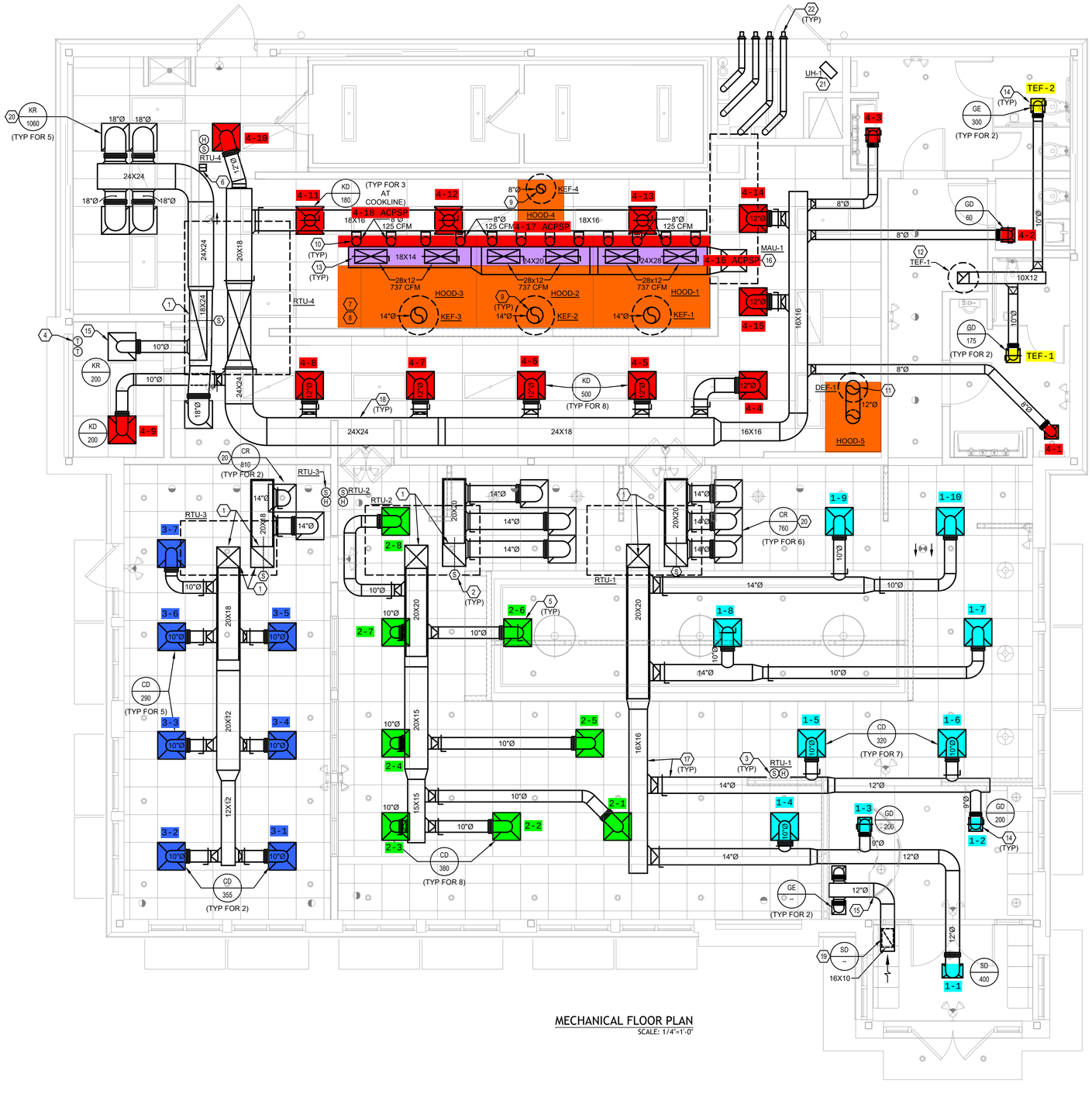

MECHANICAL FLOOR PLAN
SCALE: 1/4"=1'-0"

GENERAL NOTES

A.	ALL OUTDOOR AIR INTAKES BY MECHANICAL EQUIPMENT SHALL HAVE A MINIMUM 10'-0" HORIZONTAL CLEARANCE FROM THE DISCHARGE OF ANY EXHAUST FAN, COMBUSTION EXHAUST OR PLUMBING VENT.
B.	PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE DUCT/ PIPING CONNECTIONS TO ALL MOVING MACHINERY NOT INTERNALLY ISOLATED.
C.	ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
D.	THE MECHANICAL CONTRACTOR SHALL COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH LIGHT FIXTURES AS WELL AS SPRINKLER PIPING AND HEADS (WHERE INCLUDED IN THE PROJECT) FOR A COMPLETE INSTALLATION.
E.	LOCATIONS FOR THERMOSTATS AND REMOTE SENSORS SHALL BE FIELD COORDINATED TO AVOID INTERFERENCE WITH WALL-MOUNTED DECOR OR PROXIMITY TO HEAT PRODUCING EQUIPMENT.
D.	ALL RECTANGULAR, ROUND, AND FLEXIBLE DUCTWORK SHALL BE SIZED AS SHOWN ON THESE DRAWINGS; AND SHALL BE FABRICATED AND INSTALLED ACCORDING TO THE MOST RECENTLY PUBLISHED SMACNA STANDARDS. ALL JOINTS, SEAMS, AND CONNECTIONS MUST BE SECURELY FASTENED & SEALED BY APPROVED METHODS.
F.	ANY FLEXIBLE DUCTS SHALL BE INSTALLED IN CONCEALED SPACES ONLY. THE MAXIMUM ALLOWABLE LENGTH OF FLEXIBLE DUCT SHALL BE 5'-0". ALL FLEXIBLE DUCTS SHALL BE CONNECTED TO BRANCH RUNS AND FITTINGS WITH A PANDUIT-TYPE BAND, AND SHALL NOT BE ATTACHED DIRECTLY TO THE AIR DEVICE COLLAR.

