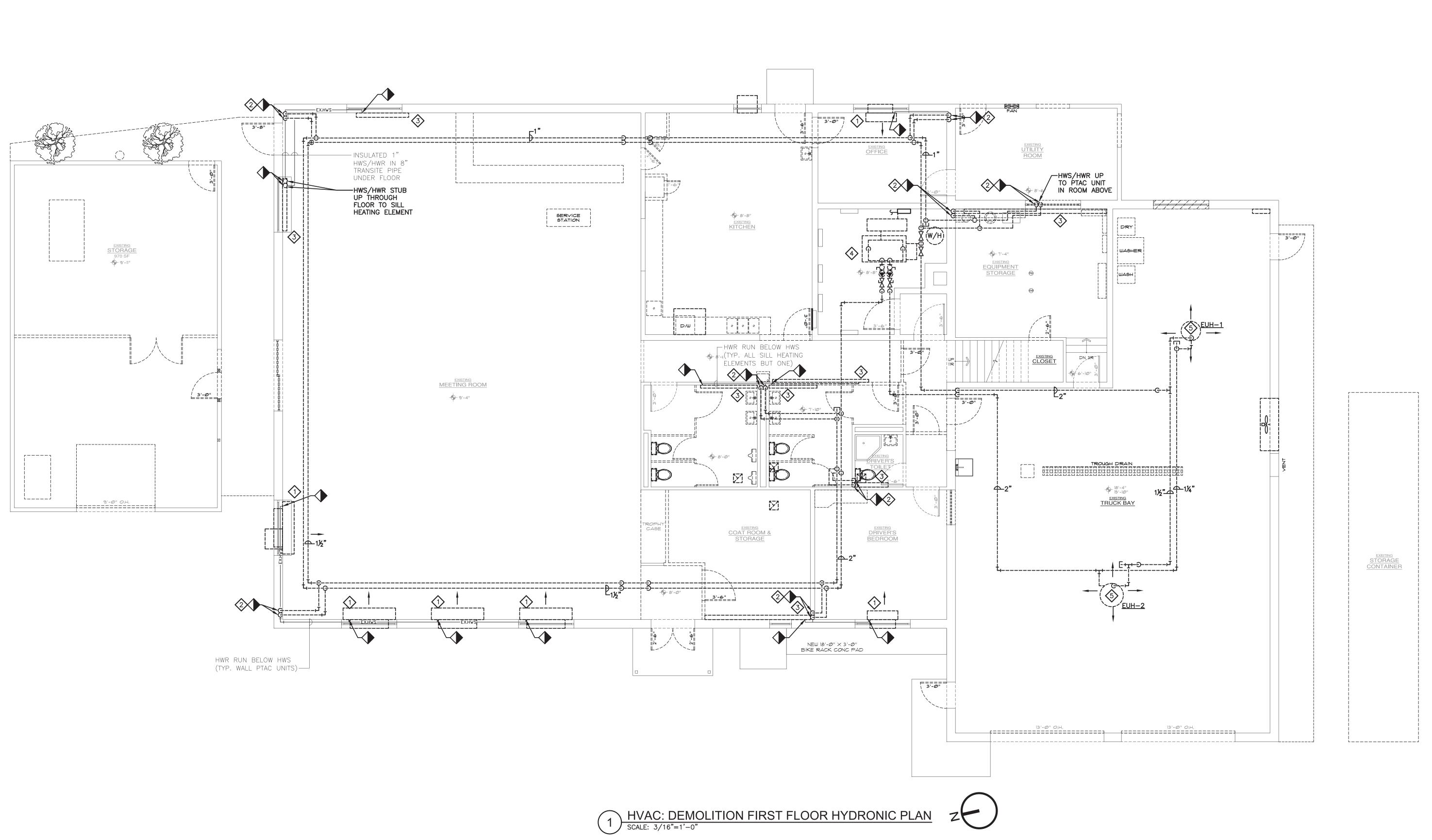
**DEMOLITION KEYED NOTE:** 

- REMOVE EXHAUST FAN. G.C. TO PATCH, SEAL, AND REPAIR OPENING TO MATCH EXISTING.
- REMOVE ROOFTOP HEAT PUMP UNIT. G.C. TO PATCH, SEAL, AND REPAIR OPENING TO MATCH EXISTING.
- REMOVE ROOFTOP OUTDOOR AIR INTAKE WEATHER CAP. G.C. TO PATCH, SEAL, AND REPAIR OPENING TO MATCH EXISTING.

### **DEMOLITION NOTE:**

COORDINATE DEMOLITION, INCLUDING PATCHING, SEALING, AND REPAIR WORK, WITH ARCHITECTURAL WORK.

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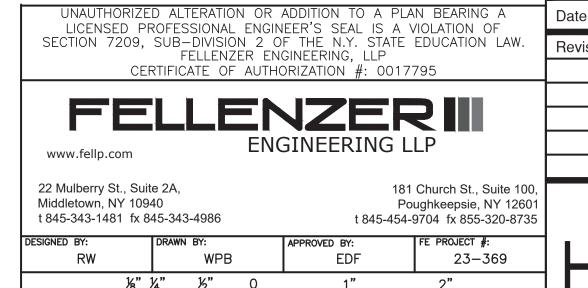


### **DEMOLITION NOTES:**

- 1. ALL HYDRONIC PIPING IS 1¼" UNLESS OTHERWISE NOTED.
- 2. REMOVE ALL HYDRONIC PIPING NOT RUN WITHIN WALLS OR UNDER SLAB. CUT BACK PIPES BEHIND THE WALL AND FLOOR, THEN CAP LINES TO ABANDON IN-PLACE. PATCH, SEAL, AND REPAIR WALLS AND FLOORS TO MATCH EXISTING.

### **DEMOLITION KEYED NOTES:**

- DEMOLISH PTAC HYDRONIC PIPING BACK TO WALL/FLOOR PENETRATION AND CAP TO ABANDON IN-PLACE. G.C. TO PATCH, SEAL AND REPAIR WALL/FLOOR TO MATCH EXISTING.
- 2 CUT AND CAP HYDRONIC PIPING BEHIND WALL/FLOOR PENETRATION. G.C. TO PATCH, SEAL AND REPAIR WALL/FLOOR TO MATCH EXISTING.
- 3 EXISTING FIN TUBE HEATING ELEMENT AND ENCLOSURE TO BE REMOVED. DEMOLISH HYDRONIC PIPING BACK THROUGH WALL/FLOOR AND CAP TO ABANDON IN-PLACE. G.C. TO PATCH, SEAL, AND REPAIR WALL/FLOOR TO MATCH EXISTING.
- 4 SEE DETAIL 1/H7.01 FOR HYDRONIC HEATING PIPING IN THIS AREA.
- 5 DEMOLISH HYDRONIC UNIT HEATER. G.C. TO PATCH, SEAL, AND REPAIR WALL/FLOOR TO MATCH EXISTING.



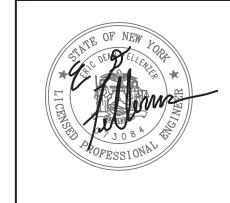
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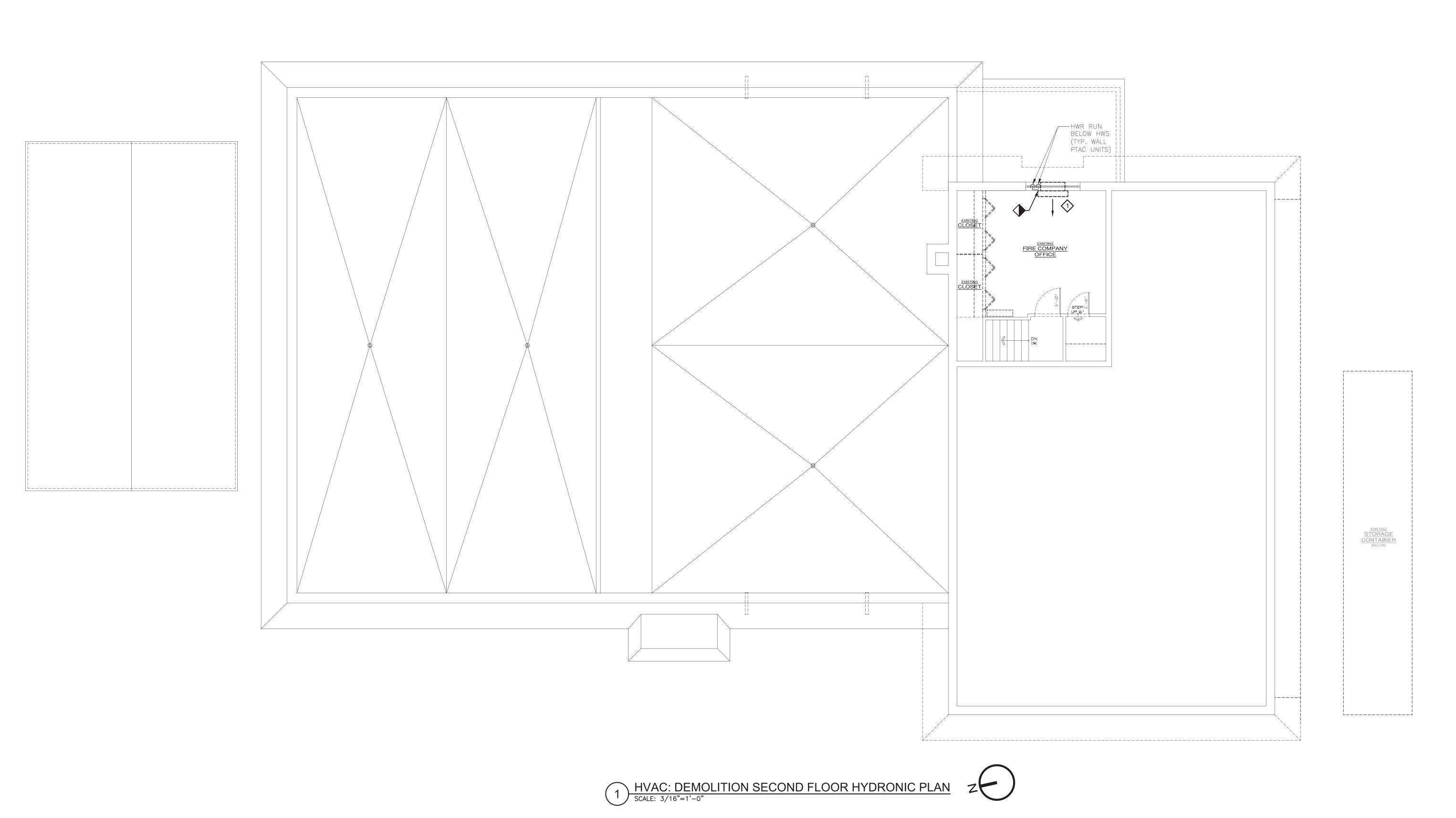
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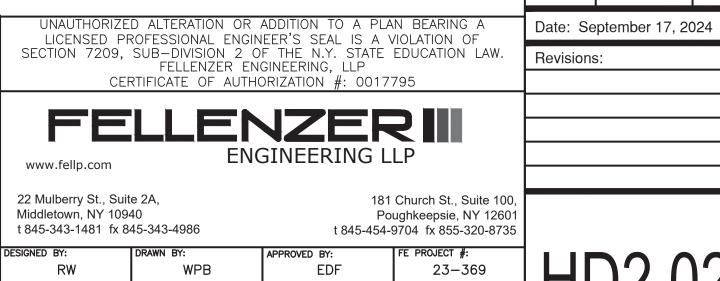


### **DEMOLITION KEYED NOTE:**

DEMOLISH PTAC HYDRONIC PIPING BACK THROUGH WALL/FLOOR PENETRATION AND CAP TO ABANDON IN-PLACE. G.C. TO PATCH, SEAL ANR REPAIR WALL/FLOOR TO MATCH EXISTING.

### **DEMOLITION NOTES:**

- 1. ALL HYDRONIC PIPING IS 11/4" UNLESS OTHERWISE NOTED.
- 2. REMOVE ALL HYDRONIC PIPING NOT RUN WITHIN WALLS OR UNDER SLAB. CUT BACK PIPES BEHIND THE WALL AND FLOOR, THEN CAP LINES TO ABANDON IN-PLACE. G.C. TO PATCH, SEAL, AND REPAIR WALLS AND FLOORS TO MATCH EXISTING.



