

MECHANICAL SHEET INDEX

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RESPONSIBILITY MATRIX

DESCRIPTION	FURNISHED			INSTALLED			REMARKS
	GC	OWNER	LL	GC	OWNER	LL	
DIVISION 23: HEATING, VENTILATING, AND AIR CONDITIONING							
23.1 HVAC DUCTWORK AND PIPING IDENTIFICATION							
HVAC DUCTWORK SYSTEM IDENTIFICATION	•			•			
PIPING SYSTEM IDENTIFICATION	•			•			
UTILITY SHUT OFF IDENTIFICATION IN KITCHEN	•			•			
VALVE TAGS AND CHART	•			•			
HVAC DAMPER IDENTIFICATION	•			•			
23.2 ROOF CURBS							
23.3 HVAC DUCTWORK SYSTEM COMPONENTS							
HVAC DUCTWORK	•			•			
GREASE DUCTWORK INSIDE TENANT SPACE	•			•			
OUTSIDE AIR DUCTWORK INSIDE TENANT SPACE	•			•			
GENERAL EXHAUST AIR DUCTWORK INSIDE TENANT SPACE	•			•			
INSULATION AND FIRE WRAP	•			•			
DAMPERS	•			•			
SMOKE DETECTORS	•			•			
SUPPLY, RETURN, AND EXHAUST GRILLS AND REGISTERS	•			•			
23.4 MECHANICAL PIPING SYSTEM COMPONENTS							
WALK-IN COOLER AND FREEZER WATER COOLED CONDENSERS	•	•		•			1
VALVES AND ACCESSORIES (E.G. AIR VENTS)	•			•			
23.5 HVAC EQUIPMENT							
GENERAL EXHAUST FAN	•			•			
DUCTED AND NON-DUCTED HEATING AND COOLING UNITS	•			•			
MAKEUP AIR UNIT	•			•			
23.6 KITCHEN EXHAUST WITH FIRE SUPPRESSION SYSTEM							
HOOD CONTROL PANEL	•			•			
KITCHEN EXHAUST HOOD	•			•			
STRUCTURAL SUPPORT	•			•			
ELECTRICAL AND CONTROL WIRING	•			•			
ANSUL SYSTEM	•	•		•			2
ANSUL WIRING AND UTILITIES CONNECTION	•			•			
ANSUL GAS VALVE	•			•			
23.7 COMMISSIONING ACTIVITIES							
GREASE EXHAUST WATER LEAKAGE TEST	•			•			
TEST AND BALANCE (TAB) REPORT	•			•			
GENERAL NOTES:							
1. INFORMATION CONTAINED WITHIN IS BASED ON THE EXECUTED WORK LETTER DATED 04/19/2021.							
2. REFER TO FINAL WORK LETTER FOR ALL LANDLORD / TENANT SCOPE OF WORK RESPONSIBILITIES.							
REMARKS:							
1. WALK-IN COOLER AND FREEZER SUPPLIED BY VENDOR NO. 27. GENERAL CONTRACTOR SCOPE OF WORK TO INCLUDE PIPING INSTALLATION AND FINAL CONNECTION.							
2. GENERAL CONTRACTOR TO COORDINATE AND FACILITATE SYSTEM SIGN-OFF.							

SUBMITTAL MATRIX

SUBMITTAL DESCRIPTION	Required Review Time (Business Days)		Shake Shack	Physical Sample Required	Submit for Record	Submit for Record Only
	GC	Architect of Record				
Diffusers, Grills & Registers	5	X				
Ductwork Layout (if there are significant changes in field)	5	X			X	
HVAC Equipment (if Carrier - Submitted by Owner/Vendor directly to Owner/AOR prior to construction)	5	X			X	
MEP Tests, Start-Up, and Programming Reports	5	X			X	

GENERAL NEW NOTES:

- PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING NEW WORK, COORDINATE SHUTDOWN TIME AND DURATION WITH THE OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
- DURING INSTALLATION OF NEW WORK, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
- PROVIDE TEMPORARY BARRIERS TO CONTAIN DUST AND DEBRIS RESULTING FROM THE PERFORMANCE OF THE WORK TO THE AREA WHERE WORK IS BEING PERFORMED.
- ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY DIVISION 23 UNLESS OTHERWISE NOTED.
- NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS BECOME WET AT ANY TIME DURING CONSTRUCTION. DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER. THE INTERNAL SURFACES AND ASSOCIATED COILS OF ANY HVAC UNITS THAT WERE OPERATED SHALL ALSO BE CLEANED.
- INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- PAINT PORTIONS OF DUCTWORK AND INSULATION THAT ARE EXPOSED TO VIEW BY THE INSTALLATION OF DIFFUSERS, REGISTERS, AND GRILLES IN CEILINGS OR WALLS FLAT BLACK. PORTIONS INCLUDE BOTH THE INTERIOR OF UNLINED DUCTWORK AND THE EXTERIOR OF DUCTWORK AND INSULATION.
- LOCATE AND SET THERMOSTATS AND HUMIDISTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 26. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.
- COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS, SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
- PROVIDE A MANUAL BALANCING DAMPER IN EACH DUCT TAKEOFF FROM SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
- PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES. PROVIDE WITH INTEGRAL MANUAL BALANCING DAMPER AND LOCKING QUADRANT WHERE INDICATED ON PLANS.
- BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
- REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS. INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.
- FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE EQUIPMENT VENTS AND FLUES PER EQUIPMENT MANUFACTURERS RECOMMENDATIONS AND EQUIPMENT SPECIFICATIONS. KEEP PENETRATIONS THROUGH ROOF A MINIMUM OF 10'-0" FROM HVAC EQUIPMENT FRESH AIR INLETS AND 2'-0" FROM ROOF PARAPETS.
- PROVIDE TYPE I GREASE HOOD EXHAUST DUCTWORK OF MINIMUM 16 GAUGE BLACK IRON WITH LIQUID TIGHT WELDS, WITH ACCESS PANELS FOR GREASE CLEANING AS REQUIRED BY NFPA 96 AND LOCAL CODES. SLOPE DUCT BACK TOWARDS HOOD AT MINIMUM OF 1/4" PER LINEAL FOOT MAINTAINING 18" CLEARANCE TO COMBUSTIBLE MATERIALS. INSTALL GREASE DUCTS IN AN APPROVED FIRE-RATED ENCLOSURE SEPARATED FROM THE EXHAUST DUCT BY A MINIMUM OF 6" AND MAXIMUM OF 12". VENTILATE ENCLOSURE TO THE OUTSIDE AIR IF REQUIRED BY CODE. AS AN OPTION, IF APPROVED BY LOCAL CODES, PROVIDE AN APPROVED WRAP SYSTEM IN LIEU OF THE RATED DUCT ENCLOSURE SYSTEM. DUCT WRAP SYSTEM SHALL MEET UL REQUIREMENTS FOR GREASE DUCT ENCLOSURES.
- PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.
- TEMPORARY INSTALLATIONS OF INFECTION CONTROL MEASURES DURING CONSTRUCTION SHALL BE COORDINATED WITH THE FACILITY'S INFECTION CONTROL STAFF. PRIOR TO CONSTRUCTION PROVIDE ALL REQUIRED TEMPORARY INSTALLATIONS, INCLUDING DETAILS OF THE INFECTION CONTROL MEASURES SUCH AS TEMPORARY BARRIERS AND MEMBRANES, PORTABLE EXHAUST FANS AND TEMPORARY DUCTWORK. TEMPORARY INSTALLATIONS MUST NOT HAVE A NEGATIVE IMPACT ON EXISTING SYSTEMS NOR CAUSE UNSAFE CONDITIONS. TEMPORARY INSTALLATIONS SHALL MAINTAIN ADEQUATE EGRESS AND SHALL NOT OBSTRUCT EXISTING EXITS, CREATE A FIRE HAZARD OR REDUCE REQUIRED FIRE RESISTANCE. TEMPORARY VENTILATION SYSTEMS SHALL NOT CAUSE THE AIR BALANCE OF ADJACENT ROOMS OR SPACES TO BE IMPACTED OR ALTER THE PERFORMANCE OF PERMANENT BUILDING VENTILATION SYSTEMS. AIRFLOW MEASUREMENTS SHALL BE TAKEN TO VERIFY ADJACENT ROOMS OR SPACES ARE NOT IMPACTED.

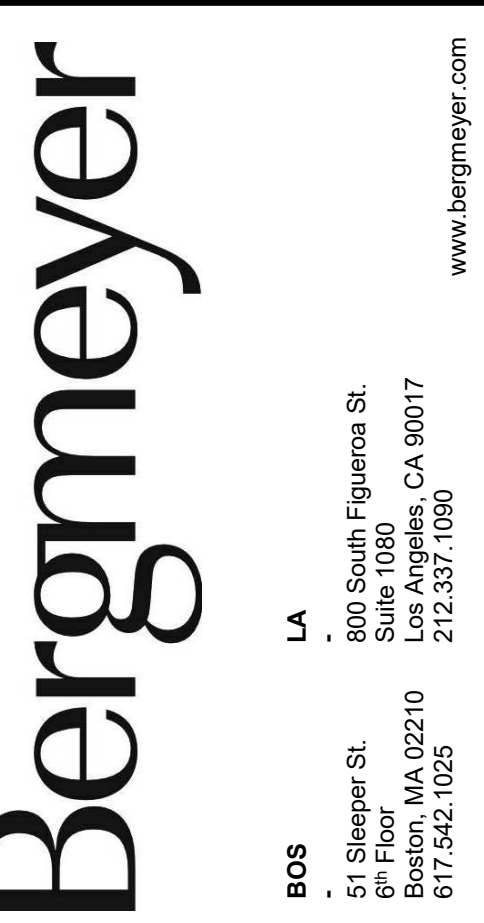
MECHANICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.

V2.06

STANDARD MOUNTING HEIGHT		HVAC DUCTWORK AND ACCESSORIES		PIPING SYMBOLS	
<p>THERMOSTATS (USER ADJUSTABLE)(TOP OF DEVICE) 48"</p> <p>CONTROLS (TOP OF DEVICE) 48"</p>		<p>LINEAR SLOT DIFFUSER</p>		<p>DIRECTION OF FLOW</p>	
		<p>INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG)</p>		<p>CONTROL VALVE</p>	
		<p>BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER</p>		<p>THREE-WAY CONTROL VALVE</p>	
		<p>ELBOW WITH TURNING VANES</p>		<p>SHUTOFF VALVE</p>	
		<p>BRANCH DUCT WITH BELL-MOUTH FITTING & MANUAL VOLUME CONTROL DAMPER</p>		<p>CHECK VALVE</p>	
		<p>RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP</p>		<p>BALANCING VALVE WITH PRESSURE PORTS</p>	
		<p>RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN</p>		<p>TRIPLE DUTY VALVE WITH PRESSURE PORTS</p>	
		<p>SUPPLY AIR DUCT UP</p>		<p>STRAINER</p>	
		<p>SUPPLY AIR DUCT DOWN</p>		<p>STRAINER WITH BLOWDOWN VALVE</p>	
		<p>EQUIPMENT WITH FLEXIBLE DUCT CONNECTION</p>		<p>RELIEF / SAFETY VALVE</p>	
		<p>10" (NECK SIZE) CSD-1 (TYPE) 300 CFM (CFM OF SUPPLY DIFFUSER OR REGISTER)</p>		<p>SOLENOID VALVE</p>	
		<p>24x24 (NECK SIZE) CEG-1 (TYPE) 800 CFM (CFM OF EXHAUST GRILLE)</p>		<p>PRESSURE REDUCING VALVE</p>	
		<p>MANUAL VOLUME DAMPER</p>		<p>GAS PRESSURE REGULATOR</p>	
		<p>SQUARE TO ROUND TRANSITION</p>		<p>THERMOSTATIC MIXING VALVE</p>	
		<p>DUCT MOUNTED SMOKE DETECTOR (SD-SUPPLY/RD-RETURN)</p>		<p>PIPE ANCHOR</p>	
		<p>ROUND DUCT TAG INDICATING DIAMETER</p>		<p>EXPANSION JOINT</p>	
		<p>RECTANGULAR DUCT TAG INDICATING INTERNAL DUCT DIMENSIONS.</p>		<p>PIPE GUIDE</p>	
		<p>FLAT OVAL DUCT TAG INDICATING INTERNAL DUCT DIMENSIONS.</p>		<p>PIPING SUPPORT</p>	
		<p>RISER DESIGNATION</p>		<p>F & T TRAP</p>	
		<p>FIRE DAMPER</p>		<p>BUCKET TRAP</p>	
		<p>FIRE SMOKE DAMPER</p>		<p>THERMOSTATIC TRAP</p>	
		<p>SMOKE DAMPER</p>		<p>BACKFLOW PREVENTER</p>	
		<p>VOLUME DAMPER</p>		<p>PRESSURE GAUGE</p>	
		<p>MOTORIZED DAMPER</p>		<p>THERMOMETER</p>	
		<p>BACKDRAFT DAMPER</p>		<p>PRESSURE AND TEMPERATURE TEST PLUG</p>	
		<p>ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. REFER TO DUCTWORK SPECIFICATIONS FOR DUCTWORK INSULATION AND LINER INFORMATION.</p>		<p>UNION</p>	
		<p>HUMIDISTAT</p>		<p>FLANGE CONNECTION</p>	
		<p>THERMOSTAT</p>		<p>VACUUM RELIEF VALVE</p>	
		<p>CARBON MONOXIDE SENSOR</p>		<p>AUTOMATIC AIR VENT</p>	
		<p>CARBON DIOXIDE SENSOR</p>		<p>MANUAL AIR VENT</p>	
		<p>DIFFERENTIAL PRESSURE SENSOR</p>		<p>PRESSURE / VACUUM SWITCH</p>	
		<p>FLOW SWITCH</p>		<p>CLEANOUT</p>	
		<p>HUMIDITY SENSOR</p>		<p>CAP</p>	
		<p>PULL STATION</p>		<p>ELBOW UP</p>	
		<p>REMOTE TESTING STATION WITH INDICATING LIGHT</p>		<p>ELBOW DOWN</p>	
		<p>STATIC PRESSURE</p>		<p>TEE UP</p>	
		<p>TEMPERATURE SENSOR</p>		<p>TEE DOWN</p>	
				<p>ELBOW UP WITH SHUT-OFF VALVE (SOV)</p>	
				<p>ELBOW DOWN WITH SHUT-OFF VALVE (SOV)</p>	
				<p>TEE UP WITH SHUT-OFF VALVE (SOV)</p>	
				<p>TEE DOWN WITH SHUT-OFF VALVE (SOV)</p>	
				<p>REDUCER</p>	
				<p>RECIRCULATION PUMP</p>	
				<p>P-TRAP</p>	
				<p>GAS COCK</p>	
				<p>TOP BEAM CLAMP</p>	
				<p>TRAPEZE HANGER</p>	
				<p>FLEXIBLE CONNECTION</p>	

ABBREVIATIONS		ABBREVIATIONS	
A/C	AIR CONDITIONING	HWP	HEATING WATER PUMP
ACC	AIR COOLED CHILLER	IN WC	INCHES OF WATER
ACCU	AIR COOLED CONDENSING UNIT	L	LOUVER
AFC	ABOVE FINISHED CEILING AFF	LAT	LEAVING AIR TEMPERATURE
AD	ANALOG OUTPUT	LDB	LEAVING DRY BULB
AFG	ABOVE FINISHED GRADE	LP	LOW PRESSURE
AHJ	AUTHORITY HAVING JURISDICTION	LWB	LEAVING WET BULB
AHU	AIR HANDLING UNIT	LWT	LEAVING WATER TEMPERATURE
AI	AIR LOG INPUT	MAU	MAKE-UP AIR UNIT
AO	ANALOG INPUT	MAX	MAXIMUM
AP	ACCESS PANEL	MBH	1000 BTU PER HOUR
APD	AIR PRESSURE DROP	MD	MOTORIZED DAMPER
AWG	AMERICAN WIRE GAUGE	MFR	MANUFACTURER
B	BUILDINGS AUTOMATION SYSTEM	MIN	MINIMUM
BB	BACKBONE	N/A	NOT APPLICABLE
BD	BACKDRAFT DAMPER	NIO	NORMALLY OPEN
BD	BLOWDOWN	NOM	NOMINAL
BFC	BELOW FINISHED CEILING	NO	NOISE CRITERIA
BFF	BELOW FINISHED FLOOR	NF	NON-FUSED
BFG	BELOW FINISHED GRADE	NOI	NOT IN CONTRACT
BFP	BRAKE FEED PUMP	OA	OUTSIDE AIR
BHP	BRAKE HORSEPOWER	PICV	PRESSURE INDEP. CONTROL VALVE
BI	BINARY INPUT	QTY	QUANTITY
BO	BOTTOM OF DUCT	RC	ROOM CRITERIA
BOS	BOTTOM OF STRUCTURE	RD	RETURN DUCT
BTU	BRITISH THERMAL UNIT	REA	RELIEF AIR
CFM	CUBIC FEET PER MINUTE	RF	RETURN FAN
CH	CHILLER	RFR	REFRIGERANT
CLG	COOLING	RH	RELATIVE HUMIDITY
CLN	CLEANOUT	RPM	REVOLUTIONS PER MINUTE
CP	CONDENSATE PUMP	RTU	ROOFTOP UNIT
CPT	CONTROL POWER	SA	SUPPLY AIR
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT	SCP	STEAM CONDENSATE PUMP
CRU	COMPUTER ROOM UNIT	SD	SMOKE DUCT DETECTOR
CT	COOLING TOWER	SD	SUPPLY DUCT
CV	CONTROL VALVE	SF	SUPPLY FAN
CWP	CONDENSER WATER PUMP	SF	SENSIBLE HEAT CAPACITY
CU	CONDENSING UNIT	SOW	SCOPE OF WORK
CHWP	CHILLED WATER PUMP	SP	STATIC PRESSURE
DB	DECIBELS	ST	STEAM TRAP
DBA	DECIBEL AVERAGE	STM	STEAM
DDC	DIRECT DIGITAL CONTROL	TBD	TO BE DETERMINED
DI	DIGITAL INPUT	TOC	TEMPERATURE CONTROL PANEL
DISC	DISCONNECT	TCF	TEMPERATURE CONTROL
DN	DUCT SILENCER	TF	TRANSFER FAN
DX	DIRECT EXPANSION	TFA	TO FLOOR ABOVE
EI	EXISTING	TFB	TO FLOOR BELOW
EA	EXHAUST AIR	TH	TOTAL HEAT CAPACITY
EAT	ENTERING AIR TEMPERATURE	TSP	TOTAL STATIC PRESSURE
ED	EXHAUST DUCT	TT	TEMPERATURE TRANSMITTAL
EDB	ENTERING DRY BULB EXHAUST FAN	TYP	TYPICAL
EF	EFFICIENCY	UF	UNDERFLOOR
EMS	ENERGY MANAGEMENT SYSTEM	UG	UNDERGROUND
ESP	EXTERNAL STATIC PRESSURE	UIS	UNDERSLAB
ETR	EXISTING TO REMAIN	UH	UNIT HEATER
EWB	ENTERING WET BULB	UNO	UNLESS NOTED OTHERWISE
EWV	ENTERING WATER TEMPERATURE	VAV	VARIABLE AIR VOLUME
FCU	FAN COIL UNIT	VEL	VELOCITY
FFA	FROM FLOOR ABOVE	VFD	VARIABLE FREQUENCY DRIVE
FFB	FROM FLOOR BELOW	VRF	VARIABLE REFRIGERANT FLOW
FF	FINISHED FLOOR	VRV	VARIABLE REFRIGERANT VOLUME
FPI	FEET PER INCH	W/	WITH
FPM	FEET PER MINUTE	WO	WITHOUT
GC	GENERAL CONTRACTOR	WB	WET BULB
GPM	GALLONS PER MINUTE	WC	WATER COLUMN
HOA	HAND-OFF-AUTOMATIC	WPD	WATER PRESSURE DROP
HP	HORSEPOWER	XP	EXPLOSION PROOF
HTG	HEATING		



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 EXPIRES 6/30/2024

SEALED SIGNATURE:
JARED CARLSON
 No. 12784
 REGISTERED PROFESSIONAL ENGINEER
 MECHANICAL
 02/13/2023

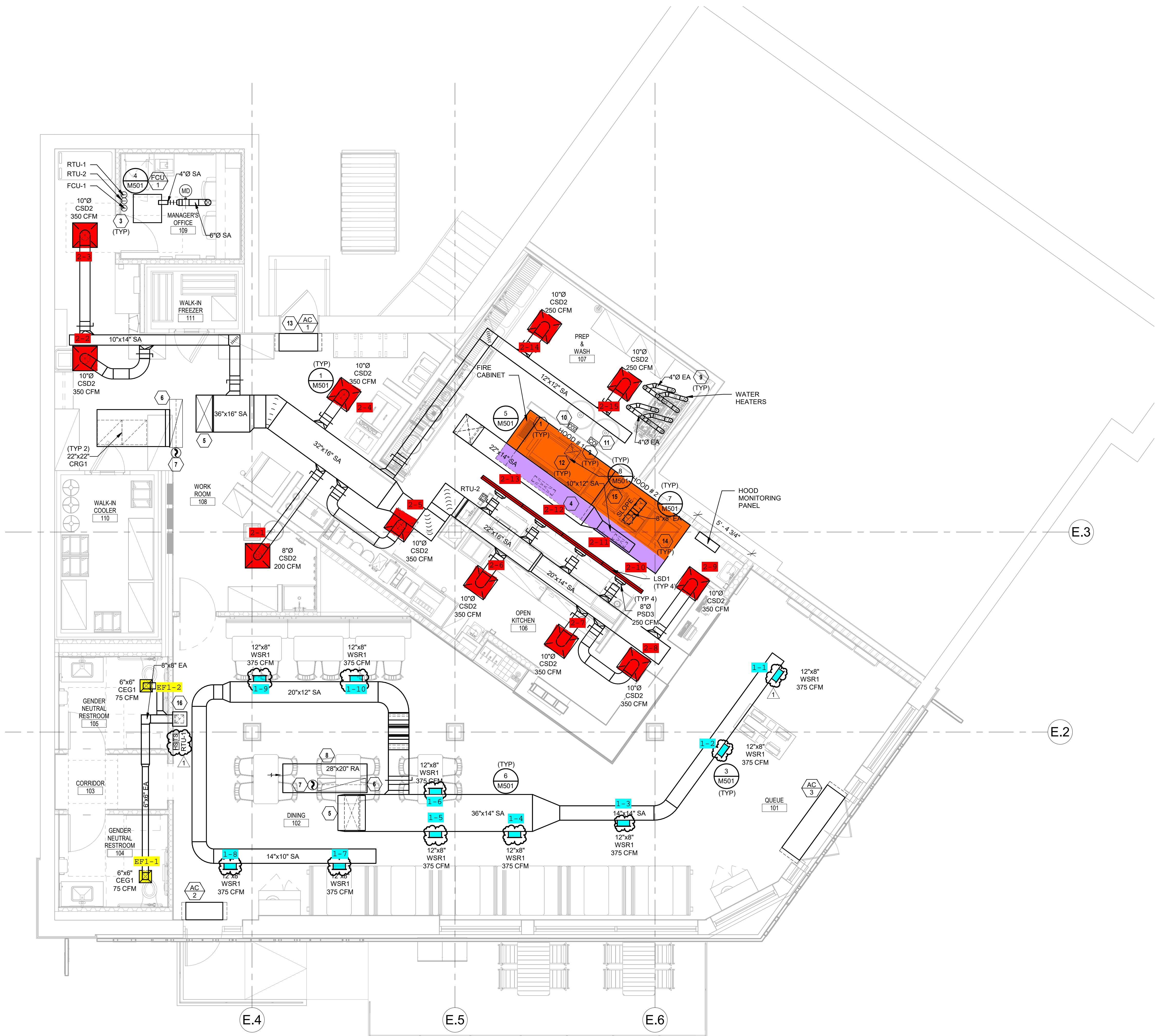
1	HEI	2023-02-13	IFC SET
	HEI	2022-08-25	PERMIT SET
	HEI	2022-05-09	BID SET
	HEI	2022-04-18	75% SET

MECHANICAL GENERAL NOTES:

- DO NOT ROUTE ANY DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES AND REQUIREMENTS.
- REFER TO DETAILS AND SCHEDULES SHEETS FOR FURTHER INFORMATION.
- MOUNT ALL THERMOSTATS AND SENSORS CONTROLLING HVAC EQUIPMENT AT 48" AFF UNLESS OTHERWISE NOTED.

MECHANICAL PLAN NOTES:

- TYPE I HOODS SHALL BE FURNISHED COMPLETE WITH INTERNALLY PIPED FIRE SUPPRESSION SYSTEM AND EXTERNAL FOAM SUPPLY BOTTLES WITH REMOTE PULL CONTROLS AND IN COMPLIANCE WITH NFPA 96. DIVISION 23 SHALL COORDINATE COMPLETE INSTALLATION WITH FIRE PROTECTION CONTRACTOR TO MEET APPROVAL OF LOCAL INSPECTOR AND CODE COMPLIANCE INCLUDING TESTING.
- TYPE I GREASE HOOD EXHAUST DUCTWORK SHALL BE MINIMUM 16 GAUGE STEEL OR MINIMUM 18 GAUGE STAINLESS STEEL WITH LIQUID TIGHT WELDS. INSTALL ACCESS PANELS FOR CLEANING AS REQUIRED BY NFPA 96 AND LOCAL CODES. TRANSITION GREASE DUCTWORK AS REQUIRED TO HOODS AND FAN CONNECTIONS. PROVIDE 45" MAX OFFSETS AS REQUIRED TO COORDINATE WITH STRUCTURE. PROVIDE RADIUS ELBOWS WITHOUT TURNING VANES. SLOPE HORIZONTAL GREASE DUCT BACK TOWARDS HOOD AT MINIMUM OF 1/4" PER LINEAL FOOT. GREASE DUCTS SHALL BE CONTAINED IN A UL APPROVED GREASE DUCT WRAP SYSTEM.
- MOUNT THERMOSTATS AND TEMPERATURE SENSOR(S) ON WALL. THERMOSTATS AND SENSOR(S) SHALL BE LABELED TO MATCH THE UNIT TAG AND CORRESPOND TO THE ELECTRICAL LEGEND IN THE ELECTRICAL PANEL BOARD SERVING THE EQUIPMENT. COORDINATE COLOR WITH ARCHITECT.
- REFER TO HALTON SHEETS FOR INFORMATION ON HOOD MAKEUP AIR PLENUM.
- PROVIDE SA DUCT THROUGH ROOF. FULL SIZE OF UNIT OPENING, AND CONNECT TO UNIT WITH FLEXIBLE CONNECTOR. TRANSITION 45 DEGREES THROUGH ROOF CURB.
- PROVIDE RA DUCT THROUGH ROOF. FULL SIZE OF UNIT OPENING, AND CONNECT TO UNIT WITH FLEXIBLE CONNECTOR. TRANSITION 45 DEGREES THROUGH ROOF CURB.
- INSTALL DUCT SMOKE DETECTOR IN RETURN AIR PLENUM.
- PROVIDE 1/4" GALVANIZED CONSTRUCTION HARDWARE CLOTH SCREEN OVER OPEN END OF RETURN DUCT. PROVIDE DUCT LINER IN BOOT. RETURN AIR DUCT SHALL BE MINIMUM 20" HORIZONTAL EXTENSION FOR SOUND ATTENUATION.
- PROVIDE CONCENTRIC VENT MODEL NUMBER PVC-3CT.
- PROVIDE ANALOX AX80 OR APPROVED EQUAL CARBON DIOXIDE SENSOR WITH REMOTE ALARM REPEATER TO BE MOUNTED AT 18" AFF. PROVIDE CARBON DIOXIDE SENSOR WITH RELAY. RELAY SHALL BE INTERLOCKED WITH THE BUILDING FIRE ALARM SYSTEM. THE SENSOR SHALL BE EQUIPPED WITH A LOCAL AUDIBLE AND VISUAL ALARM. THE LOW LEVEL ALARM SHALL ACTIVATE THE LOCAL AUDIBLE AND VISUAL ALARM. THE HIGH LEVEL ALARM SHALL ACTIVATE RELAY. INSTALL SENSOR PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 LOW LEVEL ALARM - 0.5% = 5,000PPM
 HIGH LEVEL ALARM - 3.0% = 30,000PPM
- CARBON MONOXIDE DETECTOR FURNISHED BY OWNER. INSTALL AT 5'-0" AFF. COORDINATE FINAL LOCATION WITH OWNER REPRESENTATIVE.
- INSTALL "DUCTMATE ULTIMATE DOOR" ON DUCTS 12" OR LARGER AND INSTALL "DUCTMATE P1 SANDWICH ACCESS DOOR" FOR DUCTS LESS THAN 12" ON GREASE DUCT ACCESS PANELS FOR CLEANING IN LOCATION SHOWN AT A MINIMUM AND AS REQUIRED BY NFPA 96 AND LOCAL CODES.
- INSTALL AIR CURTAIN MOUNTED ABOVE DOOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- INSTALL KITCHEN HOODS CENTERED OVER THE COOKLINE SO THAT THE HOOD OVERHANGS THE COOKING SURFACES BY AT LEAST 6" ON BOTH SIDES.
- SLOPE GREASE DUCT DOWN TOWARDS HOODS AT 1/4" PER 1' OF DUCT.
- UP TO EF-1.

