

Shane R. Hamilton, P.E.
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 Tampa, FL 33603 (727) 642-5321

ATTENTION GENERAL CONTRACTOR:
 "RE-ENGINEERING" DEVIATIONS FROM THE SHOWN DESIGN AND REQUIRED HVAC EQUIPMENT MUST BE APPROVED IN ADVANCE BY THE ARCHITECT AND PROFESSIONAL ENGINEER. UNAUTHORIZED SUBSTITUTIONS OR ALTERATIONS WILL VOID THE SIGNATURE AND SEAL OF THE PROFESSIONAL ENGINEER AND LEAVE VIOLATORS RESPONSIBLE FOR RESUBMISSION OF SIGNED AND SEALED DRAWINGS.

DRAWING INFORMATION		
DATE	DESCRIPTION	BY
02-12-20	FOR CONSTRUCTION	KM

CONTRACTORS NOTES

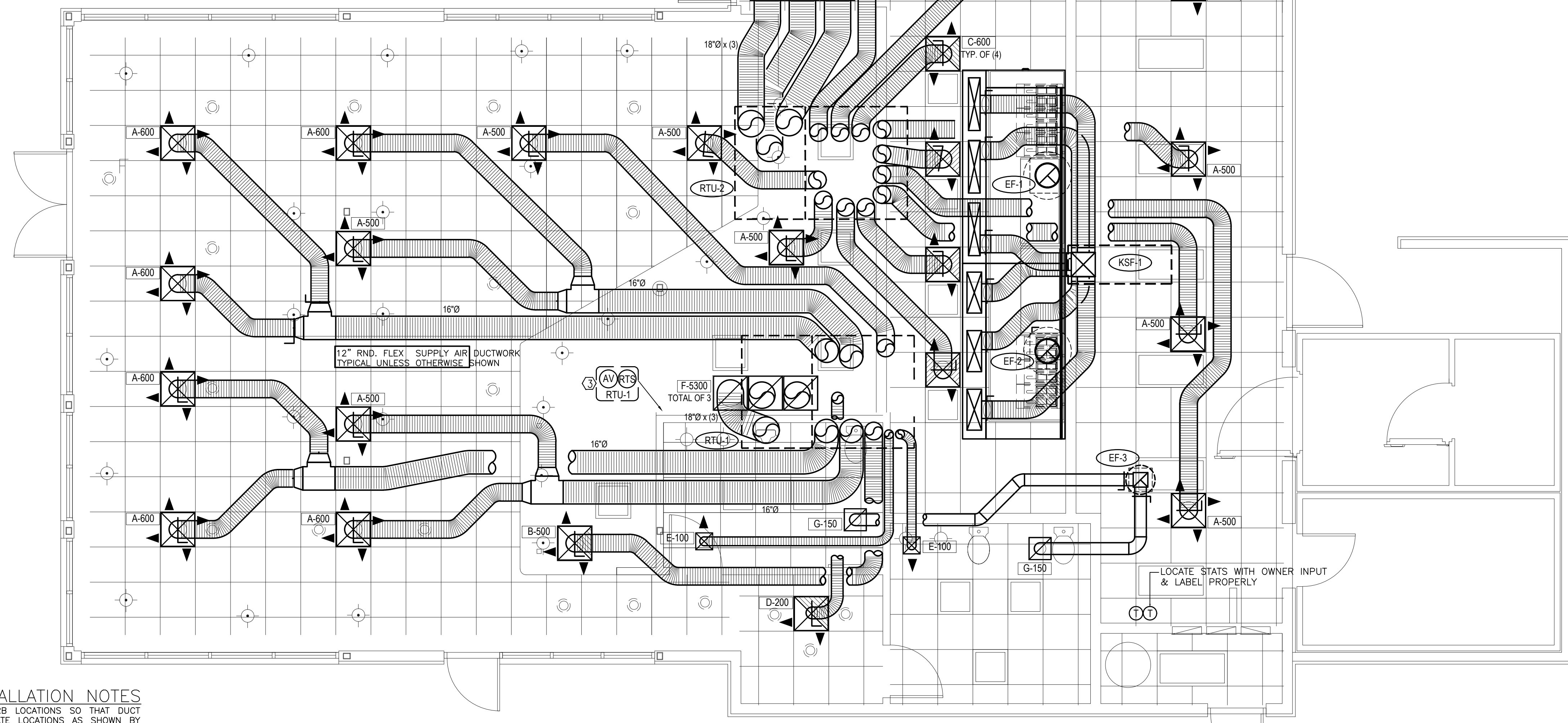
- HVAC CONTRACTOR**
- THE HVAC CONTRACTOR SHALL INSTALL ALL SCHEDULED ROOF TOP EQUIPMENT, ALL ASSOCIATED DUCTWORK AS SHOWN & NOTED, HVAC TEMPERATURE & LOW VOLTAGE COMPONENTS CONTROLS AS NOTED, SCHEDULED OR DETAILED. DRAWING INTENT ARE SCHEMATIC AND ROUTING OF DUCT MAY DIFFER. NOTIFY NCA FROM THE INFORMATION BLOCK ABOVE FOR SITE DISCOVERY THAT EMPEDES THE TRAVEL OF THE PROPOSED DUCT DESIGN'S.
 - THE HVAC CONTRACTOR SHALL TARGET EXHAUST COLLARS ON GREASE HOODS WITH PLACEMENT OF ROOF FAN CURB, TO ELIMINATE THE USE OF OFFSET(S). HVAC CONTRACTOR SHALL VERIFY HOOD POSITION ON SITE WITH THE G.C. PRIOR TO TARGETING OVERHEAD PENETRATIONS FOR FAN CURBS.
 - ALL ROOF CURBS ARE G-90 GALVANIZED METAL CONSTRUCTION WITH FULLY WELDED SEAMS, WATER TIGHT AND INTERNALLY INSULATED - FURNISHED BY NCA.
 - LIGHT SHIMMING SHALL BE PROVIDED BY HVAC CONTRACTOR BETWEEN THE ROOF DECK AND THE CURB AS REQUIRED TO LEVEL EQUIPMENT FROM ROOF PITCH.
 - ALL FLEX DUCT SHALL BE U.L. LISTED, R-6, FOIL OUTER JACKET, CLASS 1 AIR DUCT. FLEX DUCT SHALL BARE A RECTANGULAR OR SQUARE SYMBOL FOR UNLIMITED LENGTH OF RUN OUT OR AS PER LOCAL CODE. WITH FIRE AND SMOKE RATING [25]-[50].
 - ALL DUCTWORK TO BE INDEPENDENTLY HUNG FROM STRUCTURAL MEMBERS.
 - ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED PER SMACNA LOW-VELOCITY DUCT MANUAL (LATEST ISSUE).
 - UNLESS OTHERWISE NOTED, ALL SUPPLY TAKEOFFS SHALL HAVE A MANUAL VOLUME CONTROL DAMPER AS SYMBOLIZED IN PLAN VIEW.
 - THE HVAC CONTRACTOR SHALL COORDINATE DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
 - THE HVAC CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE COVERING A ONE-YEAR PERIOD FOR HVAC EQUIPMENT AND PROVIDE AN ADDITIONAL FOUR-YEAR PERIOD FOR THE COMPRESSORS IN THE RTU'S. ALL FANS TO BE U.L. LISTED.
 - A STATE LICENSED & CERTIFIED TEST AND BALANCE PROFESSIONAL SHALL PERFORM A COMPLETE AIR BALANCE PROCEDURE MATCHING THE AIR BALANCE SCHEDULE WITHIN THE ACCEPTABLE % RANGES. THEN, PROVIDE A CERTIFIED TEST AND BALANCE REPORT ON FINAL READINGS TO NCA CONSULTANTS.
 - THE HVAC CONTRACTOR SHALL MAKE ALL LOW-VOLTAGE WIRING FINAL CONNECTIONS FOR ALL HVAC EQUIPMENT INCLUDING TEMPERATURE CONTROLS, RTU'S, VISUAL/AUDIBLE ALARMS & SMOKE DETECTORS & OPTIONAL NIGHT SET PANEL (IF USED).