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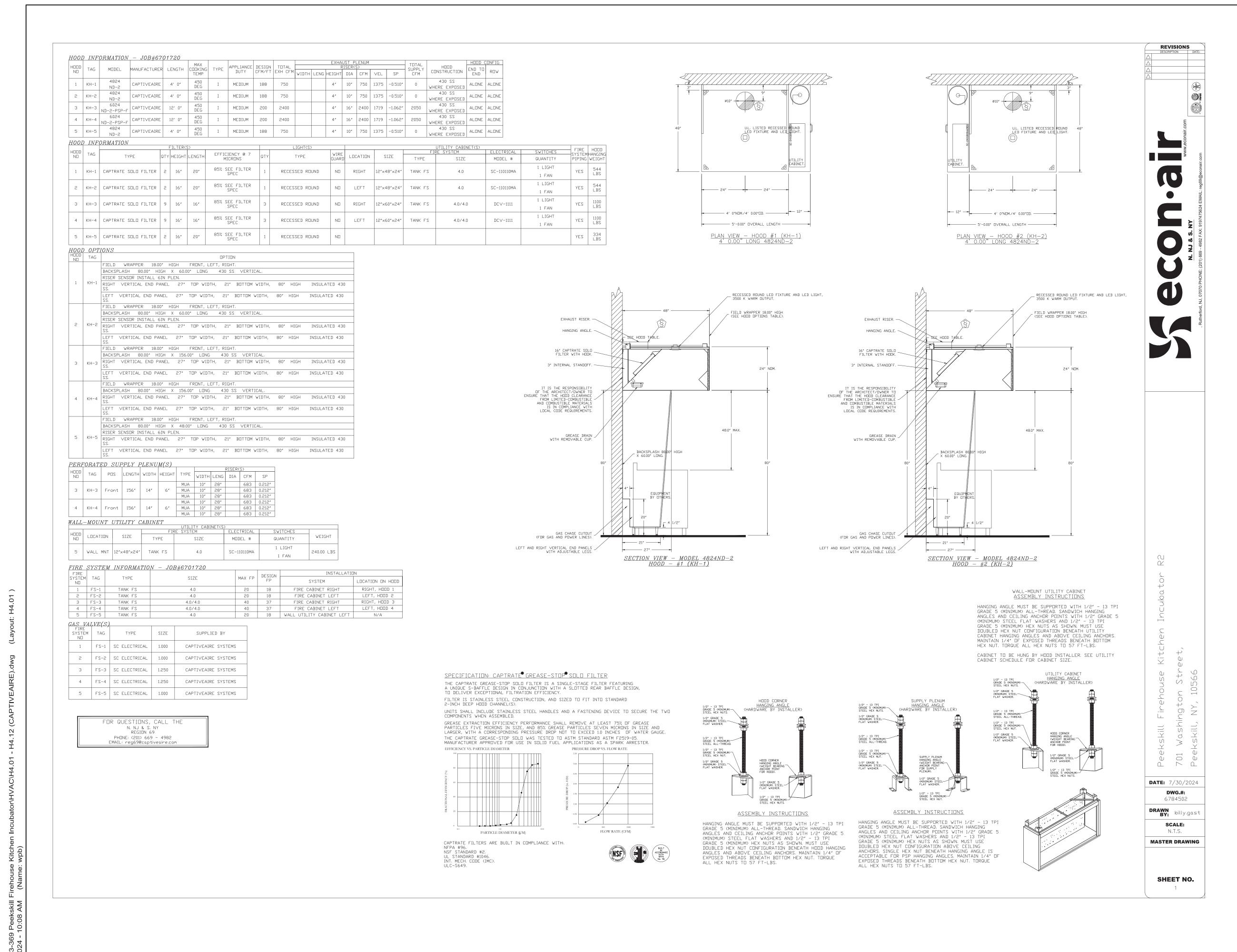
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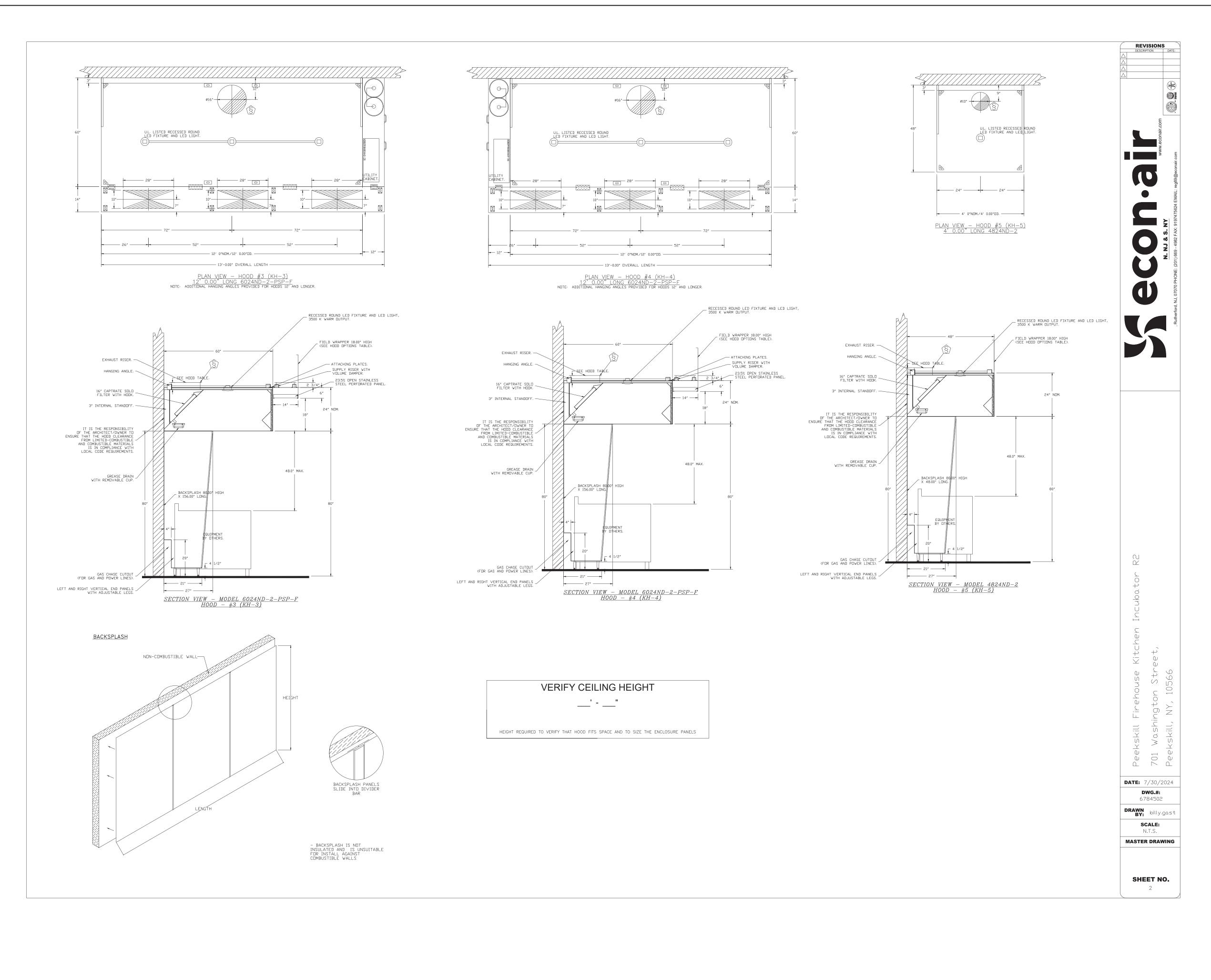
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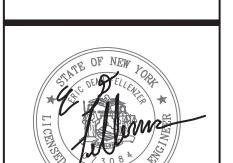
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GAS FIRED MAKE-UP AIR UNIT(S) FAN UNIT TAG INPUT DUTPUT TEMP RISE NO GAS TYPE BURNER EFFICIENCY(%) REQUIRED INPUT GAS PRESSURE 9 MUA-K3 147846 136018 63°F 7 IN. W.C. - 14 IN. W.C. NATURAL 10 MUA-K4 147846 136018 63°F 7 IN. W.C. - 14 IN. W.C. NATURAL

MANUFACTURER BLOWER RETURN AIR CFM CFM CFM CLBS)

TOTAL WEIGHT (LBS)

HP PHASE VOLT MCA MOCP GAS TYPE BTUS BTUS PRISE 11 MUA-SPACE 1 CAS-HVAC3-I.500-24 CAPTIVEAIRE 24P-3 0 5200 5200 1923 0.750 10.00 3 208 36.34 60A NATURAL 482846 391105 63°F

7 IN. W.C. - 14 IN. W.C. NOTES!

1. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE
2. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER
3. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
4. 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 20GA EXTERIOR W/ 14GA BASE
5. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP
6. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE
7. STATIC PRESSURE CONTROLLED BLOWER
8. SIDE DISCHARGE/SIDE RETURN

DOAS/RTU MODEL #

DOAS/RTU FAN SCHEDULE - JOB#6784502

7.4.37	ODWIONG		
<u>an</u> Fan	<u> </u>		
TINU	TAG	QTY	DESCRIPTION
		1	GREASE BOX
1	EF-K1A	1	ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
		1	ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO
2	EF-K1B		MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY  GREASE BOX
2	EE KOA		ECM WIRING PACKAGE - MANUAL DR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO
3	EF-K2A	1	MOTOR), CCV ROTATION
		1	2 YEAR PARTS WARRANTY
4	EF-K2B	1	ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO   MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
5	EF-K3	1	GREASE BOX
		1	2 YEAR PARTS WARRANTY  GREASE BOX
6	EF-K4	1	2 YEAR PARTS WARRANTY
		1	GREASE BOX
7	EF-K5A	1	ECM WIRING PACKAGE - PWM SIGNAL FROM ECPMO3 PREWIRE (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
8	EF-K5B	1	ECM WIRING PACKAGE - MANUAL DR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY SIZE 1 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING - MEETS AMCA CLASS 1A RATING
9	MUA-K3	1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS   ECM WIRING PACKAGE-SUPPLY - PWM SIGNAL FROM ECPMO3 PREWIRE (3 - PHASE ZIEHL
		1	MOTOR)
		1	2 YEAR PARTS WARRANTY
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET
		1	SIZE 1 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC  MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING - MEETS AMCA CLASS 1A RATING
10	MUA-K4	1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
10	MOA-K4	1	ECM WIRING PACKAGE-SUPPLY - PWM SIGNAL FROM ECPMO3 PREWIRE (3 - PHASE ZIEHL MOTOR)
		1	2 YEAR PARTS WARRANTY
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	INTAKE FIRESTAT SET TO 135°F
		1	FREEZESTAT
		1	DISCHARGE FIRESTAT SET TO 240°F
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	2" MERV 13 FILTERS FOR RTU3 (QTY. 4)
		1	2" MENV O FILTERS FIRE RIVES (OTV 4)

2" MERV 8 FILTERS FOR RTU3 (QTY. 4)

11 MUA-SPACE 1 SIZE 3 RTU NO COOLING OPTION

RTU3 SIDE DISCHARGE RTU3 SIDE RETURN

RTU3 CURB DUCT HANGER

VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE

1 COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
1 DCCUPIED SCHEDULING
1 CLOGGED FILTER SWITCH - NOTIFICATION ON HMI

RTU INTAKE/RETURN DAMPER - DA PERCENTAGE CONTROL

VAV PACKAGE W/ BUILDING STATIC PRESSURE CONTROL- MUA -0.25" TO +0.25" OF WC. (571 VFD INCLUDED)

5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)

EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

CUR	B ASS	SEMBLIES				
NO	□N FAN	TAG	WEIGHT	ITEM	SIZE	
1	# 1	EF-K1A	31 LBS	CURB	19.500"W X 19.500"L X 20.000"H	VENTED HINGED.
2	# 2	EF-K1B	27 LBS	CURB	19.500"W X 19.500"L X 20.000"H	VENTED.
3	# 3	EF-K2A	31 LBS	CURB	19.500"W X 19.500"L X 20.000"H	VENTED HINGED.
4	# 4	EF-K2B	27 LBS	CURB	19.500"W X 19.500"L X 20.000"H	VENTED.
5	# 5	EF-K3	43 LBS	CURB	26.500"W X 26.500"L X 20.000"H	VENTED HINGED.
6	# 6	KEF-3	43 LBS	CURB	26.500"W X 26.500"L X 20.000"H	VENTED HINGED.
7	# 7	KEF-1A	31 LBS	CURB	19.500"W X 19.500"L X 20.000"H	VENTED HINGED.
8	# 8	KEF-1A	27 LBS	CURB	19.500"W X 19.500"L X 20.000"H	VENTED.
9	# 9	MUA-K3	65 LBS	CURB	21.000"W X 71.000"L X 20.000"H	INSULATED.
10	# 10	MUA-K3	65 LBS	CURB	21.000"W X 71.000"L X 20.000"H	INSULATED.
11	# 11	MUA-SPACE	215 LBS	CURB	59.500"W X 91.000"L X 20.000"H	INSULATED 16 GAUGE.

REQUIRED INPUT GAS PRESSURE

(8) GREASE DUCT & CHIMNEY SPECIFICATIONS: PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE. PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS DUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

ELECTRICAL PACKAGE - JOB#6784502

5 K5 SC-110110MA WALL UTILITY CABINET LEFT

LOCATION

UTILITY CABINET RIGHT

UTILITY CABINET LEFT

UTILITY CABINET RIGHT

UTILITY CABINET LEFT

ND TAG PACKAGE #

K1 SC-110110MA

2 K2 SC-110110MA

3 K3 DCV-1111

4 K4 DCV-1111

NOTES

1,2,3,4,5,6,7,8

SWITCHES

1 FAN

1 LIGHT

1 FAN

1 FAN

1 LIGHT

1 FAN

1 LIGHT

1 FAN

ITILITY CABINET

RIGHT

HDDD # 1 JTILITY CABINE

HOOD # 2

H00D # 3

HDDD # 4

PREWIRE

TILITY CABINET

TILITY CABINET

OPTION

SMART CONTROLS THERMOSTATIC CONTROL
W/ RELAY ON/OFF WITH SUPPLY

SMART CONTROLS THERMOSTATIC CONTROL
W/ RELAY ON/OFF WITH SUPPLY

SMART CONTROLS DCV

SMART CONTROLS DCV

W/ RELAY ON/OFF WITH SUPPLY

### **HVAC DISTRIBUTION NOTE**

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD, PERFORATED DIFFUSERS ARE RECOMMENDED.

REVISIONS

FANS CONTROLLED

EXHAUST 1 0.500 115 6.3

EXHAUST 1 0.500 115 6.3

EXHAUST 3 1.500 208 6.6

SUPPLY 3 2.500 208 5.7

EXHAUST 3 1.500 208 6.6

SUPPLY 3 2.500 208 5.7

EXHAUST 1 0.500 115 6.3

EF-K1A

EF-K2A

EF-K3

EF-K4

MUA-K4

EF-K5A

**DATE:** 7/30/2024

6784502

DRAWN billy.gast

**MASTER DRAWING** 

SHEET NO.

THE FOLLOWING PIECES OF EQUIPMENT ARE SHOWN BY (2) NAMES:

NOTE ON NAME EQUIVALENCES:

KEF-1A - EF-K1A KEF-1B - EF-K1B KEF-2A - EF-K2A KEF-2B - EF-K2B KEF-3 - EF-K3 KEF-4 - EF-K4 KEF-5A - EF-K5A KEF-5B - EF-K5B DOAS-1 - MUA-SPACE A R C H I T E C T

Joseph G. Thompson Architect, PLLC 108 N Division Street, Ste 100 Peekskill, New York 10566 PH: (8 4 5) 5 3 2 - 8 1 5 6 EM: joe@jthompsonarch.com

