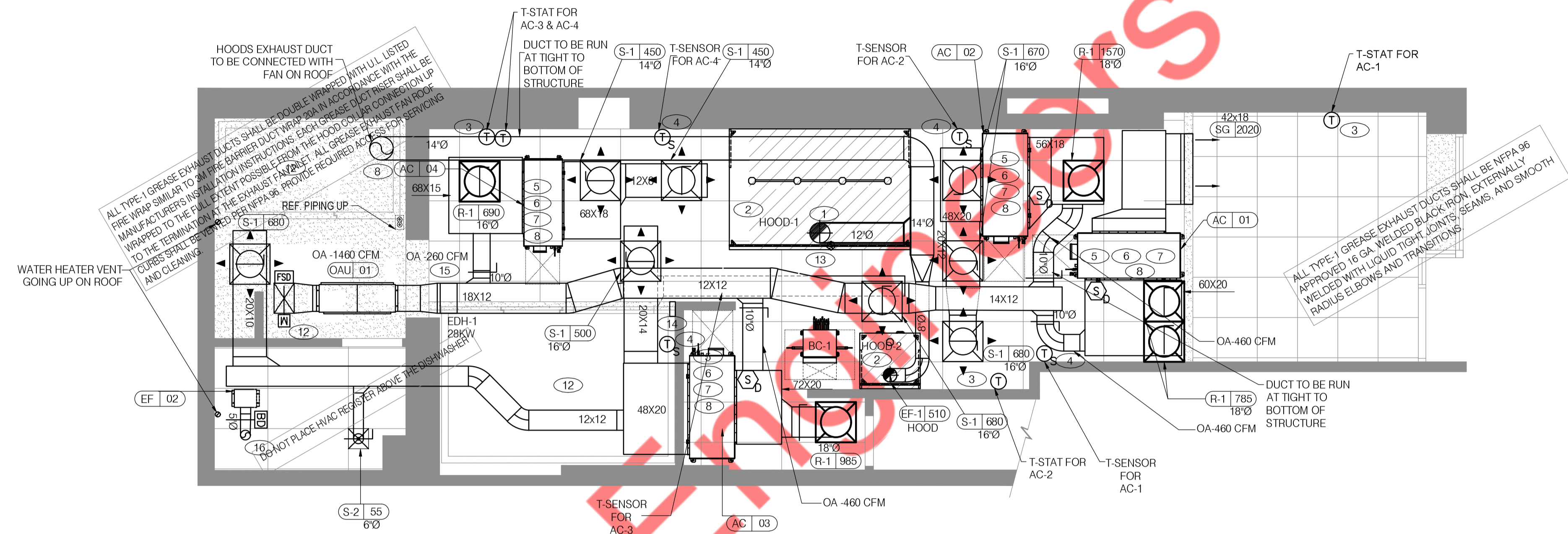


1. THE CONTRACTOR SHALL VERIFY ALL STRUCTURAL CONDITIONS FOR CEILING SPACE AND EXACT DUCT ROUTE PRIOR TO FABRICATION. VERIFY IN FIELD EXACT ROUTING OF DUCTWORK TO ALLOW PROPER LOCATION OF LIGHTS AS SHOWN.
2. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND SUPPORT OF ROOFTOP EQUIPMENT WITH BUILDING STRUCTURE AND CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ROOFTOP UNITS TO ALLOW DUCT CONNECTION AND ROUTING AS SHOWN PER PLANS.
3. ANY FRESH AIR INTAKE SHALL BE SEPARATED FROM BUILDING EXHAUST, FLUES, OR PLUMBING VENTS AS REQUIRED BY LOCAL CODES.
4. INSTALLATION OF APPROVED AC OTHER THAN TRANE MAY REQUIRE MODIFICATIONS TO DUCTWORK LAYOUT. VERIFY ALL REQUIRED CLEARANCES FOR OTHER MANUFACTURERS.
5. THESE DRAWINGS ARE ACCOMPANIED BY SPECIFICATIONS. REFER TO SPECIFICATIONS SHEETS FOR FURTHER INFORMATION.
6. INSTALL SMOKE DUCT DETECTOR IN RETURN DUCTWORK AND UNIT SHUTDOWN FOR AC. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS.
7. DUCTWORK AND PLENUMS SHALL BE SEALED IN ACCORDANCE WITH THE MECHANICAL CODE AND SMACNA METHOD A. SECTION 6.4.2.1 -2008 HOUSTON COMMERCIAL ENERGY CONSERVATION CODE.
8. ALL HVAC SUPPLY AND RETURN CONCEALED DUCTWORK TO BE EXTERNALLY WRAPPED WITH MINIMUM R-8.0, 2" INSULATION WITH VAPOR BARRIER. INSULATION SHALL HAVE MAXIMUM RATINGS OF 25 FLAME SPREAD, 50 SMOKE DEVELOPED.
9. CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.
10. CONTRACTOR SHALL DEMOLISHED ALL EXISTING HVAC SYSTEM WITH ALL ACCESSORIES.
11. NEW DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING. OFFSET AND RUN PIPING, DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ANY EXTRA PIPING, DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.
13. COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURAL ENGINEERS.
14. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.
15. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
16. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON
17. ACTUAL EQUIPMENT SELECTED.
18. COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.
19. MOUNT DUCTWORK AS HIGH AS POSSIBLE.
20. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.
21. PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR PIPING INSULATION.
22. PROVIDE 1" CONDENSATE DRAIN FOR ALL ACS.
23. PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR PIPING INSULATION.
24. COORDINATE ALL EQUIPMENT WITH STRUCTURAL.