- GENERAL CONTRACTOR - ALSO SEE KEY NOTES ON M2 SHEET**
- IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO RECEIVE, OFFLOAD, AND STORE ALL HVAC MATERIALS DELIVERED TO THIS PROJECT LOCATION IN A SAFE DRY LOCATION. HOODS SHALL BE IN THE GENERAL AREA OF INSTALLATION INSIDE OF BLDG. AWAY FROM HIGH RISK AREAS - SUBJECT TO DAMAGE.
 - HVAC CONTRACTOR SHALL TARGET ALL ROOF SCHEDULED EQUIPMENT WITH RELATED CURBS TO THE CONDITIONS BELOW ROOF DECK. G.C. SHALL CERTIFY HOOD LOCATIONS WITH HVAC CONTRACTOR FOR THE COORDINATION OF HOOD VENTILATOR FAN LOCATIONS.
 - ALL ROOF, CEILING, WALL, AND STRUCTURAL FRAMING REQUIRED FOR UNIT, FAN, DUCT, DIFFUSER, AND ALL OTHER HVAC WORK NECESSARY, SHALL BE BY THE G.C. WITH COORDINATION FROM THE HVAC CONTRACTOR.

- ELECTRICAL CONTRACTOR**
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER AND CONTROL WIRING CONDUIT UP THROUGH ROOF & MAINTAIN 12" MINIMUM CLEARANCE FROM RTU & FAN CURBS AT NEAR POWER ENTRY. ELECTRICAL CONTRACTOR SHALL NOT PENETRATE OR ROUTE CONDUIT THROUGH ANY PORTION OF ROOF EQUIPMENT CURBS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECTS FOR ALL RTU'S & FAN EQUIPMENT, EXCLUDING EF-3 FAN. INTERNAL DISCONNECT DEVICE IS FURNISHED. THE ELECTRICAL CONTRACTOR SHALL ALLOW ADDITIONAL SEALTITE FLEXIBLE CONDUIT WHEN WIRING KITCHEN HOOD EXHAUST FANS ON ROOF SO THAT FANS MAY BE REMOVED FROM CURBS AND PLACED ON ROOF FOR CLEANING EXHAUST DUCTWORK.
 - ELECTRICIAN SHALL PROVIDE SINGLE/DOUBLE GANG BOXES & STUBBED UP WALL CONDUIT AT SPECIFIED LOCATIONS FOR ALL LOW VOLTAGE COMPONENTS FOR CHASING LOW VOLTAGE WIRE, INCLUDING T-STAT, ANNUNCIATORS & TEST STATIONS - CONSULT HVAC CONTRACTOR FOR LOCATIONS & DESCRIPTION.