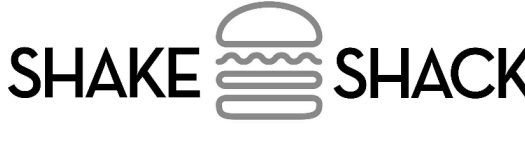


1 MECHANICAL FLOOR PLAN
 1/4" = 1'-0"

ALL GREASE DUCT TO BE WATER TESTED BY ENVIROMATIC AT MECHANICAL CONTRACTOR'S EXPENSE. CONTACT OWNER'S NATIONAL ACCOUNT VENDOR:
 ENVIROMATIC
 DON PFLEIDERER
 1.800.325.8476
 inspections@enviromatic.com

THE BUILDINGS HVAC SYSTEMS SHALL BE BALANCED BY NATIONAL TAB (NO EXCEPTIONS) AND CONTRACTED BY THE GENERAL CONTRACTOR.
 CONTACT:
 WILL TURNBOUGH
 will@nationaltab.com
 855-682-6822 ext704

1	HEI	2023-02-13	IFC SET
	HEI	2022-08-25	PERMIT SET
	HEI	2022-05-09	BID SET
	HEI	2022-04-18	75% SET
	HEI	2022-02-28	DD SET



SHAKE SHACK GARDEN CITY

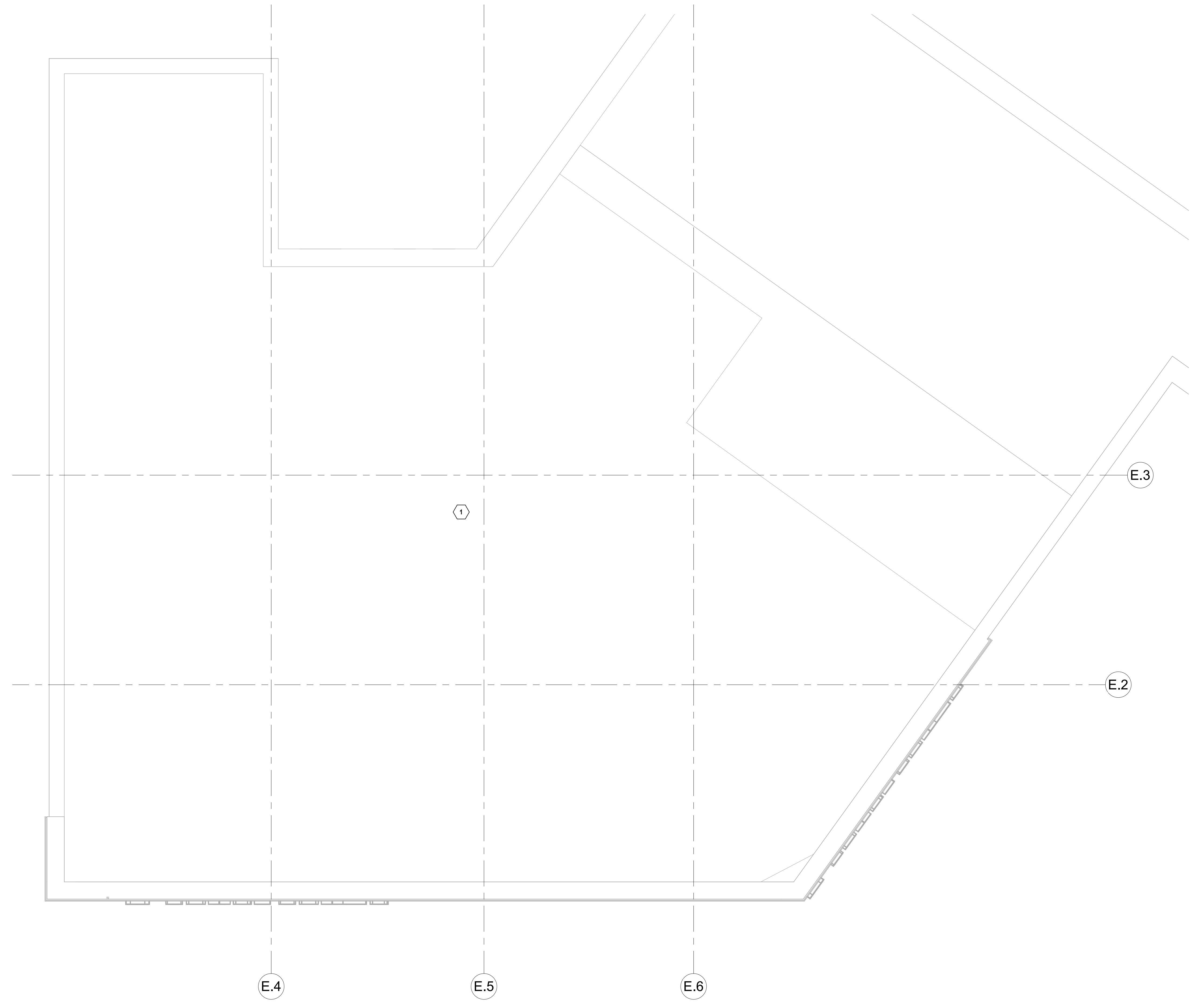
30 HILLSIDE ROAD, UNIT 1003
 CRANSTON, RI 02920
 SHACK #1458

IFC SET

MECHANICAL FLOOR PLAN

DRAWN BY: Author
 CHECKED BY: Checker
 JOB NO: 21239.00

M101



- GENERAL DEMOLITION NOTES:**
- COORDINATE ALL DEMOLITION WITH WHAT IS SHOWN ON ARCHITECTURAL PLANS. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
 - PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER, AS DEFINED IN BID DOCUMENTS, OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
 - OWNER RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH OWNER THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE. AVOID DAMAGE TO SALVAGED EQUIPMENT, FIXTURES AND DEVICES DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION.
 - REMOVE ITEMS SHOWN HEAVY-LINED DASHED, AND/OR NOTED TO BE REMOVED.
 - AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
 - SEAL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE MECHANICAL COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR DAMAGED SURFACES TO MATCH ADJACENT AREAS OR AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
 - REMOVE HANGERS AND SUPPORTS WHERE DUCTWORK, PIPING AND/OR EQUIPMENT ARE REMOVED AND THE EXISTING HANGERS AND SUPPORTS ARE NOT USED FOR THE NEW INSTALLATION.
 - INSTALL PERMANENT CAPS WHERE DUCTWORK AND PIPING IS REMOVED AND THE EXISTING TAPS ARE NOT USED FOR THE NEW INSTALLATION. WHERE DUCTWORK AND PIPING ARE REMOVED AND THE EXISTING TAPS WILL BE USED FOR THE NEW INSTALLATION, INSTALL TEMPORARY CAPS TO PROTECT THE INTERIOR SURFACES UNTIL NEW DUCTWORK AND PIPING ARE INSTALLED.
 - INSPECT EXISTING EQUIPMENT TO REMAIN TO VERIFY THAT EQUIPMENT IS OPERATING PROPERLY. NOTIFY OWNER OF DAMAGED AND/OR MALFUNCTIONING COMPONENTS.
 - WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING DEMOLITION, COORDINATE SHUTDOWN TIME AND DURATION WITH OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
 - CEASE WORK AND IMMEDIATELY NOTIFY THE OWNER SHOULD ANY HAZARDOUS MATERIALS BE ENCOUNTERED DURING THE PERFORMANCE OF THE WORK.
 - REMOVAL, RECOVERY, RECYCLING, AND DISPOSAL OF REFRIGERANT, CONTAINED IN ANY EQUIPMENT TO BE REMOVED, SHALL BE PERFORMED IN STRICT ACCORDANCE WITH CURRENT EPA GUIDELINES.

MECHANICAL DEMOLITION PLAN NOTES:

- ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AND ACCESSORIES IN TENANT SPACE ARE TO BE DEMOLISHED UNLESS NOTED OTHERWISE.

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

Bergmeyer

LA
800 South Figueroa St.
Los Angeles, CA 90017
212.337.1090

BOS
51 Shaper St.
Boston, MA 02210
617.542.1025

www.bergmeyer.com

CONSULTANTS:

HENDERSON
ENGINEERS

8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

2150026338
RI CORPORATE NO. 6094
EXPIRES 6/30/2024

SEAL/ SIGNATURE:

JARED CARLSON
No. 12784
REGISTERED
PROFESSIONAL ENGINEER
MECHANICAL

02/13/2023

NO.	BY	DATE	DESCRIPTION
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	HEI	2022-08-25	PERMIT SET
	HEI	2022-05-09	BID SET
	HEI	2022-04-18	75% SET
	HEI	2022-02-28	DD SET



SHAKE SHACK GARDEN CITY

30 HILLSIDE ROAD, UNIT 1003
CRANSTON, RI 02920
SHACK #1458

IFC SET

MECHANICAL DEMO PLAN

DRAWN BY:	Author
CHECKED BY:	Checker
JOB NO:	21239.00

MD101

CONSULTANTS:

HENDERSON
 ENGINEERS
 8345 LENEXA DRIVE, SUITE 300
 LENEXA, KS 66214
 TEL 913.742.5000 FAX 913.742.5001
 WWW.HENDERSONENGINEERS.COM
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SHAKE SHACK GARDEN
 CITY
 30 HILLSIDE ROAD, UNIT 1003
 CRANSTON, RI 02920
 SHACK #1458

IFC SET

MECHANICAL ROOF PLAN

DRAWN BY: Author
 CHECKED BY: Checker
 JOB NO: 21239.00

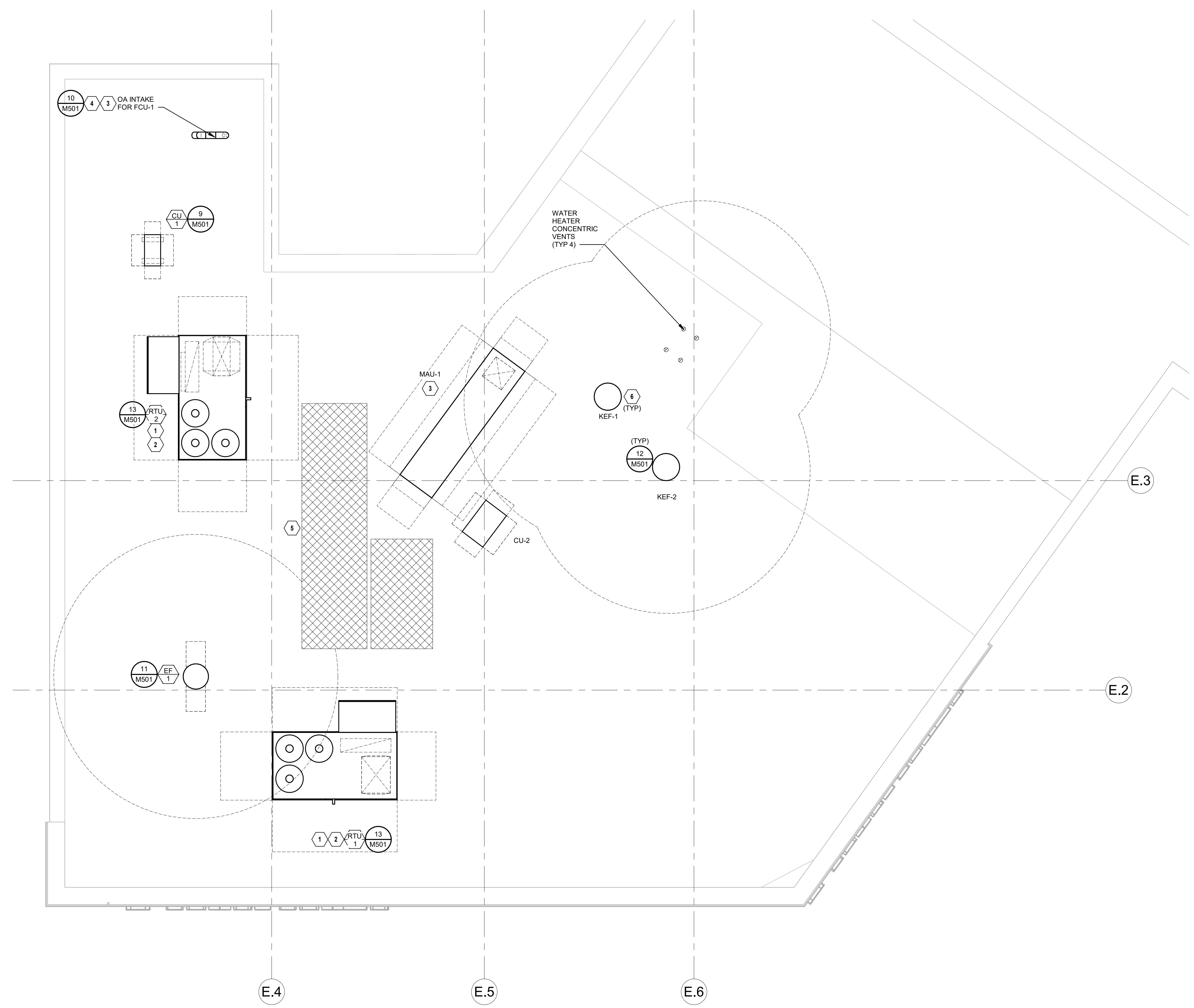
M150

MECHANICAL GENERAL NOTES:

- ALL VENT STACKS SHALL BE NO LESS THAN 12" FROM PARAPET, AT LEAST 10 FEET FROM OUTSIDE AIR INTAKES, AND ABOVE ROOF SURFACE 6" MINIMUM TO FULL HEIGHT OF PARAPET, WHICHEVER IS GREATER. CONTRACTOR SHALL PROVIDE BRACING AS SPECIFIED.
- COORDINATE EXACT EQUIPMENT LOCATIONS WITH OTHER TRADES PRIOR TO INSTALLATION.
- REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.
- REFER TO DETAILS AND SCHEDULES SHEETS FOR FURTHER INFORMATION.

MECHANICAL PLAN NOTES:

- MAINTAIN ALL OUTSIDE AIR INTAKES A MINIMUM OF 10'-0" RADIUS FROM EXHAUST, TYPICAL.
- PROVIDE EQUIPMENT WITH NATIONAL TAB UV-PH INDOOR AIR PURIFICATION SYSTEM MODEL PH-IPKG-24V. INSTALL IN UNIT BLOWER COMPARTMENT PER MANUFACTURER'S INSTRUCTIONS.
- MAINTAIN ALL OUTSIDE AIR INTAKES A MINIMUM OF 10'-0" RADIUS FROM EXHAUST, TYPICAL.
- TURN DOWN 6"Ø INTAKE AND END OPEN OVER ROOF (MIN. 24") WITH INSECT SCREEN.
- AREA RESERVED FOR REFRIGERATION CONDENSER(S) PROVIDED BY KITCHEN EQUIPMENT CONTRACTOR.
- REFERENCE HALTON DRAWINGS FOR MORE INFORMATION ON EXHAUST FANS.



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

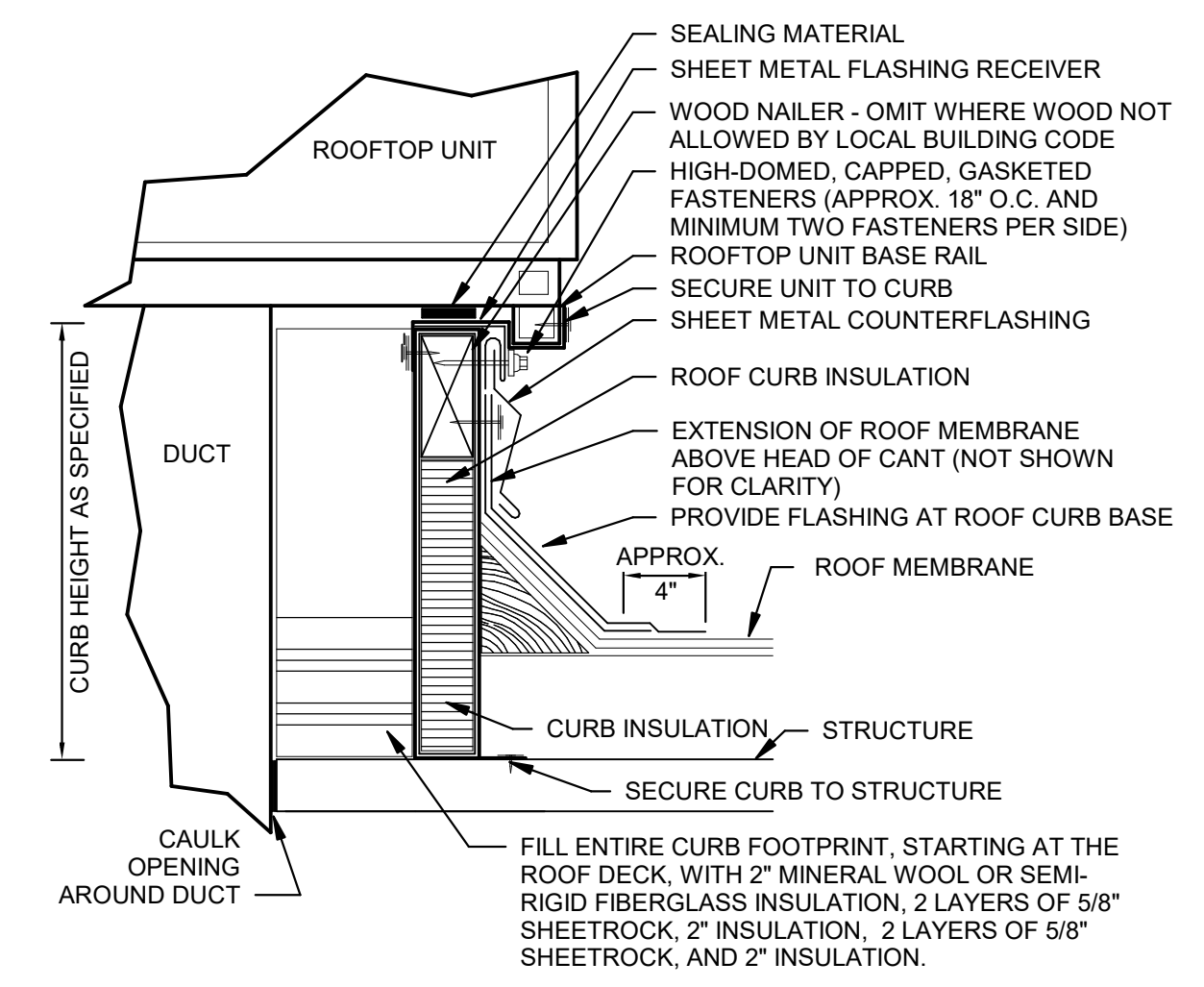
CONSULTANTS:

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

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RI CORPORATE NO. 6094
EXPIRES 6/30/2024

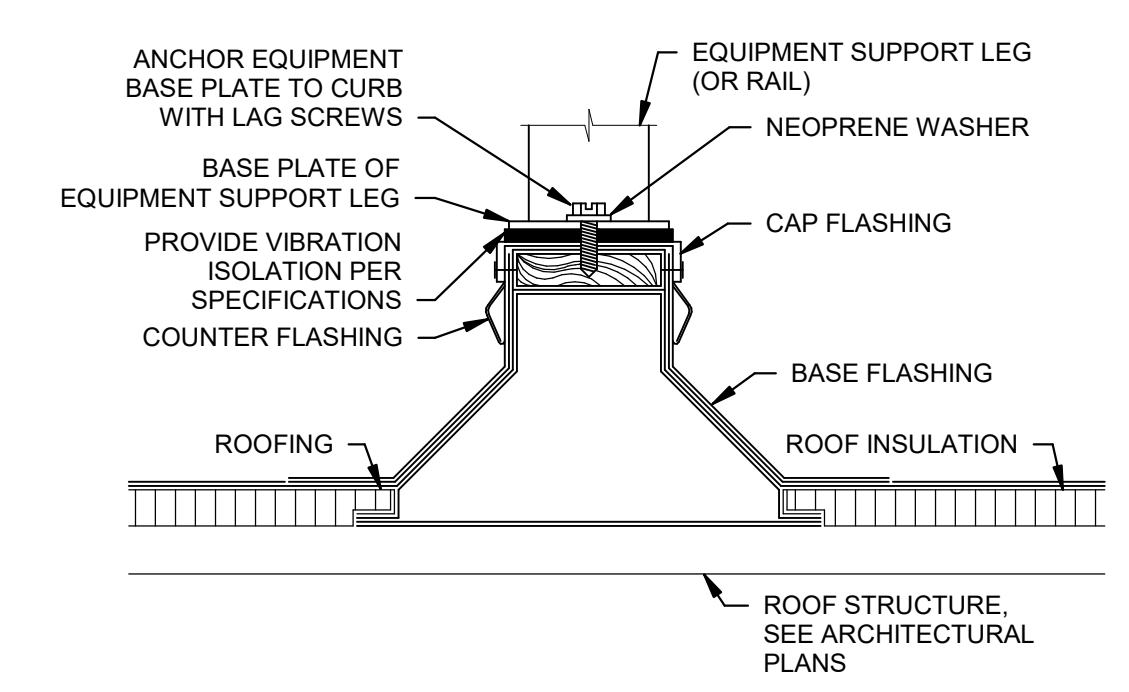
SEAL SIGNATURE:

JARED CARLSON
No. 12784
REGISTERED PROFESSIONAL ENGINEER MECHANICAL
02/13/2023



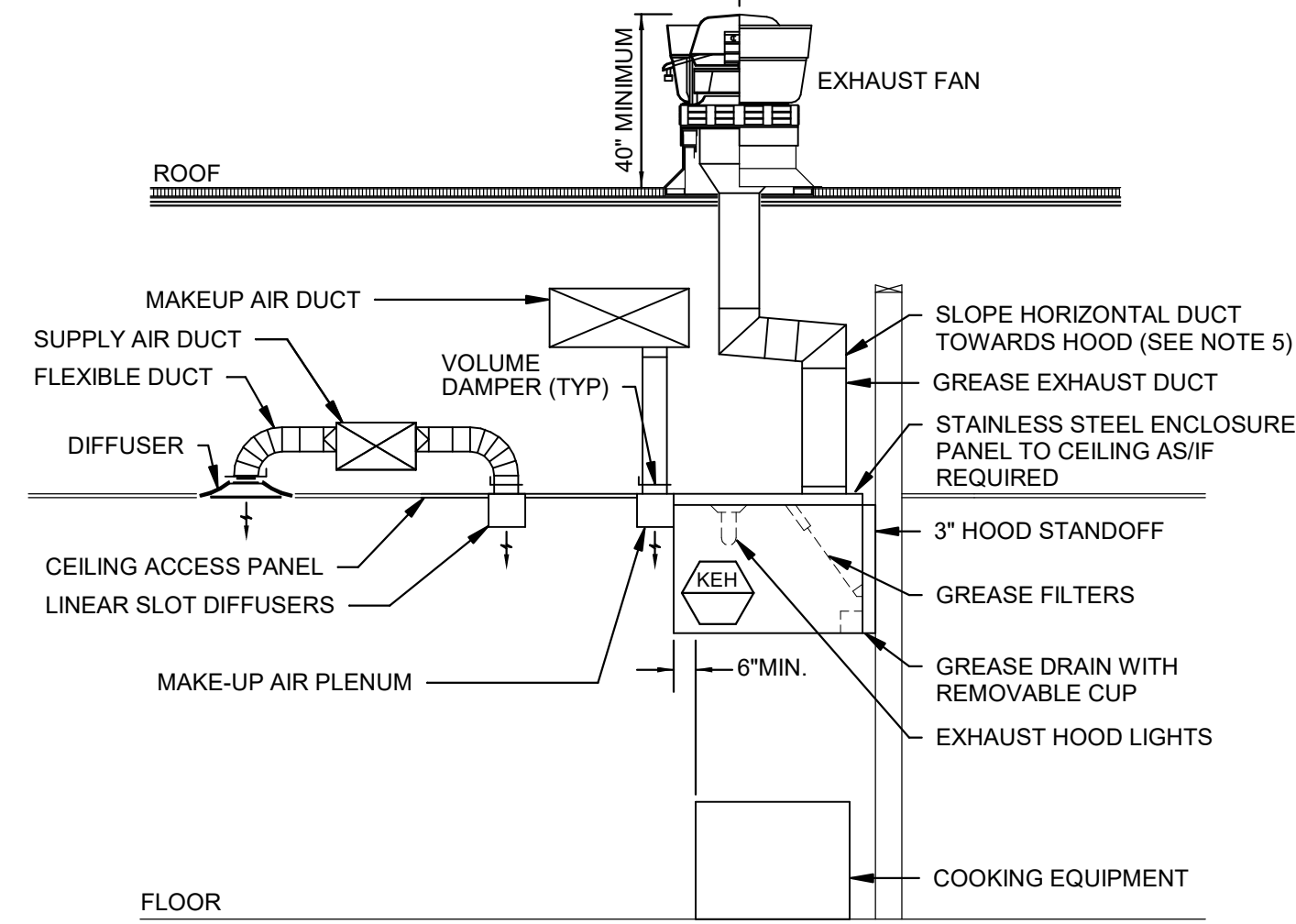
- NOTES:
- CUT METAL DECKING TO ALLOW CURB INSTALLATION ON STEEL FRAMING. AFTER CURB IS SET IN PLACE, TRIM REMAINING METAL DECKING AND INSTALL WITHIN CURB. TACK WELD DECKING TO SUPPORT STEEL. DO NOT WELD INTERIOR DECKING TO ROOF CURB. PROVIDE ADDITIONAL CROSS FRAMING TO SUPPORT INTERIOR DECKING AND FILL MATERIAL AS REQUIRED.
 - REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR ROOF CURBS, ANCHORING AND SEISMIC/WIND RESISTANCE.