KEYED NOTES

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1.	ROUTE SUPPLY AND RETURN DUCTS DOWN FROM THE RTU CONNECTIONS AND TRANSITION THROUGH THE ROOF TO SIZES AS SHOWN. INSTALL COMPLETE WITH FLEXIBLE CONNECTIONS AT EQUIPMENT. PROVIDE 1/2" INTERNALLY LINED ACOUSTIC INSULATION FOR RETURN DUCTWORK AND THE FIRST 10'-0" OF SUPPLY DUCTWORK.
2.	FACTORY AVAILABLE SMOKE DETECTOR CAPABLE OF SHUTTING DOWN THE RESPECTIVE MECHANICAL UNIT UPON ACTIVATION.
3.	WALL MOUNTED REMOTE ZONE TEMPERATURE SENSOR SHALL BE MOUNTED AT 60" AFF, AND WIRED BACK TO RESPECTIVE PROGRAMMABLE THERMOSTAT IN MGR'S OFFICE. COORDINATE PLACEMENT WITH WALL DECOR AND EQUIPMENT. FIELD VERIFY WITH THE OWNER'S REPRESENTATIVE FOR THE FINAL LOCATION PRIOR TO INSTALLATION.
4.	PROGRAMMABLE THERMOSTATS IN MANAGER'S OFFICE TO BE MOUNTED AT 60" AFF AND VERTICALLY STACKED AND CLEARLY LABELED. VERIFY PLACEMENT WITH ARCHITECTURAL FLOOR PLAN AND INTERIOR ELEVATIONS.
5.	AIR DEVICE IN LAY-IN CEILING ABOVE FIXED BOOTHS/ MILLWORK SHALL BE INSTALLED COMPLETE WITH OPPOSED BLADE DAMPER FOR MANUAL VOLUME ADJUSTMENT. REFERENCE ARCHITECTURAL FURNISHING PLAN.
6.	MANUAL PULL STATION FOR KITCHEN HOOD FIRE SUPPRESSION SYSTEM ACTIVATION AND GAS SUPPLY SHUT-OFF TO BE PROVIDED BY THE FIRE SUPPRESSION SUBCONTRACTOR. GENERAL CONTRACTOR SHALL PROVIDE RECESSED JUNCTION BOX AND CONDUIT FOR PULL STATION LINKAGE. FIRE SUPPRESSION SUBCONTRACTOR SHALL VERIFY APPROVED LOCATION WITH THE LOCAL AUTHORITY AND COORDINATE THE COMPLETE INSTALLATION WITH ALL OTHER TRADES.
7.	FIRE SUPPRESSION CABINET TO BE FURNISHED AND INSTALLED COMPLETE WITH THE EXHAUST HOOD PACKAGE.
8.	ENERGY MANAGEMENT SYSTEM CABINET TO BE FURNISHED AND INSTALLED COMPLETE WITH THE EXHAUST HOOD PACKAGE.
9.	ROUTE GREASE EXHAUST DUCT UP FROM HOOD COLLAR THRU ROOF TO EXHAUST FAN. GREASE EXHAUST DUCT SHALL BE OF THE SAME SIZE AS THE HOOD COLLAR. FIELD VERIFY ANY REQUIRED TRANSITIONS OR OFFSETS OF EXHAUST DUCT FROM COMBUSTIBLE MATERIALS TO MAINTAIN THE MINIMUM CLEARANCES REQUIRED PER APPLICABLE CODE(S) AND FIRE WRAP PER MANUFACTURER'S INSTRUCTIONS.
10.	ROUTE SUPPLY AIR DUCTWORK TO PERFORATED SUPPLY PLENUM COLLAR CONNECTION. SUPPLY AIR DUCT CONNECTION SHALL BE OF THE SAME SIZE AS THE PLENUM COLLAR.
11.	ROUTE CONDENSATE EXHAUST DUCT UP FROM HOOD COLLAR AND OFFSET HORIZONTALLY AS SHOWN PRIOR TO EXTENDING UP THRU ROOF TO EXHAUST FAN. FIELD VERIFY REQUIRED TRANSITIONS OR OFFSETS OF EXHAUST DUCT FROM STRUCTURE. PITCH HORIZONTAL EXHAUST DUCT A MINIMUM OF 1/4" PER FOOT BACK TOWARDS THE HOOD. CONDENSATE EXHAUST DUCTWORK SHALL BE INSTALLED COMPLETE WITH EXTERNAL DUCT INSULATION SIMILAR TO OTHER HVAC DUCTWORK
12.	EXTEND THE RESTROOM EXHAUST RISER UP TO ROOF MOUNTED EXHAUST FAN. FIELD VERIFY ANY REQUIRED TRANSITIONS OR OFFSETS OF EXHAUST DUCT FROM STRUCTURE.
13.	ROUTE MAKEUP AIR DUCTWORK TO PERFORATED SUPPLY PLENUM COLLAR CONNECTION. MAKEUP AIR DUCT CONNECTION SHALL BE OF THE SAME SIZE AS THE PLENUM COLLAR.
14.	AIR DEVICE IN HARD LID CEILING SHALL BE INSTALLED COMPLETE WITH OPPOSED BLADE DAMPER FOR MANUAL VOLUME ADJUSTMENT.
15.	PROVIDE TRANSFER AIR DUCT BETWEEN RETURN AIR GRILLES AS SHOWN.
16.	ROUTE MAKEUP AIR DUCTWORK DOWN FULL SIZE FROM THE UNIT CONNECTION THROUGH THE ROOF AS SHOWN. PROVIDE FLEXIBLE CONNECTION AND TRANSITION THROUGH THE JOISTS AS REQUIRED.
17.	ALL DUCTWORK SERVING THE FRONT OF HOUSE SHALL BE INSTALLED TIGHT TO THE ROOF JOISTS. FIELD COORDINATE THE COMPLETE INSTALLATION WITH OTHER TRADES.
18.	ALL DUCTWORK SERVING THE BACK OF HOUSE SHALL BE INSTALLED TIGHT TO THE ROOF JOISTS. FIELD COORDINATE THE COMPLETE INSTALLATION WITH OTHER TRADES.
19.	REFER TO ARCHITECTURAL INTERIOR BUILDING ELEVATIONS FOR INSTALLATION HEIGHT OF SIDEWALL AIR DEVICES AND COORDINATION WITH LIGHTING.
20.	ALL RETURN GRILLE AIR QUANTITIES LISTED ARE FOR STANDARD OPERATING HOURS. REFER TO SHEET M2.1 FOR AIR BALANCE REPORT ON DESIGN AIRFLOW RATES.
21.	UNIT HEATER SHALL BE MOUNTED ON FACTORY AVAILABLE WALL BRACKET, AS HIGH AS POSSIBLE FOR CLEARANCE ABOVE THE DOOR JAMB. ANGLE THE DISCHARGE FACE DOWN TOWARDS THE WATER PIPING.
22.	ROUTE THE COMBUSTION AIR INTAKE/ EXHAUST PIPING FROM THE WATER HEATERS IN THE MECHANICAL ROOM TO TERMINATION LOCATIONS ON THE EXTERIOR WALL ABOVE THE DOOR. INSTALL WITH THE MINIMUM ELBOWS AND OFFSETS AS NECESSARY FOR A COMPLETE INSTALLATION PER THE WATER HEATER MANUFACTURER'S REQUIREMENTS, TERMINATED WITH THE HORIZONTAL CONCENTRIC VENT KIT. FIELD COORDINATE EXHAUST PIPING WITH CEILING LIGHT FIXTURE.