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ANY REQUIRED SMOKE ALERT STROBES IN RESTROOMS OR ANY OTHER ROOM TO COMPLY WITH LOCAL CODE. DAISY CHAIN LOOPING OF OCCUPIED ZONE ALARMS OR DESIGNATED DRY CONTACTS AT RTU SMOKE DETECTION DEVICES SHALL BE OBSERVED FOR CIRCUIT CONTROL.
- E.C. SHALL PROVIDE ANY ADDITIONAL INTERLOCKING DEVICES REQUIRED BY LOCAL CODE BETWEEN THE HVAC EQUIPMENT, EXHAUST FANS, AND HOODED COOKING APPLIANCES TO WORK IN CONJUNCTION WITH THE FIRE SUPPRESSION SYSTEM. SEE CAPTIVE AIRE HOOD ELECTRICAL PKG. LADDER DIAGRAM FOR ASSISTANCE TO THE DRY CONTACT CONNECTS REQUIRED FOR THE NFPA-96.
- FOR DEVELOPMENT OF A MASTER CONTROL PANEL THAT COMPLETES ALL DRY CONTACTS ON LOW & HIGH VOLTAGE LOOPS, THE ELECTRICAL DESIGN TEAM SHALL PROVIDE PROPOSED DISTRIBUTION PLAN, & KITCHEN EQUIP. SCHEDULES SHALL BE OFFERED BY THE SELECTED KIT. EQUIP. PROVIDER FOR CONTACTOR SIZING & CORRECT DESIGNATIONS.

- PLUMBING CONTRACTOR**
- THE PLUMBING CONTRACTOR SHALL PROVIDE CONDENSATE DRAINS/GAS PIPING FOR ALL RTU'S. PLUMBING CONTRACTOR SHALL NOT PENETRATE OR MOUNT TO ANY PORTION OF RTU CURB.
 - THE PLUMBING CONTRACTOR TO COORDINATE PLUMBING VENT STACKS WITH OUTSIDE AIR INTAKES OF A/C UNITS. MAINTAIN 10'-0" MINIMUM CLEARANCE OR PER LOCAL CODE. OFFSETS SHALL BE MADE BELOW ROOF DECK.
 - THE PLUMBING CONTRACTOR SHALL PROVIDE GAS PIPING AND INSTALL FLUE GAS EXHAUST VENT FOR WATER HEATER AS REQUIRED - BY MANUFACTURERS RECOMMENDATIONS. COMBUSTION VENT SHALL MAINTAIN 10'-0" SEPARATION TO FRESH AIR INTAKES.