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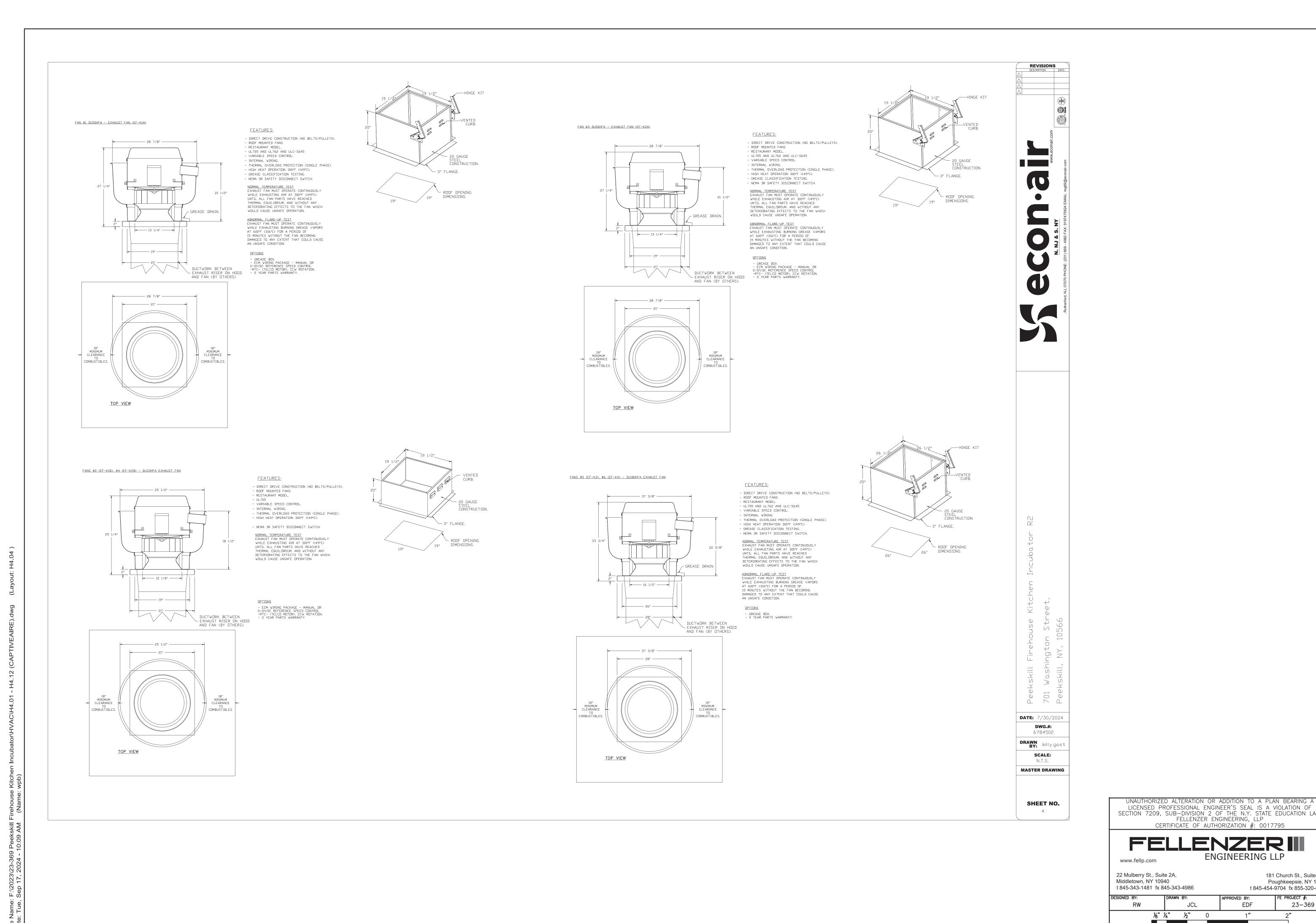
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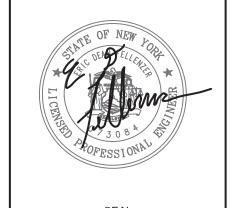
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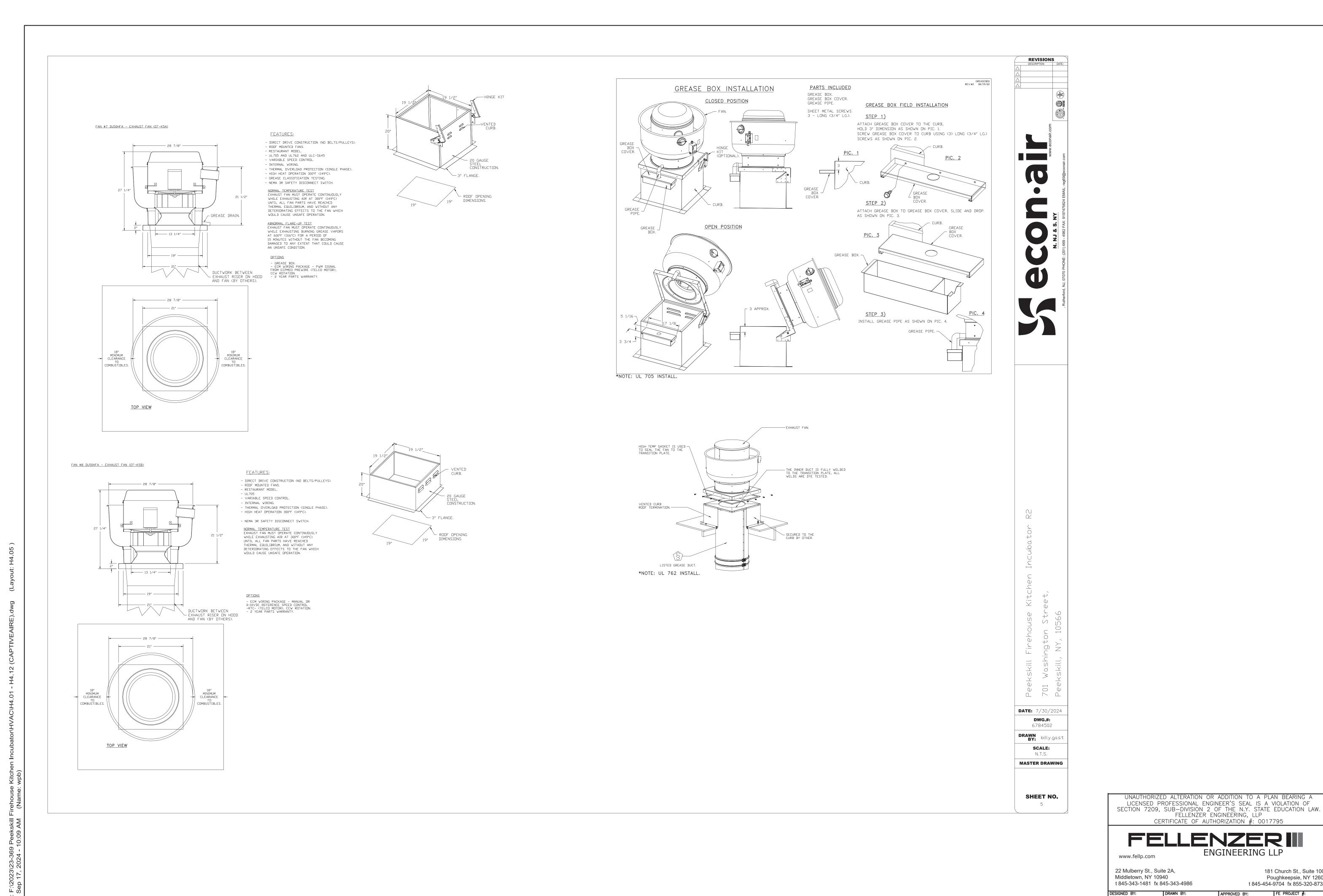
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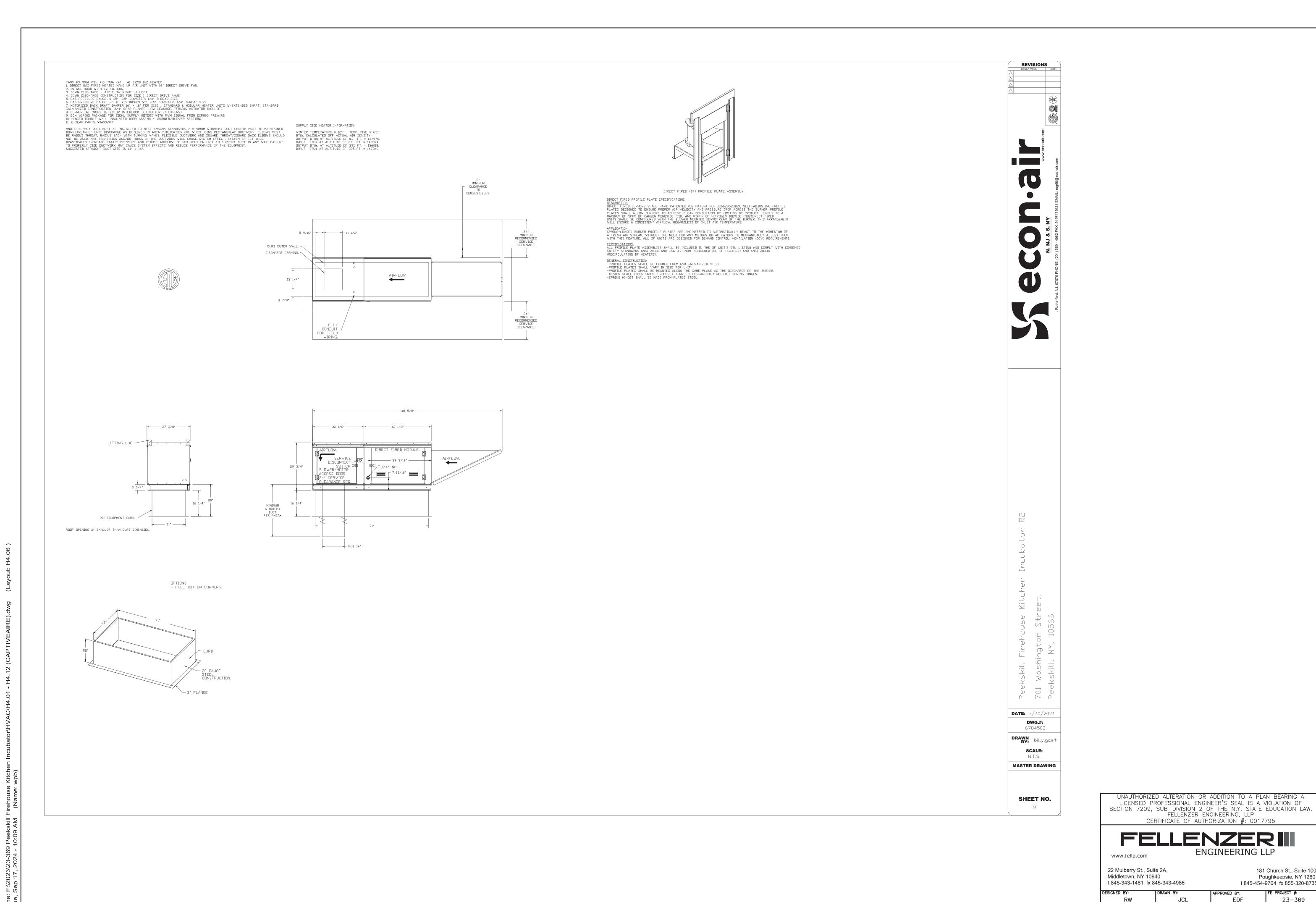
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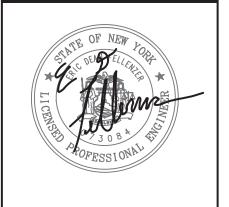
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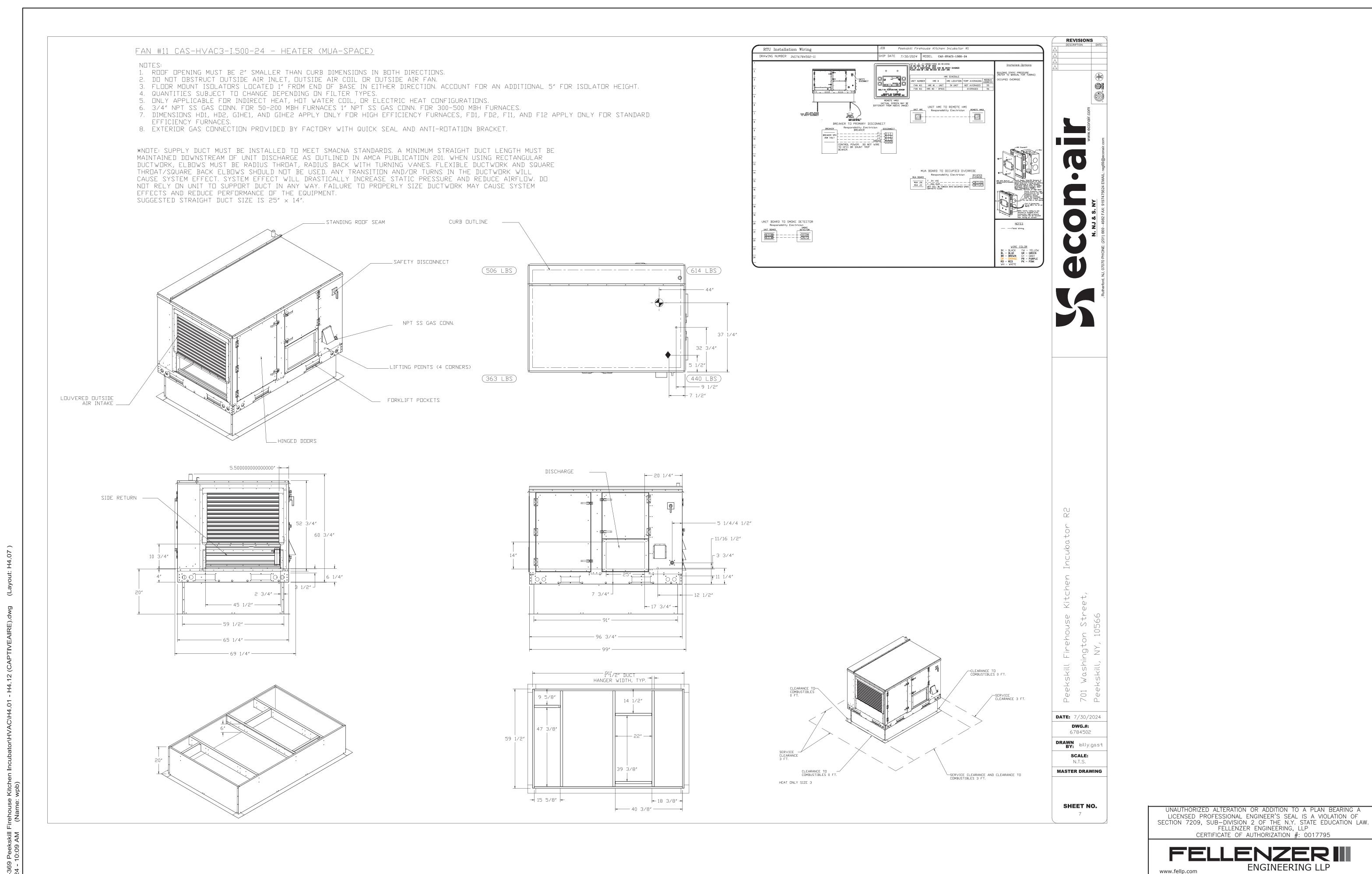
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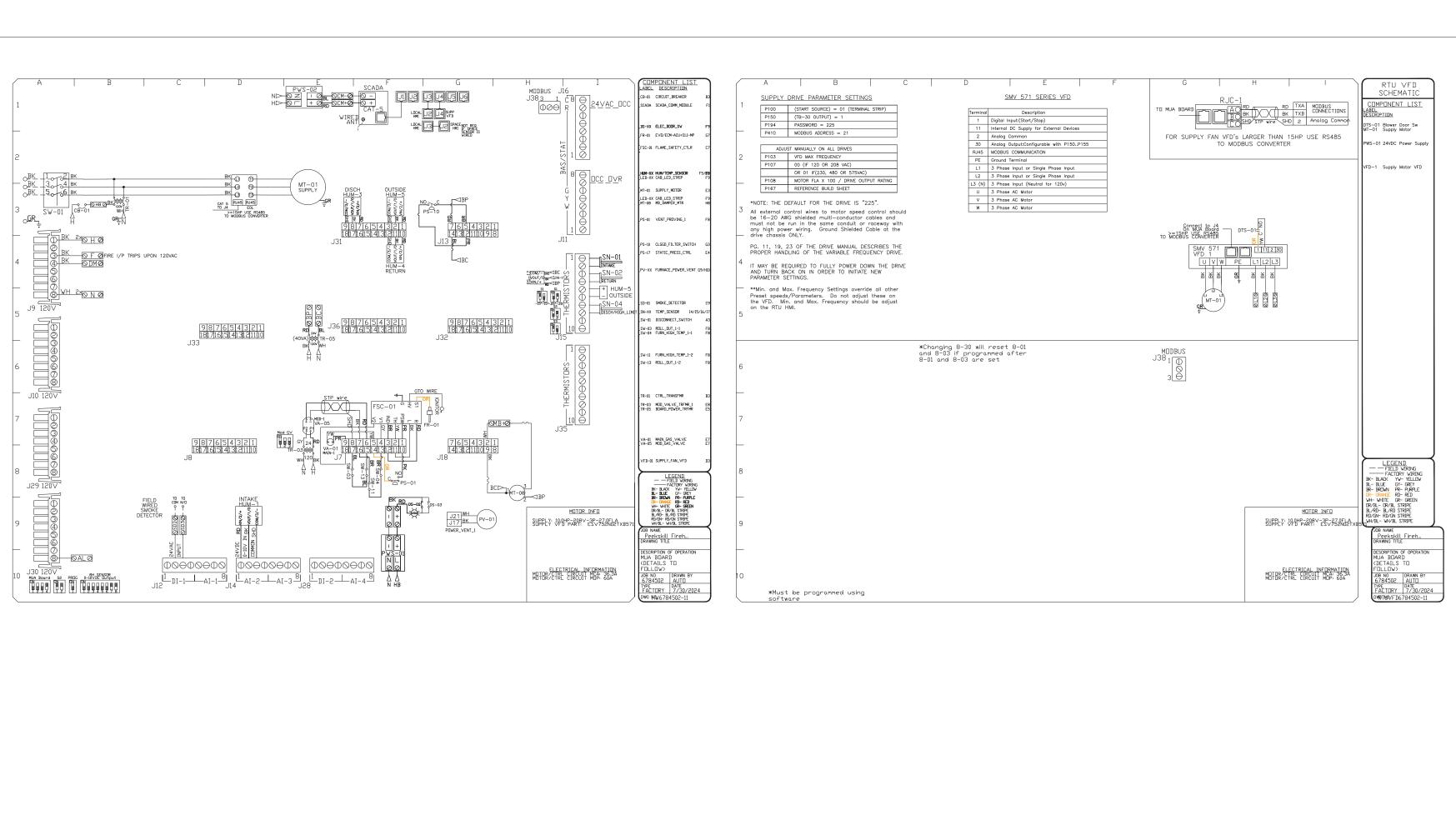
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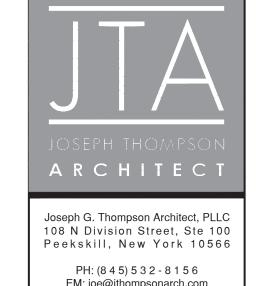
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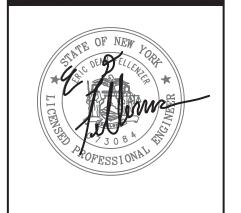
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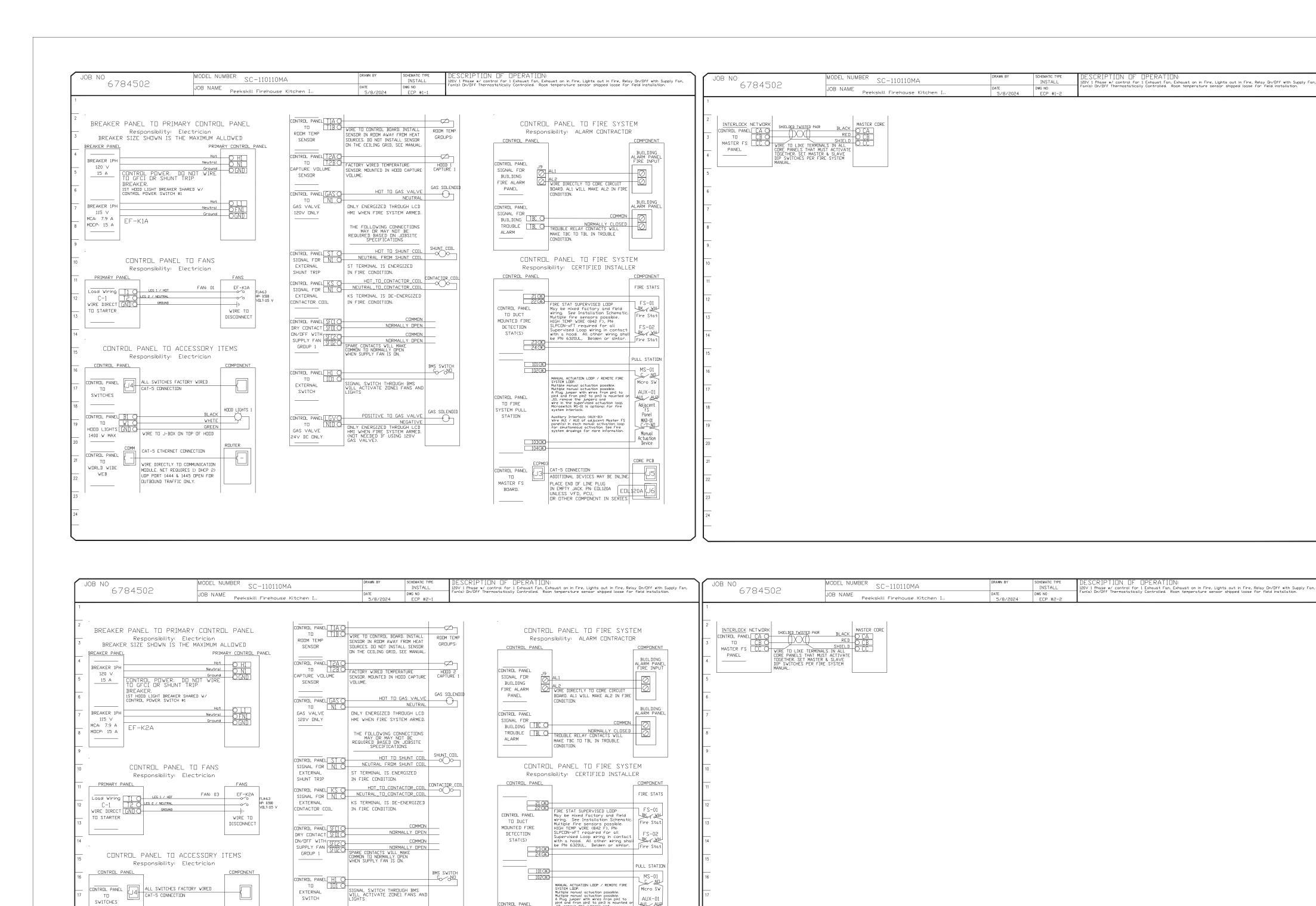
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CORE PCB