13 ROOF CURB DETAIL
NTS



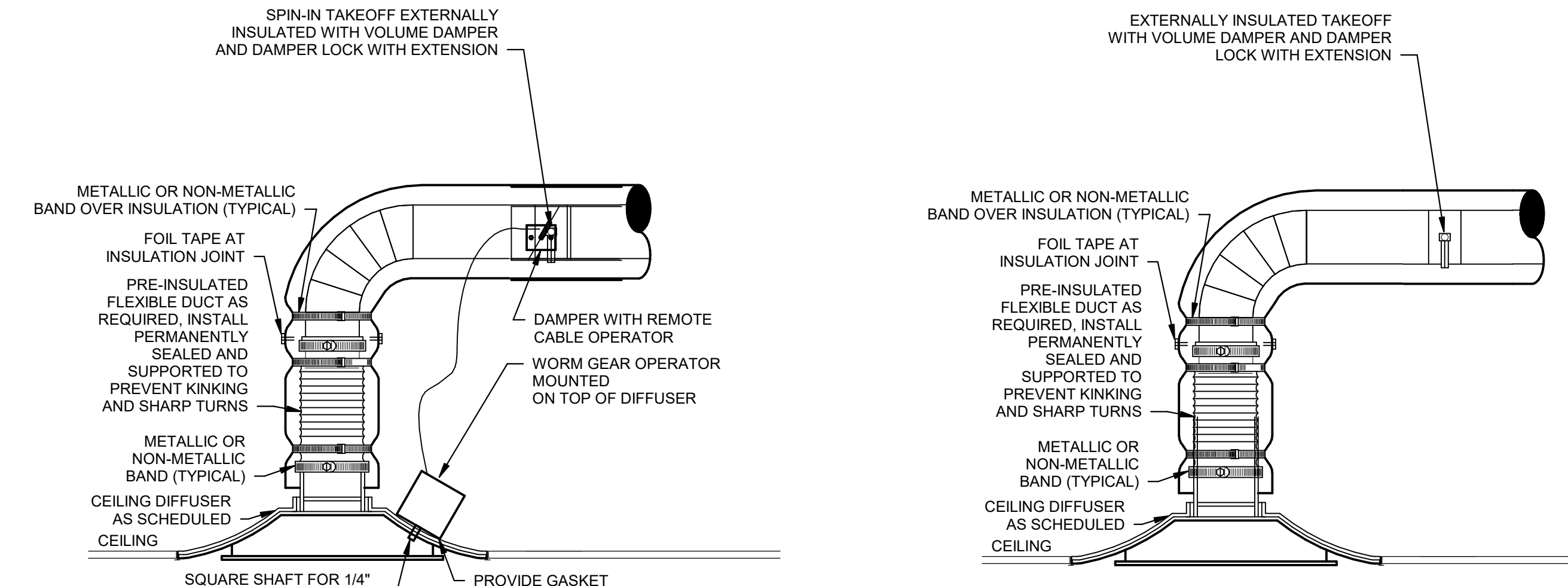
- NOTES:
- REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR EQUIPMENT SUPPORTS, ANCHORING AND SEISMIC/WIND RESISTANCE.

9 ROOF EQUIPMENT SUPPORT RAIL DETAIL
NTS



- NOTES:
- SUBMIT SHOP DRAWINGS OF ALL HOOD SYSTEMS TO CITY FOR APPROVAL PRIOR TO INSTALLATION.
 - TOTAL HOOD SYSTEM TO BE IN COMPLETE CONFORMANCE WITH NFPA, AND ALL LOCAL CODES AND REGULATIONS.
 - COORDINATE ALL FIRE PROTECTION SYSTEMS WITH FIRE PROTECTION CONTRACTOR WHO SHALL ALSO BE RESPONSIBLE FOR ALL PERMITS AND TESTING REQUIRED.
 - PROVIDE WRAP SYSTEM WHERE APPROVED BY LOCAL CODES IN LIEU OF RATED ENCLOSURE. PROVIDE ACCESS PANELS AS REQUIRED BY LOCAL CODE AND PER PLAN.
 - HOODS SHALL EXTEND MINIMUM 6\"/>

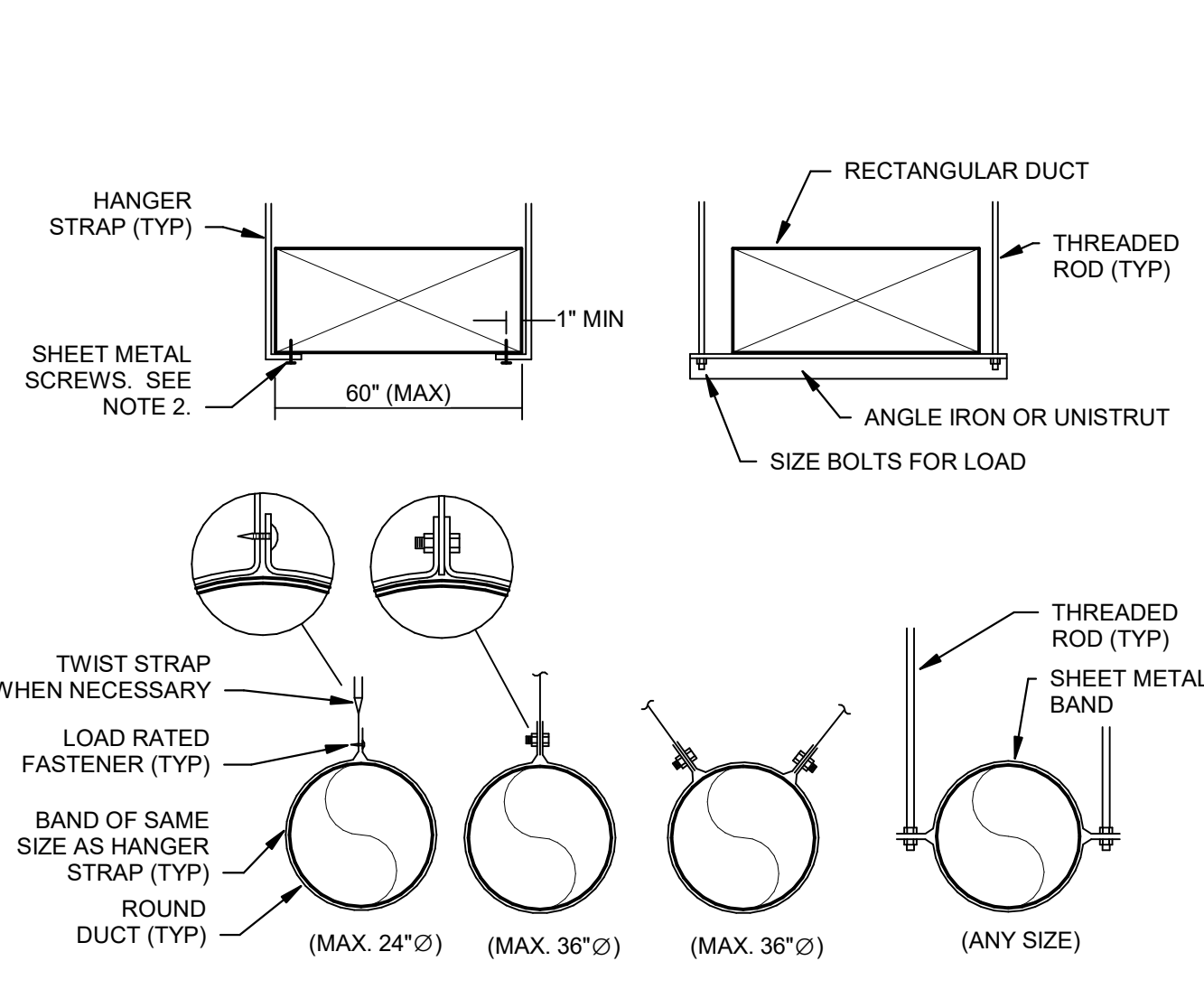
5 KITCHEN EXHAUST HOOD ELEVATION DETAIL
NTS



- NOTES:
- FLEXIBLE DUCT LENGTH MAY NOT EXCEED 5'-0\"/>

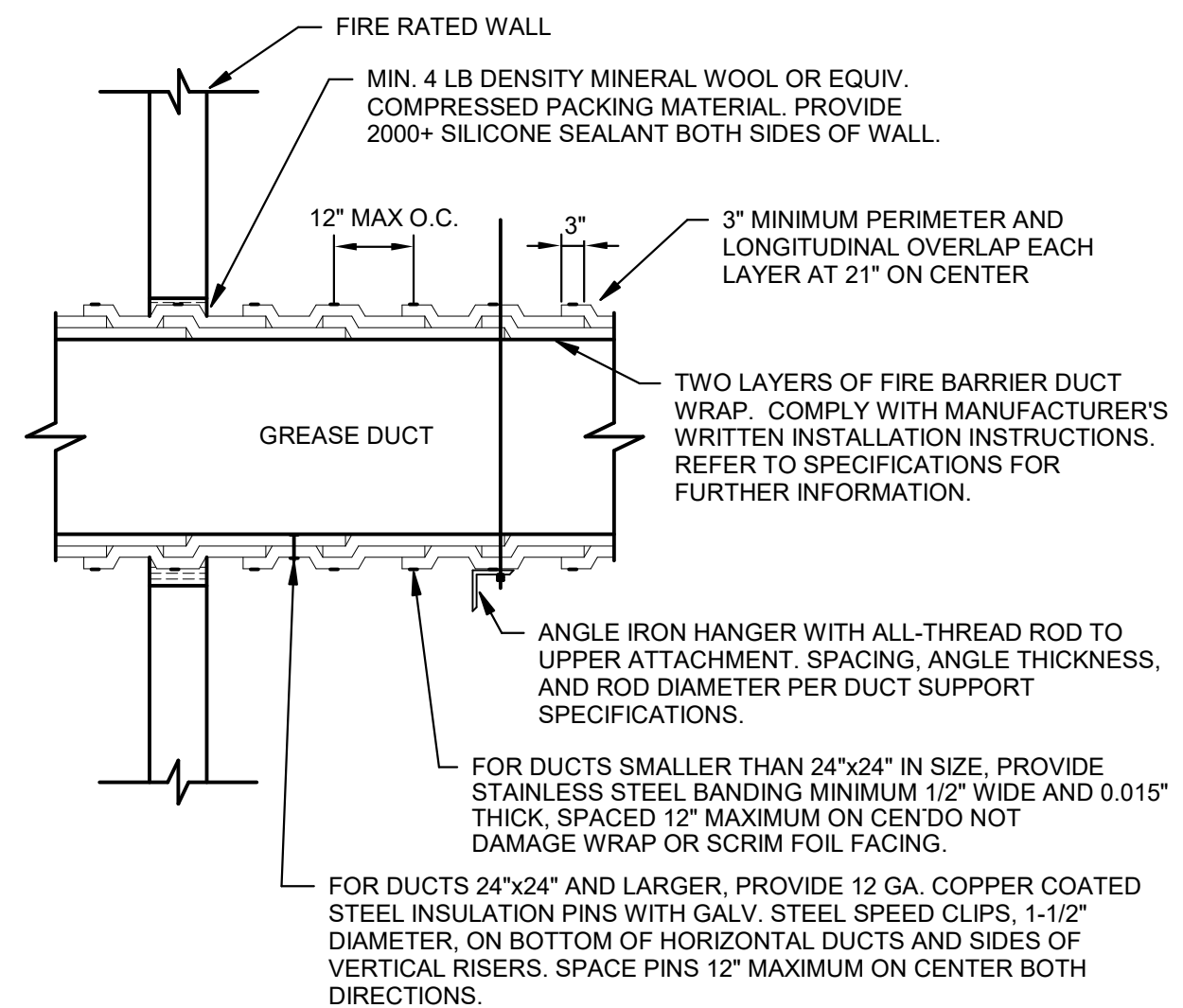
2 HARD CEILING DIFFUSER DETAIL
NTS

10 ROUND AIR DUCT OR PIPE PENETRATION THROUGH ROOF DETAIL
NTS



- NOTES:
- USE THREADED ROD FOR RECTANGULAR DUCTS LARGER THAN 60\"/>

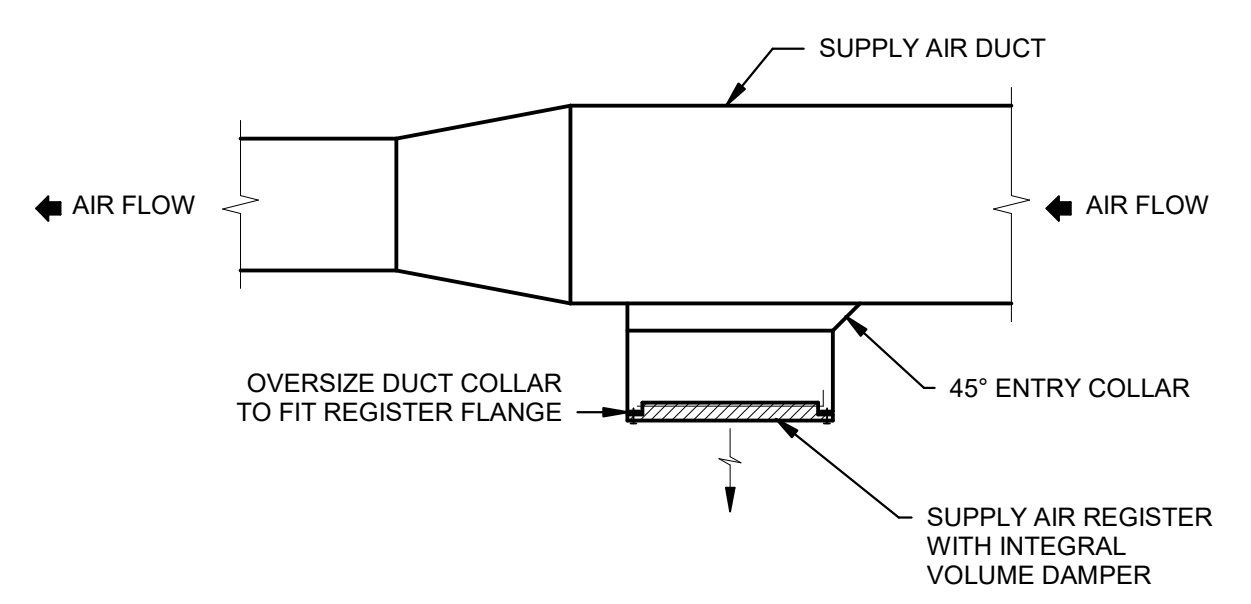
6 DUCT HANGER LOWER ATTACHMENT DETAILS
NTS



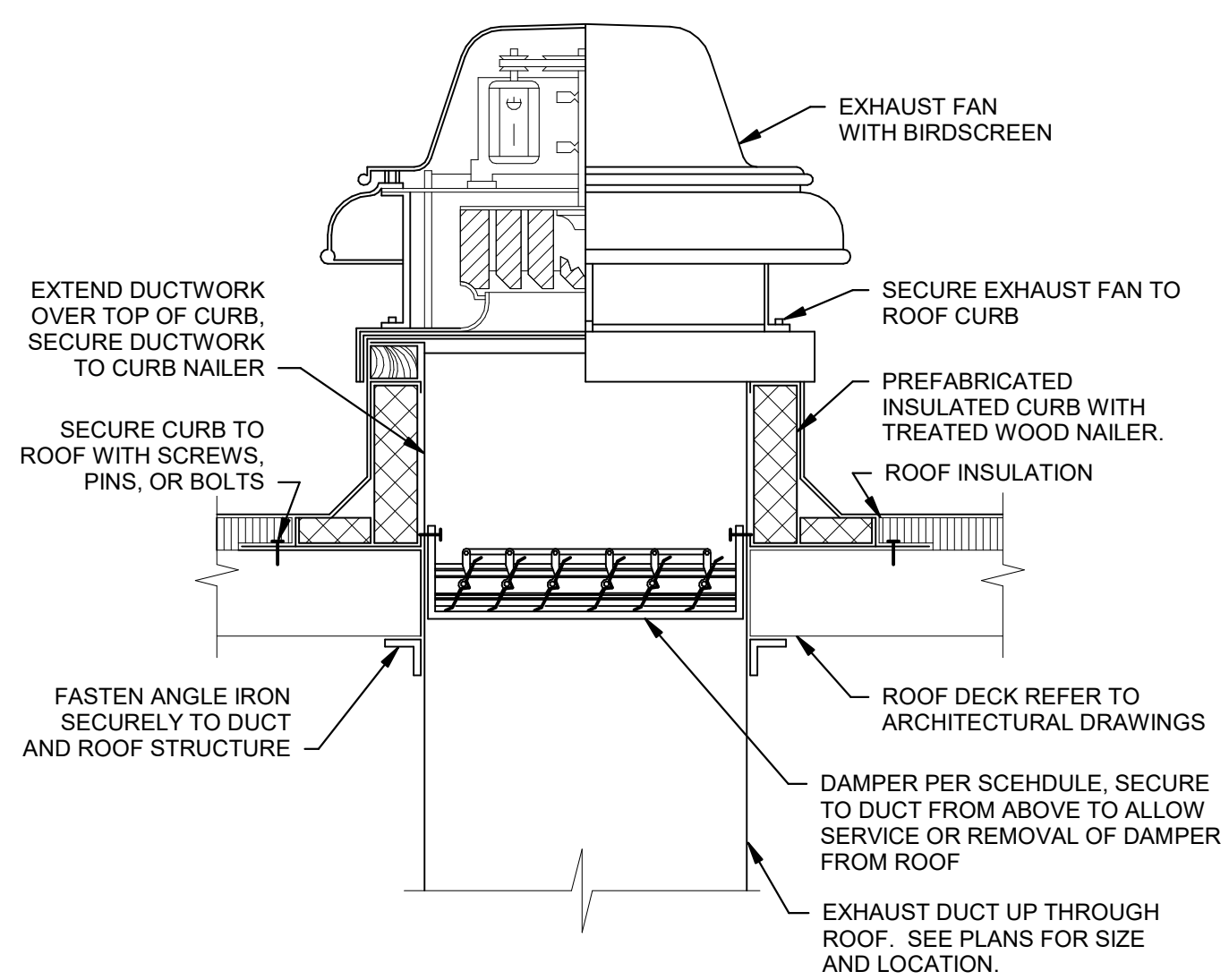
- NOTES:
- INSTALL GREASE EXHAUST AND FIRE RATED DUCT WRAP IN ACCORDANCE WITH THE MANUFACTURER'S APPROVED INSTRUCTIONS AND UL LISTED INSTALLATION DETAILS. TECHNIQUES THAT DIFFER FROM THE ABOVE METHOD ARE ACCEPTABLE IF THEY ARE UL TESTED AND APPROVED.