FLOOR PLAN - HVAC
 SCALE 1/4" = 1' - 0" WHEN PLOTTED 36" X 24" 191071

PLENUMIZED CURB INSTALLATION NOTES

- CAREFULLY LOCATE AND MARK ROOF CURB LOCATIONS SO THAT DUCT WORK CAN BE INSTALLED IN THE APPROXIMATE LOCATIONS AS SHOWN BY THE FLOOR PLAN. PAY ATTENTION TO THE LOCATION OF THE ROOF STRUCTURE IN ORDER TO ACCOMMODATE THE DUCT DROPS.
- MARK THE EXACT LOCATION OF EACH ROOF CURB. LAY OUT ALL EQUIPMENT LOCATIONS IN ORDER TO MAINTAIN PROPER CLEARANCES FROM EXHAUST FANS AND VENTS AS WELL AS PROVIDING FOR PROPER SERVICE CLEARANCES.
- GENERAL CONTRACTOR SHALL CUT ROOF DECKING MATERIAL TAKING CARE TO AVOID CUTTING ANY STRUCTURAL COMPONENTS. GENERAL CONTRACTOR SHALL ALSO INSTALL ANY NECESSARY FRAMING OR BLOCKING AT OPENINGS.
- WITH ROOF CURB UPSIDE DOWN (SOLID METAL BOTTOM UP) MEASURE AND MARK THE LOCATION OF ANY JOISTS OR OTHER FRAMING MEMBERS THAT MUST BE AVOIDED. MEASURE AND MARK THE LOCATION OF ALL THE DUCT TAPS.
- CUT ALL DUCT TAPS INTO THE BOTTOM PANEL OF THE ROOF CURB. BE CAREFUL NOT TO DAMAGE THE ROOFING SURFACE WHILE MAKING THESE CUTS.
- INSTALL DUCT TAP FITTINGS AND MANUAL DAMPERS INTO THE OPENINGS PREVIOUSLY CUT. SEAL ALL CONNECTIONS ON BOTH THE BOTTOM AND THE TOP SIDES OF THE TAPS.
- FLATTEN TAB OF START COLLAR INSIDE CURB. TIGHT AGAINST INSULATION. SEAL INSIDE OF COLLAR AND TABS TO INSULATION USING MASTIC DUCT SEALER. ALLOW SEALER TO DRY PRIOR TO PROCEEDING.
- APPLY DUCT SEALER TO OPEN END OF COLLAR. SLIDE INNER CORE OF FLEXIBLE DUCT ONTO COLLAR, AND CONNECT PANDUIT STRAP PER MANUFACTURERS INSTRUCTIONS.
- SLIDE OUTER INSULATION SLEEVE OF FLEX TIGHT TO BOTTOM OF CURB. SEAL INSULATION TO BOTTOM OF CURB WITH PRESSURE-SENSITIVE FOIL TAPE. DO NOT USE TAPE MEANT FOR RIGID DUCTBOARD. SQUEEGEE OUT ALL AIR BUBBLES FOR PROPER ADHESION.
- TURN CURB RIGHT SIDE UP. LEVEL CURB BETWEEN BOTTOM OF CURB AND DECK. INSTALL IN ROOF OPENING. SECURE CURB TO ROOF FRAMING AS REQUIRED.
- GENERAL CONTRACTOR OR ROOFING CONTRACTOR SHALL FLASH AND ROOF IN THE CURB AS DETAILED ON THE DRAWINGS.
- INSIDE BUILDING, THE DUCT RUNS SHALL BE INSTALLED FROM THE TAPS TO THE DIFFUSER LOCATIONS AS SHOWN ON THE PLANS. SUPPORT PER SMACNA AND LOCAL CODES.
- NOTE: IF NECESSARY, FLEX DROPS MAY BE CONNECTED TO TAPS AFTER CURB HAS BEEN INSTALLED. REFER TO STEPS #8 AND #9.

AIR BALANCE SCHEDULE - (80% MUA SYSTEM)						
TAG	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR	BLDG. PRESSURE	% OUTSIDE AIR
RTU1	6000 CFM	700 CFM	5300 CFM	---	+700 CFM	14
RTU2	6000 CFM	800 CFM	5200 CFM	---	+800 CFM	16
KSF1	---	3400 CFM	---	---	+3400 CFM	---
EF1	---	---	---	2150 CFM	-2150 CFM	---
EF2	---	---	---	2150 CFM	-2150 CFM	---
EF3	---	---	---	300 CFM	-300 CFM	---
TOTAL	12000 CFM	4900 CFM	10500 CFM	4600 CFM	+300 CFM	---

FAN SCHEDULE			
TAG	EF-1 & 2	KMUA-1	EF-3
MANUFACTURER	CAPTIVE AIRE	CAPTIVE AIRE	CAPTIVE AIRE
MODEL	DURSHFA	A2-D.250-20D-MTR10HFA	
LOCATION	ROOF	ROOF	ROOF
AREA SERVED	KITCHEN	MUA PLENUM	RESTROOMS
CFM	2150	3400	300
STATIC PRESS. "WG	.9	1.25	0.25
FAN HORSEPOWER			
FAN RPM			
DRIVE			
ELECTRICAL V @/HZ	SEE FAN DATA ON M SHEETS		
ROOF OPENING			
ROOF CURB			
FAN WIEGHT			
BACKDRAFT DAMPER	NO	NO	YES
BIRDSCREEN	NO	NO	YES
GREASE TROUGH	YES	YES	NO
INTERLOCK	YES	YES	NO
* SEE AIR BALANCE SCHEDULE, THIS SHEET			

PACKAGE ROOFTOP UNIT SCHEDULE (RTU)	
TAG	RTU-1 & 2
MANUFACTURER	CARRIER
MODEL	48TCED18A245 (15 TON)
LOCATION, CURB DIMENSIONS	ROOF, 117" X 76.9"
TYPE OF HEAT	NATURAL GAS
TOTAL COOLING, MBTU/HR	201.6
SENSIBLE COOLING, MBTU/HR	135.3
ENTERING AIR, DB°F/WB°F	80/67
AMBIENT AIR TEMPERATURE, °F	95
SUPPLY AIR, CFM	6000
OUTSIDE AIR, CFM	SEE SCHEDULE
EXTERNAL STATIC PRESSURE, "WG	0.75
BHP	3.3
E.F.R.	10.8 / 11.0
GAS INPUT MBTU/HR	248/200
GAS OUTPUT MBTU/HR	310/251
UNIT WEIGHT, LBS.	2330
ELECTRICAL REQ'T, V @/HZ	208-230/3/60
MINIMUM CIRCUIT AMPERAGE	81.8
M.O.C.P.	100
ACCESSORIES:	
1. 100% ECONOMISER W/BAROMETRIC RELIEF WITH 25% AIR DURING WORK HOURS, TO SHUT DOWN DURING NIGHT SETBACK	
2. NCA PLENUMIZED CURB. TO ORDER CALL TOLL-FREE (877) 530-0078.	
3. ONE-YEAR COMPLETE PARTS AND LABOR WARRANTY	
4. ADDITIONAL FOUR-YEAR PARTS WARRANTY COVERING COMPRESSORS	
5. SMOKE DETECTOR (SEE HVAC ROOF PLAN, SHEET M-2)	
6. PROGRAMMABLE T-STATS WITH REMOTE SENSORS	
7. PROVIDED MODEL #AG3180E MOISTURE SENSOR BY AQUA GUARD IN PRIMARY DRAIN PAN. FIELD INSTALL BY FACTORY INSTALLATION GUIDE.	