CONTROL PANEL J3 CAT-5 CONNECTION
TO ADDITIONAL DEVICES MAY BE INLINE.

MASTER FS PLACE END OF LINE PLUG
IN EMPTY JACK. PNi EDILEDA
UNLESS VFD. PCU.

PLACE END OF LINE PLUG
IN EMPTY JACK. PN: EDL120A
UNLESS VFD, PCU,
OR OTHER COMPONENT IN SERIES.

TO FIRE SYSTEM PULL

STATION

CONTROL PANEL GYO

TO NID O

GAS VALVE
HMI WHEN FIRE SYSTEM ARMED.
(NDT WEEDED IF USING 120V
GAS VALVE).

POSITIVE TO GAS VALVE



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CONTROL PANEL BI O WHITE
TO WI O GREEN
HOOD LIGHTS GND O WIRE TO J-BOX ON TOP OF HOOD

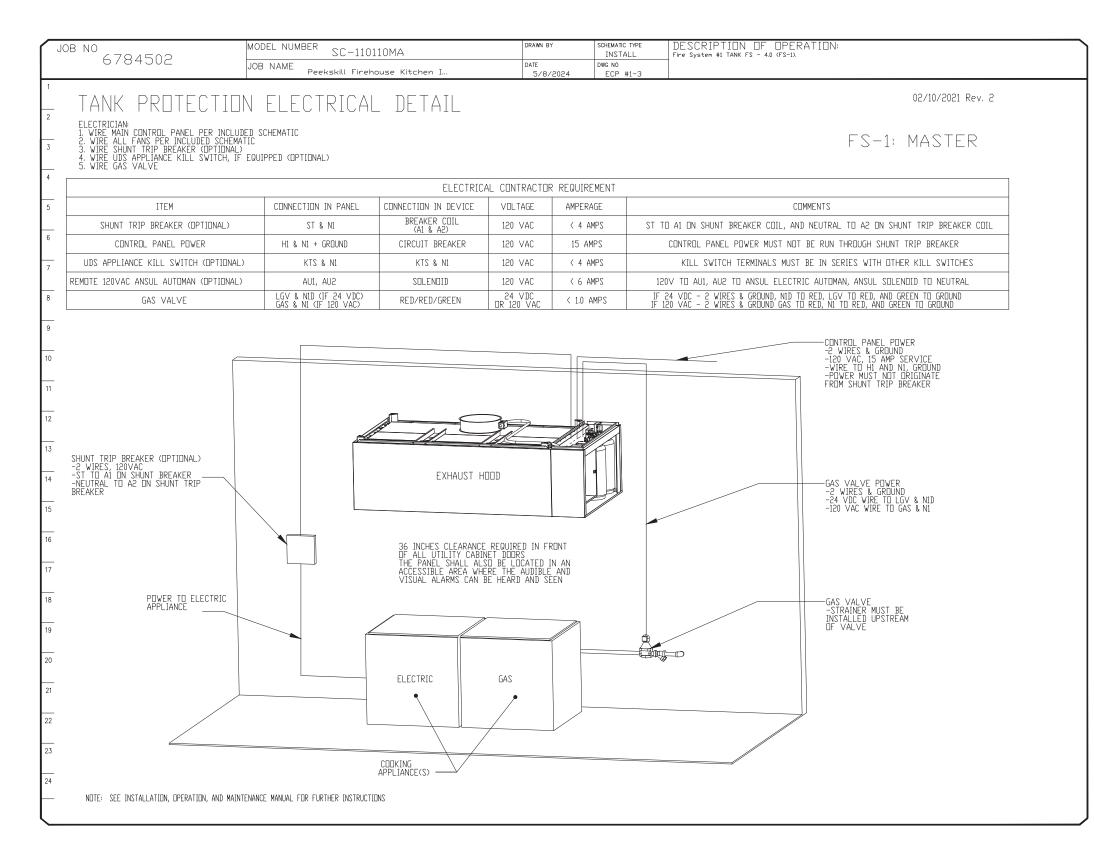
CONTROL PANEL

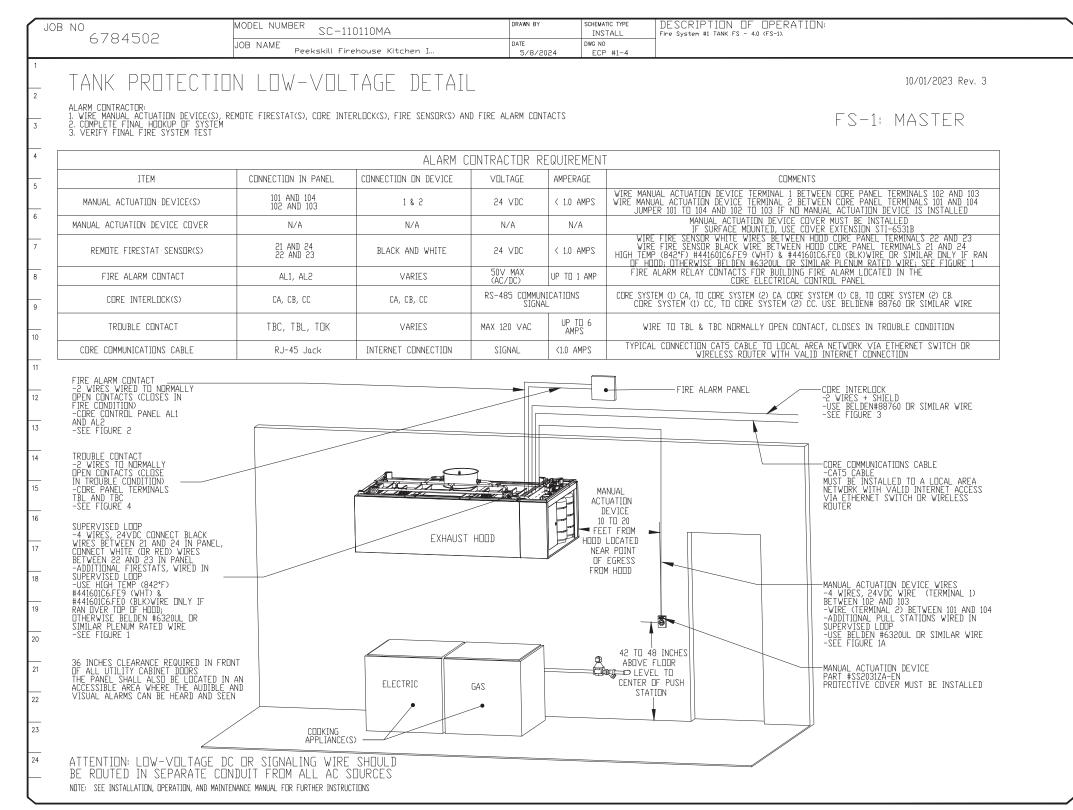
WORLD WIDE

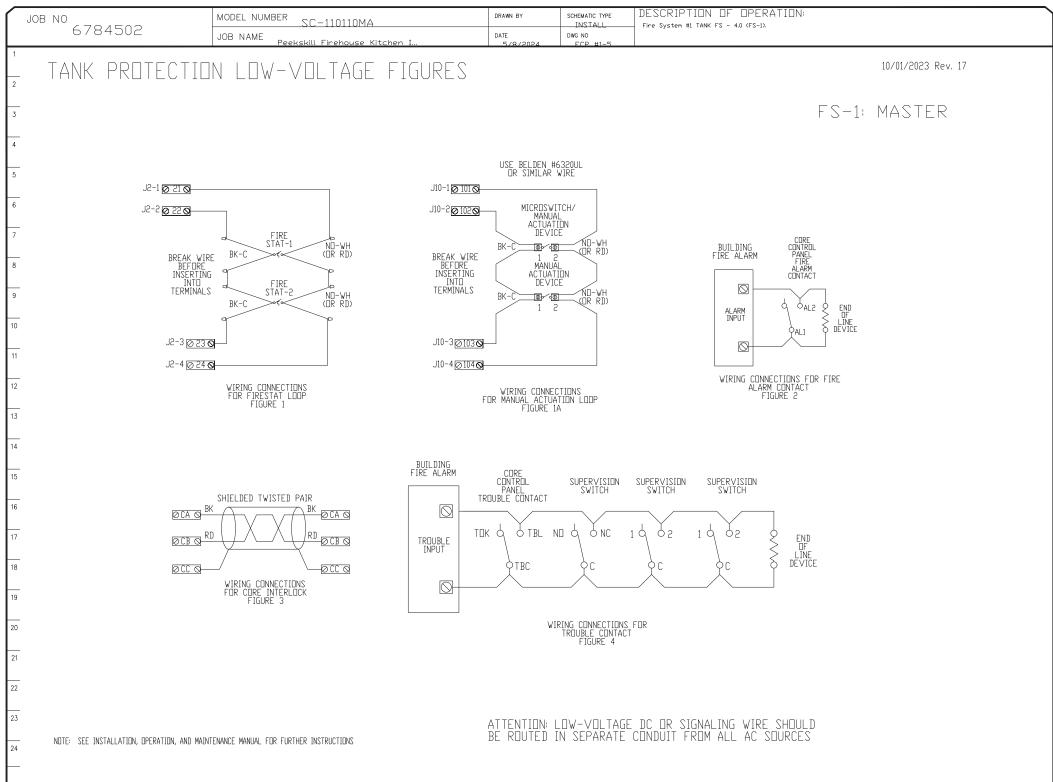
WEB

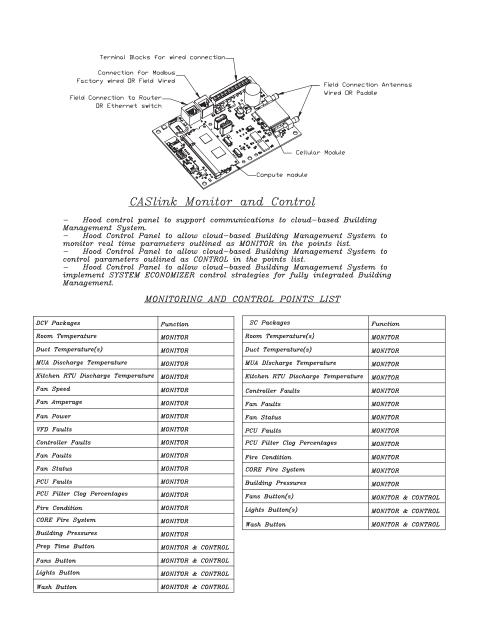
COMM CAT-5 ETHERNET CONNECTION

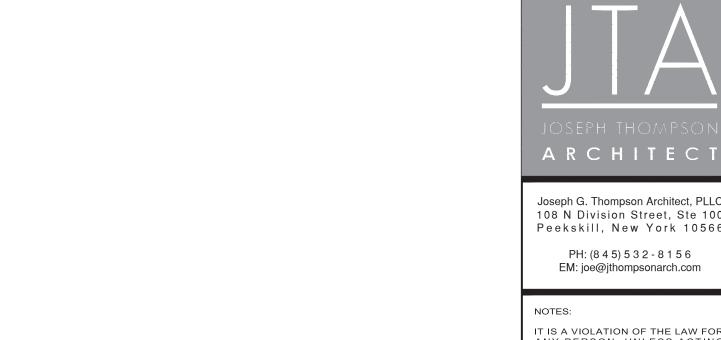
MODULE. NET REQUIRES 1) DHCP 2) UDP PORT 1444 & 1445 OPEN FOR OUTBOUND TRAFFIC ONLY.