GENERAL NOTES

4

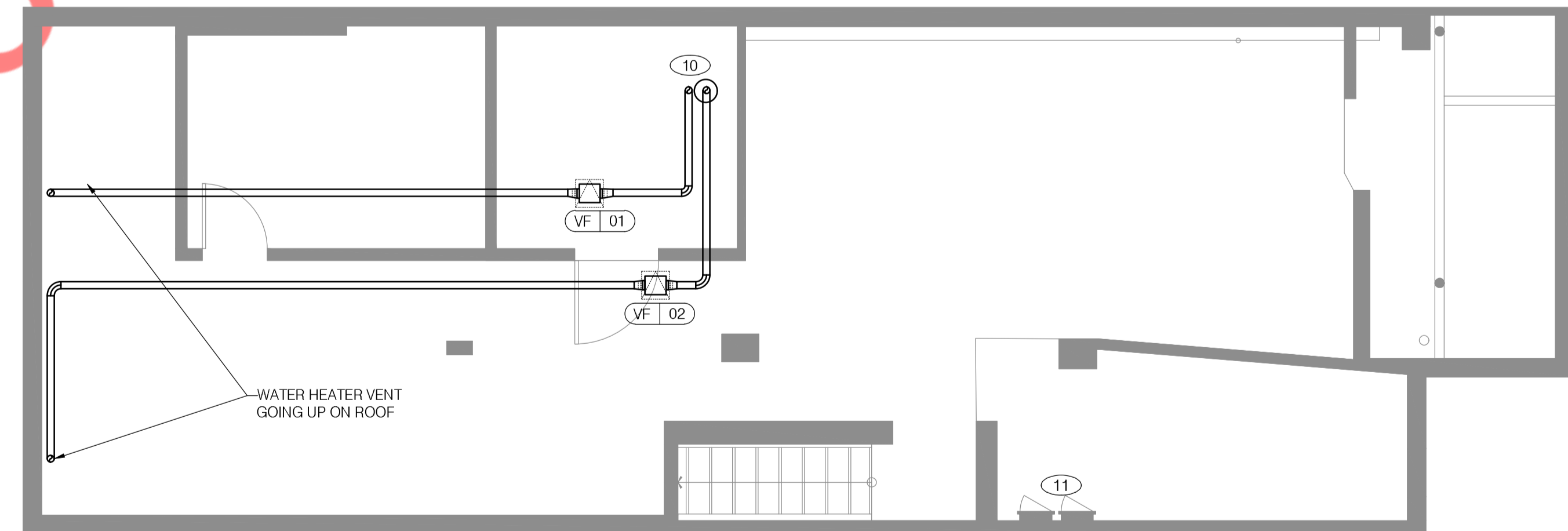


MECHANICAL FLOOR PLAN 1/4"=1'-0" 1

- 1 12" Ø GREASE EXHAUST DUCT FROM HOOD UP THRU ROOF AND TRANSITION TO EF-1 AS SHOWN.
- 2 9'-0" x 6'-0" OVEN HOOD AND 3'-0" x 2'-10" HOOD. SEE HOOD DETAILS SHEET.
- 3 HONEYWELL PRO 8000 THERMOSTAT MOUNTED ON WALL AT 52" A.F.F. COORDINATE EXACT LOCATION WITH ARCHITECT.
- 4 REMOTE ZONE TEMPERATURE SENSOR INSTALLED @ 66" A.F.F. COORDINATE FINAL LOCATION WITH ARCHITECT.
- 5 CONNECT 1" CD TO SINK/LAV WITH AIR GAP FITTING. INSTALL CONDENSATE DRAIN WITH 1/4" SLOPE. SLOPE SHALL BE TOWARDS SINK. PROVIDE 1" INSULATION TO CONDENSATE DRAIN.
- 6 PROVIDE SECONDARY DRIP PAN UNDER AC UNIT WITH WATER LEAKAGE SENSOR AND ALARM TO SHUT DOWN THE UNIT.
- 7 EXTEND FULL SIZE SUPPLY & RETURN DUCTWORK FROM AC UNITS TO SPACE. EXTEND AS SHOWN. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN MAIN DUCTS.
- 8 CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF EQUIPMENT AND COORDINATE WITH STRUCTURAL DRAWING.