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FOR PERMIT AND CONSTRUCTION
04/15/20

Professional Certification:
"I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland", License No.: 19994, Expiration Date: 3/31/21

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COKEYSVILLE, MD 21030

KING STAR ENTERPRISES, INC.
10,001 YORK ROAD
COCKEYSVILLE, MD 21030

DATE	DESCRIPTION

⟨1⟩	DATE	DESCRIPTION

SHEET TITLE:
MECHANICAL FLOOR PLAN

SHEET NUMBER:
M1.1

JR PROJECT NUMBER:
19-294

AIR DEVICE SCHEDULE

MARK	FACE SIZE	TYPE	MOUNTING TYPE	MAXIMUM N.C.	DIRECTION	MFGR.	MODEL	NOTES
CD	24x24	SUPPLY	LAY-IN	30	4-WAY	TITUS	TMS-AA	1,2,3
GD	12x12	SUPPLY	SURFACE	30	4-WAY	TITUS	OMNI-AA	1,2,3
KD	24x24	SUPPLY	LAY-IN	30	1-WAY	TITUS	PAR-AA	1,2,3,4
SD	18x12	SUPPLY & RETURN	SURFACE	30	2-WAY	TITUS	300FS	1,2
CR	24x24	RETURN	LAY-IN	30	1-WAY	TITUS	4FL	1,2,3
GE	12x12	EXHAUST	SURFACE	30	1-WAY	TITUS	4FL	1,2,3
KR	24x24	SUPPLY	LAY-IN	30	1-WAY	TITUS	PAR-AA	1,2,3

NOTES: (NOT ALL MAY APPLY)

1. PROVIDE NECESSARY MOUNTING HARDWARE AND ACCESSORIES AS REQUIRED FOR INTENDED INSTALLATION.
2. AIR DEVICE(S) SHALL BE FACTORY FINISHED WHITE.
3. AIR DEVICE(S) SHALL BE INSTALLED WITH MANUFACTURER AVAILABLE MOLDED INSULATION BACKING. FIELD FABRICATED INSULATION BACKING IS NOT ALLOWED (UNLESS FIRST APPROVED BY THE OWNER'S CONSTRUCTION MANAGER).
4. DO NOT INSTALL WITH PATTERN CONTROLLERS

ELECTRIC HEATER SCHEDULE

MARK	TYPE	HEATING CAPACITY	MAXIMUM CFM	ELECTRICAL VOLT / PH	MANUFACTURER	MODEL	NOTES
UH-1	UNIT/CABINET	5.0 kW	350	208 / 1	QMARK	MUH05-81	1,2

NOTES: (NOT ALL MAY APPLY)

1. COORDINATE POWER AND DISCONNECT REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR.
2. INSTALL COMPLETE WITH MANUFACTURER AVAILABLE SUSPENSION MOUNTING BRACKET.

AIR BALANCE SCHEDULE

MARK	DINING (CFM)			KITCHEN (CFM)		
	S/A	O/A	E/A	S/A	O/A	E/A
RTU-1	3040	765	-	-	-	-
RTU-2	3040	765	-	-	-	-
RTU-3	2160	540	-	-	-	-
RTU-4	-	-	-	6650	1350	-
KEF-1	-	-	-	-	-	1665
KEF-2	-	-	-	-	-	1665
KEF-3	-	-	-	-	-	1665
KEF-4	-	-	-	-	-	600
DEF-1	-	-	-	-	-	900
TEF-1	-	-	-	-	-	600
MAU-1	-	-	-	-	4425	-
TOTAL	8240	2070	0	6650	5775	7095

DINING PRESSURIZATION (O/A) - (E/A)= +2070 CFM

KITCHEN PRESSURIZATION (O/A) - (E/A)= -1320 CFM

NET BUILDING PRESSURIZATION (DINING + KITCHEN)= +750 CFM

	MARK	RTU-1	RTU-2	RTU-3	RTU-4	-	-	-
GENERAL	SERVING	DINING-ENTRY	DINING-MAIN	DINING-TORP	KITCHEN	-	-	-
	MANUFACTURER	LENNOX	LENNOX	LENNOX	LENNOX	-	-	-
	MODEL NO.	LGH102	LGH102	LGH074	LGH210	-	-	-
	TYPE	GAS/ELEC	GAS/ELEC	GAS/ELEC	GAS/ELEC	-	-	-
	OPERATING WEIGHT, LBS.	1394	1394	1001	2682	-	-	-
	LENGTH, WIDTH, HEIGHT	101"x60"x47"	101"x60"x47"	85"x47"x47"	133"x91"x54"	-	-	-
	MINIMUM EER	12.2	12.2	12.0	12.0	-	-	-
ELECTRIC	VOLTS/ PH/ HZ	208/3/60	208/3/60	208/3/60	208/3/60	-	-	-
	MCA (AMPS)	44.0	44.0	32.0	87.0	-	-	-
	MOCP (AMPS)	50.0	50.0	45.0	100.0	-	-	-
SUPPLY FAN	SUPPLY AIR CFM	3040	3040	2160	6650	-	-	-
	OUTSIDE AIR CFM	765	765	540	1350	-	-	-
	ESP ("W.G.)	0.75	0.75	0.75	0.75	-	-	-
	FAN RPM	858	858	833	876	-	-	-
	MOTOR HP	2.0	2.0	2.0	5.0	-	-	-
COOLING	NOMINAL SIZE TONS	8.5	8.5	6.0	17.5	-	-	-
	TOTAL CAPACITY (MBH)	91.8	91.8	63.2	185.3	-	-	-
	SENSIBLE CAPACITY (MBH)	67.0	67.0	49.9	142.7	-	-	-
	OUTSIDE AIR DB/WB, °F.	95	95	95	95	-	-	-
	ENTERING AIR DB/WB, °F.	80/67	80/67	80/67	80/67	-	-	-
HEATING	TYPE OF HEAT	GAS	GAS	GAS	GAS	-	-	-
	HEATING INPUT (MBH)	130	130	108	260	-	-	-
	HEATING OUTPUT (MBH)	104	104	86	208	-	-	-
	OUTSIDE AIR DB/WB, °F.	11	11	11	11	-	-	-
	LEAVING AIR DB/WB, °F.	90.8	90.8	95.9	90.9	-	-	-
NOTES		1 THRU 10	1 THRU 10	1 THRU 10	1 THRU 10	-	-	-

NOTES: (NOT ALL MAY APPLY)