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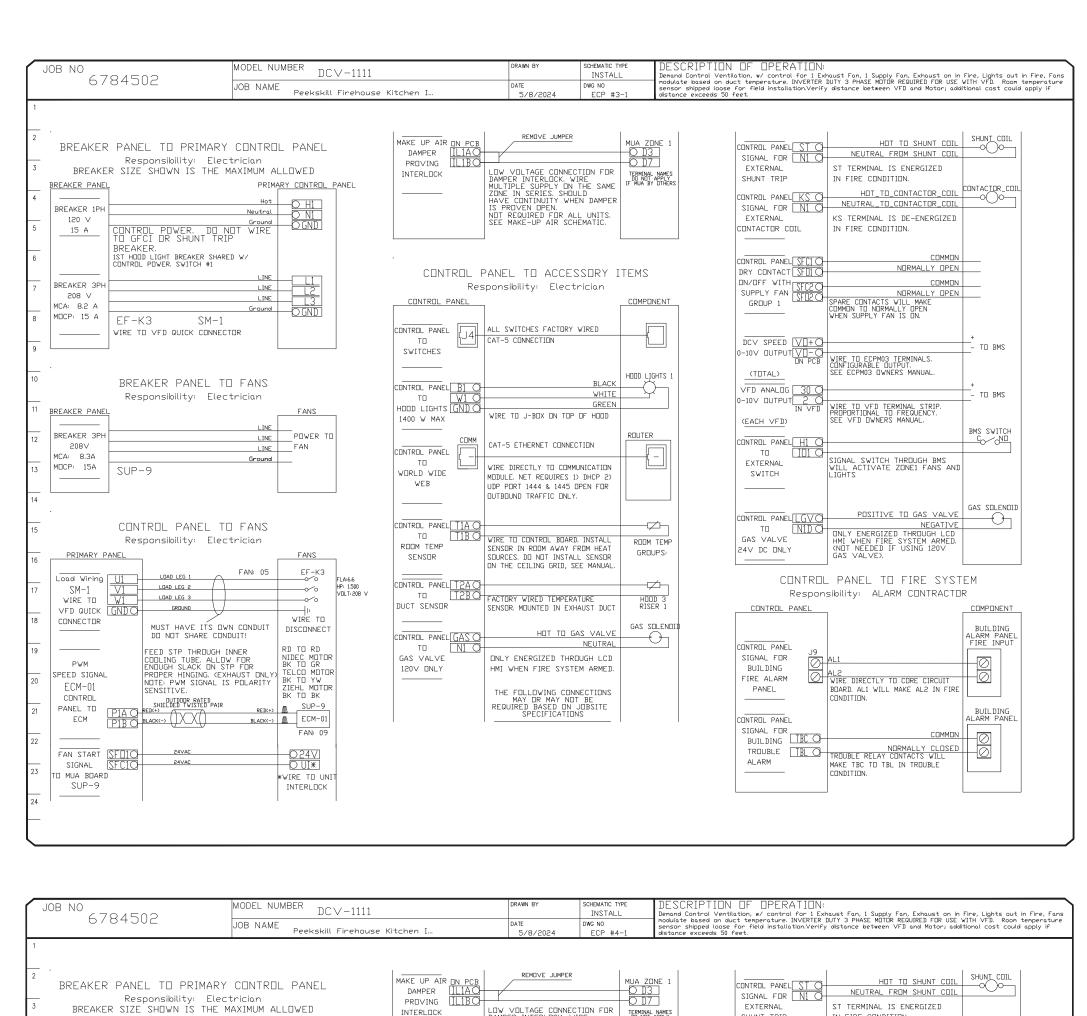
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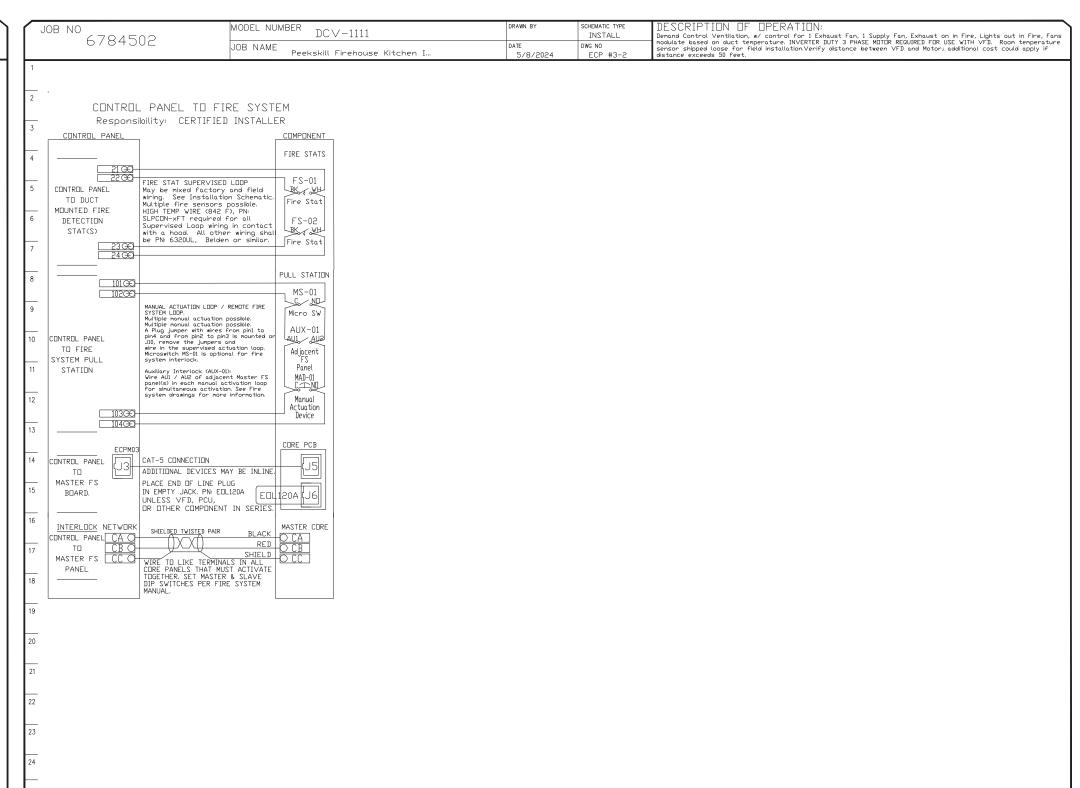
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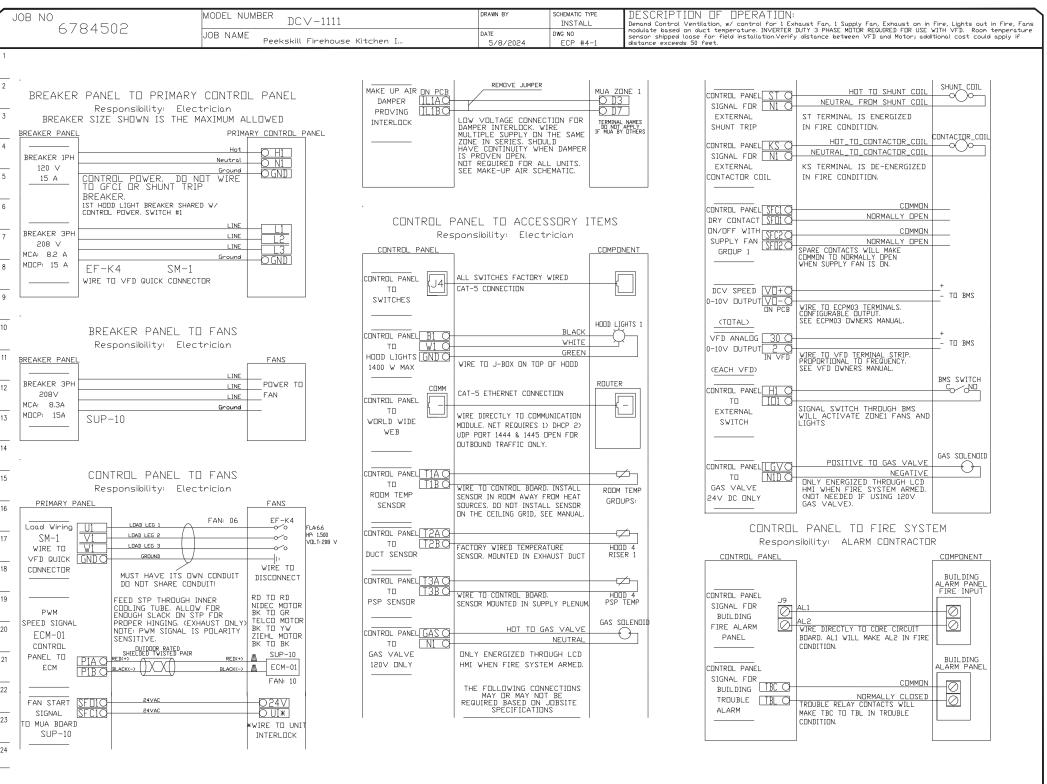
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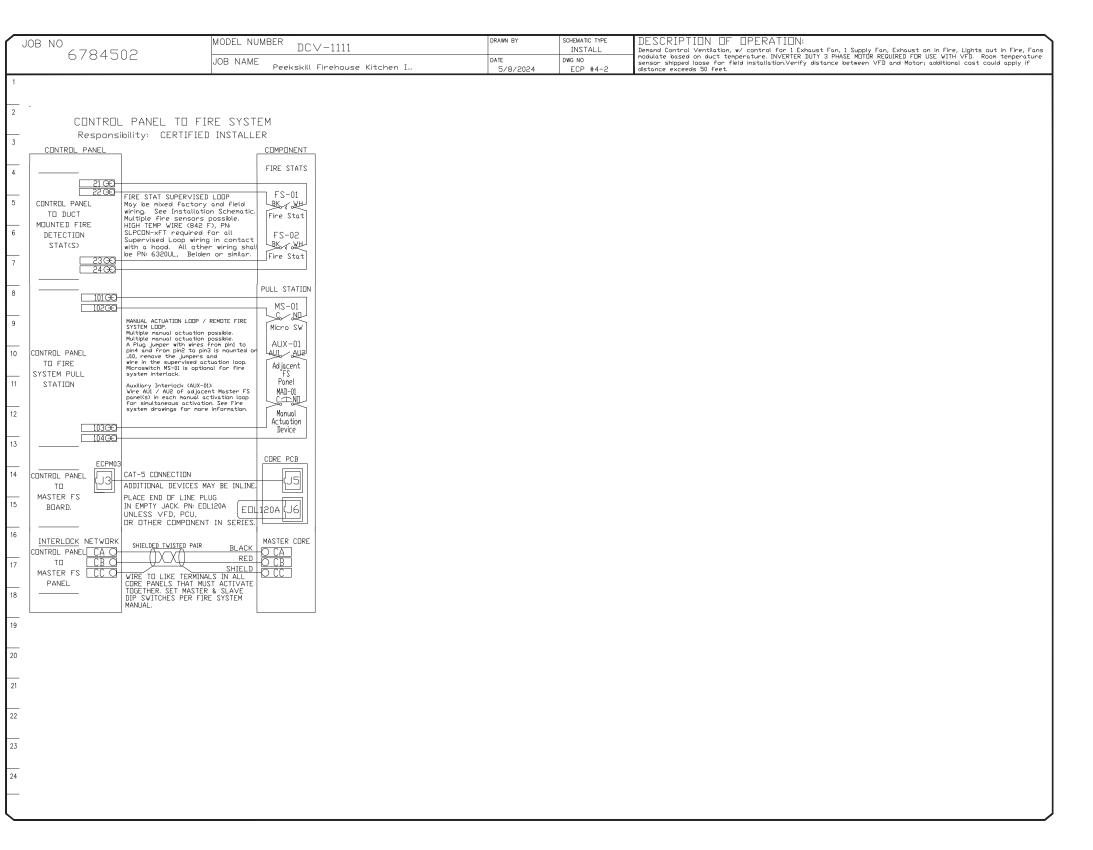
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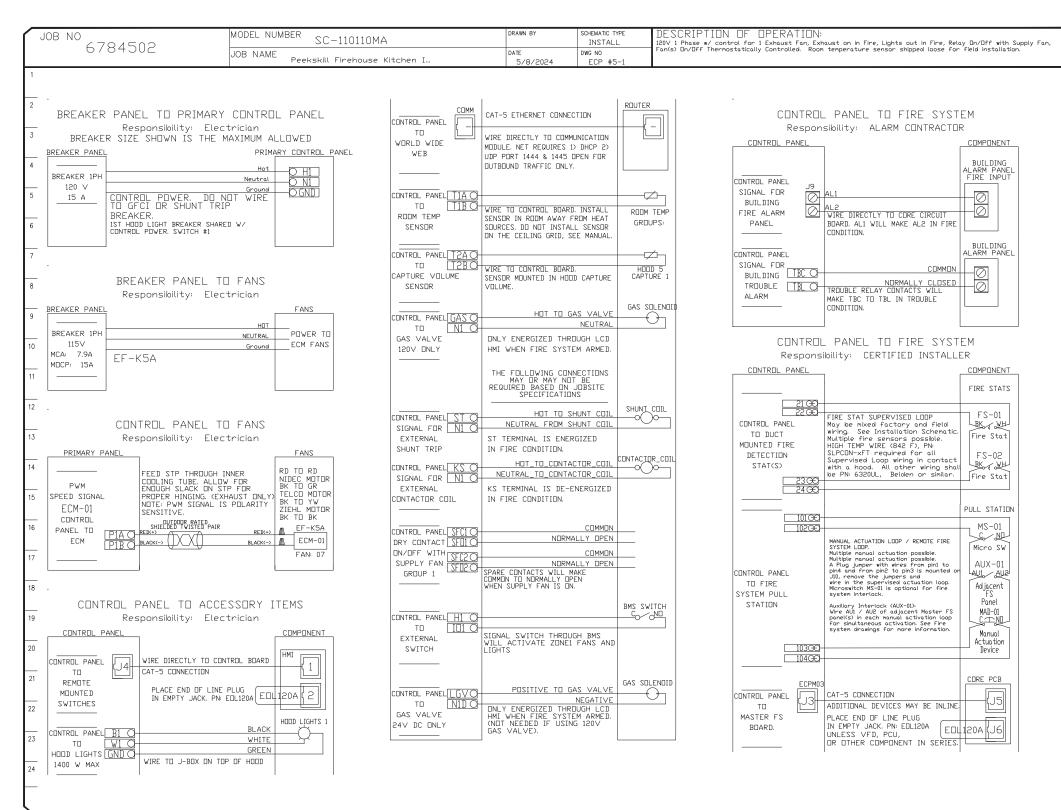
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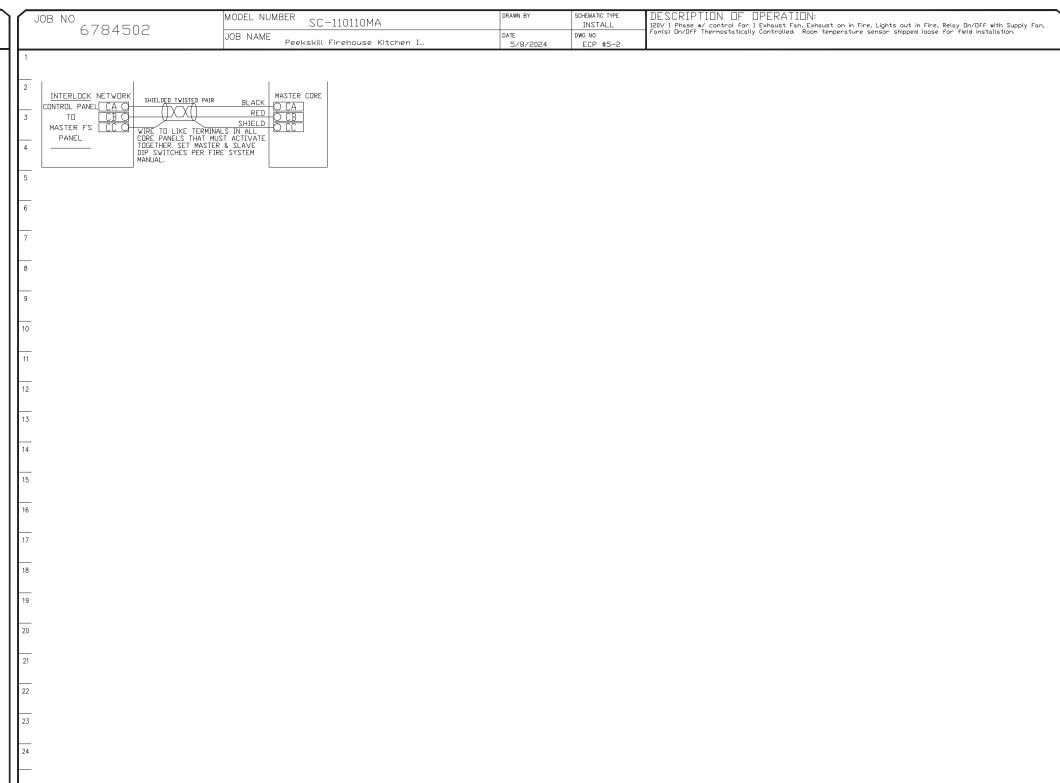
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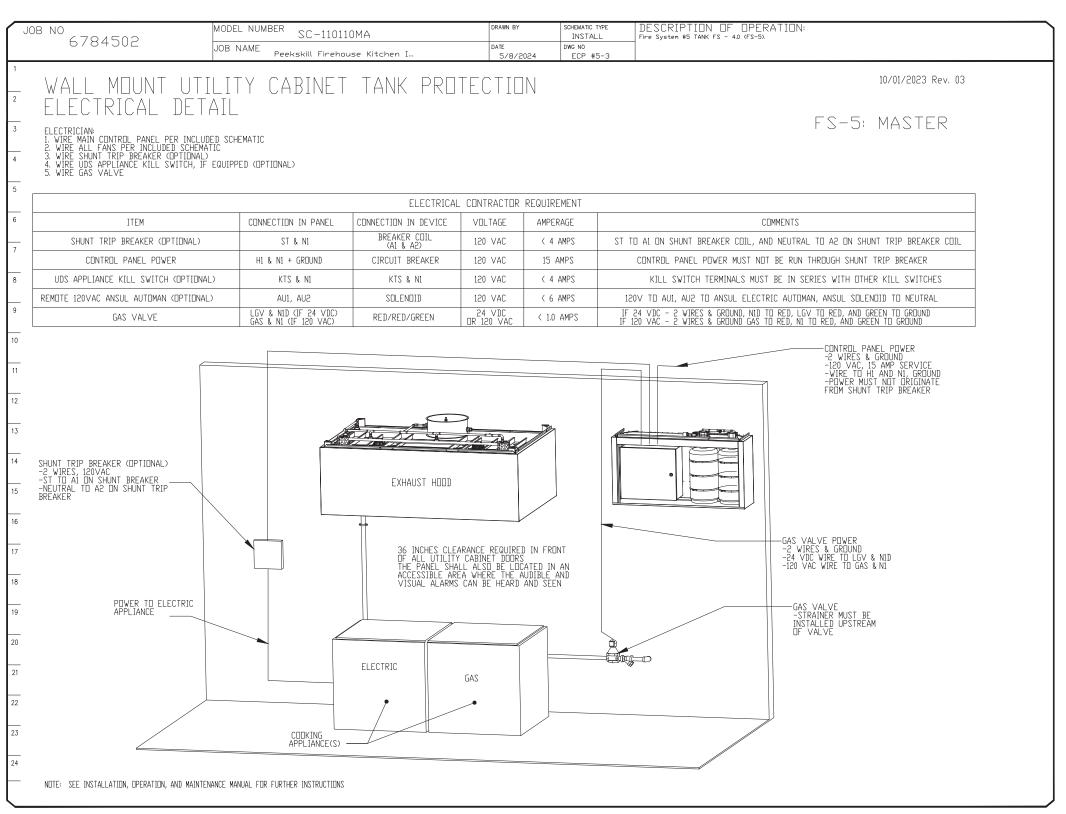
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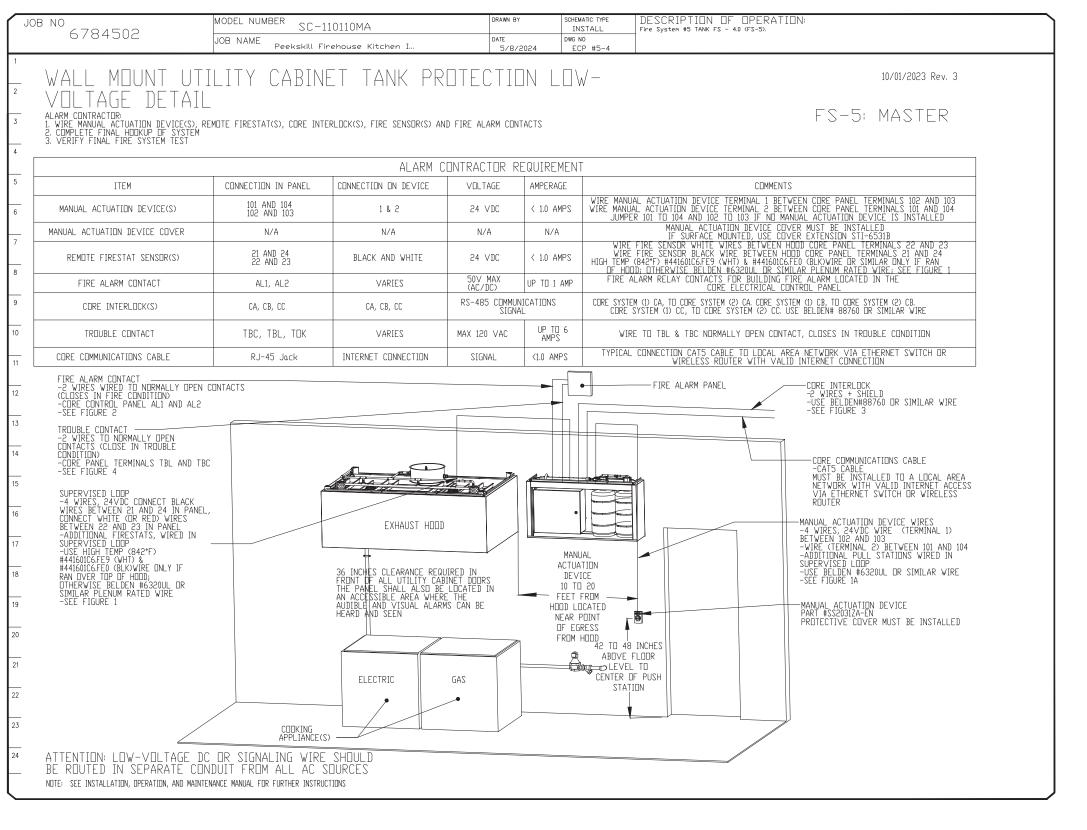
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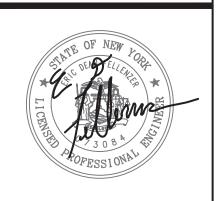
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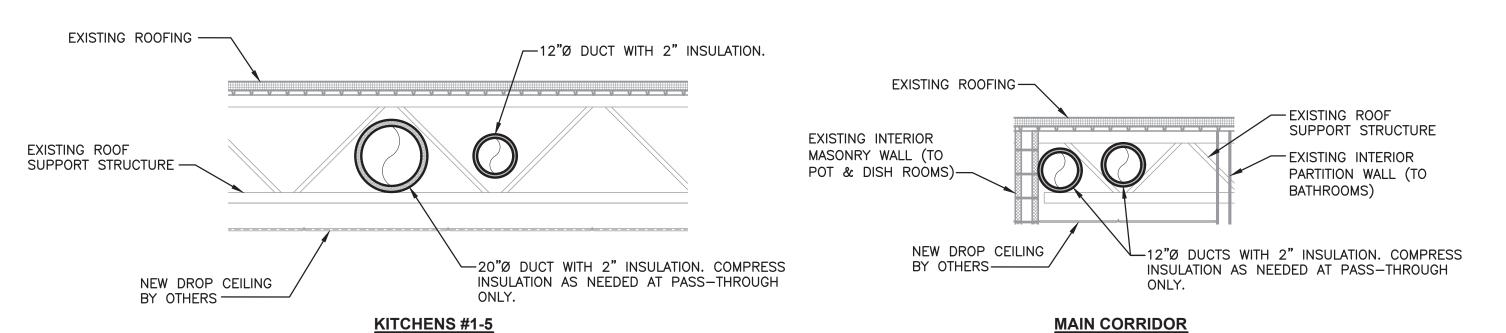
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PEEKSKIL Date: September 17, 2024