7 GREASE DUCT FIRE WRAP INSULATION INSTALLATION DETAIL
NTS

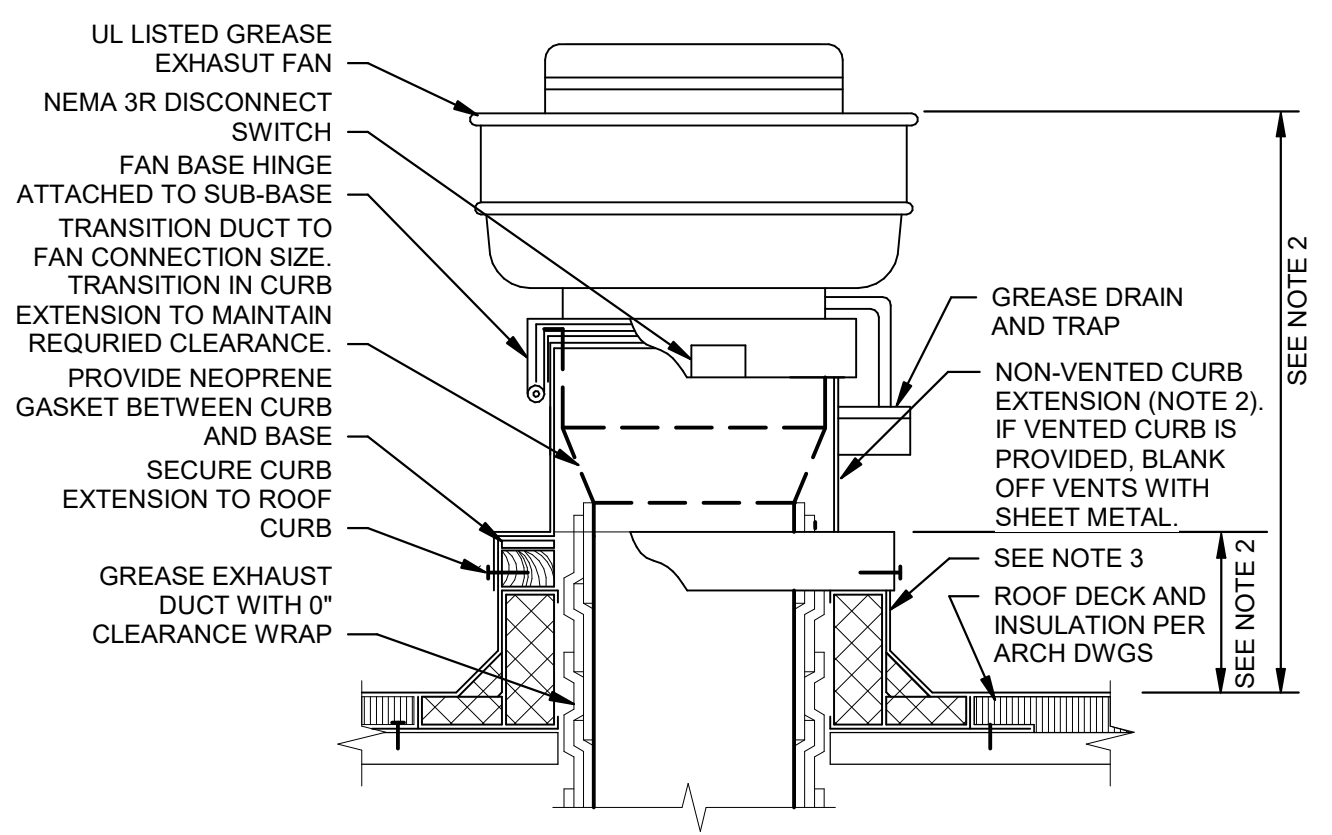
3 DUCT MOUNTED REGISTER DETAIL
NTS



11 DOWNBLAST EXHAUST FAN DETAIL
NTS

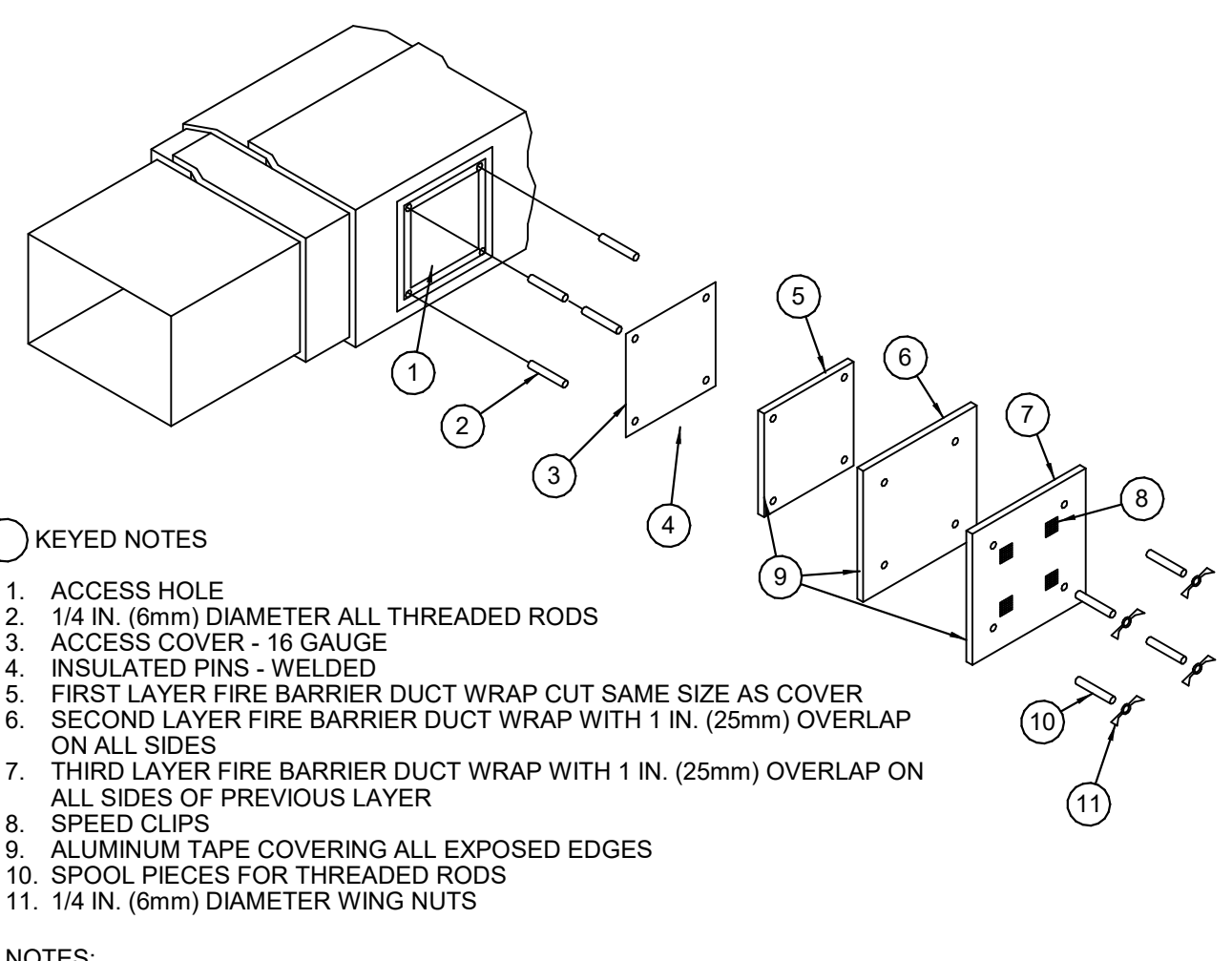


12 UPBLAST GREASE EXHAUST FAN DETAIL
NTS



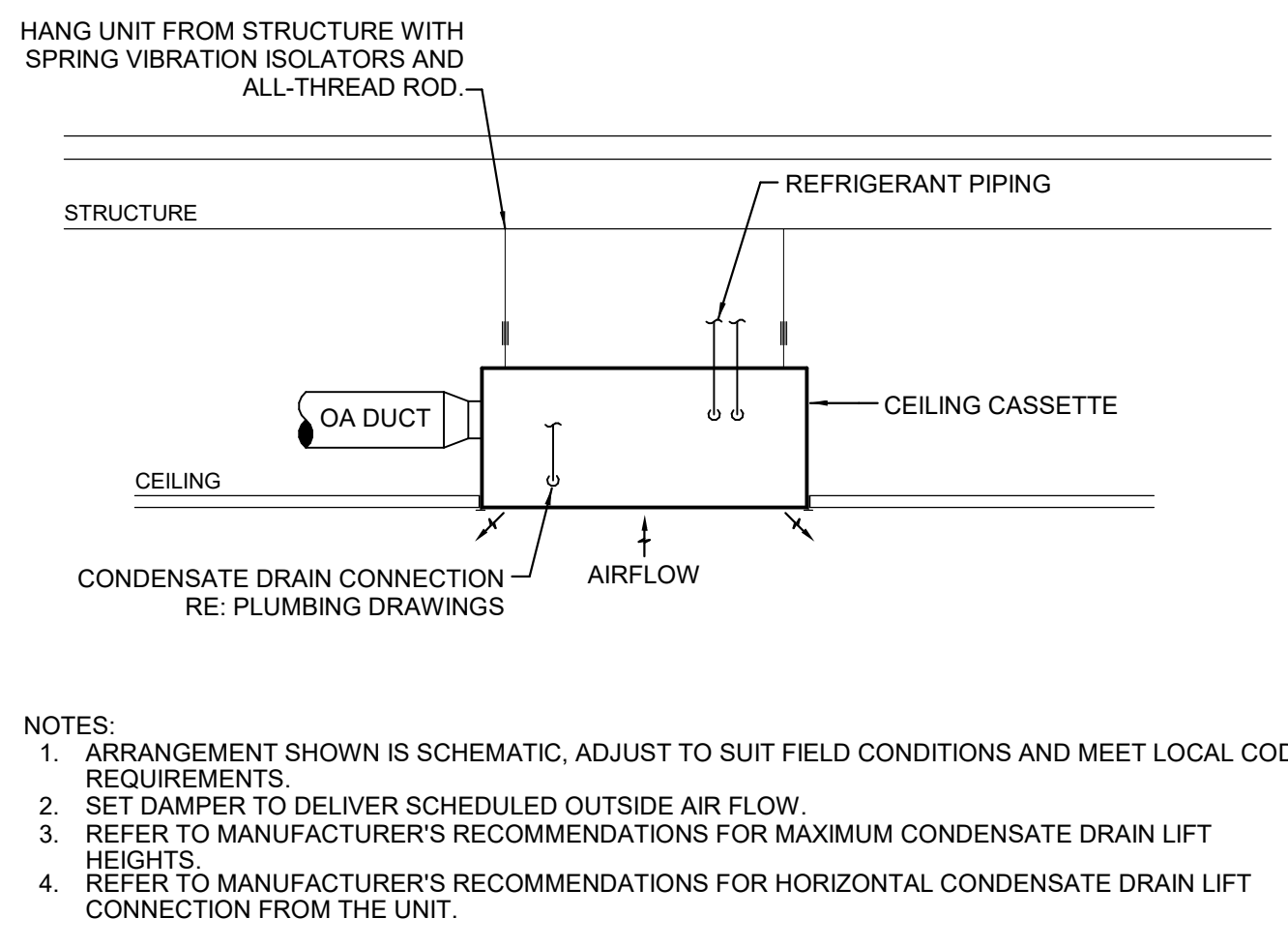
- NOTES:
- ARRANGEMENT SHOWN IS SCHEMATIC, ADJUST TO SUIT FIELD CONDITIONS AND MEET LOCAL CODE.
 - PROVIDE CURB EXTENSION MADE FROM NON-COMBUSTIBLE MATERIAL. OF HEIGHT REQUIRED TO MOUNT FAN BASE A MINIMUM 18 INCHES ABOVE COMBUSTIBLE CURB MATERIAL AND DISCHARGE GREASE OUTLET A MINIMUM OF 40 INCHES ABOVE ROOF SURFACE OR ANY ADJACENT BUILDING STRUCTURE WITHIN 10 FEET OF OUTLET, WHICHEVER IS HIGHER.
 - PREFABRICATED INSULATED ROOF CURB WITH TREATED WOOD NAILER, CANT, AND STEP AS REQUIRED TO ACCOMMODATE ROOF INSULATION, FRAME AND SECURE CURB TO ROOF WITH METHOD CONSISTENT WITH ROOF CONSTRUCTION. ROOF CURB SHALL BEAR ON ROOF STRUCTURE. FOR SLOPED ROOFS, PROVIDE CURB WITH DIMENSIONS CAPABLE OF COMPENSATING ROOF SLOPE TO ENSURE FAN IS INSTALLED LEVEL. REFER TO ARCHITECTURAL DRAWINGS AND CURB MANUFACTURER'S DETAILS FOR MORE INFORMATION.
- HIGH WIND STRAPPING: PROVIDE STAINLESS STEEL STRAPS OF LENGTH, WIDTH, THICKNESS, AND SPACING SUFFICIENT TO SECURE FAN TO CURB TO WITHSTAND WIND SPEED REQUIREMENTS PER LOCAL CODE. WRAP STRAPS OVER FAN AND SECURELY ATTACH TO OPPOSITE SIDE OF THE CURB.

8 GREASE DUCT CLEANOUT ACCESS DOOR DETAIL
NTS



- NOTES:
- FOR REFERENCE ONLY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
 - AT CONTRACTOR'S OPTION, A LISTED UL 1978 GREASE ACCESS DOOR PRODUCT MAY BE SUBSTITUTED FOR THE ACCESS DOOR PICTURED IN THIS DETAIL. DOOR SHALL BE RATED FOR UP TO 2300F AND MEET NFPA88 STANDARDS. BOLTS SHALL BE LONG ENOUGH FOR DUCT WRAP SYSTEM (WHEN USED). INSTALL IN ACCORDANCE WITH MANUFACTURER'S LITERATURE.

4 CEILING CASSETTE DETAIL
NTS



- NOTES:
- ARRANGEMENT SHOWN IS SCHEMATIC, ADJUST TO SUIT FIELD CONDITIONS AND MEET LOCAL CODE REQUIREMENTS.
 - SET DAMPER TO DELIVER SCHEDULED OUTSIDE AIR FLOW.
 - REFER TO MANUFACTURER'S RECOMMENDATIONS FOR MAXIMUM CONDENSATE DRAIN LIFT HEIGHTS.
 - REFER TO MANUFACTURER'S RECOMMENDATIONS FOR HORIZONTAL CONDENSATE DRAIN LIFT CONNECTION FROM THE UNIT.

No.	BY	DATE	DESCRIPTION
1	HEI	2023-02-13	IFC SET
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SHAKE SHACK GARDEN CITY

30 HILLSIDE ROAD, UNIT 1003
CRANSTON, RI 02920
SHACK #1458

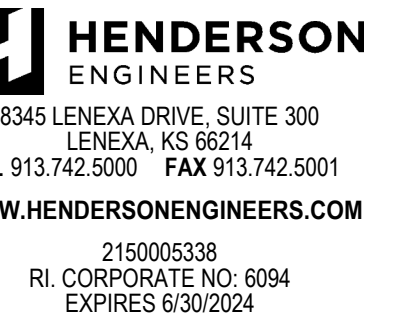
IFC SET

MECHANICAL DETAILS

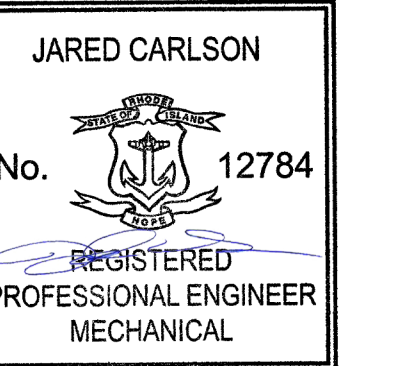
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JOB NO: 21230.00

M501

CONSULTANTS:



SEAL SIGNATURE:



02/13/2023

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SHAKE SHACK GARDEN CITY

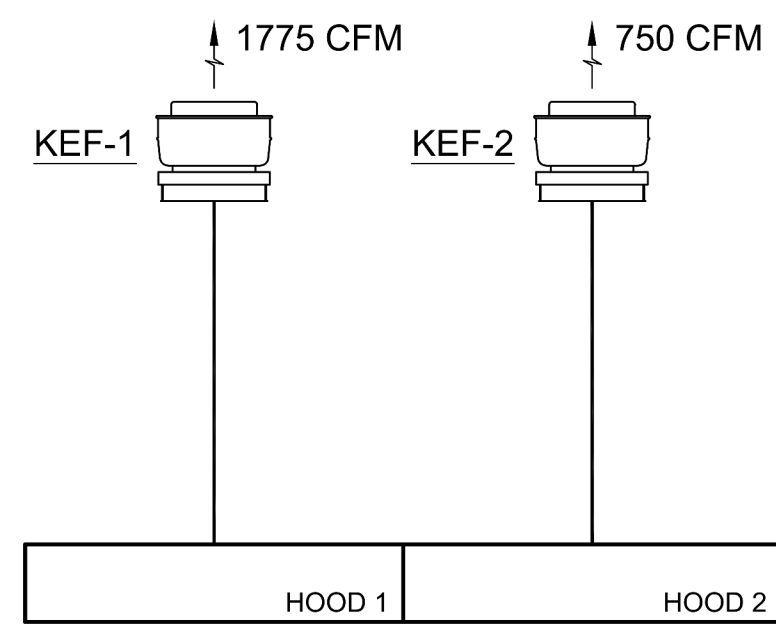
30 HILLSIDE ROAD, UNIT 1003
CRANSTON, RI 02920
SHACK #1458

IFC SET

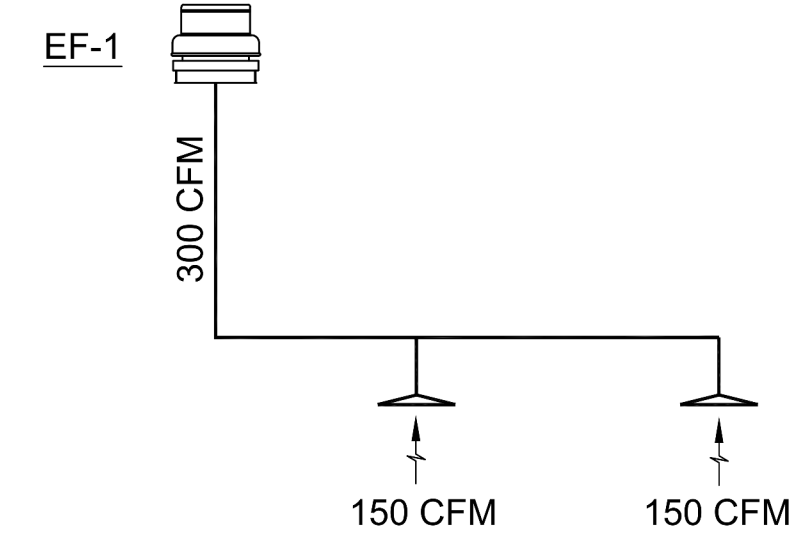
MECHANICAL DETAILS

DRAWN BY:	Author
CHECKED BY:	Checker
JOB NO:	21239.00

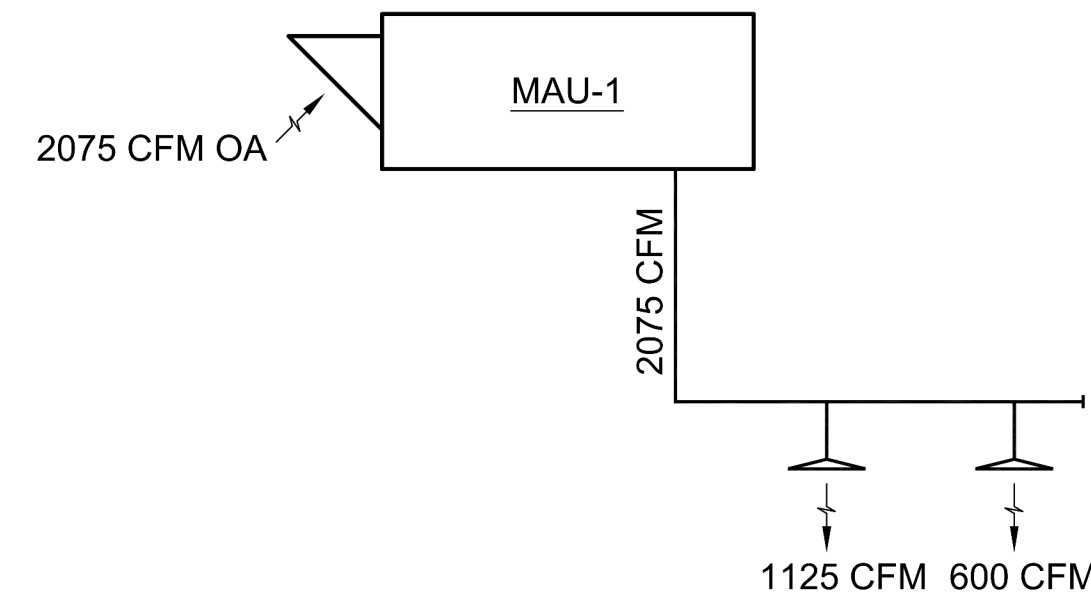
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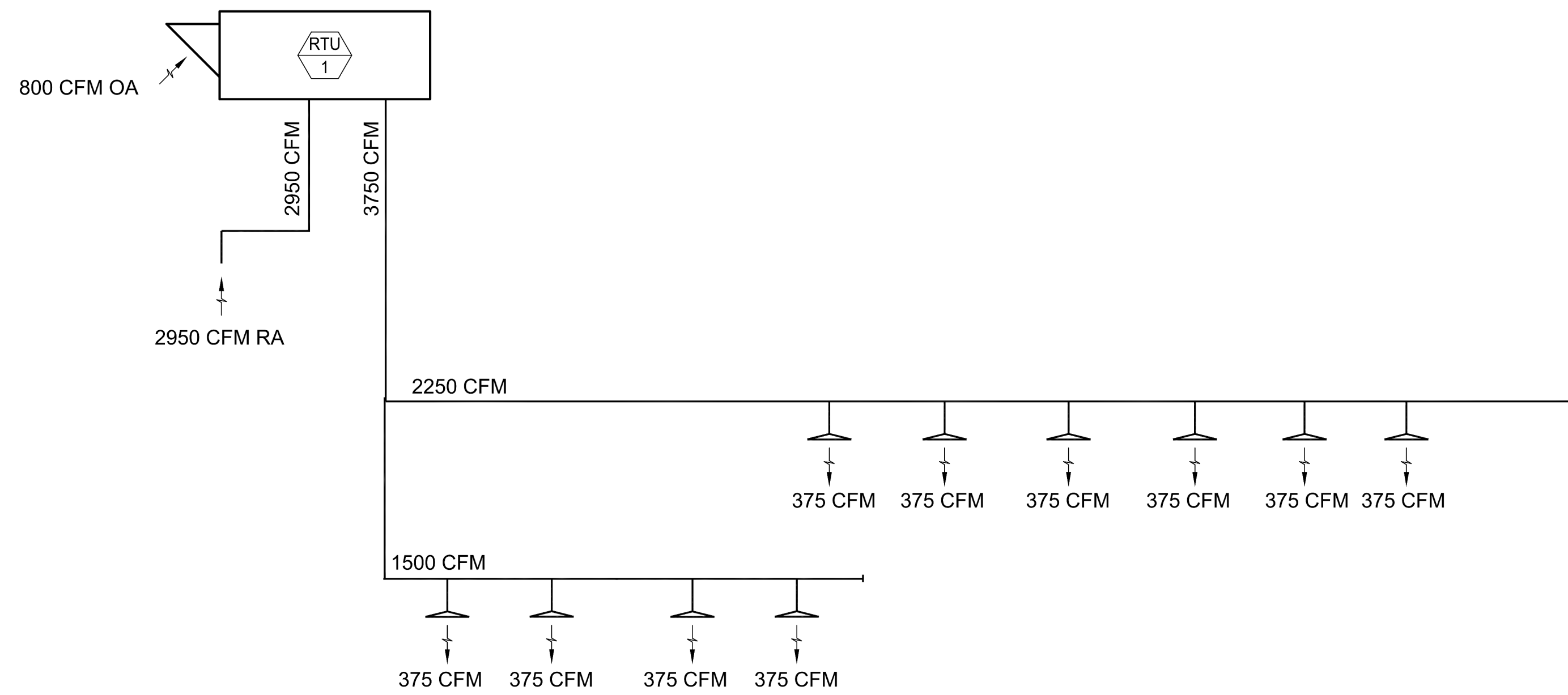
6 HVAC ONE-LINE DIAGRAM - KEF 1&2
SCALE: NTS



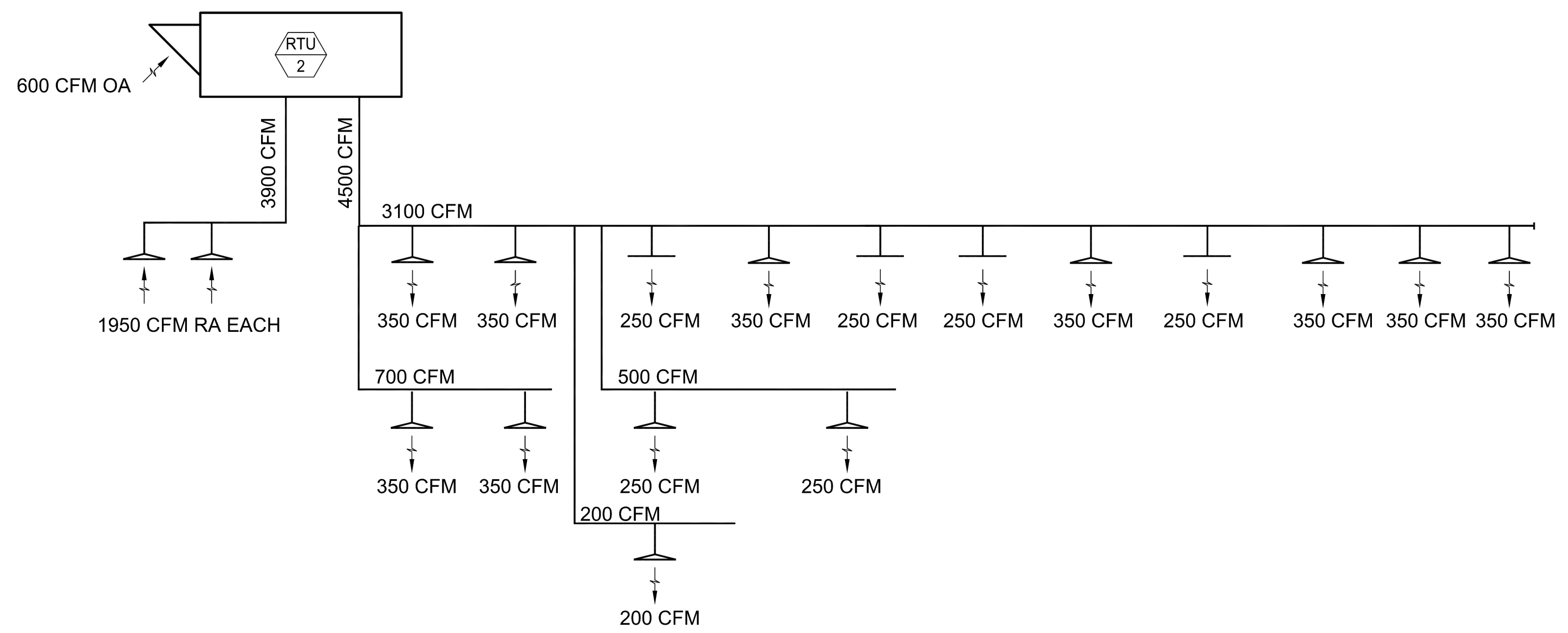
4 HVAC ONE-LINE DIAGRAM - EF-1
SCALE: NTS



3 HVAC ONE-LINE DIAGRAM - MAU 1
SCALE: NTS



2 HVAC ONE-LINE DIAGRAM - RTU 1
SCALE: NTS



1 HVAC ONE-LINE DIAGRAM - RTU 2
SCALE: NTS

ROOFTOP UNIT CONTROL MATRIX

CONTROL FEATURE	UNITS	RTU-1 DINING SETPOINT OR Y/N		RTU-2 KITCHEN SETPOINT OR Y/N	NOTES
		Y	N		
SETPPOINTS					
COOLING - OCCUPIED SETPOINT	*F	75	75		
COOLING - UNOCCUPIED SETPOINT	*F	60	60		
HEATING - OCCUPIED SETPOINT	*F	70	70		
HEATING - UNOCCUPIED SETPOINT	*F	60	60		
DEHUMIDIFICATION SETPOINT - HUMIDITY SENSOR FEEDBACK	% RH	50%	NA	B	
PROGRAMMED CONTROL FEATURES					
HVAC SYSTEM OCCUPIED/UNOCCUPIED MODE - PROGRAMMABLE THERMOSTAT		Y	Y	B	
REMOTE TEMPERATURE AND HUMIDITY SENSOR		Y	Y	B	
EQUIPMENT ACCESSORIES AND CONTROL MODULES					
OUTSIDE AIR DAMPER - MOTOR OPERATED (MODULATING)		Y	Y	L	
INTEGRATED ECONOMIZER - DIFFERENTIAL ENTHALPY ENABLE (OA ENTHALPY < RA ENTHALPY)	BTULB	Y	Y	E	
ECONOMIZER FAULT DETECTION AND DIAGNOSTICS (FDD) SYSTEM		Y	Y	F, G	
RELIEF - BAROMETRIC DAMPER		Y	N		
RELIEF - CONSTANT VOLUME POWERED EXHAUST FAN		N	Y	H	
COOLING COIL (DX - STAGED)		Y	Y	M	
DEHUMIDIFICATION - HOT GAS REHEAT		Y	N	O	
HEATING COIL (NATURAL GAS)		Y	Y	M	
SUPPLY FAN CONTROL METHODS					
ON DURING OCCUPIED HOURS		Y	Y		
CYCLE WITH LOADS DURING UNOCCUPIED HOURS		Y	Y		
VARIABLE VOLUME - STAGED FAN CONTROL IN RESPONSE TO ACTIVE COOLING COIL STAGES		Y	Y	M, Q	
SAFETIES, INTERLOCKS, AND ALARMS					
GAS VALVE SAFETY		Y	Y	F	
RETURN AIR SMOKE DETECTOR - SAFETY SHUTDOWN		Y	Y	U	
FIRE ALARM CONTROL PANEL - SAFETY SHUTDOWN INTERLOCK		Y	Y		
KITCHEN EXHAUST SYSTEM INTERLOCK		Y	Y	S	
DIV. 23 CONTRACTOR SHALL PROVIDE CONTROL PANEL(S), WIRING, THERMOSTAT(S), TEMPERATURE SENSOR(S), HUMIDISTAT(S), AND/OR CO2 SENSOR(S) WHERE SHOWN ON THE DRAWINGS AND AS REQUIRED TO FACILITATE THE SCHEDULED CONTROL MODULES AND SEQUENCES OF OPERATION. EACH UNIT SHALL CONTROL BASED ON ITS OWN INTERNAL SAFETIES, TIME DELAYS, AND SEQUENCES UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER FINAL BUILDING AND EQUIPMENT SCHEDULES DURING STARTUP. REFERENCE DIVISION SPECIFICATIONS FOR INDIVIDUAL DEVICE REQUIREMENTS.					
NOTES:					
B. DIVISION 23 CONTRACTOR SHALL PROVIDE DEVICE.					
E. IF SETPOINT VALUE IS LISTED, IT INDICATES ECONOMIZER HIGH-LIMIT SHUTOFF. UNIT SHALL BE IN ECONOMIZER IF CONDITIONS ARE LESS THAN SETPOINT. THE FOLLOWING SENSORS SHALL DETERMINE ECONOMIZER ON POINT.					
OUTSIDE AIR TEMPERATURE, DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.					
RETURN AIR TEMPERATURE, DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.					
OUTSIDE AIR HUMIDITY, DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.					
RETURN AIR HUMIDITY, DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.					
DEVICE SHALL BE FACTORY MOUNTED AND PRE-WIRED FOR OPERATION SUBJECT TO THE OEM/OEM CONTROLLER.					
PROVIDE UNIT WITH A FDD SYSTEM CONSISTING OF PERMANENTLY INSTALLED OUTSIDE AIR, SUPPLY AIR, AND RETURN AIR TEMPERATURE SENSORS. THE UNIT CONTROLLER SHALL AT A MINIMUM BE CAPABLE OF PROVIDING SYSTEM STATUS OF ECONOMIZER, COMPRESSOR, HEATING, MIXED AIR LOW LIMIT ALARM, AND SENSOR VALUES.					
EACH OPERATING MODE SHALL BE CAPABLE OF INDEPENDENTLY OPERATING FOR TESTING. THE SYSTEM SHALL REPORT FAILURES TO AN APPLICATION ACCESSIBLE BY SERVICE PERSONNEL. THE FOLLOWING FAILURES SHALL BE DETECTED: AIR TEMPERATURE SENSOR FAILURE, ECONOMIZER ENABLE/DISABLED WHEN ECONOMIZER SHOULD BE OFF/ON, RESPECTIVELY, DAMPER NOT MODULATING, AND EXCESS OUTSIDE AIR.					
H. POWERED EXHAUST FAN SHALL STAGE ON AND OFF ACCORDING TO DAMPER POSITION.					
L. EQUIPMENT MANUFACTURER SHALL PROVIDE MODULATING DAMPER AND CONTROLS CAPABLE OF ADJUSTING THE DAMPER POSITION TO MAINTAIN THE SCHEDULED OUTSIDE AIR ON THE DRAWINGS ACROSS ALL FAN SPEEDS. DIV. 23 CONTRACTOR SHALL PROGRAM MULTIPLE DAMPER POSITION SETPOINTS IN THE FIELD DURING TESTING AND BALANCING TO MAINTAIN MINIMUM VENTILATION WHEN NOT IN ECONOMIZER. DAMPER SHALL BE CLOSED DURING UNOCCUPIED HOURS.					
M. UNITARY CONTROLLER SHALL MODULATE AND/OR CYCLE SUPPLY FAN SPEED SETTING AND COIL CAPACITY STAGES SUBJECT TO THE INTERNAL SAFETIES AND SEQUENCES TO MAINTAIN SCHEDULED SETPOINTS.					
O. PROGRAM DEHUMIDIFICATION SEQUENCE BASED ON ZONE AIR HUMIDITY.					
Q. PROVIDE STAGED FAN CONTROL WITH MINIMUM 2 FAN SPEEDS. LOW SPEED SHALL NOT EXCEED 66% OF FULL SPEED AND SHALL DRAW NO MORE THAN 40% OF FAN POWER AT FULL SPEED.					
S. INTERLOCK RTU WITH KITCHEN EXHAUST HOOD SYSTEM(S) TO SHUT DOWN UPON SIGNAL FROM HOOD FIRE EXTINGUISHING SYSTEM. INTERLOCK RTU WITH KITCHEN EXHAUST FAN TO ENERGIZE WHEN HOOD SYSTEM IS ENERGIZED FOR PRESSURIZATION.					
U. DIVISION 28 CONTRACTOR SHALL PROVIDE DEVICE.					