1. PROVIDE A FACTORY AVAILABLE UN-INSULATED FLAT ROOF CURB THAT SHALL BE FIELD ASSEMBLED AND SHIMMED SUCH THAT THE TOP OF THE CURB SETS LEVEL. ROOF CURBS TO BE INSTALLED BY THE GENERAL CONTRACTOR, AND FIELD INSULATED BY THE MECHANICAL CONTRACTOR.
2. PROVIDE WITH LOW AMBIENT CONTROLS DOWN TO 0°F, HIGH AND LOW PRESSURE CONTROLS FOR EACH CIRCUIT, CONDENSER COIL HAIL GUARD, HINGED ACCESS PANELS, CRANK CASE HEATER, FREEZE PROTECTION.
3. SENSORS AND LOW VOLTAGE CONTROL WIRING SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR.
4. PROVIDE WITH MANUFACTURER'S REMOTE TEMPERATURE SENSOR AND PROGRAMMABLE 24/7 THERMOSTAT CAPABLE OF AUTOMATIC COOLING/ HEATING CHANGEOVER.
5. PROVIDE FACTORY INSTALLED ENTHALPY CONTROLLED ECONOMIZER WITH MOTORIZED OUTSIDE AIR DAMPER.
6. PROVIDE FACTORY AVAILABLE RETURN AIR SMOKE DETECTOR(S), CAPABLE OF SHUTTING DOWN THE ROOFTOP UNIT UPON ACTIVATION.
7. PROVIDE FACTORY INSTALLED NON-FUSED ELECTRICAL DISCONNECT AND CONVENIENCE RECEPTACLE. RECEPTACLE SHALL BE FIELD WIRED BY THE E.C. AND POWERED SEPARATELY FROM THE UNIT.
8. PROVIDE BOTTOM ENTRY SINGLE POINT ELECTRICAL POWER CONNECTION.
9. UNIT SELECTIONS ARE BASED ON R-410A REFRIGERANT AND HIGH EFFICIENCY OPERATION.
10. PROVIDE WITH HUMIDITROL OPTION FOR HOT GAS REHEAT, AND MANUFACTURER'S ADJUSTABLE REMOTE HUMIDITY SENSOR CAPABLE OF AUTOMATIC OPERATION OF THE COOLING CYCLE (ONCE THE DEMAND FOR COOLING IS SATISFIED BY THE T-STAT) FOR SUPPLEMENTAL DEHUMIDIFICATION.

FAN SCHEDULE

MARK	SERVICE	CFM	E.S.P. "WG	RPM	MOTOR HP	VOLTS/ PH	MANUFACTURER	MODEL	TYPE	WEIGHT	NOTES
KEF-1	COOKLINE HOOD #1	1665	1.10	1346	0.75	208V/3Ø	CAPTIVEAIRE	DU85HFA	ROOF UPBLAST FAN	94	1,3,5,6
KEF-2	COOKLINE HOOD #2	1665	1.10	1346	0.75	208V/3Ø	CAPTIVEAIRE	DU85HFA	ROOF UPBLAST FAN	94	1,3,5,6
KEF-3	COOKLINE HOOD #3	1665	1.10	1346	0.75	208V/3Ø	CAPTIVEAIRE	DU85HFA	ROOF UPBLAST FAN	94	1,3,5,6
KEF-4	COOKLINE HOOD #4	600	0.80	1412	0.33	208V/3Ø	CAPTIVEAIRE	DU33HFA	ROOF UPBLAST FAN	75	1,3,5,6
DEF-1	DISH MACHINE HOOD	900	0.35	1368	0.33	115V/1Ø	CAPTIVEAIRE	DU33HFA	ROOF UPBLAST FAN	63	3,4,6
TEF-1	RESTROOMS	600	0.50	1307	0.33	115V/1Ø	CAPTIVEAIRE	DR33HFA	ROOF DOWNBLAST FAN	57	2,4,6
MAU-1	COOKLINE HOODS	4425	0.65	1834	5.00	208V/3Ø	CAPTIVEAIRE	A2-D.500-20D-MPU	ROOF SUPPLY FAN	1565	1,3,6,7

NOTES: (NOT ALL MAY APPLY)

1. PROVIDE FAN INTERLOCK SWITCH VIA EXHAUST HOOD ENERGY MANAGEMENT SYSTEM BETWEEN KITCHEN HOOD EXHAUST AND MAU-1. COORDINATE REQUIRED WORK WITH THE ELECTRICAL CONTRACTOR.
2. PROVIDE INDEPENDENT WEATHER PROOF DISCONNECT SWITCH IN SIGHT OF THE EQUIPMENT. COORDINATE THE REQUIRED WORK WITH THE ELECTRICAL CONTRACTOR.
3. WEATHER PROOF DISCONNECT SWITCH AND INTERNAL WIRING SHALL BE FACTORY INSTALLED.
4. PROVIDE GRAVITY BACKDRAFT DAMPER.
5. PROVIDE FACTORY AVAILABLE GREASE BOX.
6. FURNISHED WITH KITCHEN HOOD PACKAGE, INSTALLED BY MECHANICAL CONTRACTOR.
7. MAU-1 SHALL BE FURNISHED WITH GAS HEAT MODULE WITH FACTORY CONTROLS. REFER TO HOOD DRAWINGS.

AREA SERVED	VENTILATION (OCCUPANCY)			VENTILATION (AREA)		
	# OF PEOPLE	CFM/PERSON	CFM	SQUARE FEET	CFM/SF	CFM
DINING - MAIN	136	7.5	1020	1809	0.18	326
DINING - TORP	58	7.5	435	555	0.18	100
RESTROOMS	-	-	-	461	-	-
KITCHEN	-	-	-	1271	-	-
OFFICE	-	-	-	79	-	-
SUBTOTALS			1455			426
			TOTAL O/A REQUIRED	1881 CFM		

NOTES:

1. CALCULATIONS ARE BASED ON 2018 IMC, TABLE 403.3
2. OUTDOOR AIR DEMAND IS: - 1881 CFM
   OUTDOOR AIR PROVIDED IS: + 2070 CFM

   OUTDOOR AIR DIFFERENCE IS: + 189 CFM
3. REFER TO THE AIR BALANCE SCHEDULE ON THIS SHEET FOR ADDITIONAL INFORMATION

MECHANICAL LEGEND

SYMBOL	ABBR.	DESCRIPTION
	CD	CEILING DIFFUSER - SUPPLY
	CD	CEILING DIFFUSER BELOW DUCT - SUPPLY
	SAD	RISER - SUPPLY AIR DUCT
	SAD	DROP - SUPPLY AIR DUCT
	CR	CEILING REGISTER - RETURN
	CR	CEILING REGISTER BELOW DUCT - RETURN
	RAD	RISER - RETURN AIR DUCT
	RAD	DROP - RETURN AIR DUCT
	CE	CEILING REGISTER - EXHAUST
	CE	CEILING REGISTER BELOW DUCT - EXHAUST
	EAD	RISER - EXHAUST AIR DUCT
	(L)	LINED DUCTWORK
	VD	MANUAL VOLUME DAMPER
	FC	FLEXIBLE CONNECTION
		NEW DUCT
TAG CFM		AIR DEVICE DESIGNATION
T	TSTAT	PROGRAMMABLE THERMOSTAT
S	SENS	REMOTE TEMPERATURE SENSOR
S	SD	SMOKE DETECTOR
	POC	POINT OF CONNECTION
	CFM	CUBIC FEET PER MINUTE
	S/A	SUPPLY AIR
	O/A	OUTSIDE AIR
	E/A	EXHAUST AIR
	S.P.	STATIC PRESSURE
	FOH	FRONT OF HOUSE
	BOH	BACK OF HOUSE