UNAUTHORIZED ALTERATION OR ADDITION TO A PLAN BEARING A LICENSED PROFESSIONAL ENGINEER'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE N.Y. STATE EDUCATION LAW. Revisions: FELLENZER ENGINEERING, LLP CERTIFICATE OF AUTHORIZATION #: 0017795 FELLENZER III ENGINEERING LLP www.fellp.com 22 Mulberry St., Suite 2A, 181 Church St., Suite 100 Middletown, NY 10940 Poughkeepsie, NY 12601 t 845-343-1481 fx 845-343-4986 t 845-454-9704 fx 855-320-8735 FE PROJECT #: 23-369 EDF

### **BOILER EQUIPMENT SCHEDULE:**

- 1 COMBINATION LIGHT OIL & NATURAL GAS HYDRONIC HEATING BOILER, 600 MBH GROSS, 521.7 MBH IBR RATING.
- ② 2½" AIRTROL FITTING.
- (3) 40 GALLON ASME COMPRESSION TANK WITH GLASS GAUGE.
- (4) 1½" INLINE PUMP, 30 GPM @ 12' HEAD.
- (5) 1½" INLINE PUMP, 27 GPM @ 18' HEAD.
- 6&7 175 PSIG WORKING PRESSURE, 300°F RATED TRIPLE DUTY VALVE.
- 8 4" BRASS PRESSURE REDUCING VALVE SET AT 12 PSIG.
- 9 TANK AIRTROL FITTINGS.
- 10 DOMESTIC WATER HEATER, 18.6 GPM BOILER WATER AT 200°F, 100°F PER MINUTE TEMPERATURE RISE.
- 11) RELIEF VALVE.
- (12) COMBINATION LIGHT OIL & NATURAL GAS FORCED DRAFT BURNER, 8 GPH #2 OIL BURNING AT 5.65 GPH, 120 MBH NATURAL GAS CAPACITŸ.



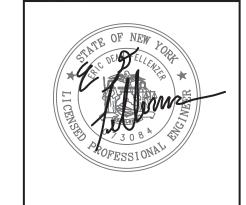
1. DO NOT INSULATE EXHAUST DUCTWORK

DUCTWORK THROUGH EXISTING ROOF SUPPORT STRUCTURE

# A R C H I T E C T Joseph G. Thompson Architect, PLLC 108 N Division Street, Ste 100 Peekskill, New York 10566 PH: (8 4 5) 5 3 2 - 8 1 5 6 EM: joe@jthompsonarch.com

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NY PROFESSIONAL ENGINEER NO. 073084-1 ISSUED 1995; EXP. 8/25

OR

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FOR

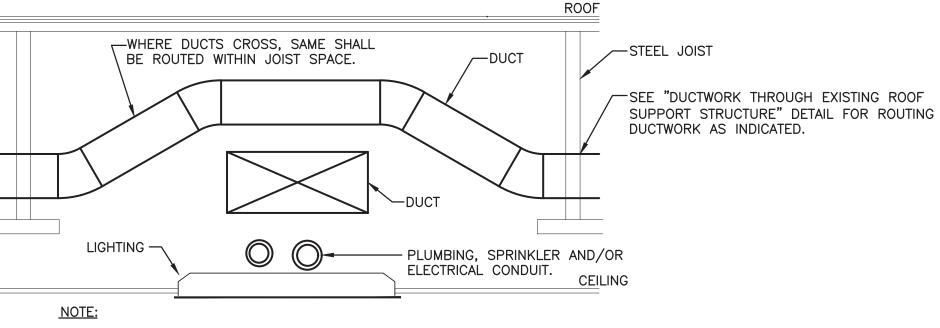
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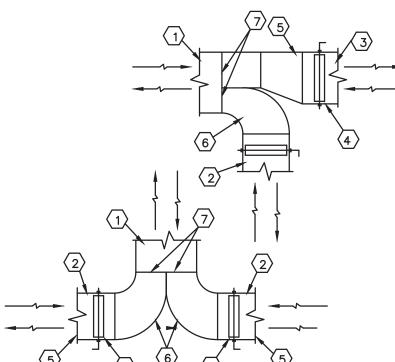
Revisions:

# EXISTING HOT WATER HEATING BOILER PIPING DIAGRAM (TO BE REMOVED)

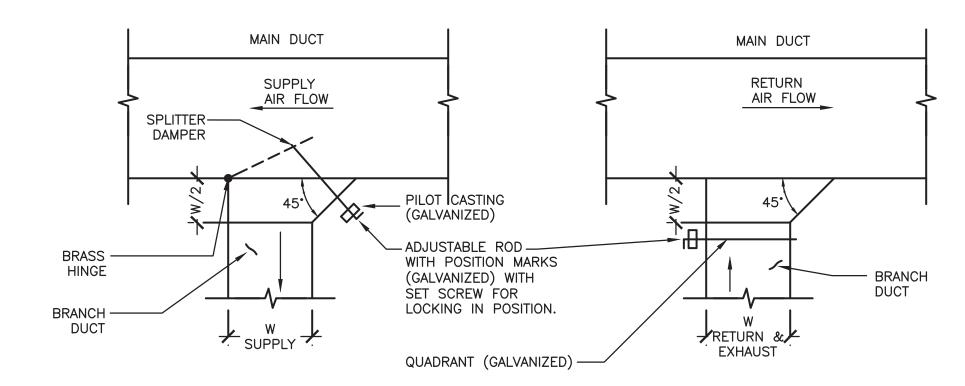


- 1. THIS DETAIL IS SHOWN FOR COORDINATION PURPOSES. SHOP DRAWINGS SHALL REFLECT THIS COORDINATION EFFORT WHERE LIGHTING, DUCT AND/OR PIPING CROSS. CONTRACTORS SHALL REFER TO OTHER TRADE DRAWINGS FOR COORDINATION PURPOSES. WHERE DUCT, PIPE OR CONDUIT DO NOT CROSS, SAME SHALL BE INSTALLED AS TIGHT TO STEEL AS PRACTICAL.
- 2. THE FOLLOWING PRIORITIES SHALL BE MAINTAINED IF A ROUTING CONFLICT ARISES: LIGHTING, DUCT WORK, PIPING (INCLUDING WATER, ELECTRICAL AND SPRINKLER). THIS, HOWEVER, DOES NOT ALLEVIATE THE CONTRACTOR FROM PROPER COORDINATION WITH OTHER TRADES.
- 3. WHERE THE ABOVE CONFLICTS WITH CODE, CODE REQUIREMENTS SHALL
- 4. ROUTE DUCT UNDER EXISTING MEMBERS OR THROUGH TRUSSES. MECHANICAL STRUCTURAL CONTRACTOR SHALL NOT PIERCE, CUT OR ALTER EXISTING STRUCTURAL MEMBERS.