ROOFTOP UNIT SCHEDULE (DX COOLING, NATURAL GAS HEAT)

MARK	MANUFACTURER	MODEL	NOMINAL TONS	UNIT TYPE	SUPPLY FAN			COOLING COIL						HEAT EXCHANGER						MIN OIA CFM	ELECTRICAL	WEIGHT (LBS)	NOTES								
					CFM	ESP (IN)	HP	VFD	TH (MBH)	SH (MBH)	EAT (°F DB)	(°F WB)	LAT (°F DB)	REFR TYPE	MIN EFF (EER)	(IEER)	MIN NO STAGES	MIN OUT (MBH)	NOM INPUT (MBH)					MIN EFF (%)	EAT (°F DB)	LAT (°F DB)	MIN NO STAGES				
RTU-1	CARRIER	48HCEE14	12.5	SINGLE ZONE	3,750	0.5	2.9	N	133.8	89.3	79.1	67.3	57.5	56.0	R410A	12.2	13.9	2	146	180	81	53.2	89	2	1020	208/3	56	70	NON-FUSED	1886	A-R
RTU-2	CARRIER	48HCEE14	12.5	SINGLE ZONE	4,500	0.5	3.7	N	137.0	105.8	77.0	64.1	55.6	54.0	R410A	12.2	13	2	146	180	81	62.4	92.3	2	550	208/3	58	70	NON-FUSED	1821	A-R

*** EQUIPMENT FURNISHED AND INSTALLED PER THE RESPONSIBILITY SCHEDULE, REF ARCHITECTURAL DRAWINGS. EQUIPMENT SHALL BE OBTAINED THROUGH SHAKE SHACK NATIONAL ACCOUNT. REFER TO T.12 / VENDOR LIST FOR MORE INFORMATION.**

MODEL NUMBERS AND NOMINAL TONS LISTED SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER, MODEL NUMBERS, OR NOMINAL TONS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. REFER TO ROOFTOP UNIT CONTROL MATRIX FOR CONTROL FEATURES, MODULES, AND ACCESSORIES THAT SHALL BE PROVIDED WITH THE EQUIPMENT.

B. EQUIPMENT SIZED FOR 96°F AMBIENT TEMPERATURE.

C. PROVIDE 2" MERV 8, EFFICIENT PLEATED THROWAWAY AIR FILTERS.

D. PROVIDE FACTORY MOUNTED DISCONNECT INSTALLED ON SERVICE SIDE OF UNIT.

E. STARTERS FOR ALL MOTORS SHALL BE FURNISHED INTEGRAL WITH UNIT.

F. PROVIDE FACTORY MOUNTED VARIABLE FREQUENCY DRIVE OR 2-SPEED MOTOR TO FACILITATE STAGED FAN SPEED CONTROL.

G. PROVIDE SINGLE POINT POWER CONNECTION.

H. COORDINATE SIZE OF CONDUCTOR TERMINATION LUGS WITH CONDUCTOR SIZES SHOWN ON ELECTRICAL DRAWINGS.

J. PROVIDE 125 VAC, 20 AMP DUPLEX CONVENIENCE RECEPTACLE MOUNTED TO UNIT READY FOR FIELD WIRING WITH A COVER UL LISTED FOR WET AND DAMPER LOCATIONS WHEN IN USE.

K. SPECIFIED FAN ESP ACCOUNTS FOR DUCT LOSSES INTERNAL TO UNIT.

L. PROVIDE MOTOR HORSEPOWER TO OVERCOME EXTERNAL UNIT STATIC PRESSURE DROP PLUS SPECIFIED EXTERNAL STATIC PRESSURE DROP. NOMINAL MOTOR HP SHALL BE NO LARGER THAN THE FIRST AVAILABLE NOMINAL MOTOR SIZE GREATER THAN THE REQUIRED BHP.

M. PROVIDE INSULATED ROOF CURB WITH MINIMUM HEIGHT REQUIRED TO MAINTAIN BOTTOM OF EQUIPMENT A MINIMUM OF 14 INCHES ABOVE FINISHED ROOF SURFACE. PROVIDE SLOPED CURB IF NEEDED TO MATCH ROOF SLOPE.

Q. COORDINATE WITH ROOF INSULATION THICKNESS AND ROOF TAPE AT INSTALLED LOCATION. COORDINATE CURB TYPE WITH DRAWINGS.

N. SCHEDULED WEIGHT IS THE MAXIMUM ALLOWABLE OPERATING WEIGHT OF THE EQUIPMENT ONLY.

O. COOLING COIL LAT IS LEAVING AIR TEMPERATURE OF COIL.

P. PROVIDE GUARDS TO PROTECT CONDENSER COIL FROM HAIL OR OTHER DAMAGE.

R. PROVIDE HEATER TO MEET OR EXCEED SCHEDULED MINIMUM MBH OUTPUT. NOMINAL INPUT IS BASED ON LISTED MANUFACTURERS STANDARD PRODUCT. COORDINATE EQUIPMENT GAS LOAD WITH PLUMBING CONTRACTOR IF DIFFERENT FROM THAT SCHEDULED. MEET MINIMUM EFFICIENCY SCHEDULED.

S. PROVIDE EQUIPMENT WITH AIRBORNE DISINFECTION SYSTEM, RGF MODEL PH4-PKG14-24V.

AIR CURTAIN SCHEDULE

MARK	SERVICE AREA	MANUFACTURER	MODEL	UNIT SPECS				VPH/Hz	NOTES
				LENGTH (IN)	MAX AIRFLOW (CFM)	HEATING CAPACITY (KW)	MOTOR (HP)		
AC-1	SERVICE ENTRY	MARS	ST02	36	1379	NA	1/2	115/1	A-E
AC-2	CARRYOUT ENTRY	MARS	PH10	72	1460	12	1/2	208/3	A, C-F
AC-3	CARRYOUT ENTRY	MARS	PH10	72	2434	24	1/2	208/3	A, C-F

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. EQUIPMENT FURNISHED AND INSTALLED PER THE RESPONSIBILITY SCHEDULE, REF ARCHITECTURAL DRAWINGS.

B. MOUNT UNIT PER MANUFACTURERS RECOMMENDATIONS TO FACE OF WALL AND SUPPORT VERTICALLY.

C. PROVIDE INTEGRAL STARTER AND DISCONNECT SWITCH.

D. PROVIDE AIR CURTAIN WITH NORMALLY CLOSED DOOR LIMIT SWITCH FOR INSTALLATION ON DOOR. THE AIR CURTAIN SHALL ENERGIZE WHEN DOOR OPENS.

E. PROVIDE WITH DELAY MICROSWITCH WITH ADJUSTABLE DELAY TIMERS PRE MOUNTED IN THE AIR CURTAIN CONTROL PANEL.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	SERVICE	MODEL	CONSTRUCTION MATERIAL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	MAX. NC	NOTES							
									A	B	C	F	G	H	J	K
DEG	E.H. PRICE	EXHAUST GRILLE W/ DAMPER	80D	STEEL	EGGCRATE	SURFACE	12x12	30	A	B	C	F	G	H		
CRG	E.H. PRICE	RETURN GRILLE	80	STEEL	EGGCRATE	LAY-IN	24x24	30	A	B	C	F	H			
CD1D	E.H. PRICE	SUPPLY DIFFUSER	SCD	STEEL	SQUARE CONE	SURFACE	12x12	30	A	B	C	F	H	J	K	L
CD2D	E.H. PRICE	SUPPLY DIFFUSER	SCD	STEEL	SQUARE CONE	LAY-IN	24x24	30	A	B	C	F	H	K		
CD3D	E.H. PRICE	SUPPLY DIFFUSER	PDOR	STEEL	PERFORATED	LAY-IN	24x24	30	A	B	C	F	H			
WRG	E.H. PRICE	RETURN GRILLE W/DAMPER	530D	STEEL	LOUVERED FACE	WALL OR DUCT	(SEE PLANS)	30	A	B	C	F	H			
WSR	E.H. PRICE	SUPPLY REGISTER W/ DAMPER	520D	STEEL	LOUVERED FACE	WALL OR DUCT	(SEE PLANS)	30	A	B	C	F	G	H		
LSD1	E.H. PRICE	LINEAR SLOT DIFFUSER	SDS100	ALUMINUM	LINEAR SLOT	CEILING	(4"-1" SLOTS, 48" LENGTH)	30	A	B	C	F	H			
PSD1	E.H. PRICE	PLENUM SUPPLY BOX	SOB	ALUMINUM	--	TO FACE	48"	30	A	B	C	F	H			

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. EQUIPMENT FURNISHED AND INSTALLED PER THE EQUIPMENT RESPONSIBILITY SCHEDULE.

B. NECK SIZE SHOWN ON DRAWINGS. PROVIDE BRANCH DUCT TO MATCH NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.

C. DIFFUSERS SHALL BE PREFINISHED TO MATCH CEILING/WALL/EXPOSED DUCT COLOR (COORDINATE WITH ARCHITECT).

D. FRONT BLADES PARALLEL TO LONG DIMENSION.

E. DOUBLE DEFLECTION BARS SHALL BE ADJUSTABLE.

F. FRAME TYPE TO MATCH CEILING/WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING/WALL PLAN.

G. PROVIDE OPPOSED BLADE DAMPER ADJUSTABLE FROM FACE OF DEVICE.

H. PROVIDE DIFFUSERS, LINEAR SLOTS, AND GRILLES WITH NO EXPOSED MOUNTING SCREWS.

J. CONTRACTOR SHALL PROVIDE REMOTE CABLE-OPERATED VOLUME DAMPER BY METROPOLITAN AIR TECHNOLOGIES MODEL RT-250 WITH EXTERNAL WORM GEAR OPERATOR OR EQUIVALENT YOUNG REGULATOR BUTTERFLY DAMPER WITH 270-275 CONTROLLER. OPERATOR SHALL HAVE A SQUARE DRIVE FOR 1/4" NUT DRIVER. DAMPER ASSEMBLY SHALL INCLUDE GALVANIZED STEEL DUCT WITH ROLLED BEAD STIFFENERS, REINFORCED BLADE, SELF LUBRICATING BEARING AND WORM GEAR MOUNTING PLATE. DAMPER SHALL BE INSTALLED IN BRANCH DUCT NOT INLET OF PLENUM DIFFUSER. (RE: 2M501)

K. 4-WAY THROW PATTERN UNLESS OTHERWISE INDICATED BY FLOW ARROWS ON DRAWINGS.

L. PROVIDE RAPID MOUNT FRAME FOR INSTALLATION IN HARD CEILING.

BUILDING AIR BALANCE SUMMARY ECONOMIZER MODE

UNIT NO.	SUPPLY (CFM)	OUTDOOR (CFM)	EXHAUST (CFM)	PERCENT OA/SA
MUA-1	1,820	--	--	100%
RTU-1	2,513	2,513	--	100%
RTU-2	3,015	3,015	--	100%
FCU-1	420	40	--	10%
KEF-1	--	--	1,775	--
KEF-2	--	--	750	--
EF-1	--	--	300	--
POWER EF RTU-1	--	--	1,493	--
POWER EF RTU-2	--	--	2,465	--
TOTAL	7,768	7,388	6,783	--
DESIGN BUILDING PRESSURIZATION AIRFLOW (CFM)				605
PRESSURIZATI...				8%

BUILDING AIR BALANCE SUMMARY NORMAL OPERATION

UNIT NO.	SUPPLY (CFM)	OUTDOOR (CFM)	EXHAUST (CFM)	PERCENT OA/SA
MUA-1	1,820	--	--	100%
RTU-1	3,750	1,020	--	27%
RTU-2	4,500	550	--	12%
FCU-1	420	40	--	10%
KEF-1	--	--	1,775	--
KEF-2	--	--	750	--
EF-1	--	--	300	--
TOTAL	10,490	3,430	2,825	--
DESIGN BUILDING PRESSURIZATION AIRFLOW (CFM)				605
PRESSURIZATI...				18%

FAN COIL UNIT SCHEDULE (HEAT PUMP)

MARK	MFR	MODEL	SUPPLY FAN			COOLING COIL			HEAT PUMP HEATING COIL			MIN OIA CFM	ELECTRICAL	WEIGHT (LBS)	NOTES								
			CFM	ESP (IN)	NOM HP	TH (MBH)	SH (MBH)	EAT (°F DB)	(°F WB)	LAT (°F DB)	REFR TYPE					MIN OUT (MBH)	AMBIENT (DB)	EAT (°F DB)	LAT (°F DB)				
FCU-1	CARRIER	40MBQ18	420	0.025	0.061	11.6	10.0	76.5	62.6	54.8	53.0	12.2	8.7	64.2	90	40	208/1	N/A	N/A	N/A	NF	45	A-J

*** EQUIPMENT SHALL BE OBTAINED THROUGH SHAKE SHACK NATIONAL ACCOUNT. REFER TO T002 / VENDOR LIST FOR MORE INFORMATION.**

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. EQUIPMENT FURNISHED AND INSTALLED PER THE RESPONSIBILITY SCHEDULE, REF ARCHITECTURAL DRAWINGS.

B. ASSOCIATED CONDENSING UNIT SHALL BE BY THE SAME MANUFACTURER.

C. FOR COOLING, EQUIPMENT SIZED FOR 88°F AMBIENT TEMPERATURE. HEAT PUMP HEATING CAPACITY BASED ON AMBIENT TEMPERATURE LISTED.

D. PROVIDE UNIT WITH CLEANABLE AIR FILTERS.

E. PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT WITH STAGED HEATING AND COOLING CAPABILITY AS REQUIRED FOR OPERATION OF HEATING AND COOLING CONTROLS.

F. PROVIDE FACTORY MOUNTED STARTER AND DISCONNECT SWITCH INSTALLED ON SERVICE SIDE OF UNIT.

G. PROVIDE SINGLE POINT POWER CONNECTION.

H. PROVIDE WITH SPRING VIBRATION ISOLATION AND ALL-THREAD HANGING RODS.

J. REFERENCE PLUMBING PLANS FOR CONDENSATE DRAIN PIPING FROM UNIT.

FAN SCHEDULE

MARK	SERVICE DESCRIPTION	MANUFACTURER	MOUNTING	MODEL	CFM	ESP (IN)	BHP	NOM HP	FAN RPM	DRIVE (BELT/DIRECT)	VFD (Y/N)	ELECTRICAL			WEIGHT (LBS)	NOTES
												VPH	DISC TYPE	STARTER TYPE		
EF-1	TOILETS	GREENNECK	ROOF	G-09D-D	300	0.5	0.1	1/8	1550	DIRECT	N	120/1	NON-FUSED	N/A	30	A-E

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. EQUIPMENT FURNISHED AND INSTALLED PER THE RESPONSIBILITY SCHEDULE, REF ARCHITECTURAL DRAWINGS.

B. PROVIDE WITH MINIMUM 24" HIGH ROOF CURB, BIRDSCREEN AND BACKDRAFT DAMPER.

C. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH.

D. INTERLOCK FAN OPERATION WITH TIME CLOCK.

E. PROVIDE WITH MANUFACTURERS FAN SPEED CONTROLLER FOR BALANCING PURPOSES.

HEAT PUMP CONDENSING UNIT SCHEDULE

MARK	SERVICE	MANUFACTURER	MODEL	REFR TYPE	COOLING CAPACITY				HEATING CAPACITY		ELECTRICAL			WEIGHT (LBS)	NOTES
					TH (MBH)	AMBIENT (DB)	MIN EFF (SEER)	COP 4°F/F	AMB (DB)	MIN EFF (SEER)	MCA	MOCP	VIPH		
CU-1	FCU-1	CARRIER	38MARBQ18AA3	R410A	11.6	95.0	19.0	12.2	8.7	3.3	18	25	208 / 1	102.5	A-H

*** EQUIPMENT SHALL BE OBTAINED THROUGH SHAKE SHACK NATIONAL ACCOUNT. REFER TO T002 / VENDOR LIST FOR MORE INFORMATION.**

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. EQUIPMENT FURNISHED AND INSTALLED PER THE RESPONSIBILITY SCHEDULE, REF ARCHITECTURAL DRAWINGS.

B. EQUIPMENT CAPACITY SCHEDULED IS MINIMUM CAPACITY THAT MUST BE PROVIDED AT AMBIENT TEMPERATURE INDICATED.

C. CONTRACTOR SHALL VERIFY WITH EQUIPMENT SUPPLIER EXACT QUANTITY AND SIZE OF REFRIGERANT PIPING.

D. PROVIDE LIQUID LINE FILTER DRYER AND SIGHT GLASS.

E. PROVIDE PREFABRICATED EQUIPMENT SUPPORT RAILS.

F. PROVIDE FACTORY MOUNTED DISCONNECT INSTALLED ON SERVICE SIDE OF UNIT.

G. STARTERS FOR ALL MOTORS SHALL BE FURNISHED INTEGRAL WITH UNIT.

H. COORDINATE SIZE OF CONDUCTOR TERMINATION LUGS WITH CONDUCTOR SIZES SHOWN ON ELECTRICAL DRAWINGS.

PROJECT DESIGN CONDITIONS

CLIMATE CONDITIONS				BUILDING										
WEATHER STATION: PROVIDENCE GREEN, RI, USA				MONDAY - FRIDAY										
CLIMATE ZONE: SA				SATURDAY										
HEATING (DB): 99.6%				SUNDAY										
COOLING (DB/MCWB): 0.4%				HOLIDAY										
SPACE / UNIT DESCRIPTION	UNOCC	MAX	MIN	UNOCC	MAX	MIN	MAX	CONTROL METHOD	BASE PPM	MAXIMUM PPM	M-F	SAT	SUN	NOTES
DINING AREAS	75	80	NA	70	60	NA	NA	NA	NA	NA	TBD	TBD	TBD	A.B.C
OFFICES	75	80	NA	70	60	NA	NA	NA	NA	NA	TBD	TBD	TBD	A.B.C
STOCKROOM/STORAGE	75	80	NA	70	60	NA	NA	NA	NA	NA	TBD	TBD	TBD	A.B.C
FOOD PREP AREAS	75	80	NA	70	60	NA	NA	NA	NA	NA	TBD	TBD	TBD	A.B.C

NOTES:

A. ZONE LEVEL SET POINT CONDITIONS SHALL BE AS SCHEDULED UNLESS OTHERWISE SCHEDULED OR NOTED ON THE DRAWINGS FOR ROOM SPECIFIC SPACE CONDITIONS.

B. ZONE LEVEL OCCUPANCY HOUR SCHEDULE SHALL BE PER BUILDING OPERATING HOURS UNLESS OTHERWISE SCHEDULED.

C. ZONE LEVEL CONTROLS SHALL BE CAPABLE OF OPERATING WITH INDEPENDENT OCCUPANCY SCHEDULES.

OUTSIDE AIR REQUIREMENTS, IMC-2018 (IP)

SYSTEM DESIGNATION	SYSTEM TAB NAME OR LIST 'SINGLE'	SINGLE-ZONE SYSTEMS ONLY		MULTI-ZONE SYSTEMS ONLY		FLOOR AREA SERVED BY SYSTEM [As] (SF)	SYSTEM AVERAGED AREA-BASED OUTDOOR AIR RATE (CFM/SF)	SYSTEM POPULATION [P] (PEOPLE)	SYSTEM AVERAGED PEOPLE-BASED OUTDOOR AIR RATE (CFM/PERSON)	REQUIRED OA INTAKE FLOW [Vot] (CFM)	REQUIRED DCV OA INTAKE FLOW [Vot] (CFM)	DESIGN OA INTAKE FLOW [Vot] (CFM)	NOTES
		ASSOCIATED VENTILATION ZONE	SINGLE ZONE WORST CASE ZONE AIR DISTRIBUTION EFFECTIVENESS [Ea]	SYSTEM VENTILATION EFFICIENCY [Ev]									
RTU-1	MULTIZONE (RTU-1 DINING)	-	-	0.88	-	1,372	0.134	56.67	7.50	695	N/A	1,020	-
RTU-2	MULTIZONE (RTU-2 KITCHEN)	-	-	-	-	1,215	0.120	24.3					

COMcheck Software Version 4.1.5.1
Mechanical Compliance Certificate

Project Information
 Energy Code: 2018 IECC
 Project Title: Shake Shack (Garden City)
 Location: Cranston, Rhode Island
 Climate Zone: 5a
 Project Type: New Construction
 Construction Site: Cranston, RI
 Owner/Agent: Shake Shack
 Designer/Contractor: Henderson Engineers Lenexa, KS

Additional Efficiency Package(s)
 Unspecified

Quantity	System Type & Description
1	RTU-1 DINING (Single Zone) Heating: 1 each - Other, Gas, Capacity = 146 kBtu/h No minimum efficiency requirement applies Cooling: 1 each - Single Package DX Unit, Capacity = 143 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 12.20 EER, Required Efficiency = 10.80 EER + 12.2 IEER Fan System: RTU-1 Dining/Queueing - Compliance (Motor nameplate HP method) - Passes Fans: FCU1 Supply, Constant Volume, 3750 CFM, 2.9 motor nameplate hp, 0.0 fan efficiency grade
1	RTU-2 KITCHEN (Single Zone) Heating: 1 each - Other, Gas, Capacity = 146 kBtu/h No minimum efficiency requirement applies Cooling: 1 each - Single Package DX Unit, Capacity = 137 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 12.20 EER, Required Efficiency = 10.80 EER + 12.2 IEER Fan System: RTU-2 Kitchen/BOH - Compliance (Motor nameplate HP method) - Passes Fans: FCU2 Supply, Constant Volume, 4500 CFM, 3.7 motor nameplate hp, 0.0 fan efficiency grade
1	FCU-1/FCU-1 (Single Zone) Cooling: 1 each - Split System, Capacity = 18 kBtu/h, Air-Cooled Condenser, Unknown Economizer Proposed Efficiency = 19.00 SEER, Required Efficiency = 13.00 SEER Fan System: FCU-1/FCU-1 Office - Compliance (Motor nameplate HP method) - Passes Fans: FCU3 Supply, Constant Volume, 420 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade

Mechanical Compliance Statement
 Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Andrew Pettus - Mechanical Designer Signature: _____ Date: 05/03/2022
 Name - Title _____

Project Title: Shake Shack (Garden City) Report date: 05/03/22
 Data filename: J:\Lenexa\Programs\P-T\Shake Shack\2150005338 Shake Shack 1458 - (Garden City) Cranston, Page 1 of 12
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COMcheck Software Version 4.1.5.1
Inspection Checklist
 Energy Code: 2018 IECC

Requirements: 96.0% were addressed directly in the COMcheck software
 Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & ReqID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C406 [PR9]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Shake Shack (Garden City) Report date: 05/03/22
 Data filename: J:\Lenexa\Programs\P-T\Shake Shack\2150005338 Shake Shack 1458 - (Garden City) Cranston, Page 2 of 12
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Section # & ReqID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.12.2 [FO9]	Snowice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature and outdoor temperature. Future connection to controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Shake Shack (Garden City) Report date: 05/03/22
 Data filename: J:\Lenexa\Programs\P-T\Shake Shack\2150005338 Shake Shack 1458 - (Garden City) Cranston, Page 3 of 12
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Section # & ReqID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.6.3 [PL7]	Pumps that circulate water between a heater and storage tank have controls that limit operation from start-up to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.6.3 [PL7]	Pumps that circulate water between a heater and storage tank have controls that limit operation from start-up to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.6.3 [PL7]	Pumps that circulate water between a heater and storage tank have controls that limit operation from start-up to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.7 [PL8]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.7 [PL8]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.7 [PL8]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Shake Shack (Garden City) Report date: 05/03/22
 Data filename: J:\Lenexa\Programs\P-T\Shake Shack\2150005338 Shake Shack 1458 - (Garden City) Cranston, Page 4 of 12
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Section # & ReqID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.6.6 [ME41]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.11.3 [ME61]	HVAC piping insulated in accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is provided with sheathing from solar radiation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.8.4 [ME142]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.8.4 [ME142]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.8.4 [ME142]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.8.5 [ME143]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.8.5 [ME143]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.8.5 [ME143]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.12.1 [ME71]	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.2.3 [ME55]	HVAC equipment efficiency verified.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values.
C403.5.5 [ME113]	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Shake Shack (Garden City) Report date: 05/03/22
 Data filename: J:\Lenexa\Programs\P-T\Shake Shack\2150005338 Shake Shack 1458 - (Garden City) Cranston, Page 5 of 12
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Section # & ReqID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.5.3 [ME113]	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.2 [ME59]	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capacity to reduce outdoor air supply to minimum per IMC Chapter 4.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.7.1 [ME124]	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.2 [ME125]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.6 [ME141]	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms. Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.4 [ME57]	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.5 [ME167]	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and safety hood rating requirements and maximum exhaust rate criteria.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.11.1 [ME60]	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.1, C403.5.2 [ME52]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.1, C403.5.2 [ME52]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Shake Shack (Garden City) Report date: 05/03/22
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Section # & ReqID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.5.3 [ME124]	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.3.3 for applicable device types and climate zones.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME124]	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.3.3 for applicable device types and climate zones.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME125]	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME125]	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME126]	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME126]	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.1 [ME63]	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.3.3 [ME35]	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.3.3 [ME35]	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.3.3 [ME35]	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

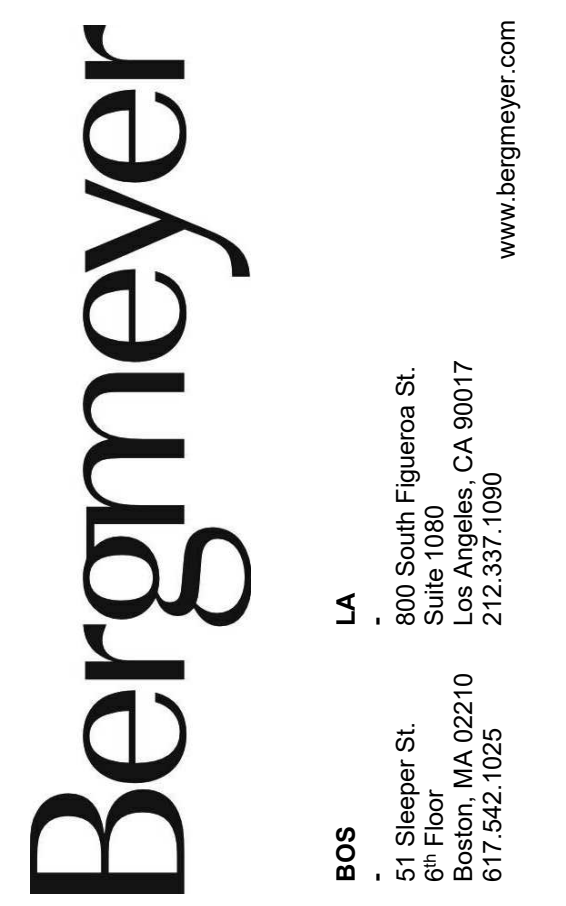
Project Title: Shake Shack (Garden City) Report date: 05/03/22
 Data filename: J:\Lenexa\Programs\P-T\Shake Shack\2150005338 Shake Shack 1458 - (Garden City) Cranston, Page 7 of 12
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Section # & ReqID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C409.2.2 [ME53]	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.1, C403.5.2 [ME123]	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