MECHANICAL GENERAL NOTES

1. NOTE: FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
2. THE MECHANICAL CONTRACTOR SHALL PROVIDE COMPLETE INFORMATION AND COOPERATE WITH THE OTHER CONTRACTORS AND TRADES AS REQUIRED FOR THE COMPLETION AND COORDINATION OF THE COMPLETE PROJECT.
3. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADMINISTERING ALL WARRANTIES ON EQUIPMENT WHICH THEY FURNISH AND INSTALL.
4. PROVIDE WRITTEN WARRANTY TO REPLACE ALL FAULTY MATERIALS AND/OR LABOR, AT NO COST TO OWNER, FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. WARRANTIES SHALL BEGIN ON THE DATE OF SUBSTANTIAL COMPLETION.
5. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES ALL REQUIRED OPENINGS AND PENETRATIONS. ALL REQUIRED OPENINGS IN FOUNDATIONS, FLOORS, WALLS AND ROOF SHALL BE CONSTRUCTED INTO THE STRUCTURE WITH THE USE OF SLEEVES, CURBS, ETC. CUTTING AND PATCHING SHALL BE HELD TO A MINIMUM.
6. ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED THROUGH CURBS OR PIPE SEALS A MINIMUM OF 12" ABOVE THE ROOF. THE PIPE CURBS AND SEALS SHALL BE INSTALLED BY THE ROOFING CONTRACTOR. ENSURE THAT AMPLE BOOT OPENINGS ARE PROVIDED TO ACCOMMODATE ANY ELECTRICAL CONDUIT PENETRATIONS REQUIRED FOR POWER.
7. COORDINATE THE INSTALLATION AND FINISH OF ALL SUPPLY AND RETURN AIR DEVICES. AIR DEVICES LOCATED IN GUEST AREAS (INCLUDING DINING AND BAR) SHALL BE PAINTED PER THE ARCHITECTURAL DRAWINGS FINISH SCHEDULE. ALL INTERIOR FACES OF DUCTWORK BEHIND RETURN AIR GRILLES SHALL BE PAINTED FLAT BACK FOR LINE OF SIGHT.
8. ROOFTOP UNITS SHALL BE SET TO RUN IN "FAN CONTINUOUS" MODE DURING OCCUPIED HOURS. DURING NIGHT SET-BACK HOURS, THE ROOFTOP UNITS SHALL RUN IN "FAN AUTO" MODE.
9. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" HIGH BLACK OVER WHITE LAMINATE NAMEPLATE WITH 2" LETTERS VISIBLE ADJACENT TO DISCONNECT SWITCH FOR ROOFTOP UNITS AND ROOF MOUNTED FANS.
10. LINE VOLTAGE WIRING, ALL CONDUIT DISCONNECT SWITCHES AND FINAL CONNECTION BY ELECTRICAL CONTRACTOR. LOW VOLTAGE CONDUIT AND WIRING AND FINAL CONNECTION BY MECHANICAL CONTRACTOR.
11. SUPPLY, RETURN, RESTROOM EXHAUST, AND MAKEUP AIR DUCT CONSTRUCTION SHALL BE GALVANIZED STEEL, GAUGES, SWAY BRACING AND SUSPENSION SHALL CONFORM TO SMACNA STANDARDS. SEAL ALL SEAMS AND JOINTS AIR AND WATERTIGHT. FLEXIBLE ALUMINUM DUCTWORK OR FIBERGLASS DUCTBOARD IS NOT ALLOWED (UNO).
12. ALL HVAC SUPPLY AND RETURN EXPOSED DUCTWORK SHALL BE INTERNALLY LINED AND PINNED WITH MINIMUM R-8, 1-1/2" INSULATION WITH VAPOR BARRIER PER THE INTERNATIONAL MECHANICAL CODE, 2018. INSULATION SHALL HAVE MAXIMUM RATINGS OF 25 FLAME SPREAD, 50 SMOKE DEVELOPED. REFER TO ARCHITECTURAL DRAWINGS FOR DUCT PAINT OR COLOR SPECIFICATION
13. ALL HVAC SUPPLY AND RETURN CONCEALED DUCTWORK TO BE EXTERNALLY WRAPPED AND SECURED WITH MINIMUM R-8.0, 2" INSULATION WITH VAPOR BARRIER PER THE 2018 INTERNATIONAL MECHANICAL CODE. INSULATION SHALL HAVE, MAXIMUM RATINGS OF 25 FLAME SPREAD, 50 SMOKE DEVELOPED.
14. ALL PENETRATIONS IN FIRE RATED WALL ASSEMBLIES SHALL BE SEALED WITH UL LISTED FIRE STOPPING MATERIAL.
15. THE CONDENSATE EXHAUST DUCT SHALL BE CORROSION RESISTANT 18 GA. STAINLESS STEEL (UNO), EXTERNALLY WELDED WITH LIQUID TIGHT JOINTS, SEAMS, AND SMOOTH RADIUS ELBOWS AND TRANSITIONS.
16. ALL TYPE-1 GREASE EXHAUST DUCTS SHALL BE NFPA 96 APPROVED 16 GA. WELDED BLACK IRON, EXTERNALLY WELDED WITH LIQUID TIGHT JOINTS, SEAMS, AND SMOOTH RADIUS ELBOWS AND TRANSITIONS.
17. ALL TYPE-1 GREASE EXHAUST DUCTS SHALL BE DOUBLE WRAPPED WITH U.L. LISTED FIRE WRAP SIMILAR TO 3M FIRE BARRIER DUCT WRAP 20A IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. EACH GREASE DUCT RISER SHALL BE WRAPPED TO THE FULL EXTENT POSSIBLE FROM THE HOOD COLLAR CONNECTION UP TO THE TERMINATION AT THE EXHAUST FAN INLET. ALL GREASE EXHAUST FAN ROOF CURBS SHALL BE VENTED PER NFPA 96. PROVIDE REQUIRED ACCESS FOR SERVICING AND CLEANING, AND VERIFY THE HINGED CURB OPENING OPERATES PROPERLY.
18. PITCH ALL HORIZONTAL GREASE AND CONDENSATE DUCTWORK UNIFORMLY BACK TOWARDS THE RESPECTIVE HOOD OR APPLIANCE AT A MINIMUM 1/4" PER FOOT (NOT TO EXCEED 50'-0").
19. ROOF CURBS FOR EXHAUST FANS AND THE MAKEUP AIR UNIT SHALL BE FACTORY FABRICATED OF FULL WELDED STEEL CONSTRUCTION WITH WOOD NAILER, AND FURNISHED WITH THE HOOD AND FAN PACKAGE. VERIFY REQUIREMENTS FOR THE ROOF CURBS WITH THE EQUIPMENT SUPPLIER. THE GENERAL CONTRACTOR SHALL FLASH ROOF CURBS AND SHIM DEAD LEVEL. COORDINATE EXACT SIZE AND LOCATION OF ROOF OPENINGS WITH THE STRUCTURAL FRAMING. CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED.
20. ROOF CURBS FOR ROOFTOP UNITS SHALL BE FACTORY FABRICATED OF FULL WELDED STEEL CONSTRUCTION WITH WOOD NAILER, AND FURNISHED WITH THE HVAC EQUIPMENT PACKAGE. VERIFY REQUIREMENTS FOR THE ROOF CURBS WITH THE EQUIPMENT SUPPLIER. THE GENERAL CONTRACTOR SHALL FIELD ASSEMBLE THE ROOF CURBS, FLASH AND SHIM DEAD LEVEL. COORDINATE EXACT SIZE AND LOCATION OF ROOF OPENINGS WITH THE STRUCTURAL FRAMING. CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED.
21. THE KITCHEN HOOD PACKAGE WILL BE PROVIDED WITH END CABINET(S) HOUSING THE FIRE SUPPRESSION TANKS, HOOD EXHAUST FAN SWITCHES, AND LIGHT SWITCHES. REFER TO MANUFACTURER SHEETS FOR THE HOOD CONTROL WIRING DIAGRAM FOR OPERATION OF THE KITCHEN HOOD EQUIPMENT.
22. THE GREASE EXHAUST DUCT RISERS BETWEEN THE HOOD COLLARS AND EXHAUST FANS SHALL BE OF THE SAME SIZE AS THE RESPECTIVE HOOD COLLAR SIZE, UNO. REFER TO THE HOOD SHEETS FOR THE HOOD COLLAR SIZES AS PROVIDED BY THE HOOD MANUFACTURER.
23. A FULL CERTIFIED MECHANICAL AIR TEST AND BALANCE REPORT SHALL BE PERFORMED BY AN OWNER APPROVED CONTRACTOR.
24. PER THE 2018 INTERNATIONAL MECHANICAL CODE, WHEN REQUIRED, EACH SINGLE SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2000 CUBIC FEET PER MINUTE SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE AIR MOVING EQUIPMENT DEVICES WHICH WILL DETECT PRODUCTS OF COMBUSTION OTHER THAN HEAT, AND WHICH COMPLY WITH THE IBC, SHALL BE LABELED BY AN APPROVED AGENCY FOR AIR DUCT INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH DEVICES SHALL BE COMPATIBLE WITH THE OPERATING VELOCITIES, PRESSURES, TEMPERATURES AND HUMIDITIES OF THE SYSTEM WHERE FIRE DETECTION OR ALARM SYSTEMS ARE PROVIDED FOR THE BUILDING, SMOKE DETECTORS SHALL BE SUPERVISED BY SUCH SYSTEMS.
25. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE AIR FILTERS AT THE ROOFTOP UNITS WITH 2" THICK PLEATED MERV 8 THROW AWAY TYPE AIR FILTERS AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO AIR BALANCE AND STORE TURNOVER.
26. MECHANICAL CONTRACTOR SHALL BE ON SITE AND PRESENT AT THE DATE OF STORE TURNOVER.