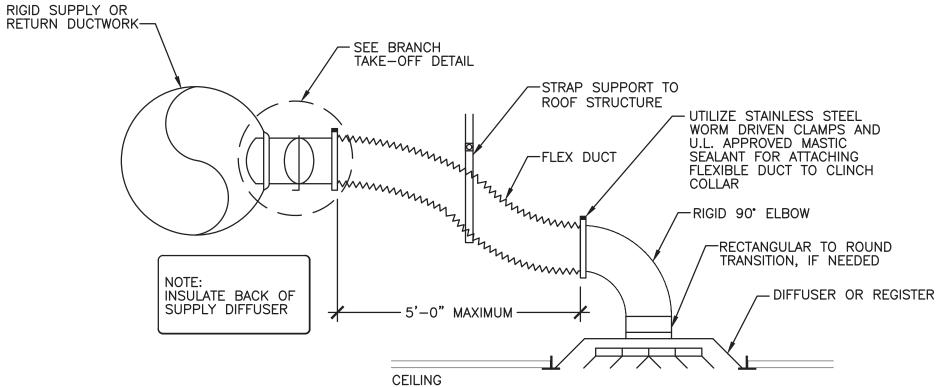
# PLENUM COORDINATION DETAIL



- DICATED ON PLANS (TYP)
- ER SMACNA DUCT MANUAL OR AS ON PLANS IGS, ELBOWS, TRANSITIONS, ETC. PER DUCT CONSTRUCTION MANUAL, AS INDICATED



TYPICAL LOW PRESSURE BRANCH TAKE-OFF DETAIL



SUPPLY DIFFUSER/RETURN REGISTER AND FLEX DUCT DETAIL

		1 MAIN SUPPLY, RETURN OR EXHAUST DUCT ( 2 BRANCH DUCT (DIVERGING OR CONVERGING OR GOVERGING OR PLANS OF BRANCH DUCT MAINTENANCE OF SPLIT PER SMACNA DUCT MAINTENANCE OF SPLIT FITTINGS, ELBOWS, TRANS LATEST EDITION OF SMACNA DUCT CONSTRUCTION ON PLANS, OR AS DESCRIBED IN SPECIFICATION.  PROVIDE DUCT SPLIT ARRANGEMENT AS SHOWN OF SPECIFICATION.
--	--	--

OR EXHAUST DUCT (LOW OR MEDIUM PRESS.) NG OR CONVERGING FLOW) W/ DIVERGING OR CONVERGING FLOW

EMENT AS SHOWN ON PLANS.

SPLIT DUCT DETAILS

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REFERENCE SCALE

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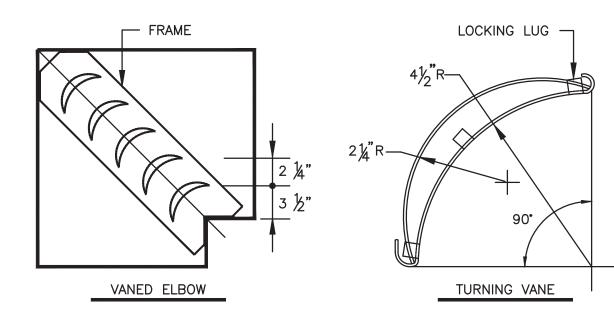
KITCHEN HOOD WITH MAKEUP AIR DUCTWORK DETAIL

— EXHAUST TERMINAL -5"ø FLUE EXHAUST PIPE SEAL WITH HIGH TEMP. SILICONE RUBBER SEALANT--COMBUSTION AIR INLET - 8"ø COMBUSTION AIR PIPE - FLASHING ROOF -THIMBLE CONCENTRIC ADAPTER 6"ø FLUE EXHAUST PIPE 6"ø COMBUSTION AIR PIPE SUPPORT UNIT HEATER PER MANUFACTURER'S RECOMMENDATIONS — 1. ALL GAS VENT PIPING SHALL BE 24 GA. OR HEAVIER GALVANIZED STEEL OR EQUIVALENT. 2. ALL JOINTS OF 5"ø FLUE EXHAUST PIPE LAYING WITHIN THE CONFINES OF THE 8"Ø COMBUSTION AIR PIPE TO BE UNIT HEATER SEALED WITH HIGH TEMPERATURE SILICONE RUBBER SEALANT. MAINTAIN 6" CLEARANCE TO COMBUSTIBLE MATERIALS FOR ALL GAS VENT PIPING. UNIT HEATER VENT PIPING DETAIL

— FRAME LOCKING LUG -VANED ELBOW TURNING VANE

1. LOCKING LUGS INTEGRAL WITH VANE. 2. MAXIMUM UNSUPPORTED VANE LENGTH 36". 3. FRAMES BOLTED OR RIVETED TO ELBOW. 4. VANES AND FRAMES - SAME GAUGE AS ELBOW.

> SINGLE THICKNESS TURNING VANES FOR SQUARE ELBOW FOR MAXIMUM DUCT WIDTHS TO 12"

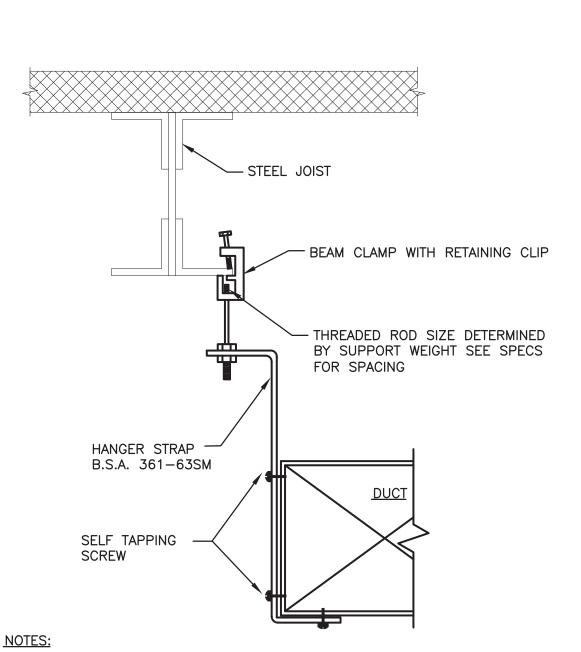


1. LOCKING LUGS INTEGRAL WITH VANE. 2. MAXIMUM UNSUPPORTED VANE LENGTH 48".

3. FRAMES BOLTED OR RIVETED TO ELBOW. 4. VANES AND FRAMES - SAME GAUGE AS ELBOW.

> DOUBLE THICKNESS TURNING VANES FOR SQUARE ELBOW FOR DUCT WIDTHS 13" & LARGER

\ TYPICAL TURNING VANE DETAILS



NOTES:

1. KITCHEN 3 ARRANGEMENT SHOWN.

KITCHEN 4 ARRANGEMENT IS MIRRORED.

1. DUCTS SHALL NOT BE HUNG FROM OR SUPPORTED BY HUNG CEILING.

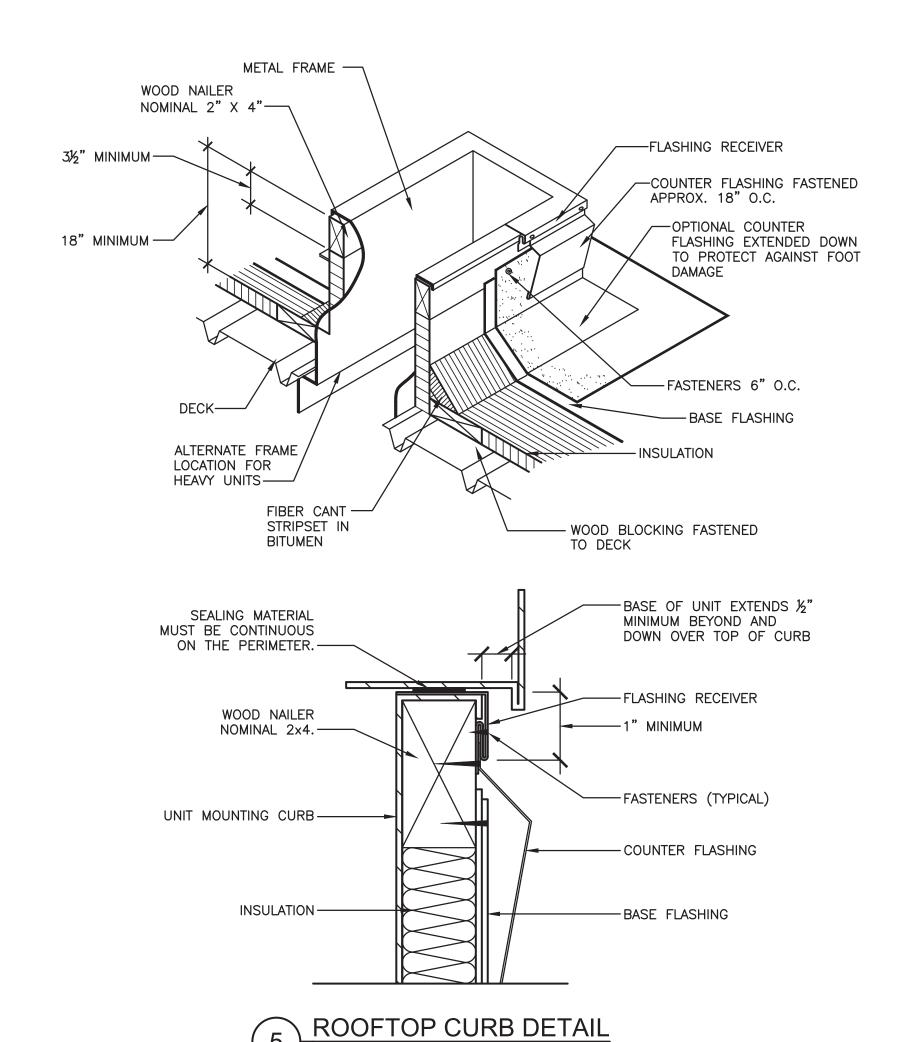
2. FOR DUCTS NOT EXCEEDING 2 SQ. FT. IN CROSS-SECTIONAL AREA, HANGERS SHALL BE OF METAL NOT LESS THAN 1/16".

3. FOR DUCTS LARGER THAN 2 SQ. FT. IN CROSS-SECTIONAL AREA, HANGERS SHALL BE OF METAL NOT LESS THAN 1" BY 1/8".

4. FOR ALL DUCTS. HANGERS SHALL BE TURNED UNDER AND FASTENED TO THE BOTTOM OF DUCT AS SHOWN ABOVE.

5. WHERE CROSS-SECTIONAL AREA OF DUCT EXCEEDS 8 SQ. FT., HANGERS SHALL BE NOT MORE THAN 4 FT. ON CENTER.

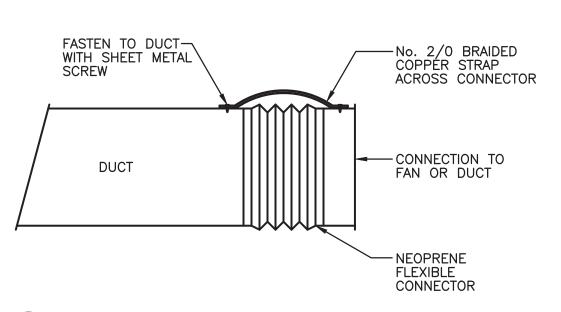
METHOD OF HANGING DUCTWORK



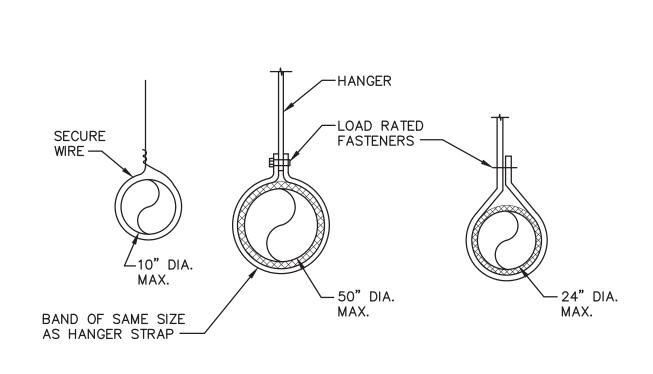
METAL STRAP 1" WIDTH MINIMUM -

- 1. DUCT SHOULD EXTEND STRAIGHT FOR A MINIMUM OF 3 DUCT DIAMETERS BEFORE BENDING.
- 2. SUPPORT SYSTEM MUST NOT BEND DUCT OR CAUSE OUT OF ROUND SHAPE.
- 3. MAXIMUM SAG 1/2" PER FOOT OR SUPPORT SPACING.
- 4. 5'-0" MAXIMUM FLEX DUCT LENGTH.

FLEX DUCT SUPPORT



FLEXIBLE CONNECTOR GROUND STRAP



NOTE: HANGERS MUST NOT DEFORM DUCT SHAPE.

ROUND DUCT HANGING DETAIL

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ONSTRUCTION

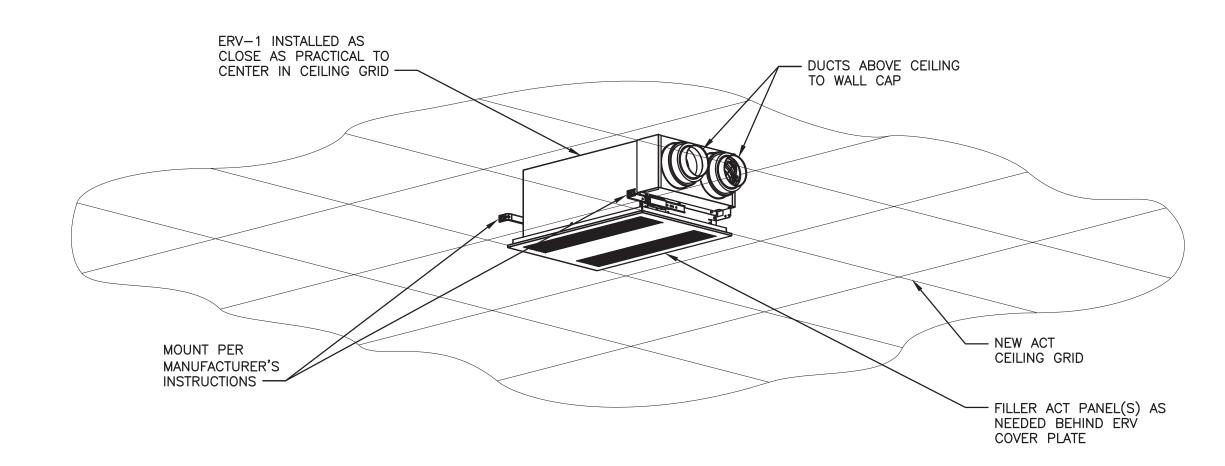
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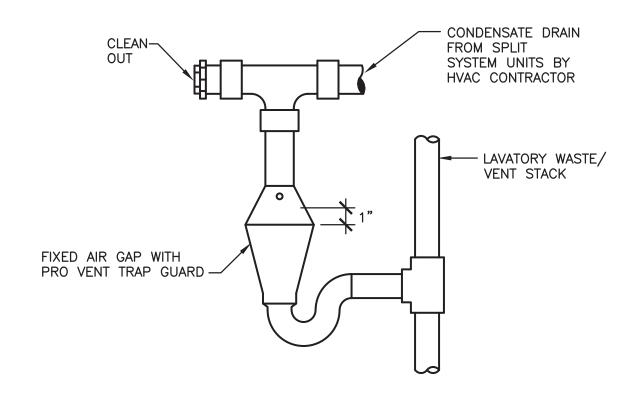
1. PROVIDE DOAS WITH BOTH SUPPLY AND RETURN DUCT SMOKE DETECTORS.

(1) GAS FIRED DOAS UNIT DETAIL

N.T.S.



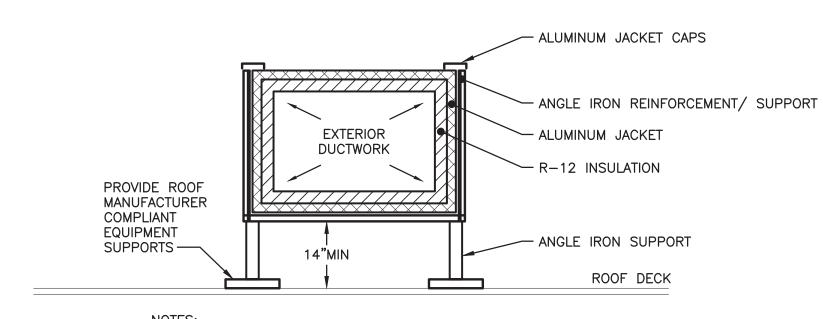
4 ERV-1 INSTALLATION DETAIL (DROP CEILING)
N.T.S.