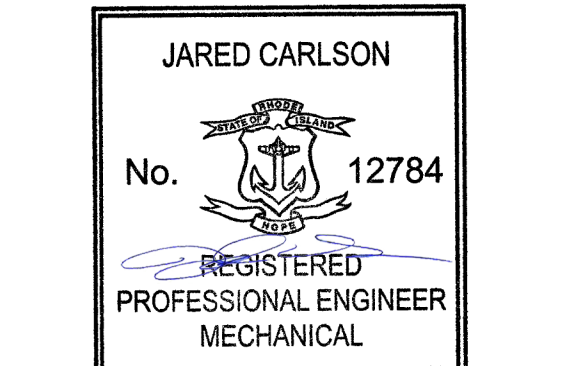
Project Title: Shake Shack (Garden City) Report date: 05/03/22
 Data filename: J:\Lenexa\Programs\P-T\Shake Shack\2150005338 Shake Shack 1458 - (Garden City) Cranston, Page 8 of 12
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CONSULTANTS:



SEAL SIGNATURE:



02/13/2023

NO.	BY	DATE	DESCRIPTION
1	HEI	2023-02-13	IFC SET
	HEI	2022-08-25	PERMIT SET
	HEI	2022-05-09	BID SET
	HEI	2022-04-18	75% SET
	HEI	2022-02-28	DD SET



SHAKE SHACK GARDEN CITY

30 HILLSIDE ROAD, UNIT 1003
 CRANSTON, RI 02920
 SHACK #1458

IFC SET

MECHANICAL ENERGY CODE COMPLIANCE

DRAWN BY: _____ Author

CHECKED BY: _____ Checker

JOB NO: 21239.00

M630

Section # & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26]	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.7 [EL27]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.8.2 [EL28]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.9 [EL29]	Total voltage drop across the combination of feeders and branch circuits <= 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Shake Shack (Garden City) Report date: 05/03/22
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Section # & Req. ID	Final Inspection	Complies?	Comments/Assumptions
C408.1.1 [F157]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.1 [F128]	Commissioning plan developed by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.3 [F131]	HVAC equipment has been tested to ensure proper operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.3 [F110]	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.3 [F132]	Economizers have been tested to ensure proper operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.4 [F129]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5 [F17]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5 [F143]	An air and/or hydronic system balancing report is provided for HVAC systems.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.5 [F130]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Shake Shack (Garden City) Report date: 05/03/22
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Section # & Req. ID	Final Inspection	Complies?	Comments/Assumptions
C403.3 [F181]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.2 [F127]	HVAC systems and equipment capacity does not exceed calculated loads.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F147]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F147]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F147]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.1 [F138]	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F120]	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F139]	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F140]	Automatic Controls: Setback to 55°F (heat) and 65°F (cool). 7-day clock, 2-hour occupant override, 10-hour backup.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F141]	Systems include optimum start controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F141]	Systems include optimum start controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F141]	Systems include optimum start controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

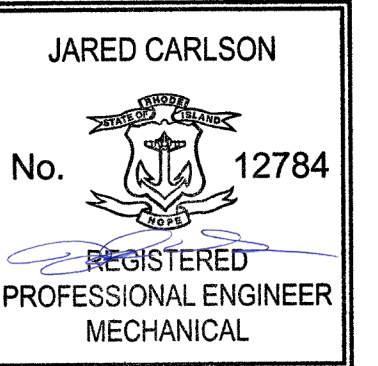
1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Shake Shack (Garden City) Report date: 05/03/22
Data filename: J:\Lenexa\Programs\P-T\Shake Shack\2150005338 Shake Shack 1458 - (Garden City) Cranston, Page 10 of 12
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CONSULTANTS:



SEA/ SIGNATURE:



02/13/2023

1	HEI	2023-02-13	IFC SET
	HEI	2022-08-25	PERMIT SET
	HEI	2022-05-09	BID SET
	HEI	2022-04-18	75% SET
	HEI	2022-02-28	DD SET

NO.	BY	DATE	DESCRIPTION
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SHAKE SHACK GARDEN CITY

30 HILLSIDE ROAD, UNIT 1003
CRANSTON, RI 02920
SHACK #1458

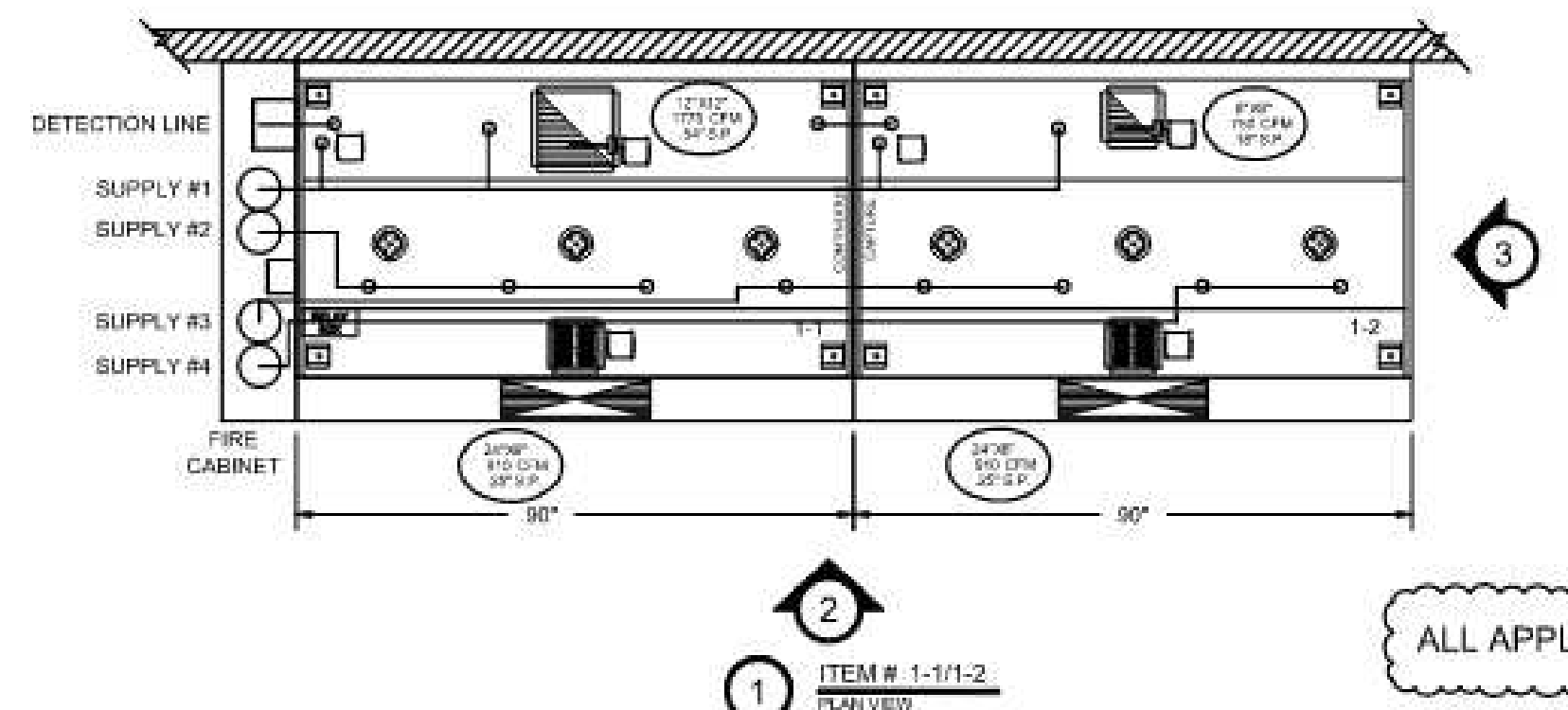
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MECHANICAL ENERGY CODE COMPLIANCE

DRAWN BY: Author
CHECKED BY: Checker
JOB NO: 21239.00

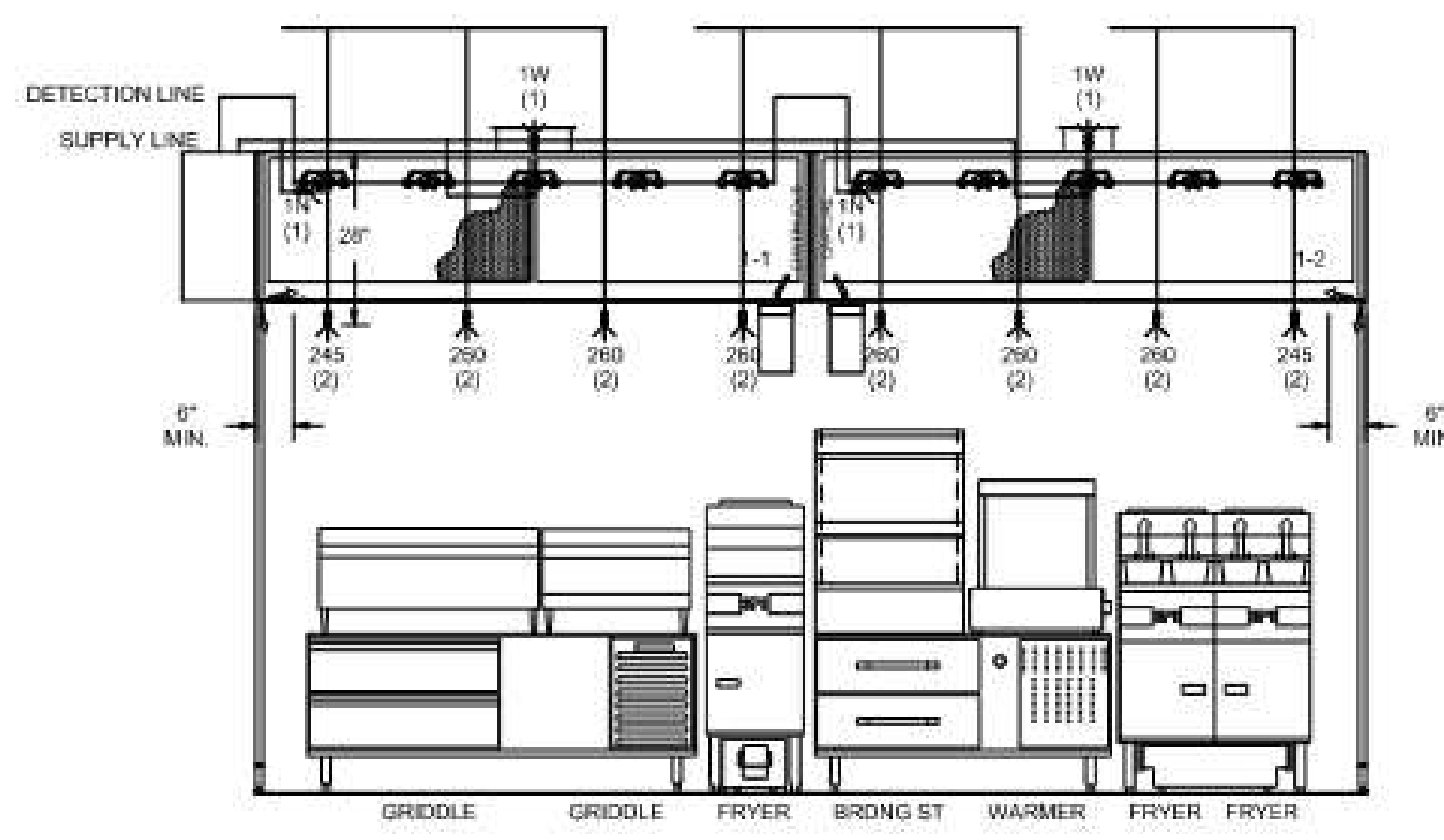
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****NOTE****
ANSUL R-102
OVERLAPPING SYSTEM



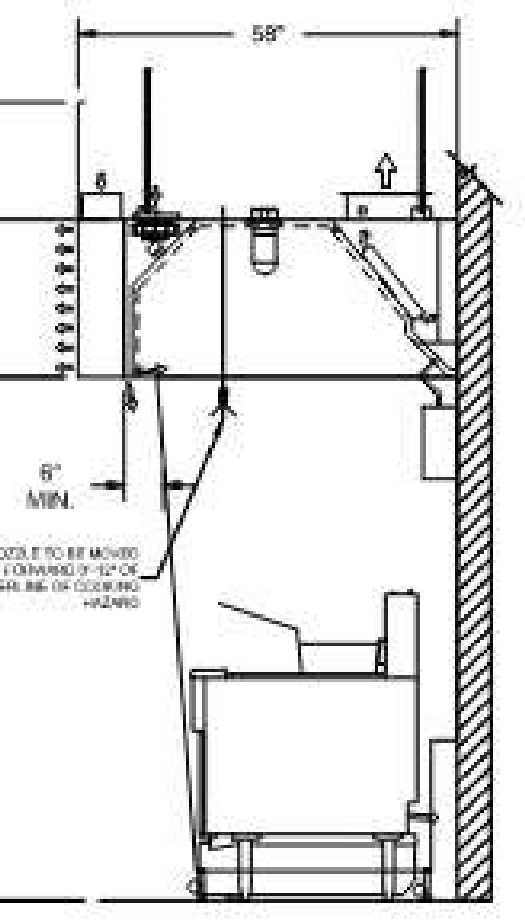
ITEM # 1-1/1-2
PLAN VIEW

ALL APPLIANCE DROPS TO HAVE SWIVELS



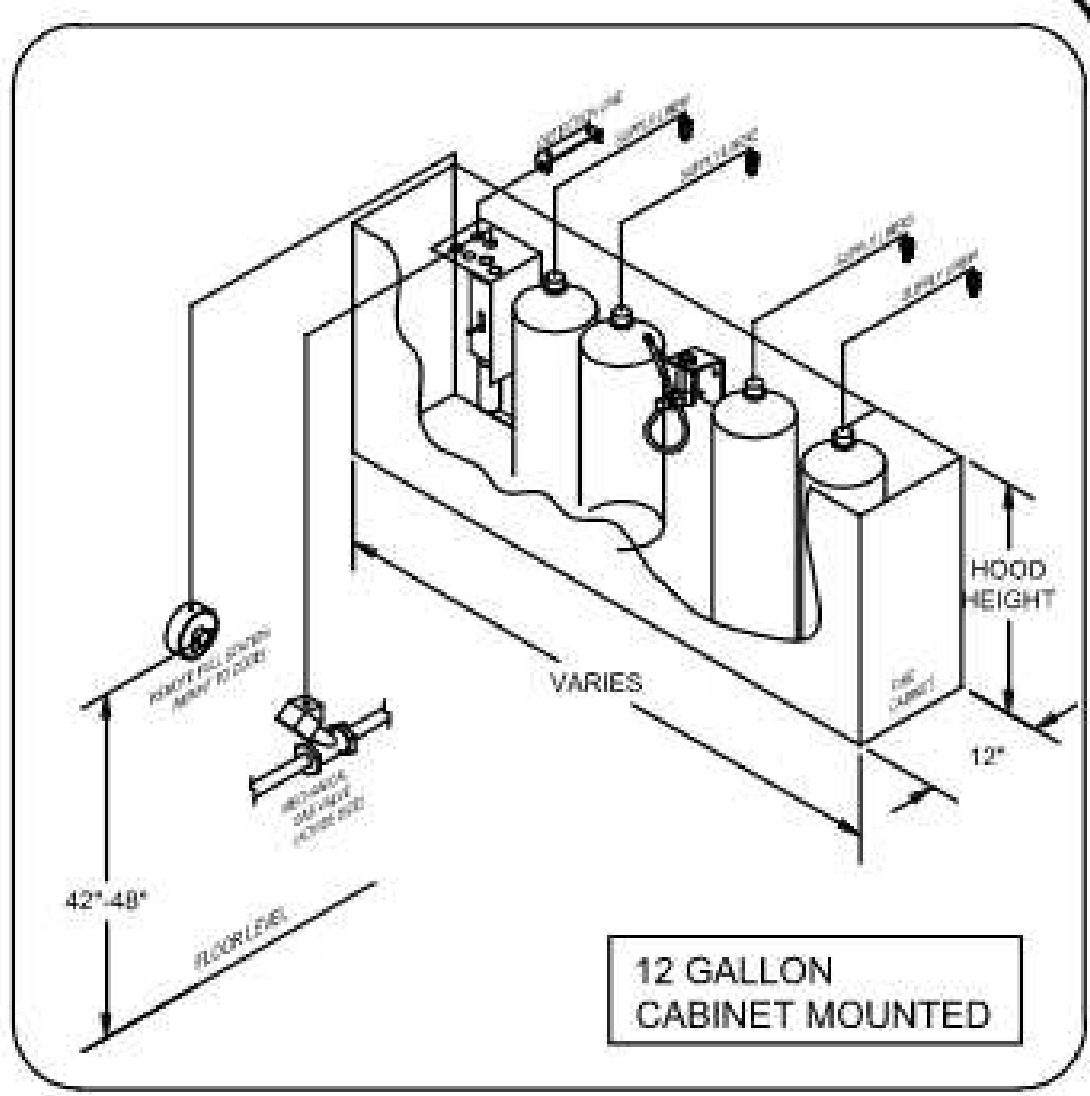
ITEM # 1-1/1-2
ELEVATION VIEW

- 1) ANSUL R-102 FIRE SYSTEM
- 2) FOUR TANK SYSTEM (10 GALLON)
- 3) 3/8" BLACK IRON PIPING (CONCEALED)
- 3/8" S.S. APPLIANCE DROPS (SUPPORTED)
- 4) MECHANICAL GAS VALVE (ADVISE SIZE)



ITEM # 1-1/1-2
SECTION VIEW

1- OEN REGULATED RELEASE
1- OEN REGULATED ACTUATOR
4- 1 GALLON TANKS



12 GALLON
CABINET MOUNTED

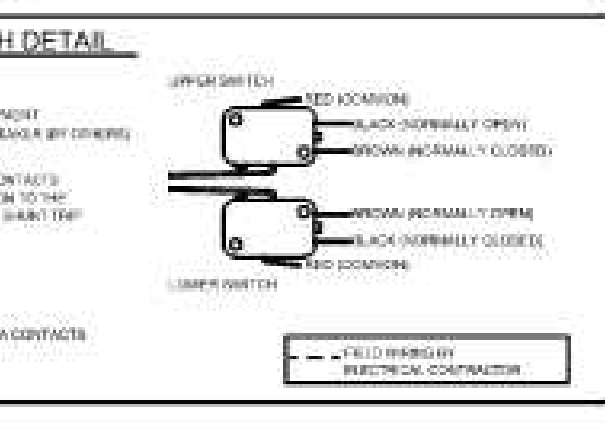
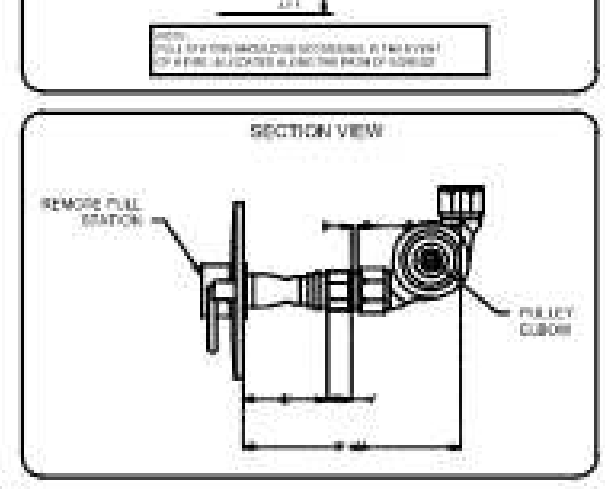
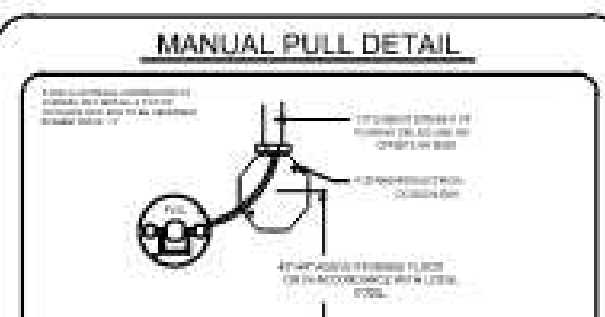
ANSUL NOTES

- GENERAL NOTES**
- THIS INSTALLATION IS TO BE MADE IN ACCORDANCE WITH THE ANSUL R-102 OVERLAPPING SYSTEM MANUAL AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES.
 - THE STAINLESS STEEL CABLE FOR THE ACTUATOR AND REMOTE PULL STATION IS TO BE INSTALLED BY AN AUTHORIZED AND FACTORY TRAINED DISTRIBUTOR OR SERVICE REPRESENTATIVE.
 - FIRE SUPPRESSION CONTRACTOR SHALL HAVE AN ADDITIONAL TRIP FOR AN INSTEAD OF TRIP WITH GENERAL CONTRACTOR, MECHANICAL, PLUMBING, WELDING, ALARMS AND ELECTRICAL CONTRACTORS PRIOR TO FINAL SUPERVISION WITH LOCAL P.A. OFFICER SHALL BE RESOLVED BY RESPONSIBLE TRADE BEFORE THE FINAL CAN BE SCHEDULED. TEST SHOULD BE CONDUCTED AT 3 DAYS (MINIMUM) PRIOR TO SCHEDULED TEST.
 - THIS INSTALLATION IS TO BE RESPECTED. PUT INTO OPERATION AND CERTIFIED BY AN AUTHORIZED AND FACTORY TRAINED DISTRIBUTOR OR SERVICE REPRESENTATIVE.
 - ELECTRICAL CONTACTS AND WIRING FOR APPLIANCE SHUT OFF TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
 - ANSUL R-102 RESTAURANT FIRE SUPPRESSION SYSTEMS HAVE BEEN TESTED AND ARE LISTED BY KENNEDY-BURNS LABORATORIES INC. AS FIRE-ENGINEERED SYSTEMS. AND WHEN INSTALLED AS SHOWN ON THE DRAWING SHALL COMPLY WITH ALL RELEVANT ANSUL INSTALLATION REQUIREMENTS AND APPLICABLE LOCAL, STATE AND FEDERAL CODES. ALL LOCAL, STATE AND FEDERAL CODES SHALL BE COMPLIED WITH NFPA 96 WHICH IS INSTALLED AND CERTIFIED BY AUTHORIZED TRAINED ANSUL DISTRIBUTOR IN ACCORDANCE WITH THE MANUAL.
 - ALL AGENT DISTRIBUTION PIPING AND DETECTION CONDUIT HOOD PENETRATIONS MUST BE PROPERLY SEALED IN ACCORDANCE WITH NFPA 96.
 - ALL CONNECTIONS TO THE FIRE SUPPRESSION LOW VOLTAGE AND HIGH VOLTAGE ANSUL MICROSWITCHES MUST BE MADE IN A J.L. RATED JUNCTION BOX OUTSIDE OF THE ANSUL AUTOMATIC COMPARTMENT TO KEEP FROM VIOLATING THE LISTING OF THE ANSUL SYSTEM.
- DISTRIBUTION PIPING REQUIREMENT NOTES**
- PIPS SHALL BE 3/8" SCHEDULE 40 BLACK IRON, AND CHROME PLATED OR STAINLESS STEEL PIPE W/ EIP EXPOSED UNDER THE HOOD.
 - FINAL NOZZLE LOCATIONS SHALL NOT VARY FROM THE ANSUL R-102 OVERLAPPING SYSTEM PROTECTION PIPING REQUIREMENTS SHOWN.

FLOW POINT CHART
ANSUL R-102 FLOW POINT CALCULATION

NOZZLE TYPE	NOZZLE FLOWS	NOZZLE QUANTITY	TOTAL FLOWS
306	0	0	0
290	2	0	0
292	2	0	0
245	0	2	4
247	0	0	0
237	2	0	0
2120	2	0	0
196	1	2	2
198	1	2	2
108	10	0	0
TOTAL FLOW POINTS USED			20

MAX. SYSTEM FLOW POINTS: 20 (12) OR (20)



NOTE:
HALTON COMPANY WILL SUPPLY ANSUL EQUIPMENT AND PRE-PPED HOODS PER PUBLISHED ANSUL GUIDELINES AND RECOMMENDATIONS. IT IS THE RESPONSIBILITY OF THE F.I.C.C. TO INFORM HALTON OF ANY SPECIAL REQUIREMENTS OF THE LOCAL JURISDICTION PRIOR TO RELEASE OF EQUIPMENT.

NOTE:
ALL PIPING FOR LOW VOLTAGE APPLIANCE PROTECTION SHALL BE PROVIDED AND INSTALLED BY THE INSTALLING ANSUL DISTRIBUTOR & NOT BY HALTON.

NOTE:
HAND HELD EXTINGUISHERS, IF REQUIRED, ARE TO BE PROVIDED BY OTHERS.

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY:
1. ALL DIMENSIONS, CONNECTIONS, AND MATERIALS MUST BE AS SHOWN.
2. ALL DIMENSIONS, CONNECTIONS, AND MATERIALS MUST BE AS SHOWN.
3. ALL DIMENSIONS, CONNECTIONS, AND MATERIALS MUST BE AS SHOWN.
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8. ALL DIMENSIONS, CONNECTIONS, AND MATERIALS MUST BE AS SHOWN.
9. ALL DIMENSIONS, CONNECTIONS, AND MATERIALS MUST BE AS SHOWN.
10. ALL DIMENSIONS, CONNECTIONS, AND MATERIALS MUST BE AS SHOWN.



WEBSITE: www.halton.com

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

REV.	DATE	DESCRIPTION
1	04.13.22	ISSUED FOR PERMIT
2	04.13.22	ISSUED FOR BID
3	04.13.22	ISSUED FOR PERMIT
4	04.13.22	ISSUED FOR BID
5	04.13.22	ISSUED FOR PERMIT
6	04.13.22	ISSUED FOR BID
7	04.13.22	ISSUED FOR PERMIT
8	04.13.22	ISSUED FOR BID
9	04.13.22	ISSUED FOR PERMIT
10	04.13.22	ISSUED FOR BID

PROJECT: SHAKE SHACK GARDEN CITY
LOCATION: GRANSTON, RI
DRAWN BY: SKM DATE: 04.13.22
SCALE: NOT TO SCALE
CONSULTANT: Halton

DRAWING TITLE:
FIRE SYSTEM DETAILS
DRAWING No.: U22-298
REV. NO.: 1 SHEET NO.: 2 of 6

NOTE:
THE DOCUMENTATION ON THIS SHEET WAS NOT PREPARED BY HENDERSON ENGINEERS AND IS INCLUDED IN THIS SET FOR REFERENCE ONLY. HENDERSON ENGINEERS REVIEWED THE DOCUMENTATION ON THIS SHEET FOR GENERAL COMPLIANCE WITH DESIGN INTENT. SUPPLIER IS RESPONSIBLE THAT ALL FURNISHED EQUIPMENT ON THIS SHEET COMPLIES WITH APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, CODES, AND REGULATIONS.