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DATE	DESCRIPTION

△	DATE	DESCRIPTION

SHEET TITLE:

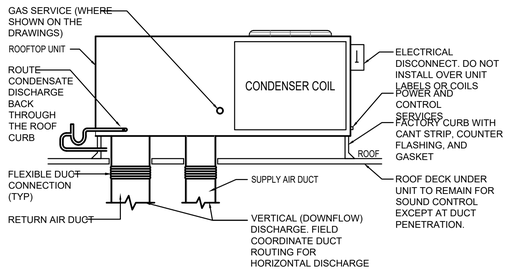
MECHANICAL SCHEDULES

SHEET NUMBER:

M2.1

JJR PROJECT NUMBER:

19-294



ROOFTOP UNIT DETAIL
SCALE: NONE
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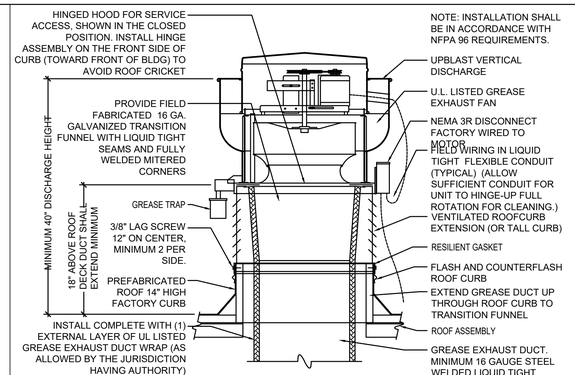

KITCHEN UPBLAST GREASE EXHAUST FAN DETAIL
SCALE: NONE
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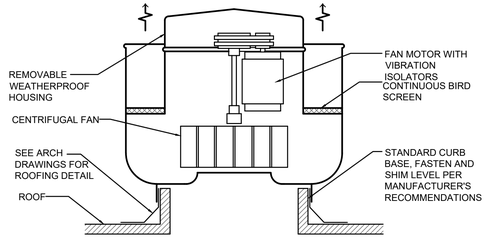
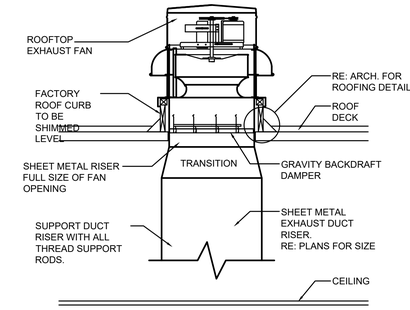