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AIR DEVICE SCHEDULE								
SYM	SIZE	TYPE	DUCT SIZE	MODEL#	FINISH	BOOT SIZE	OPENING SIZE	QTY
A	24X24	SUPPLY 4 WAY	12"Ø	NCA12	WHITE	12"Ø	T-BAR	15
B	24X24	SUPPLY 3 WAY	12"Ø	NCA12-3P	WHITE	12"Ø	T-BAR	2
C	24X24	SUPPLY 2 WAY PARALLEL	12"Ø	NCA12-2P	WHITE	12"Ø	T-BAR	4
D	24X24	SUPPLY 2 WAY CORNER	8"Ø	NCA08-2C	WHITE	8"Ø	T-BAR	1
E	12X12	SUPPLY 1 WAY W/O.B.D.	6"Ø	RH-1	WHITE	6"Ø	SIZE + 1/4"	2
F	24X24	RETURN	18"Ø	RH-6	WHITE	22"x22"	T-BAR	6
G	12X12	EXHAUST	8"Ø	RH-1	WHITE	12"x12"	SIZE + 1/4"	2

ALL AIR DEVICES SHALL BE MANUFACTURED BY METALAIR AND 100% ALUMINUM CONSTRUCTION
 ALL AIR DEVICES SHOWN WITH DAMPER SYMBOL SHALL BE FIT WITH SLIDING BLADE RADIAL DAMPERS - MODEL PVCR3 BY PRICE OR EQUAL
 ALL AIR DEVICES NOT SHOWN WITH DAMPERS SHALL HAVE DAMPER INSTALLED IN BRANCH TAKE-OFF. TEE BRANCHES ARE ALSO SHOWN TO HAVE DAMPERS

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HVAC FLOOR PLAN, NOTES, AND SCHEDULES

REVISIONS BY

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 STATE OF NORTH CAROLINA
 LICENSE #RA11925

DATE: 1. 24. 20
 SCALE: AS NOTED
 PROJECT MGR: DG
 DRAWN:
 JOB: 19-142
 SHEET: M1.0

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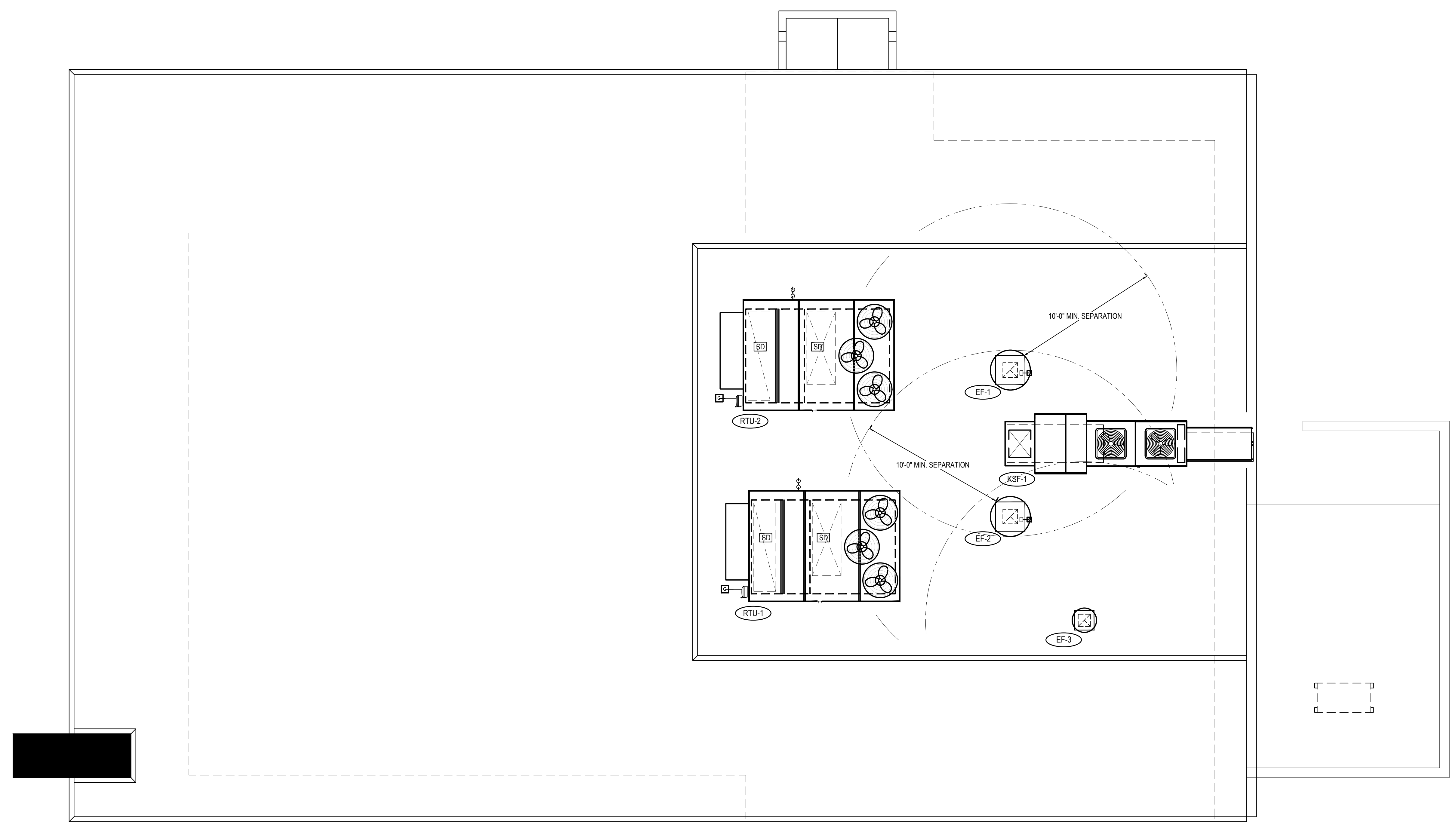
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 LICENSE #RA11925