- 9 MOTORIZED DAMPER TO BE INTERLOCKED WITH OAF-1 FAN.
- 10 PROVIDE 3"PVC FLUE VENT AND 3"PVC COMBUSTION AIR INTAKE OUT THRU ROOF. TERMINATE AS PER MANUFACTURER'S RECOMMENDATION. ADD FAN AS SHOW IF EQUIVALENT LENGTH OF FLUE AND OUTSIDE AIR INTAKE IS NOT SATISFIED
- 11 DO NOT ROUTE DUCTWORK OR PIPING OVER ELECTRICAL PANELS.
- 12 CONDENSING UNITS TO COOLER/FREEZER MOUNTED ON FIELD FABRICATED PLATFORM ON THE ROOF. ROOF PENETRATIONS AND LEVEL SUPPORT BY THE G.C. REFER TO DETAIL 5/P-601.00.
- 13 8" Ø GREASE EXHAUST DUCT FROM OVEN HOOD UP THRU ROOF AND TRANSITION TO EF-1 AS SHOWN.
- 14 CONTRACTOR TO CHARGE ANSUL SYSTEMS FOR REQUIRED HOODS AND LOCATE PULLS. VERIFY LOCATION OF PULL STATIONS WITH LOCAL AUTHORITIES.
- 15 EDH SHOULD BE INTERLOCKED WITH OAU-1 FAN.
- 16 CEILING MOUNTED EXHAUST FAN. INTERLOCK EXHAUST FAN WITH LIGHT IN THIS ROOM. REFER TO ELECTRICAL LIGHTING PLAN. FAN SHALL BE SUSPENDED FROM STRUCTURE ABOVE. VERIFY EXACT LOCATION OF STRUCTURAL MEMBER PRIOR TO INSTALLATION.