DISHMACHINE UPBLAST EXHAUST FAN DETAIL
SCALE: NONE
3



RESTROOM DOWNBLAST EXHAUST FAN DETAIL
SCALE: NONE
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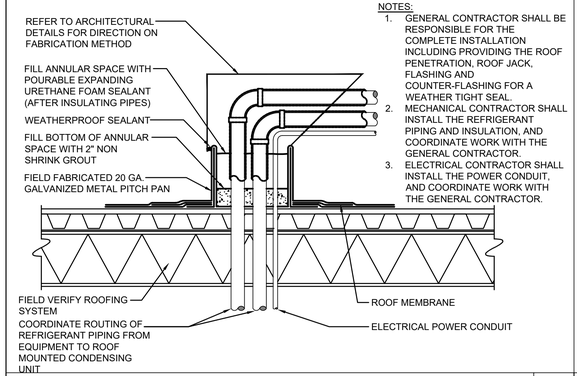
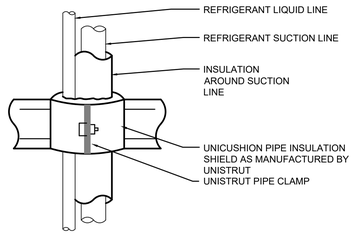


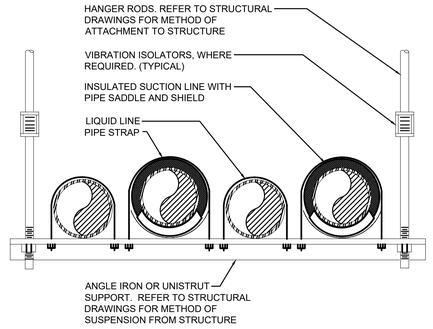
NOTES:
1. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION INCLUDING PROVIDING THE ROOF PENETRATION, ROOF JACK, FLASHING AND COUNTER-FLASHING FOR A WEATHER TIGHT SEAL.
2. MECHANICAL CONTRACTOR SHALL INSTALL THE REFRIGERANT PIPING AND INSULATION, AND COORDINATE WORK WITH THE GENERAL CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL INSTALL THE POWER CONDUIT, AND COORDINATE WORK WITH THE GENERAL CONTRACTOR.

PIPING AND CONDUIT ROOF PENETRATION DETAIL
SCALE: NONE
5

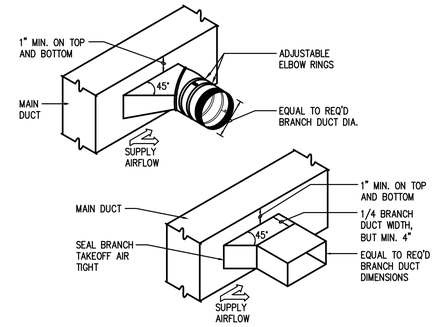


NOTES:
1. LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.
2. LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.
3. USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.
4. REFER TO MANUFACTURER'S GUIDELINES FOR THE COMPLETE INSTALLATION.

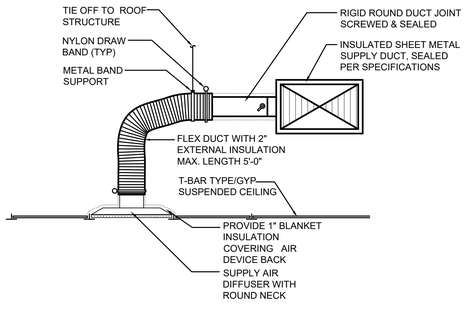
VERTICAL REFRIGERANT PIPE SUPPORT DETAIL
SCALE: NONE
6



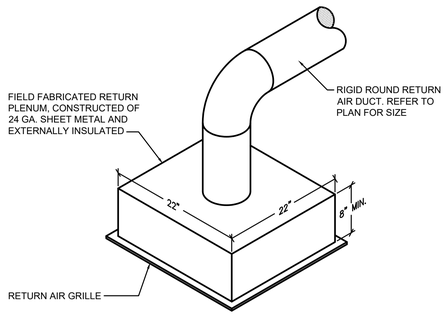
HORIZONTAL REFRIGERANT PIPE SUPPORT DETAIL
SCALE: NONE
7



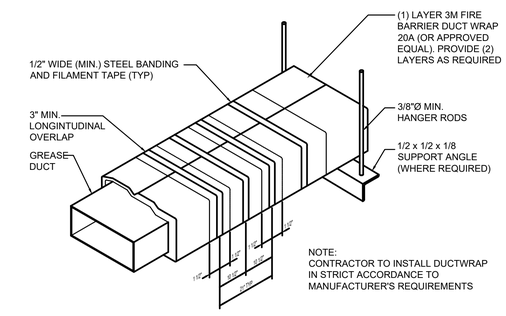
BRANCH TAKE-OFF FITTING DETAIL
SCALE: NONE
8



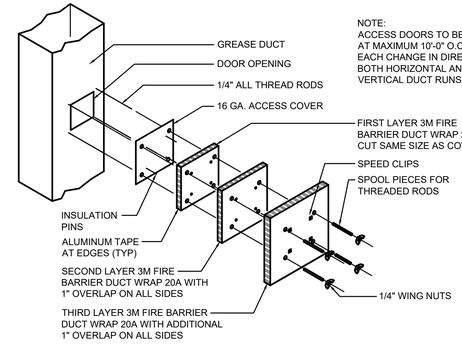
CELING MOUNTED SUPPLY AIR DIFFUSER DETAIL
SCALE: NONE
9



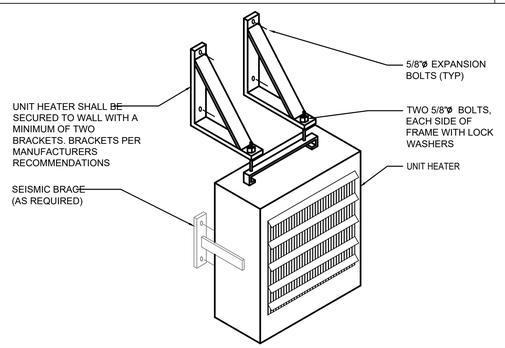
CEILING MNTD. RETURN AIR GRILLE DETAIL
SCALE: NONE
10



UL LISTED GREASE EXHAUST DUCT WRAP DETAIL
SCALE: NONE
11



UL LISTED GREASE EXHAUST DUCT ACCESS DOOR DETAIL
SCALE: NONE
12



UNIT HEATER DETAIL
SCALE: NONE
13

NOT USED
SCALE: NONE
14

NOT USED
SCALE: NONE
15

NOT USED
SCALE: NONE
16

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DATE	DESCRIPTION

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SHEET TITLE:

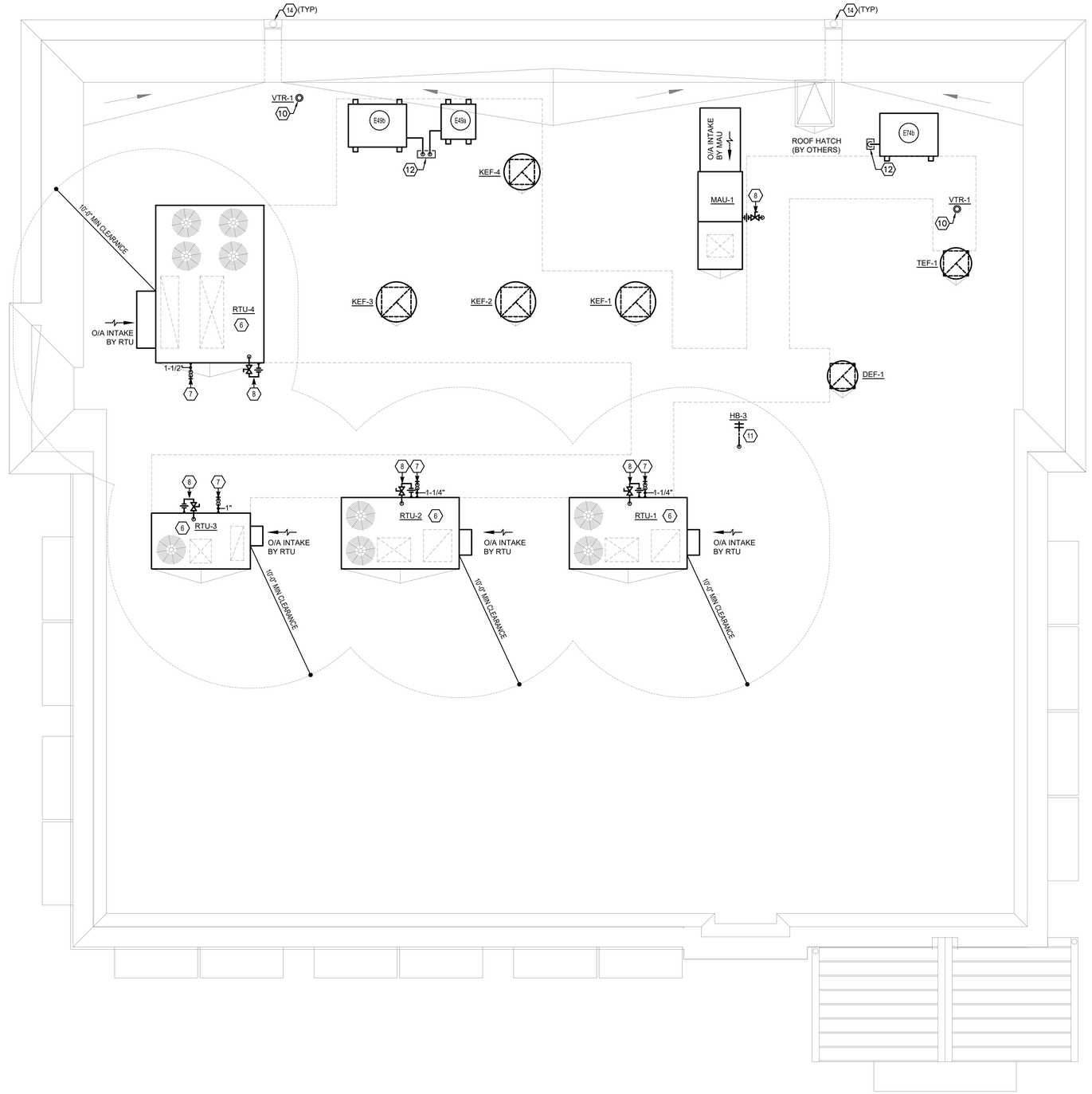
MECHANICAL DETAILS

SHEET NUMBER:

M3.1

JJR PROJECT NUMBER:

19-294



GENERAL NOTES

1.	ALL OUTDOOR AIR INTAKES BY MECHANICAL EQUIPMENT SHALL HAVE A MINIMUM 10'-0" HORIZONTAL CLEARANCE FROM THE DISCHARGE OF ANY EXHAUST FAN, COMBUSTION EXHAUST OR PLUMBING VENT.
2.	PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE DUCT/ PIPING CONNECTIONS TO ALL MOVING MACHINERY NOT INTERNALLY ISOLATED.
3.	ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL ELECTRICAL WORK SHOWN ON THE MECHANICAL DRAWINGS.

KEYED NOTES

⟨X⟩	
1.	NOT USED.
2.	NOT USED.
3.	NOT USED.
4.	NOT USED.
5.	NOT USED.
6.	ELECTRICAL CONTRACTOR SHALL RUN CONTROL WIRING TO ROOF TOP UNITS, SENSORS, AND THERMOSTATS. COORDINATE WITH MECHANICAL CONTRACTOR.
7.	CONDENSATE DRAIN PIPING FROM THE HVAC UNIT SHALL BE TRAPPED AND DISCHARGED ON THE ROOF AS SHOWN.
8.	GAS PIPING TO THE MECHANICAL UNIT SHALL TURN BACK THROUGH THE ROOF CURB. PROVIDE WEATHER TIGHT SEAL AT PIPE PENETRATION. REFER TO THE WATER AND GAS PLUMBING PLAN FOR CONTINUATION OF PIPING BELOW THE ROOF.
9.	ALL PIPING INSTALLED ON THE ROOF SHALL BE SUPPORTED WITH PRE-MANUFACTURED ADJUSTABLE PIPE SUPPORTS AT MAXIMUM 5'-0" ON CENTER AND EVERY CHANGE OF DIRECTION.
10.	ROOF MOUNTED VTR, SIZED AS SHOWN. INSTALLED LOCATION SHALL BE A MINIMUM OF 10'-0" FROM ANY OUTDOOR AIR INTAKE. TOP OF VTR STACK SHALL BE EVEN WITH PARAPET WALL. INSTALL COMPLETE WITH ODOR EATER CAP AS SCHEDULED.
11.	ROUTE 3/4" COLD WATER UP THROUGH ROOF AND CONNECT TO ROOF MOUNTED HOSE BIBB AT 12" ABOVE THE FINISHED ROOF. REFER TO WATER PLUMBING PLAN FOR CONTINUATION OF PIPING BELOW THE ROOF.
12.	FIELD FABRICATED ROOF JACK FOR REFRIGERATION PIPING AND POWER CONDUIT(S) SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. REFER TO ARCHITECTURAL DETAILS FOR DIRECTION. THE MC, EC AND GC SHALL COORDINATE FOR A COMPLETE INSTALLATION.
13.	GUTTERS AND GUTTER LEADERS ON THE PITCHED ROOFS SHALL BE BY THE GENERAL CONTRACTOR. REFER TO THE ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
14.	PARAPET OPENING AND ROOF DRAIN LEADER MOUNTED ON THE EXTERIOR WALL SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. REFER TO THE ARCHITECTURAL DRAWINGS FOR CONTINUATION.

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MEP ROOF PLAN

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MP1.1

JR PROJECT NUMBER:
19-294