Bergmeyer
LA
800 South Figueroa St.
Los Angeles, CA 90017
212.337.1090
www.bergmeyer.com

CONSULTANTS:
SEAL SIGNATURE:
FOR REFERENCE ONLY

NO.	BY	DATE	DESCRIPTION
1	HEI	2023-02-13	IFC SET
2	HEI	2022-08-25	PERMIT SET
3	HEI	2022-05-09	BID SET
4	HEI	2022-04-18	75% SET
5	HEI	2022-02-28	DD SET



SHAKE SHACK GARDEN CITY

30 HILLSIDE ROAD, UNIT 1003
CRANSTON, RI 02920
SHACK #1458

IFC SET

HALTON DRAWINGS

DRAWN BY: Author
CHECKED BY: Checker
JOB NO.: 21230.00

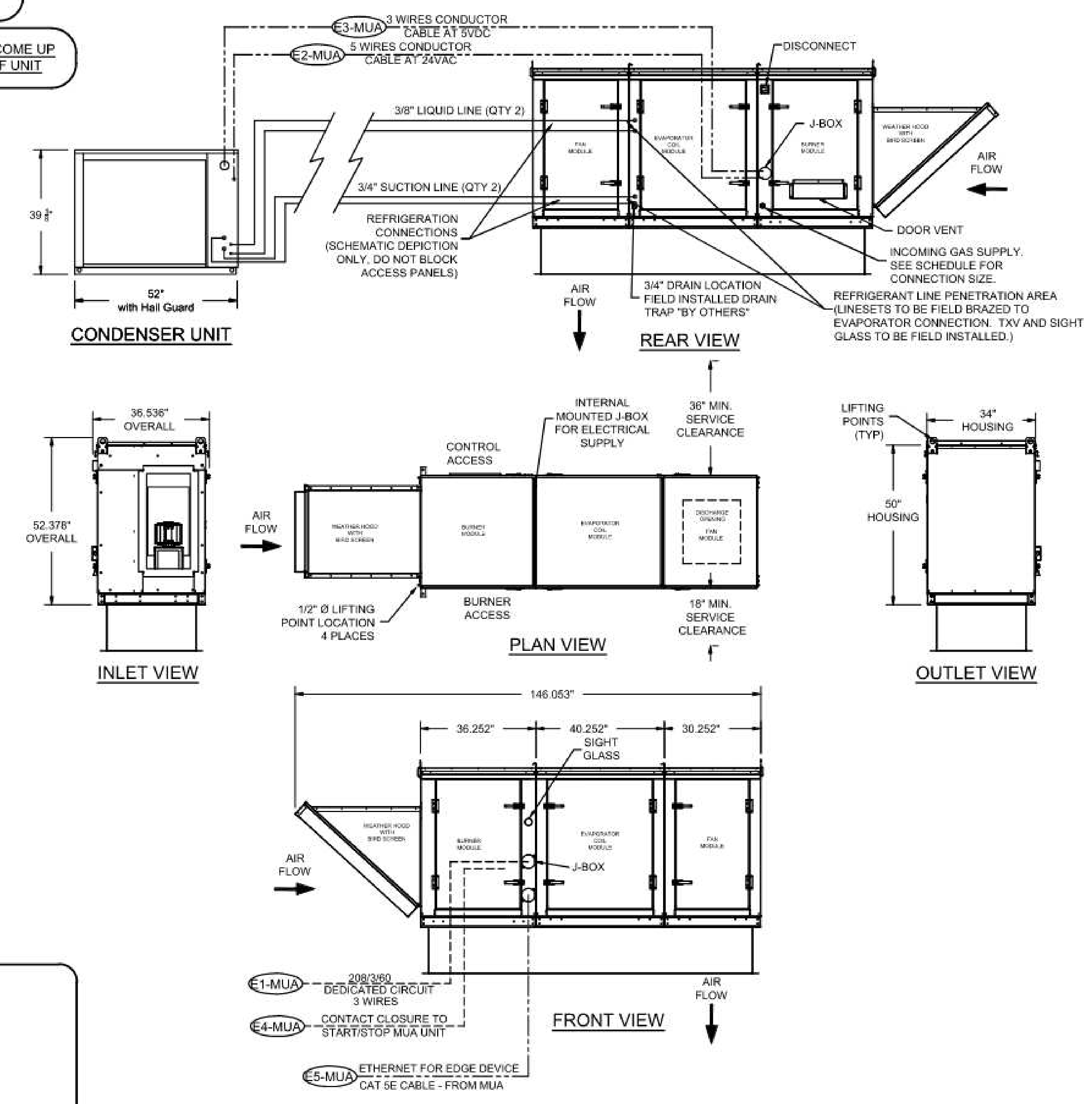
M702

MUA CHART	
DATA	IMPERIAL
Model	MUA-DGX-2800
Max. Supply Air	2800 CFM
Design Supply Air	1820 CFM
Internal S.P.	1.43" W.G.
External S.P.	0.50" W.G.
Total S.P.	1.93" W.G.
Motor	2 hp
Power	0.82 bhp
Full Load AMPS	7.7
Motor RPM	2042
Voltage/Phase-Hz	208/3/60
Fan RPM	2042 @ 68 HZ
Mounting	Exterior
Blower Model	ANPA 12
Material Type	G90 Galv. 20GA.
Paint Color	Unprimed
Weight	1392 lbs

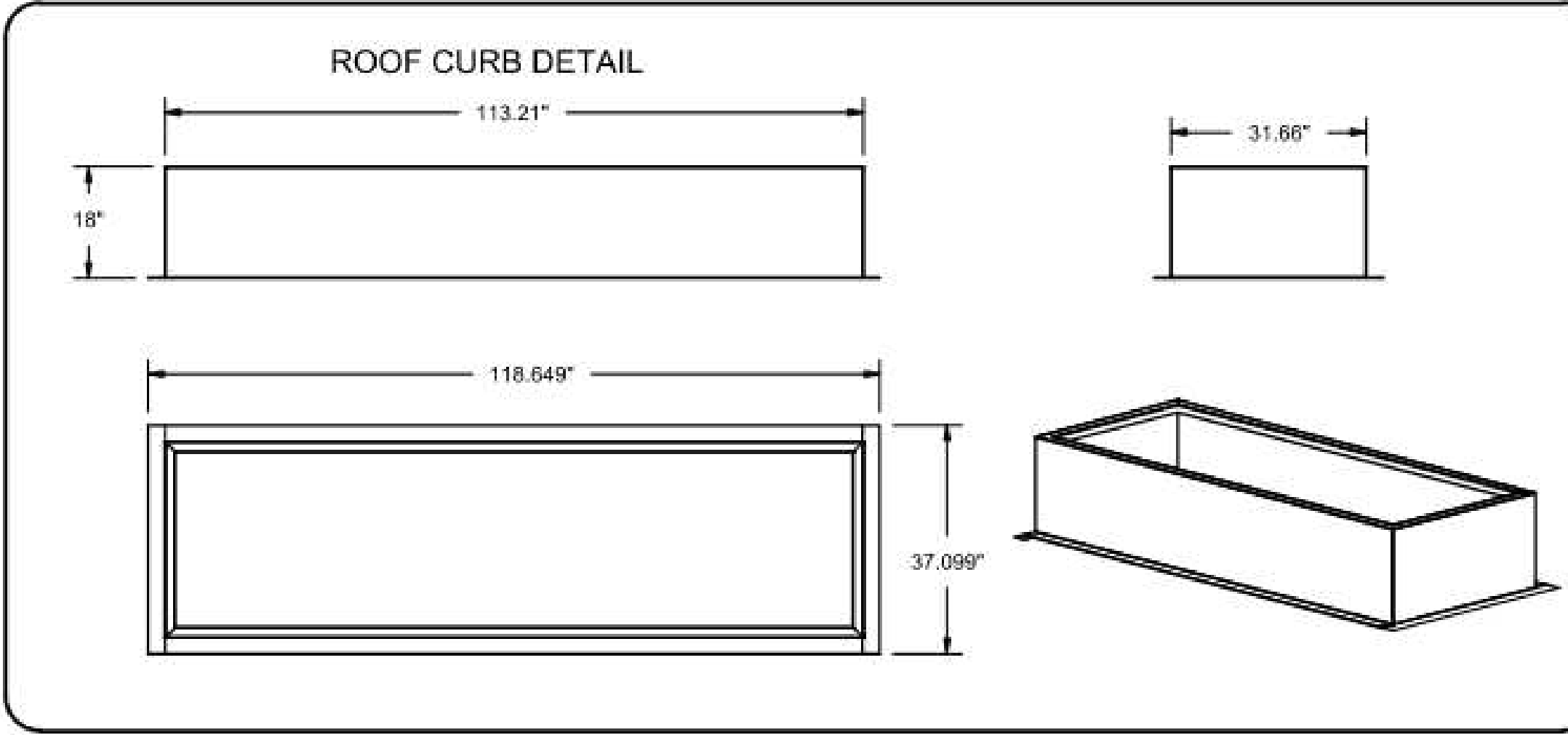
UNIT FEATURES	
Drive Package:	Belt Drive Fan (Comet/ ATL) Direct Drive Plenum Fan (Comet/ ANPA)
Insulation:	✓ 1" Duct Board No Insulation
Unit Mounted D.A.T. Controls (temperature)	Remote start/stop Controls (fan)
Isolators:	✓ Neoprene ✓ Semic
Intake Damper:	✓ Motorized Gravity
Gas Train:	Plated ✓ Direct Spark
Drive Package:	Constant Volume ✓ Variable Speed: Powerflex 523 VFD Dairloss VFD ✓ Weg VFD
Roof Curb:	✓ w/ Insulation ✓ w/ Wood Nailer
Intake Hood w/ 2" Alum. Mesh Filters & Birdscreen	MERV 8 Filtered Intake (Dust Filter) Filter Dryer R-410A DX Cooling Coil Stainless Drain Pan and Drain Galvanized Cooling Coil Frame TVX & Sight Glass: Remote Condenser (Shipped Loose) Package Unit (Factory Installed) PLC Compressor Staging Controls by Halton (Programmed Setpoints) Freeze Stat Cooling Coil Moisture Eliminator

ITEM #MUA-1

ELECTRICAL CONNECTION WILL COME UP THROUGH CURB INTO BOTTOM OF UNIT



ELECTRICAL SCHEDULE			
CONNECTION #	CONNECTION DESCRIPTION	FROM	TO
E1-MUA	208/3/60 - FAN MOTOR POWER - 3 WIRES	BUILDING SOURCE	J-BOX
E2-MUA	5 WIRES CONDUCTOR CABLE - 24VAC	MUA UNIT	CONDENSER UNIT
E3-MUA	3 WIRES CONDUCTOR CABLE - 6VDC	MUA UNIT	CONDENSER UNIT
E4-MUA	CONTACT CLOSURE TO START/STOP MUA UNIT	REMOTE PANEL	MUA UNIT
E5-MUA	CAT5 CABLE TO HOOD REMOTE MONITORING PANEL	MUA UNIT	REMOTE PANEL



SPECIFICATIONS		
GAS INFORMATION	ELECTRICAL INFORMATION	EQUIPMENT SPECIFICATIONS
MIDCO 8\"/>		

REVISIONS:

REV.	BY	DATE	DESCRIPTION
1	AF	05/05/22	ISSUE FOR PERMIT
2	AF	05/05/22	ISSUE FOR BID
3	AF	05/05/22	ISSUE FOR 75% SET
4	AF	05/05/22	ISSUE FOR DD SET

DATE: _____

APPROVED: _____

DATE: _____

WEBSITE: www.halton.com

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTT, VT 05677
TEL: 802.237.5900

HALTON CO. (CANADA)
103 BREVIN PLACE
MISSISSAUGA, ONTARIO L4V 1W4
TEL: 905.624.0311

REVISION DESCRIPTION:

REVISED CTR & MECH DATA

PROJECT: SHACK SHAKE GARDEN CITY

LOCATION: CRANSTON, RI

DATE: 04.13.22

SCALE: NOT TO SCALE

CONSULTANT: Halton

DRAWING TITLE: U22-298

REV. NO. 1 SHEET NO. 3 of 6

NOTE: THE DOCUMENTATION CONTAINED ON THIS SHEET WAS NOT PREPARED BY HENDERSON ENGINEERS AND IS INCLUDED IN THIS SET FOR REFERENCE ONLY. HENDERSON ENGINEERS REVIEWED THE DOCUMENTATION ON THIS SHEET FOR GENERAL COMPLIANCE WITH DESIGN INTENT. SUPPLIER IS RESPONSIBLE THAT ALL FURNISHED EQUIPMENT ON THIS SHEET COMPLIES WITH APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, CODES, AND REGULATIONS.

Bergmeyer

CONSULTANTS:

SEALED SIGNATURE:

FOR REFERENCE ONLY

1 | HEI | 2023-02-13 | IFC SET
 2 | HEI | 2022-08-25 | PERMIT SET
 3 | HEI | 2022-05-09 | BID SET
 4 | HEI | 2022-04-18 | 75% SET
 5 | HEI | 2022-02-28 | DD SET

NO. BY DATE DESCRIPTION

SHAKE SHACK

SHAKE SHACK GARDEN CITY

30 HILLSIDE ROAD, UNIT 1003
CRANSTON, RI 02920
SHACK #1458

IFC SET

HALTON DRAWINGS

DRAWN BY: _____ Author

CHECKED BY: _____ Checker

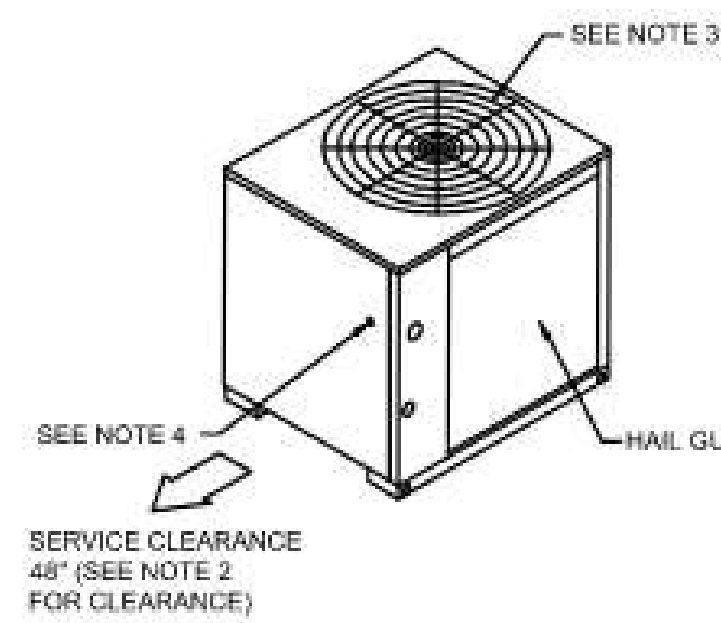
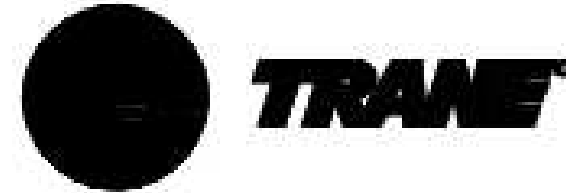
JOB NO: 21239.00

M703

www.bergmeyer.com

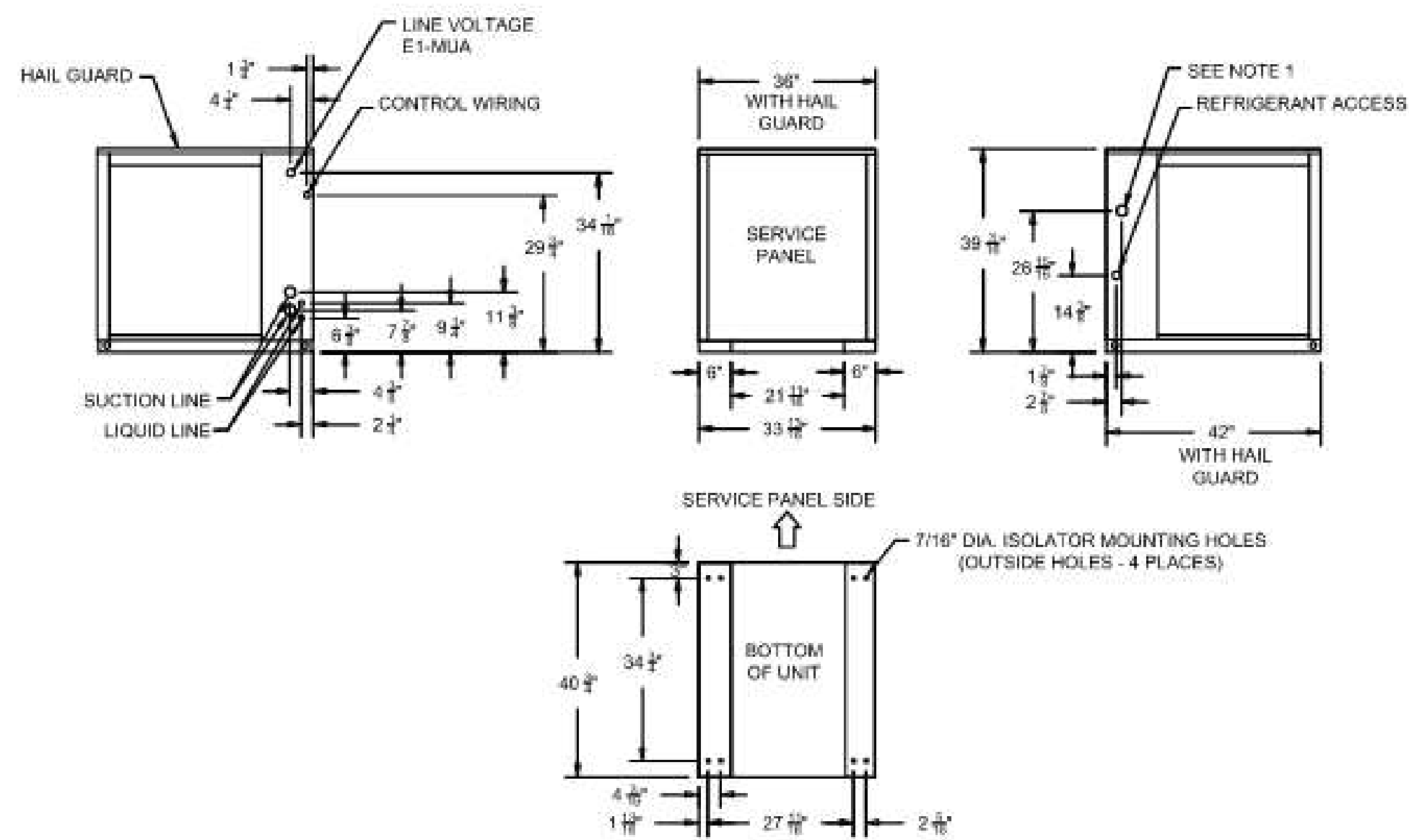
900 South Figueroa St.
Los Angeles, CA 90017
617.542.1025

ITEM #CU-1

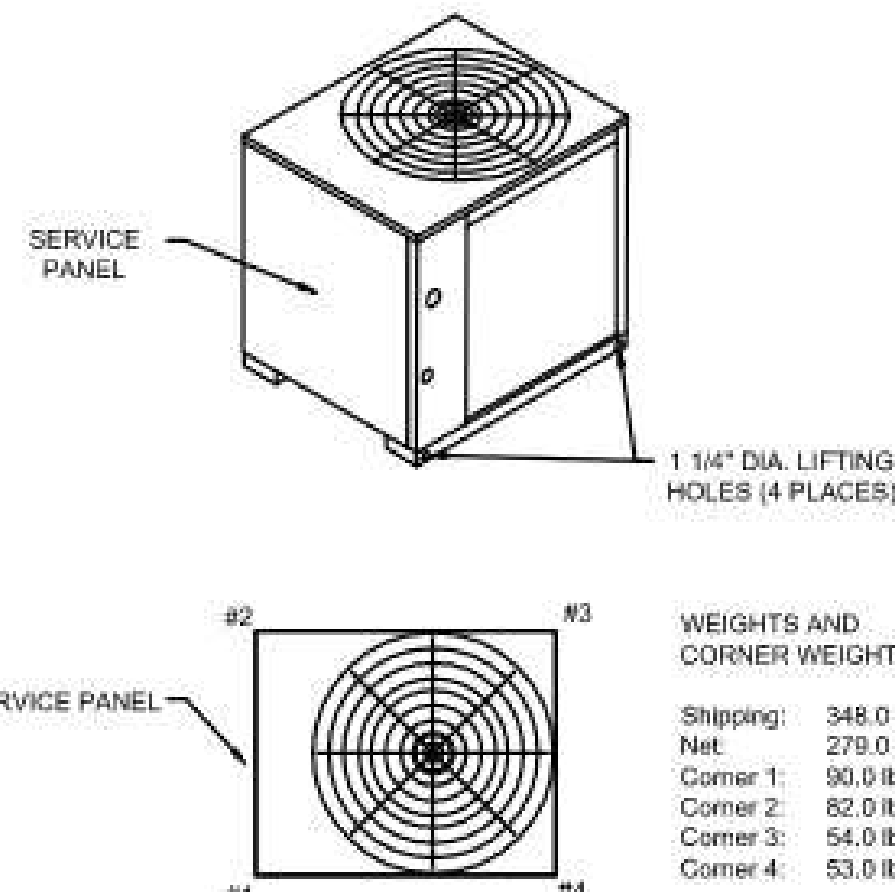


Notes:

- Access opening is for field installed Bayloam accessory.
- Minimum clearance for proper operation is 36" from walls, shrubbery, privacy fences, etc. Minimum clearance between adjacent units is 72". Recommended service clearance is 48".
- Top discharge area should be unrestricted for 100" minimum. Unit should be placed so roof run-off water does not pour directly on unit.
- Outdoor Air Temperature Sensor opening (Do Not Block Opening)



6 TON COOLING CONDENSER (DUAL COMPRESSOR) DIMENSIONAL DRAWING



WEIGHTS AND LOAD POINT LOCATION FOR CONDENSER WEIGHT AND RIGGING

Hailguards - TTA
Condenser Coil Protection from Hail, Vandals, Etc. Perforated, Painted Galvanized Steel Factory Installed.

TTA Microchannel - General
Weatherproofed steel mounting/lifting rails Hermetic scroll compressors Microchannel condenser coils on select models Plate fin condenser coils Fans and motors Standard operating range 50-125°F (min. 0°F with low ambient accessory) Nitrogen holding charge Certified and rated in accordance with AHRJ and DOE standards Certified to UL 1995

TTA Microchannel - Casing
Zinc coated, heavy gauge, galvanized steel Weather resistant baked enamel finish Meets ASTM B117, 672 hour spray test Removable single side maintenance access panels Lifting handles in maintenance access panels Unit base provisions for forklift and/or crane lifting

Refrigerations System - Dual Compressor
Two (2) separate and independent refrigerant circuits Each refrigeration circuit equipped with integral subcooling circuit Front or rear refrigerant line connections

Two (2) direct drive hermetic scroll compressors Suction gas-cooled motors w/ ± 10% voltage utilization range of unit nameplate voltage Crankcase Heaters Internal temperature and current sensitive motor overloads No compressor suction and/or discharge valves (reduced vibration/sound) Factory installed liquid line filter drier Phase loss/reverse rotation monitor Liquid line service ports Suction line service ports External high pressure cutout devices

TTA Microchannel - Condenser Coil (Microchannel)
Microchannel coils burst tested by the manufacturer Coils shall be leak tested to ensure the pressure integrity Factory pressure and leak tested to 660 psig Perforated steel hail guards factory installed

TTA Microchannel - Condenser Fan
26" or 28" propeller fan(s) Direct drive Staticlly and dynamically balanced

TTA Microchannel - Condenser Motor(s)
Permanently lubricated totally enclosed or open construction Built-in current and thermal overloads Ball or sleeve bearing type

TTA Microchannel - Controls
Choice of electromechanical or microprocessor Completely internally wired Numbered and colored wires Contactor pressure lugs or terminal block Unit external mounting location for disconnect device Single point power entry

TTA Controls: Electro-Mechanical
24V control circuit Control transformer Thermostat compatible Anti-Short Cycle Timer

CONDENSER COIL SPECIFICATIONS

6 Ton Trane TTA 208V

Unit Function: Cooling
Voltage: 208-230/60/3
Refrigeration Circuit/Stage: Dual Compressors/Dual Circuit
Unit Tonnage: 6 Tons
Refrigerant: R-410A Refrigerant
Controls: Electromechanical

Factory Installed Accessories
Condenser Coil Hail/Vandal Guard Kit

Electrical Data Condenser
Electrical Data
Model: TTA07243D
Unit Operating Voltage: 187-263
Minimum Circuit Ampacity: 23.0
Maximum Fuse Size: 30.0
Maximum Circuit Breaker: 30.0

Compressor Motor
No.: 2
Volts: 208-230
Phase: 3
Amp-RLA: 9.0/9.0
Amp-LRA: 71.0/71.0

Condenser Fan Motor
No.: 1
Volts: 208-230
Phase: 1
Amp-FLA: 3.1
Amp-LRA: 8.1

Compressor
Number: Scroll
No. Compressor/Tons: 2/2.4
Cooling Stages per Compressor: 1

System Data (7)
No. Refrigerant Circuits: 2
Suction Line (in.) OD: 3/4" Horizontal & Vertical
Liquid Line (in.) OD: 3/8"

ELECTRICAL SCHEDULE				
CONNECTION #	CONNECTION DESCRIPTION	FROM	TO	
E1-MUA	208/3/60 - FAN MOTOR POWER - 3 WIRES	BUILDING SOURCE	CU-1	

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:

1. ALL DIMENSIONS, CONNECTIONS, MOUNTING POSITIONS
2. THE LOCATION AND TYPE OF COOLING EQUIPMENT.

ANY CHANGES TO THIS DRAWING MUST BE APPROVED BY THE FACTORY. CHANGES TO THIS DRAWING MUST BE APPROVED BY THE FACTORY. CHANGES TO THIS DRAWING MUST BE APPROVED BY THE FACTORY.