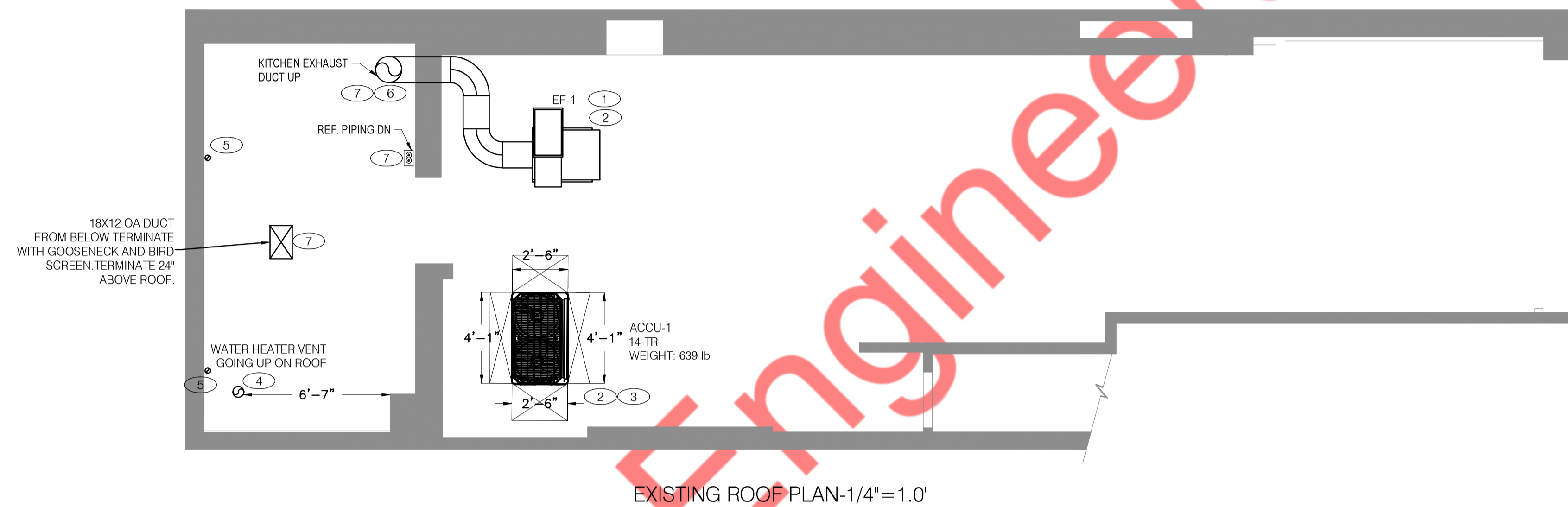
KEY NOTES

3



MECHANICAL CELLAR PLAN 1/4"=1'-0" 2

- ① COORDINATE INSTALLATION OF FAN WITH LANDLORD AND EXISTING CONDITIONS TO ENSURE THAT FAN IS NOT INSTALLED WITHIN 10 FEET OF ANY OUTSIDE AIR INTAKE. TERMINATE EXHAUST AT LEAST 40" ABOVE ROOF.
- ② CONTRACTOR TO FIELD VERIFY THAT THE LOCATION OF ANY EXHAUST SOURCE FROM ADJACENT TENANTS SHOULD BE AT LEAST 10 FEET AWAY FROM THE OUTSIDE AIR INTAKE AND OTHER EXHAUST DUCT TERMINATION ON ROOF.
- ③ INSTALL THE OUTDOOR CONDENSING UNIT AS PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE NEW STEEL RAIL OR CONCRETE PAD AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- ④ BATHROOM EXHAUST SHALL TERMINATE 3 FEET FROM PROPERTY LINE, 3 FEET FROM OPERABLE OPENING INTO BUILDING, AND 10 FEET FROM MECHANICAL INTAKE. BATHROOM EXHAUST SHALL TERMINATE 24" ABOVE ROOF WITH GOOSENECK AND BIRD SCREEN.
- ⑤ PROVIDE 3" PVC FLUE VENT AND 3" PVC COMBUSTION AIR INTAKE OUT THRU ROOF. TERMINATE AS PER MANUFACTURER'S RECOMMENDATION. TERMINATE ABOVE 3' FROM ANY FRESH AIR INTAKE.
- ⑥ PROVIDE NECESSARY DUCT SUPPORTS. COORDINATE THE LOCATION WITH BASEBUILDER ENGINEER.
- ⑦ PROVIDE WEATHER PROOF COATING FOR ALL EXPOSED DUCT WORK AND PIPING.