BURGERS SHAKES FRIES
 NORTH MAIN STREET (HWY 210)
 Lillington, Harnett County, N.C.

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ROOF PLAN — HVAC
SCALE 1/4" = 1' - 0" WHEN PLOTTED 36" X 24"

NOTE: CARRIER STYLE EQUIPMENT CURB SHOWN

CURB WIEGHTS AND ACCESSORIES	
UNIT NUMBER	RTU-1 & 2
UNIT NUMBER	CARRIER 15-TON
UNIT MODEL	48TCDA17
TOTAL WIEGHT WITH CURB	2300#
CORNER WIEGHT WITH CURB	613#
CORNER WIEGHT WITH CURB	628#
CORNER WIEGHT WITH CURB	667#
CORNER WIEGHT WITH CURB	655#
OPTION WIEGHT - (ECONOMIZER)	100#
TOTAL WIEGHT WITH CURB & ACCESSORIES	2500#

○ CURB — RTU DETAIL — TYP. WITH WEIGHT
NOT TO SCALE

- LOCATION OF ELECTRICAL DISCONNECT AND CONTROL WIRING ENTRANCE. REFER TO ELECTRICAL PLANS (TYPICAL).
- NATURAL GAS CONNECTION. REFER TO PLUMBING DRAWINGS FOR PIPING AND DETAILS (TYPICAL).
- CONDENSATE DRAIN WITH EXTERNAL, 4" DEEP P-TRAP INSTALLED BY HVAC CONTRACTOR. PLUMBING CONTRACTOR SHALL EXTEND DRAIN TO ACCEPTABLE LOCATION (TYPICAL).
- SMOKE DETECTOR. INSTALL IN RETURN SECTION WITH SAMPLING TUBE IN RETURN AIRSTREAM (TYPICAL).
- FRESH AIR INTAKE WITH 100% ECONOMIZER & BAROMETRIC RELIEF. MAINTAIN 10'-0" MINIMUM FROM ANY EXHAUST OR PLUMBING VENTS, INCLUDING ADJACENT SPACES (TYPICAL).

○ ROOF EQUIP. CURB MOUNTING DETAIL — TYPICAL
NOT TO SCALE

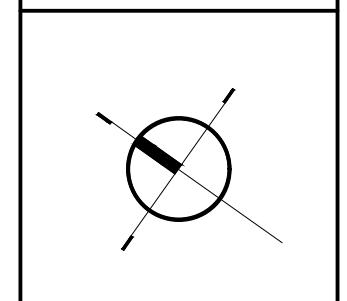
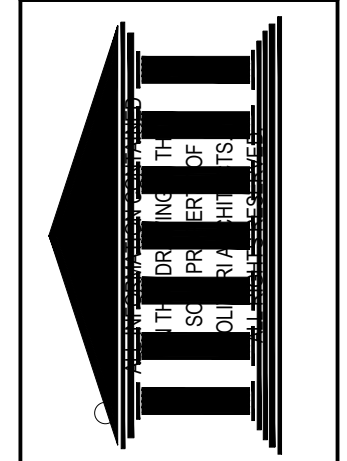
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HVAC ROOF PLAN AND HVAC DETAILS