APPROVED FOR FABRICATION: _____
WITH NO CHANGES: WITH CHANGES AS NOTED:

DATE: _____

WEBSITE: www.halton.com

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (USA) 101 INDUSTRIAL DRIVE SCOTTSDALE, AZ 85254 1-202-237-5950	BY: _____ DATE: 05.05.22
HALTON CO. (CANADA) 100 BERRICK PLACE MISSISSAUGA, ON L4W 3R7 1-905-824-0381	BY: _____ DATE: _____

NO CHANGE

PROJECT: SHAKE SHACK GARDEN CITY
LOCATION: CRANSTON, RI
DRAWN BY: SKM DATE: 04.13.22
SCALE: NOT TO SCALE
CONSULTANT: _____

Halton

DRAWING TITLE: MUA-DGX-4600
DRAWING No.: U22-298
REV. NO.: 1 SHEET NO.: 4 of 6

1 HEI 2023-02-13 IFC SET
1 HEI 2022-08-25 PERMIT SET
2 HEI 2022-05-09 BID SET
1 HEI 2022-04-18 75% SET
1 HEI 2022-02-28 DD SET

SHAKE SHACK
SHAKE SHACK GARDEN CITY
30 HILLSIDE ROAD, UNIT 1003
CRANSTON, RI 02920
SHACK #1458

IFC SET

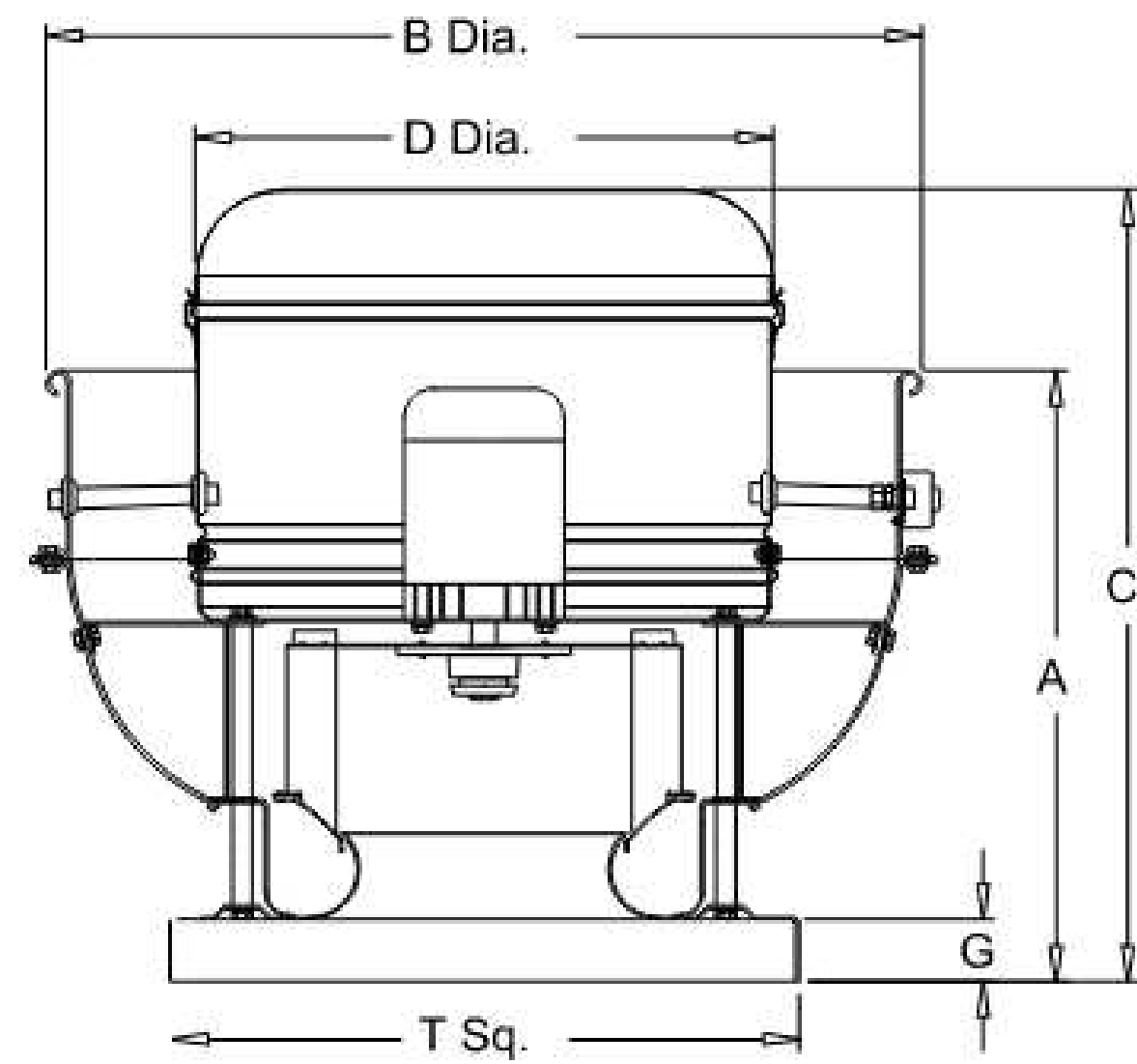
HALTON DRAWINGS

DRAWN BY: _____ Author
CHECKED BY: _____ Checker
JOB NO.: 21230.00

NOTE:
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FAN INFORMATION TABLE								
FAN NO	MODEL	QTY	CFM	S.P.	H.P.	VOLTAGE	AMPS	ACCESSORIES
EF-1	VCR-D	1	1775	1.04"	3/4	115/1/60	13.8	DISCONNECT NEMA 3 PRE-WIRED, ROOF CURB RCG 22, LABEL UL 762, HINGED SUB BASE KIT, KEYWAY GREASE TROUGH, FAN SPEED CONTROLLER
EF-2	VCRD-HP	1	750	0.7"	1/4	115/1/60	7.2	DISCONNECT NEMA 3 PRE-WIRED, ROOF CURB RCG 22, LABEL UL 762, HINGED SUB BASE KIT, KEYWAY GREASE TROUGH, FAN SPEED CONTROLLER

VCR-D
VCRD-HP

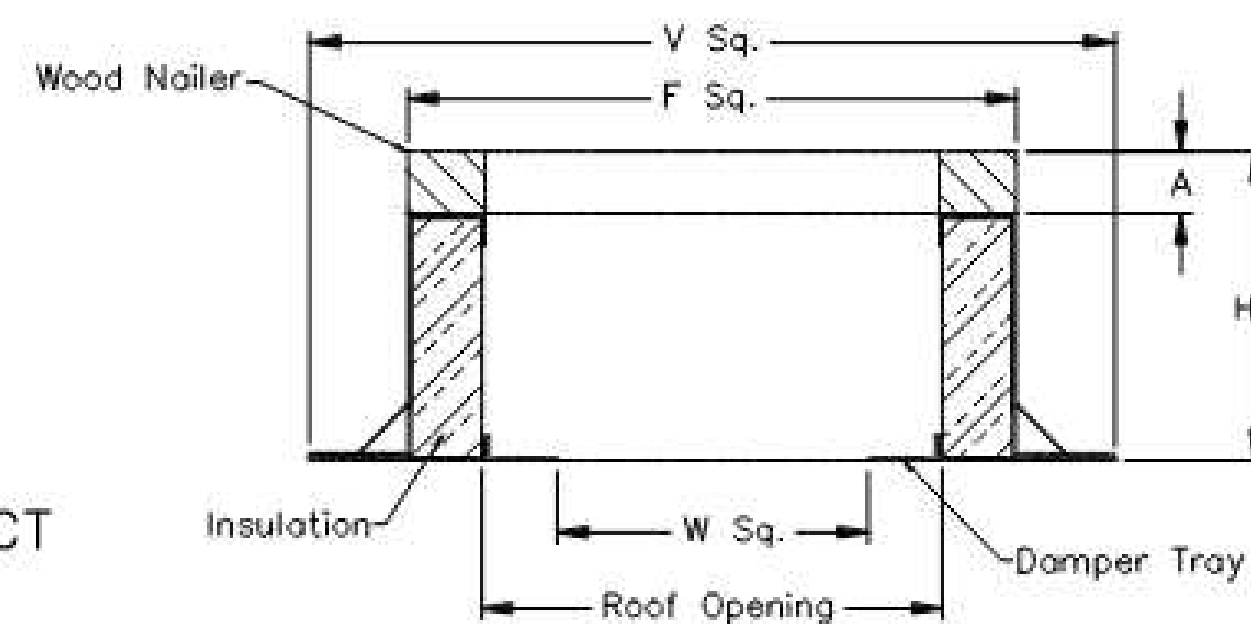


TAG	SIZE	A	B	C	D	G	T Sq.	Roof Opening	SHIP'G WT.
EF-1	150V15D	20-15/16"	34-11/16"	30-1/4"	23-13/16"	2"	24"	19-1/2"	180
EF-2	150V15D	20-15/16"	34-11/16"	27-1/2"	23-13/16"	2"	24"	19-1/2"	177

OPTIONS: (as noted below)

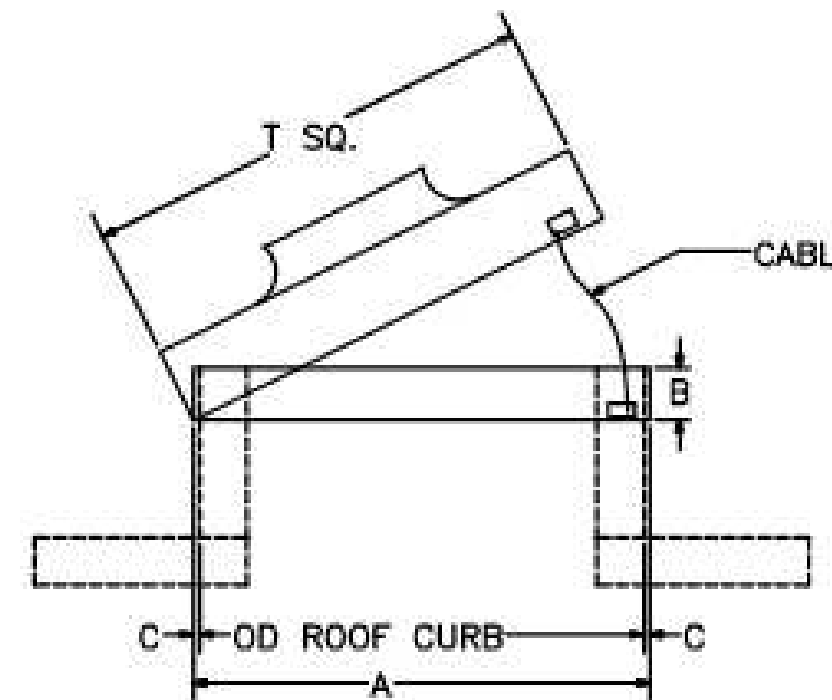
1) NO WOOD NAILER (DEDUCT 1.5" FOR ACTUAL HEIGHT).

CURB
CURB TYPE: RCG



TAG	QTY	DESCRIPTION	Ht.	MATERIAL GAUGE	A	F Sq.	V Sq.	W Sq.	ROOF OPENING	OPTIONS
EF-1	1	RCG 22	24	18	1.5"	22.5"	26.5"	15.75"	19.5"	1
EF-2	1	RCG 22	24	18	1.5"	22.5"	26.5"	15.75"	19.5"	1

HINGED BASE



MARK	QTY	DESCRIPTION	A.I.D.	B	C	CABLE	OD CURB	T. SQ.
EF-1	1	HINGED SUB BASE 24T	23-3/8"	2-1/4"	1/4"	37	22-1/2"	24
EF-2	1	HINGED SUB BASE 24T	23-3/8"	2-1/4"	1/4"	37	22-1/2"	24

THE DRAWING MUST BE REVISION, DIMENSIONS AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:

- ALL DIMENSIONAL INFORMATION, INCLUDING POSITIONS
- THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE: TO AVOID PROBLEMS, THE DRAWING MUST BE APPROVED BY THE FACTORY BEFORE ANY FABRICATION WORK BEGINS. ANY CHANGES TO THE DRAWING MUST BE APPROVED BY THE FACTORY BEFORE ANY FABRICATION WORK BEGINS.

FAN AND REVISION
 WITH NO CHANGES AS NOTED
APPROVED BY: _____ DATE: _____

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (CANADA) BROOKFIELD AVE #2014 MISSISSAUGA, ON L4W 1A4 1-905-874-0301	HALTON CO. (USA) 300 SOUTH MAIN AVE #2014 MILWAUKEE, WI 53212 1-270-237-5600
--	---

PROJECT: SHACK SHAKE GARDEN CITY
LOCATION: CRANSTON, RI
DRAWN BY: SKM DATE: 04.13.22
SCALE: NOT TO SCALE
CONSULTANT: _____

DRAWING TITLE: FAN DETAILS
DRAWING No.: U22-298
REV. NO.: 1 SHEET NO.: 5 of 6

REV. NO. BY DATE DESCRIPTION

1	NO CHANGE		
2			
3			
4			
5			
6			

WEBSITE: WWW.HALTON.COM

NOTE:
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CONSULTANTS:
SEAL SIGNATURE:
FOR REFERENCE ONLY

NO.	BY	DATE	DESCRIPTION
1	HEI	2023-02-13	IFC SET
	HEI	2022-08-25	PERMIT SET
	HEI	2022-05-09	BID SET
	HEI	2022-04-18	75% SET
	HEI	2022-02-28	DD SET



SHAKE SHACK GARDEN CITY

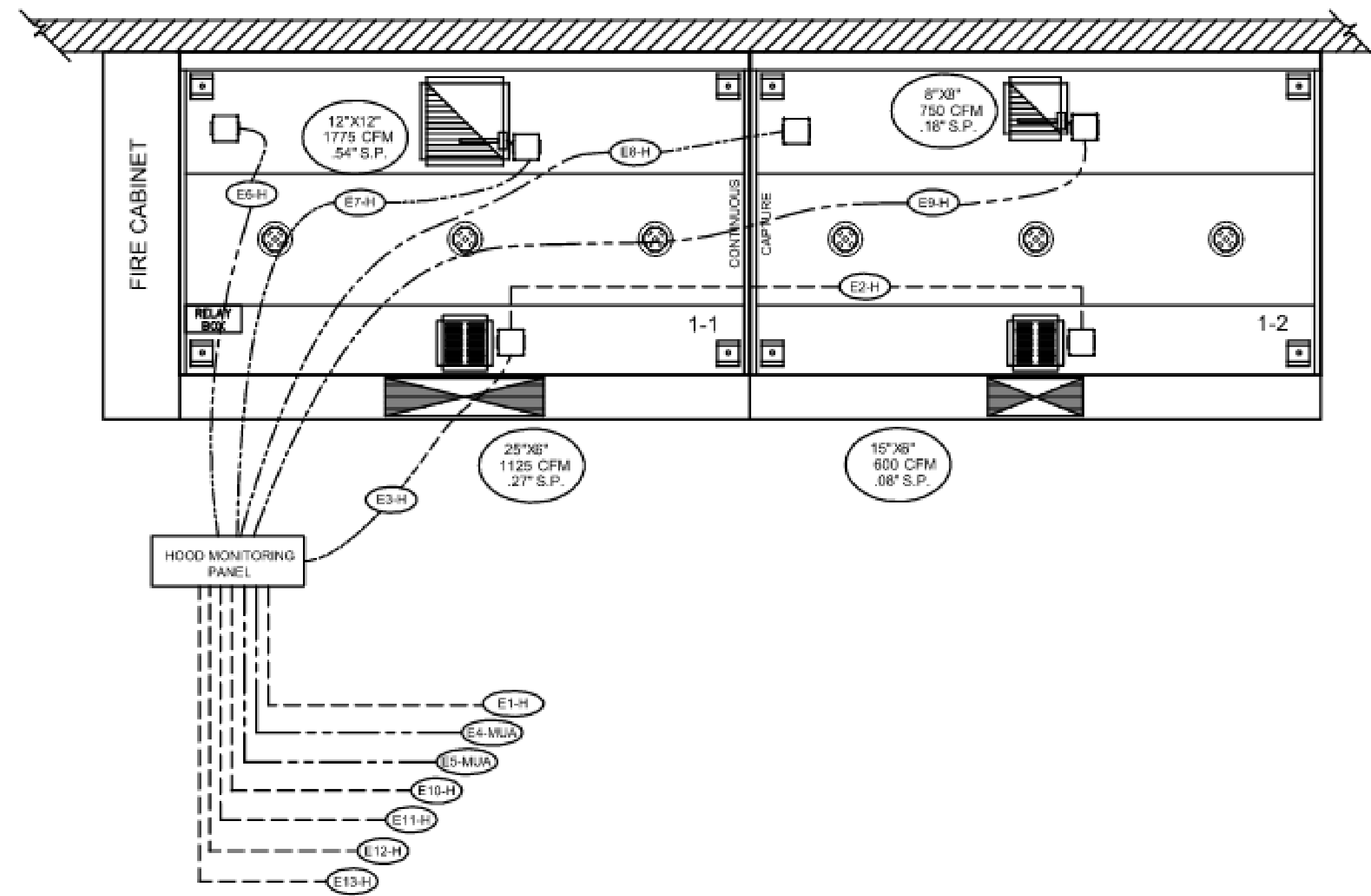
30 HILLSIDE ROAD, UNIT 1003
CRANSTON, RI 02920
SHACK #1458

IFC SET

HALTON DRAWINGS

DRAWN BY: _____ Author
CHECKED BY: _____ Checker
JOB NO: 21239.00

M705



SEQUENCE OF OPERATIONS:

FIRE MODE:

- EXHAUST FAN TO ENERGIZE TO 100% OF DESIGN AIRFLOW
- MUA FAN TO SHUT DOWN

FAN SWITCH PRESSED:

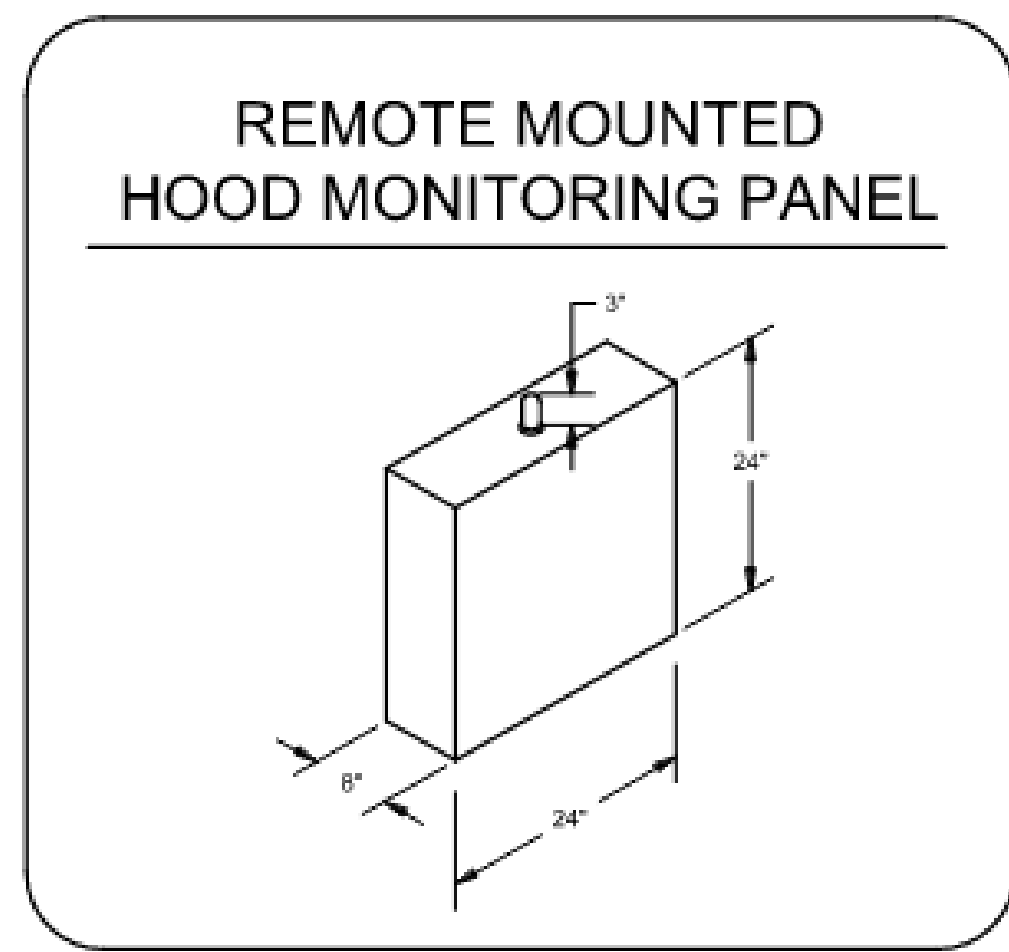
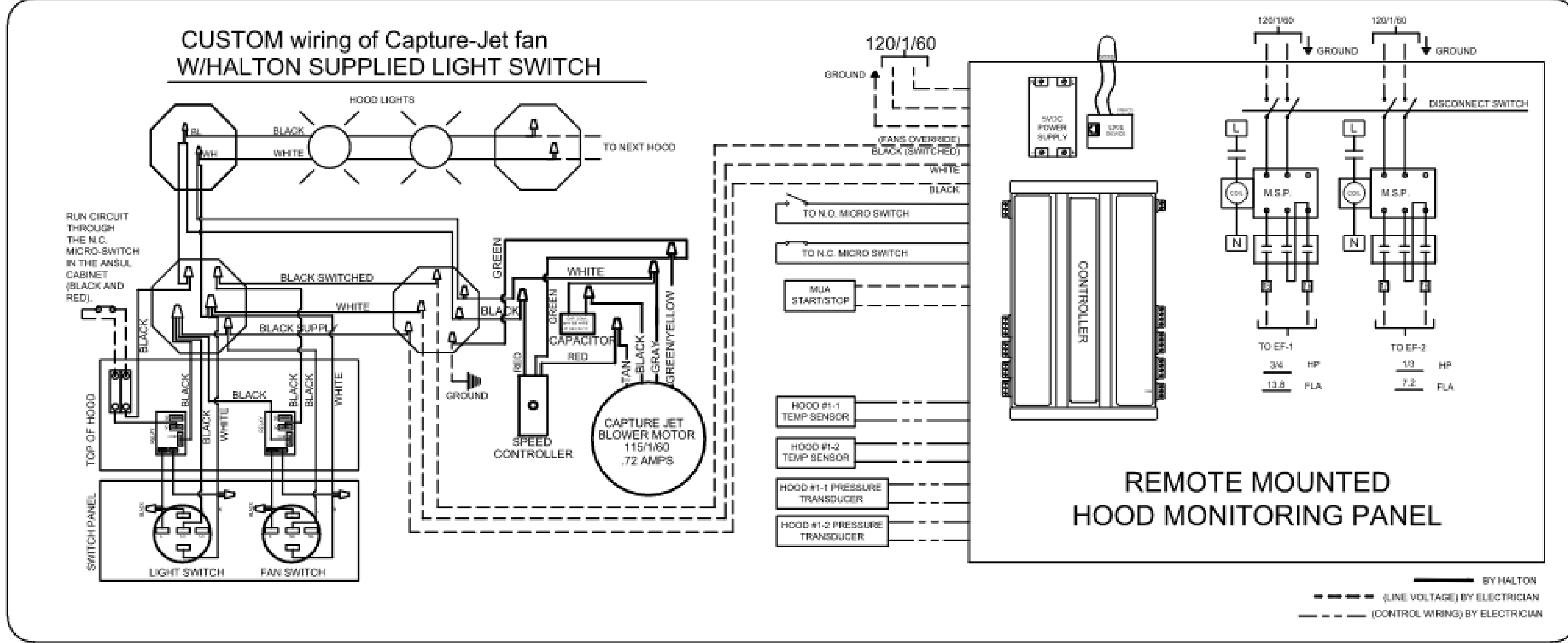
- EXHAUST FAN TO ENERGIZE TO 100% OF DESIGN AIRFLOW
- MUA FAN TO ENERGIZE TO 100% OF DESIGN AIRFLOW

TEMPERATURE SENSOR ACTIVATION:

- ONCE TEMP SENSOR INDICATES 95°F, THE EXHAUST FAN WILL ENERGIZE TO 100% OF DESIGN AIRFLOW.
- MUA FAN TO ENERGIZE TO 100% OF DESIGN AIRFLOW

ELECTRICAL CONNECTION SCHEDULE

CONNECTION #	CONNECTION DESCRIPTION	FROM	TO
E1-H	120V, 15AMP - CONTROL PANEL POWER - 3 WIRES	BUILDING SOURCE	HOOD 1-1
E2-H	FIELD CONNECTION FOR HOOD LIGHTS	HOOD 1-1	HOOD 1-2
E3-H	FIELD CONNECTION FOR FAN SWITCH - 3 WIRES 120V	HOOD 1-1	CONTROL PANEL
E4-MUA	START/STOP TO MUA UNIT - 2 WIRES	CONTROL PANEL	MUA UNIT
E5-MUA	CAT5 CABLE TO MUA UNIT	REMOTE PANEL	MUA UNIT
E6-H	FIELD CONNECTION FOR PRESSURE TRANSDUCER - 2 WIRES	CONTROL PANEL	HOOD 1-1
E7-H	FIELD CONNECTION FOR TEMP SENSOR - 2 WIRES	CONTROL PANEL	HOOD 1-1
E8-H	FIELD CONNECTION FOR PRESSURE TRANSDUCER - 2 WIRES	CONTROL PANEL	HOOD 1-2
E9-H	FIELD CONNECTION FOR TEMP SENSOR - 2 WIRES	CONTROL PANEL	HOOD 1-2
E10-H	120V/1PH - MOTOR STARTER POWER	BUILDING SOURCE	CONTROL PANEL
E11-H	120V/1PH - MOTOR STARTER POWER	BUILDING SOURCE	CONTROL PANEL
E12-H	FIELD CONNECTION TO NORMALLY OPEN MICRO-SWITCH	ANSUL SYSTEM	CONTROL PANEL
E13-H	FIELD CONNECTION TO NORMALLY CLOSED MICRO-SWITCH	ANSUL SYSTEM	CONTROL PANEL



DATE: _____

DRAWN BY: SKM DATE: 04.13.22

SCALE: NOT TO SCALE

CONSULTANT:

Halton

DRAWING No. **U22-298**

REV. NO. 1 SHEET NO. 6 of 6

PROJECT: SHAKE SHACK GARDEN CITY

LOCATION: CRANSTON, RI

DRAWING TITLE: DEMAND CONTROL DETAILS

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

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REVISION DESCRIPTION

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APPROVED FOR FABRICATION

WITH NO CHANGES

WITH CHANGES AS NOTED

DESIGNED BY

CHECKED BY

DATE

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FOR REFERENCE ONLY

NO.	BY	DATE	DESCRIPTION
1	HEI	2023-02-13	IFC SET
	HEI	2022-08-25	PERMIT SET
	HEI	2022-05-09	BID SET
	HEI	2022-04-18	75% SET
	HEI	2022-02-28	DD SET

SHAKE SHACK

SHAKE SHACK GARDEN CITY

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CRANSTON, RI 02920
SHACK #1458

IFC SET

HALTON DRAWINGS

DRAWN BY: _____ Author

CHECKED BY: _____ Checker

JOB NO. 21230.00

M706

NOTE:

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