SPLIT SYSTEM

CONDENSATE DRAIN DETAIL

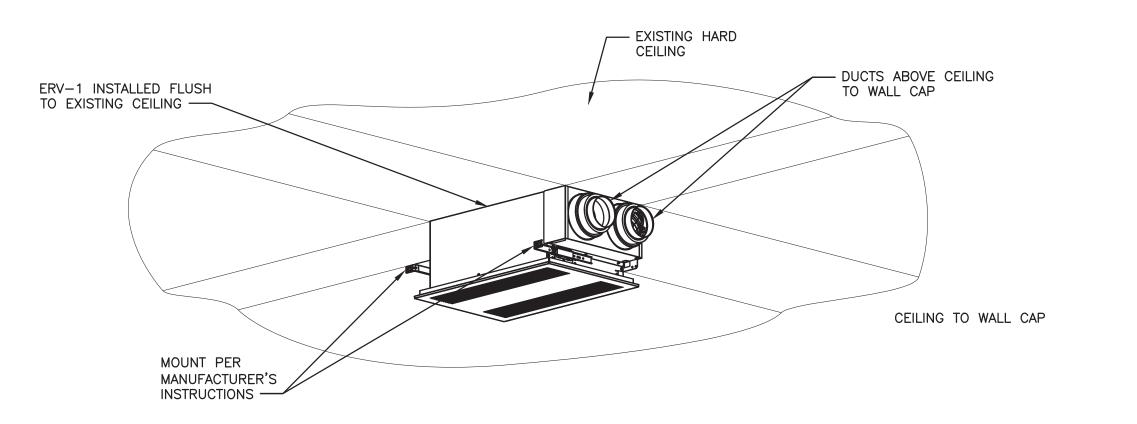
N.T.S.



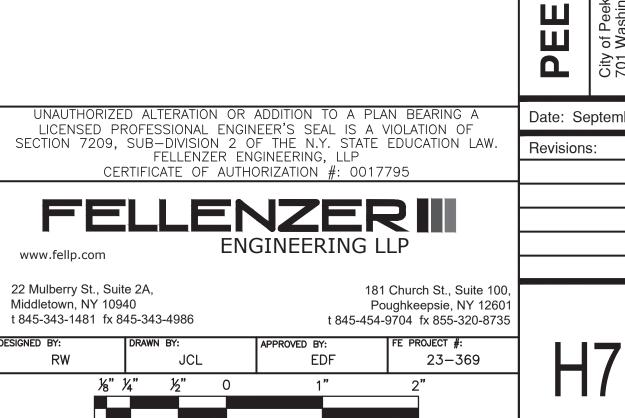
1. SEAL ALL DUCTWALL PENETRATIONS AT POINTS OF SUPPORT ATTACHMENT AND REINFORCEMENT ATTACHMENT.

2. WATERPROOF ALL SEAMS AND JOINTS IN DUCTS.

EXTERIOR INSULATED DUCTWORK DETAIL



(5) ERV-1 INSTALLATION DETAIL (HARD CEILING)
N.T.S.

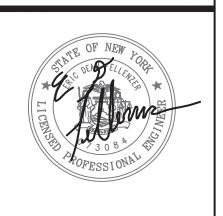


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I. ALL AIR OUTLETS SHALL BE HEAVY DUTY CONSTRUCTION.

2. REGISTERS & CEILING DIFFUSERS SIZES THAT ARE NOT INDICATED ON THIS SCHEDULE ARE SHOWN ON THE FLOOR PLANS.

CEILING | 5IEC-0 |

MODEL ACCESSORIES

6400-0A OBD, SR-0

OBD

OBD

5IEC-O

3. ALL CEILING DIFFUSERS ARE 4 WAY DIRECTIONAL THROW UNLESS OTHERWISE INDICATED.

 $24 \times 24$ 

 $24 \times 24$ 

4. ALL DIFFUSERS, REGISTERS, AND GRILLES TO BE SUPPORTED FROM STRUCTURE ABOVE AS PER MANUFACTURER'S

SUPPLY AIR

CEILING

DIFFUSER

(4-WAY, 4A)

RETURN AIR

CEILING

REGISTER

EXHAUST AIR

GRILLE

RECOMMENDATIONS AND SMACNA STANDARDS.

5. ALL DIFFUSERS, REGISTERS, AND GRILLES INSTALLED IN ACOUSTICAL CEILINGS SHALL BE PROPERLY SIZED FOR NARROW LINE CEILING GRID, COORDINATED WITH CEILING GRID MATERIAL.

6. ALL BACK PANS & PLENSUMS SHALL HAVE FLAT BLACK MATTE FINISH.

7. ALL 2'x4' CEILING GRIDS CONTAINING A 2'x2' DIFFUSER, REGISTER, OR GRILLE SHALL BE PROVIDED WITH AN ADDITIONAL TEE

SUPPORT BETWEEN THE CEILING AND THE AIR OUTLET.

	ENERGY RECOVERY VENTILATORS SCHEDULE  "PANASONIC" AS STAND. OR APPROVED EQ														
					WELCHT		AIRFLO	W DATA	ENTHALPY EFFECTIVENESS		ELECTRIC			ΔΤΔ	REMARKS
TAG	LOCATION	MODEL NO.	MODEL NO. WEIGHT (LBS)	M() I	SUPPLY	EXHAUST	STATIC PRESSURE	HEATING (AT 60	COOLING (AT 56	VOLTS		7 MC	MOCB		
				CFM	CFM	(IN. W.C.)	CFM, 32°F OAT)	CFM, 95°F OAT)	VOL 13	חשן		AIMOCE			
ERV-I	SMALL ROOMS & CORRIDOR	FV-06VEI	21.2	<60	<60	0.1	63%	50%	120	1 6	0 3	15	SEE NOTES		
ERV-2	CONFERENCE ROOM	FV-I0VEC2H	50	100	100	0.1	77%	55%	120	1 6	0 3	15	SEE NOTES		

"NAILOR" AS STANDARD

OR APPROVED EQUAL

L 0.080 BW - BRITISH SEE NOTES

WHITE

L 0.080 BW - BRITISH SEE NOTES

WHITE

L 0.080 BW - BRITISH SEE NOTES

WHITE

REMARKS

I. PROVIDE WITH EXTERIOR WALL CAPS.

2. UNIT SHALL OPERATE BASED ON OCCUPANCY SIGNAL FROM ROOM OCCUPANCY SENSOR(S). COORDINATE WITH ELECTRICAL CONTRACTOR. THIS CONTRACTOR TO PROVIDE TRANSFORMERS, RELAYS, ETC. AS NEEDED FOR THIS OPERATION METHOD.

	ELECTRIC UNIT HEATER SCHEDULE  "MODINE" AS STANDARD OR														
	APPROVED EQUAL														
				HEATING HEATING AIR DATA			ELETRICAL DATA				WEIGHT				
TAG	LOCATION	CFM	MODEL NO.	OUTPUT	EAT (°F)	LAT (°F)	VOLTS/Ø/HZ	MCA	MOCP	MOTOR HP		REMARKS			
				(KW)											
EUH-I	DRY STORAGE	800	VE-50	7.5	9.2	40.2	208/3/60	26.3	30	1/15	64	SEE NOTES			
EUH-2	STORAGE	940	VE-100	10.0	9.2	45.2	208/3/60	31.0	40	1/15	70	SEE NOTES			

I. PROVIDE UNIT WITH DISCONNECT.

2. PROVIDE UNIT WITH HANGING BRACKETS.

3. PROVIDE UNIT WITH WALL MOUNTED THERMOSTAT.

	EXHAUST FAN SCHEDULE  MANUFA STANDARD OI													
TAG SERVICE LOCATION MANUFACTURER MODEL NO. CFM ESP								CTRICA	L					
TAG SERVICE		LUCATION	MANUI ACTURER	INOULL NO.	CITI	(IN. W.C.)	V/Ø/HZ	MCA	MOCP					
EF-I	MEN'S RESTROOM	CEILING MOUNTED	PANASONIC	FV-III5VQI	150	0.25	120/1/60	0.31	15					
EF-2	WOMEN'S RESTROOM	CEILING MOUNTED	PANASONIC	FV-0511VQI	80	0.25	120/1/60	0.27	15					
EF-3	SINGLE RESTROOM	CEILING MOUNTED	PANASONIC	FV-0511VQI	110	0.25	120/1/60	0.27	15					
EF-4	STORAGE ROOM	ROOF MOUNTED	GREENHECK	G-080-VG	200	0.5	120/1/60	1.90	15					
EF-5	GARAGE	ROOF MOUNTED	GREENHECK	G-095-VG	500	0.5	120/1/60	3.50	15					

### NOTES:

I. PROVIDE RELAY TO OPERATE FAN BASED ON OCCUPANCY SENSOR SIGNAL IN ROOM.

	PACKAGED TERMINAL AIR CONDITIONING UNIT SCHEDULE													"GE APPLIANC		TANDARD OR OVED EQUAL	
TAG	LOCATION	MODEL NO.	CF			IG DATA	HEATING DATA				0.00	ELECTRICAL DATA		ΤΑ	SIZE	WEIGHT	DEMARKS
TAG	LOCATION		OUTDOOR AIR RANGE		SENSIBLE HEAT RATIO (%)	TOTAL CAPACITY (MBH)	(MBH)	(KW)	REFRIGERANT	EER	COP	VOLTS/Ø/HZ	MCA	MOCP	$(W \times H \times D)$	(LBS)	REMARKS
PTAC-I	BREAK ROOM	AZ65HI2DBM	25 - 50	300 - 410	73	11.4	10.0	3.9	R-410A	11.2	3.5	208/1/60	21.2	30	42" × 16" × 20-13/16"	133	SEE NOTES

I. PROVIDE WITH UNIT-MOUNTED THERMOSTAT.

2. PROVIDE UNIT WITH CONDENSATE DRAIN. PIPE TO OUTSIDE BUILDING AND PATCH, SEAL, AND REPAIR WALL PENETRATION TO BE WATER-TIGHT & MATCH EXISTING FINISH.

	GAS FIRED UNIT HEATER SCHEDULE																"MODII		TANDARD OR OVED EQUAL
TAG	LOCATION	CFM	MODEL NO.	TYPE	FUI CFH	INLET PRESSURE (IN. W.C.)	GAS CONNECTION (IN)	OA/VENT DIAMETER (IN)	EFFICIENCY			HEATING EAT (°F)		ELE VOLTS/Ø/HZ		MOCP		WEIGHT (LBS)	REMARKS
UH-I	GARAGE	990	HDS-60	NAT. GAS	57.9	6 - 14	1/2	4	82%	60.0	49.2	9.2	54.2	120/1/60	2.4	15	1/12	80	SEE NOTES

I. PROVIDE UNIT WITH DISCONNECT.

2. PROVIDE UNIT WITH HANGING BRACKETS.

3. PROVIDE UNIT WITH WALL MOUNTED THERMOSTAT. 4. PROVIDE UNIT WITH VERTICAL VENT CONCENTRIC ADAPTER BOX.

			SF						S STANDARD OVED EQUAL					
UNIT TAG*	MODEL NO.	IEER/SEER	EER	COP AT 47°F	COOLING AT 95°F (MBH)	HEATING AT	OLING & HEATING DATA  COOLING MODE  OPERATING RANGE (°F)	HEATING MODE	REFRIGERANT TYPE		ELECTR VOLTS/Ø/HZ	MCA	MOCP	REMARKS
HP-I	PUZ-HA24NHAI	19.5	12.6	3.96	24.0	26.0	23 - 115	-13 - 70	R410A	190	208/1/60	17	30	2, 3
HP-2	MXZ-SM36NAMHZ	23.0	15.0	4.00	36.0	42.0	23 - 115	-13 - 59	R410A	278	208/1/60	42	50	1, 2, 3

<sup>\*</sup> LETTERED SUFFIX ON DRAWINGS INDICATES OUTDOOR UNIT HAS INDOOR UNITS WITH THE SAME SUFFIX GROUPED TOGETHER ON IT.

I. PROVIDE UNIT WITH A MULTI-PORT MAIN BRANCH BOX. BRANCH BOX TO BE POWERED FROM OUTDOOR UNIT. SEE SPLIT-SYSTEM HEAT PUMP CONNECTIONS SCHEDULE FOR MODEL NUMBER.

2. PROVIDE UNIT WITH PANEL HEATERS AND SNOW/HAIL GUARDS OR WIND BAFFLES AS APPROPRIATE.

3. PROVIDE UNIT WITH A NEMA-3R DISCONNECT SWITCH AND 24" STAND.

	SF	PLIT-SYSTEM HEA	T PUMP UNIT	SCHEDULE	E (INDOOR	UNITS)			"MITSUBIS		TANDARD OR OVED EQUAL
UNIT TAG*	UNIT TYPE	SERVICE	MODEL NO.	COOLING & H COOLING AT 95°F (MBH)	EATING DATA HEATING AT 47°F (MBH)	MAXIMUM CFM	REFRIGERANT TYPE		ELECTRICAL VOLTS/Ø/HZ	DATA MCA	REMARKS
CCU-I	CEILING CASSETTE	CONFERENCE ROOM	SLZ-KFI2NAI	12.0	13.0	335	R410A	31	208/1/60		SEE NOTES
WCU-I	WALL CASSETTE	OFFICES & VESTIBULE	MSZ-GS06NA-UI	6.0	7.2	390	R410A	23	208/1/60		SEE NOTES
WCU-2	WALL CASSETTE	CLASSROOM	PKA-AI8LA	24.0	26.0	775	R410A	46	208/1/60		SEE NOTES

<sup>\*</sup> LETTERED SUFFIX ON DRAWINGS INDICATES UNITS ARE GROUPED TOGETHER ON OUTDOOR UNIT WITH SAME SUFFIX.

I. INDOOR UNIT IS POWERED OFF OF OUTDOOR UNIT. ELECTRICAL DATA SHOWN IS FOR CONNECTION BETWEEN OUTDOOR AND INDOOR UNIT. SEE SPLIT-SYSTEM HEAT

PUMP SCHEDULE (OUTDOOR UNITS) FOR OUTDOOR UNIT ELECTRICAL DATA. 2. PROVIDE INDOOR UNIT WITH A WALL MOUNTED PROGRAMMABLE THERMOSTAT.

3. PROVIDE INDOOR UNIT WITH A FILTER BOX AND MERV I3 FILTER.

4. PROVIDE INDOOR UNIT WITH A CONDENSATE PUMP WITH RESERVOIR AND SENSOR. PIPE CONDENSATE TO NEAREST VENT STACK OR UTILITY SINK. PROVIDE WITH FUNNEL DRAIN

	SPLIT SYSTEM HEAT PUMP CONENCTIONS SCHEDULE  "MITSUBISHI" AS ST												
	SELI	1 STSTEM HEAT FU	ME CONENC	, 110113 3	CHEDULE				APPRO	OVED EQUAL			
	NUMBED OF	DDANCH DOV			BRANC								
OUTDOOR UNIT*	NUMBER OF INDOOR UNITS	BRANCH BOX NEEDED?	MODEL NO	LOCATION	MAX	# PLUGGED	WEIGHT	ELECTRICAL	REMARKS				
	INDOOR UNITS	NEEDED?	MODEL NO.		CONNECTIONS	CONNECTIONS	WEIGHT	VOLTS/Ø/HZ	MCA				
HP-IA	I	NO, DIRECT CONNECTION	-	-	-	-	-	-	-	3			
HP-2B	4	YES	PAC-MKA52BC	INDOORS	5	[	23.4	208/1/60	ı	1, 2			
LD IC	1	NO DIDECT CONNECTION								z			

<sup>\*</sup> LETTERED SUFFIX ON DRAWINGS INDICATES UNITS ARE CONNECTED TOGETHER WITH OTHER UNITS SHARING THE SAME SUFFIX.

### NOTES:

- I. BRANCH BOX IS POWERED OFF OF OUTDOOR UNIT. ELECTRICAL DATA SHOWN IS FOR CONNECTION BETWEEN OUTDOOR AND BRANCH BOX.
- 2. PROVIDE WITH BRANCH BOX ENCLOSURE. MOUNT BRANCH BOX INDOORS PER MANUFACTURER'S RECOMMENDATIONS.
- 3. CONNECT INDOOR UNIT DIRECTLY TO OUTDOOR UNIT PER MANUFACTURER'S RECOMMENDATIONS.



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ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR ENGINEER TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO HIS ITEM THE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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