KEY NOTES

3

MECHANICAL ROOF PLAN 1/4"=1'-0'

1

XX-XXX MARK	QUANTITY	NECK SIZE	DIFFUSER FACE OR CEILING GRID SIZE (INCHES)	TYPE		(NO.) & AIR PATTERN	MOUNTING		DUTY			MATERIAL		MANUFACT.	MODEL NO.	REMARKS
				DIFFUSER REGISTER	GRILLE		LAY-IN	SURFACE	SUPPLY	RETURN	EXHAUST	ALUM.	PLASTIC			
S-1	8	16x16	24x24	X		(X)2W, (X) 3W, & (X) 4W 600-800	X		X				X	EGER PRODUCTS	ADVANTAGE	PLASTIC DIFFUSERS SQ. TO RD. TRANS.
R-1	5	18x18	24x24	X		(X)4WC 2000	X			X			X	EGER PRODUCTS	EFARW-SP	DAMPERS ARE REQUIRED
S-2	1	6x6	12x12	X		(X)2W, (X) 3W, & (X) 4W 300-500	X		X				X	EGER PRODUCTS	ADVANTAGE	PLASTIC DIFFUSERS SQ. TO RD. TRANS. (BLACK FINISH)
SG	1	-	42 x18		X	(X)15 Degree Angle & (X) 0-2000		X	X			X		TITUS	300FL	SUPPLY AIR DOUBLE DEFLECTION GRILLE

ALTERNATE MANUFACTURERS: KRUEGER, PRICE, AND AIR GUIDE, TITUS
 AIR DEVICE(S) SHALL BE INSTALLED WITH MANUFACTURER AVAILABLE MOLDED INSULATION BACKING. FIELD FABRICATED INSULATION BACKING IS NOT ALLOWED

AIR DEVICE SCHEDULE 1

ITEM	OA	RA	SA	EA	PRESSURE
EF-1	--	--	--	1510	-1510
EF-2	--	--	--	70	-70
AC-1	460	1570	2020		+450
AC-2	460	1570	2020	--	+450
AC-3	210	985	1235	--	+250
AC-4	460	1570	2020		+450
TOTAL	1590		7295	1580	+10

GENERAL NOTES:
 1. THE PIZZA OVEN HOOD IS ACTIVATED USING A TEMPERATURE RELAY, SET TO 90 DEGREES.
 2. PROVIDE OUTSIDE AIR THROUGH RTU IS SET AT 25%, UNLESS NOTED OTHERWISE.
 3. RESTROOM FAN IS ACTIVATED WITH LIGHT SWITCH, IN RESTROOM.

AIR BALANCE SCHEDULE CFM 3

XX-XXX MARK	CFM	SP	RPM	POWER	ELECT.	STARTER	ACCESSORIES					MANUFACTURER AND MODEL NO.	REMARKS
							DISC	BOD	BIRD SCREEN	V-BELT	D-DR		
EF-1	1510	2.0"	1601	1.5 HP	115/1Ø	BY E.C.	X					CAPTIVEAIRE #USB115DD-RM	1
EF-2	70	0.25"	1400	(100w)	120V	NA	X		X	X		ACCUSERV #05247-017	2
OAU-1	1590	0.5"	878	14.0 A	115/1Ø	BY E.C.	X			X		GREENHECK # CSP-A3300-VG	
VF-1	200	0.5"	--	100 W	120/1Ø	BY E.C.						T JERNLUND #M-4	
VF-2	200	0.5"	--	100 W	120/1Ø	BY E.C.						T JERNLUND #M-4	

1. PROVIDE FACTORY PREFABRICATED ROOF CURB.
 2. INTERLOCK WITH RESTROOM LIGHT SWITCH.

SUPPLY AND EXHAUST FAN SCHEDULE 2

UNIT TAG	LOCATION	IDU's SERVERD	CAP. TR	COOLING MBH	HEATING MBH	UNIT DIM (HxWxD)	WEIGHT (LBS)	LIQUID-HI PRESSURE	PIPING DIMENSION VAPOR-HI PRESSURE	VAPOR-LOW PRESSURE	ELECTRICAL (V/Hz/Ph)	MCA (A)	MOP (A)	SOUND LEVEL (Dba)	EER	IEER	COP	MODEL	REMARK
ACCU-1	ROOF	AC-1, AC-2, AC-3, AC-4	14	168	189	67 X49X 30	639	5/8"	7/8"	1-1/8"	208/60/3	53.6	70	61	11.1	21.9	3.2	ARUM168BTE5	1-7

1. UNIT SHALL HAVE TEN YEAR EXTENDED WARRANTY FOR COMPRESSORS/PARTS.
 2. PROVIDE LOW AMBIENT CONTROL FOR CONDENSING UNIT OPERATION DOWN TO -4°F.
 3. PROVIDE COMPRESSOR CYCLE PROTECTOR.
 4. PROVIDE VIBRATION ISOLATION FOR CONDENSING UNIT MOUNTING.
 5. CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEEDS THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.
 6. AIR CONDITIONER UNIT SHALL NOT PRODUCE NOISE LEVELS IN EXCESS OF 42 dB FOR A SINGLE AIR CIRCULATING DEVICE AND 45 DECIBELS FOR THE CUMULATIVE NOISE LEVEL OF MULTIPLE AIR CIRCULATING DEVICES AS MEASURED 3 FEET FROM THE NOISE SOURCE AT AN OPEN DOOR OR WINDOW OF A NEARBY RESIDENCE.
 7. INSTALL CONDENSING UNIT ON NEW STEEL DUNNAGE OR RAIL AS PER MANUFACTURER'S RECOMMENDATIONS.

UNIT TAG	TONNAGE	TYPE	COOLING MBH	HEATING MBH	UNIT DIM (HxWxD)	WEIGHT (LBS)	PIPE SIZE			ELECTRICAL PH/V/Hz	TOTAL CFM AMS	OUTDOOR CFM	MAX SOUND PRESS. (Dba)	MAX. ESP (IN.WG)	MODEL	REMARK	
							LIQ	SUCTION	DRAIN (ID)								
AC-1	4.0	CCD	48.1	54.2	19X62X29	192	3/8"	3/4"	1"	1/208-230/60	5.2	2020	460	47	0.7	ARUM483BBA4	1-7
AC-2	4.0	CCD	48.1	54.2	19X62X29	192	3/8"	3/4"	1"	1/208-230/60	5.2	2020	460	47	0.7	ARUM483BBA4	1-7
AC-3	4.0	CCD	48.1	54.2	19X62X29	192	3/8"	3/4"	1"	1/208-230/60	5.2	2020	460	47	0.7	ARUM483BBA4	1-7
AC-3	2.3	CCD	28	31.5	11X42X29	96.1	3/8"	5/8"	1"	1/208-230/60	2.3	900	210	64	0.24	ARUM283M3A4	1-7

1. SUPPLY AIR CFM BASED ON HIGH SPEED.
 2. REFRIGERANT R410A SHALL BE PROVIDED.
 3. PROVIDE MOUNTING BRACKETS AND ALL ASSOCIATED ACCESSORIES.
 4. ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
 5. INDOOR UNIT ACCESS PANEL FIELD PROVIDED.
 6. PROVIDE SECONDARY DRAIN PAN AND WATER LEAK SENSOR.
 7. CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEEDS THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.

HVAC UNIT SCHEDULE 4

LOCATION	Tag	Model Number	Quantity	Power			
				Volts	Phase	Hz	RLA
ACCU-1	BC-1	PRHR043A	1	208 / 230V	1Ph	60Hz	0.2

1. REFRIGERANT R410A SHALL BE PROVIDED.
 2. REFRIGERANT R410A SHALL BE PROVIDED.
 3. PROVIDE MOUNTING BRACKETS AND ALL ASSOCIATED ACCESSORIES.
 4. ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
 5. INDOOR UNIT ACCESS PANEL FIELD PROVIDED.
 6. PROVIDE SECONDARY DRAIN PAN AND WATER LEAK SENSOR.
 7. CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEEDS THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.

Multii V HR BOXES 5

TAG	MODEL	SERVING	DIMENSION	Power				MAKE
				Volts	Phase	Hz	AMPS.	
EDH	IDHE	OA DUCT	18X12	208 / 230V	1Ph	60Hz	28	GREENHECK

1. INSTALL ELECTRIC DUCT HEATER AS PER MANUFACTURER'S RECOMMENDATION.
 2. PROVIDE T-STAT WIRE TO DUCT HEATER.
 3. PROVIDE DUCT HEATER WITH SCR CONTROL.
 4. PROVIDE DISCONNECT SWITCH, VAPOR BARRIER, DUST TIGHT BOX AND FAN IN INTERLOCK SWITCH.

DUCT HEATER 6

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