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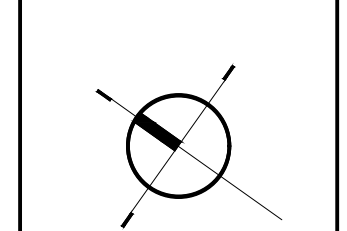
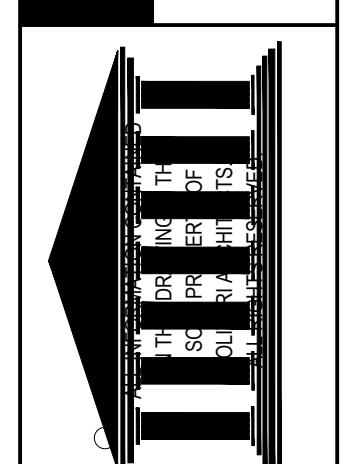
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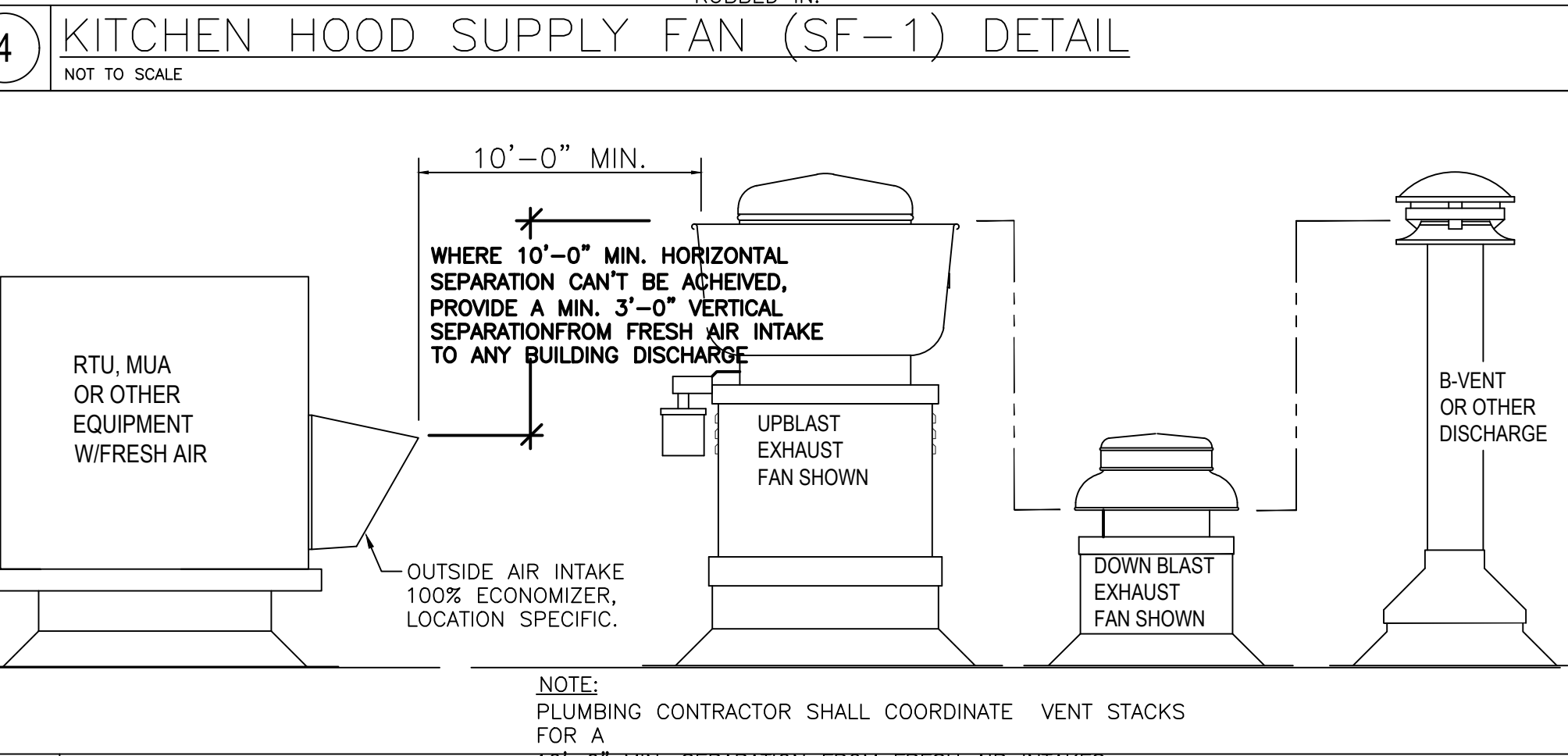
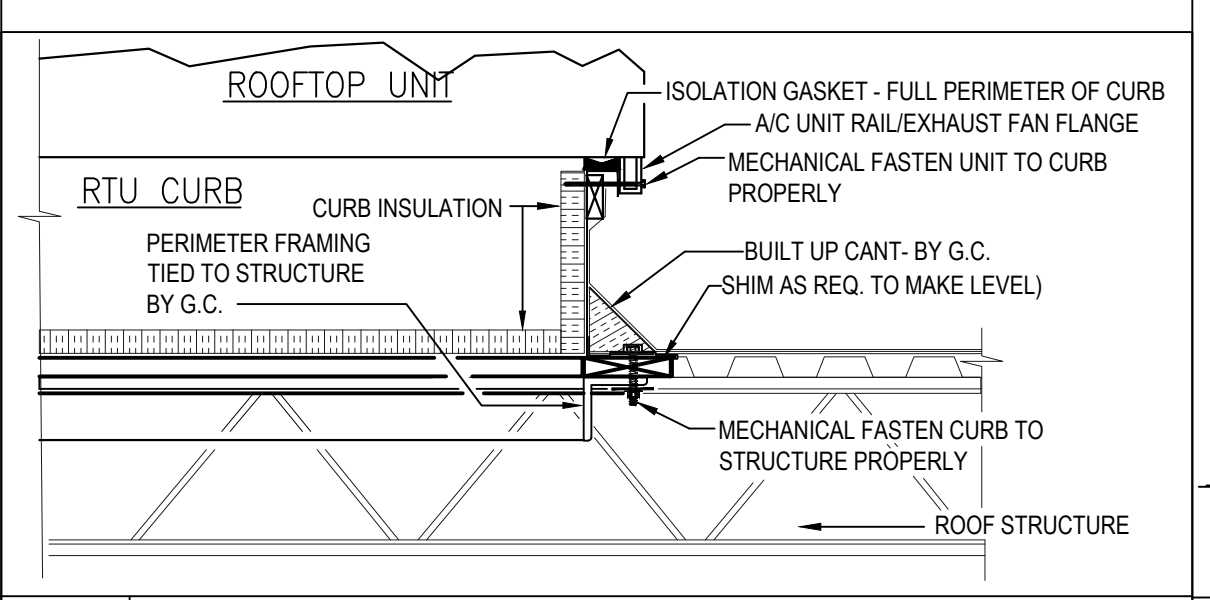
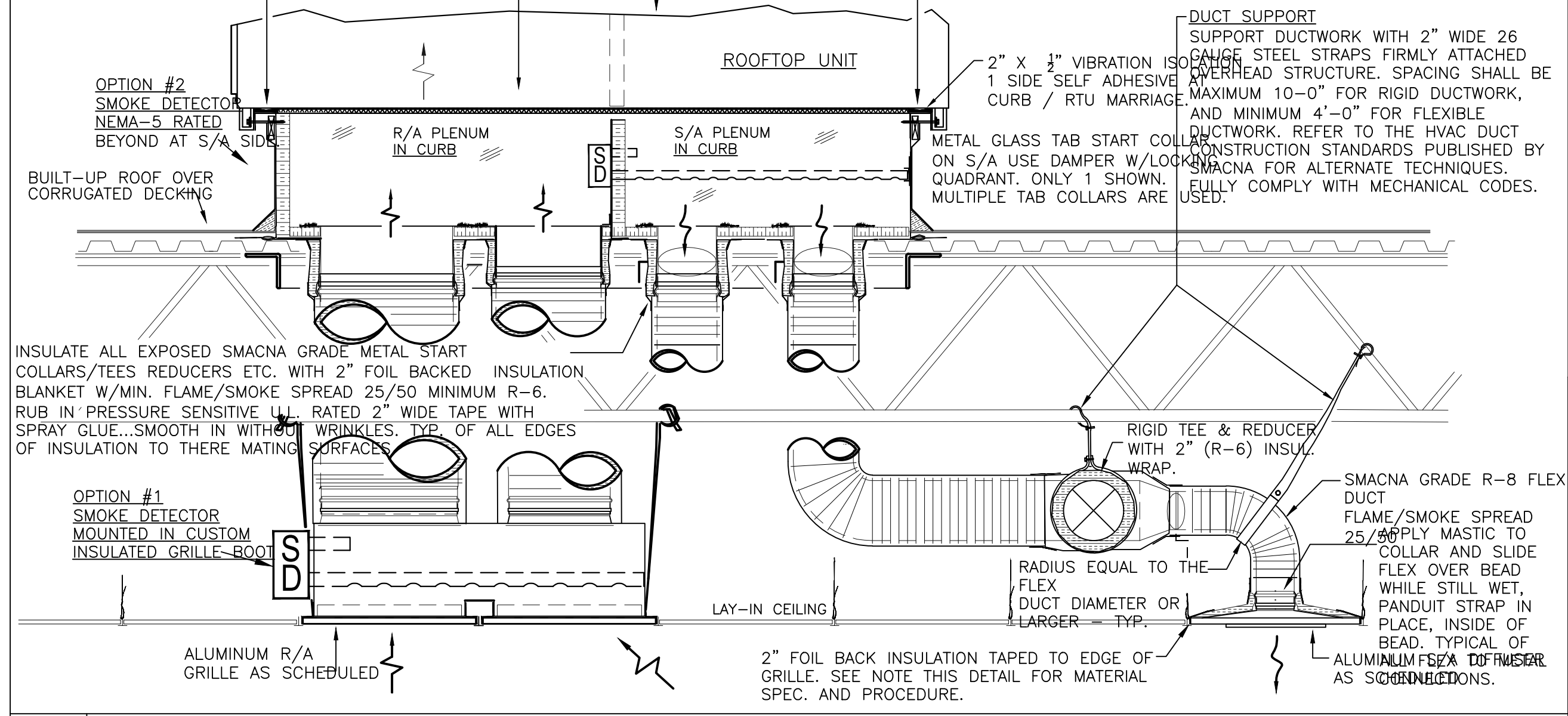
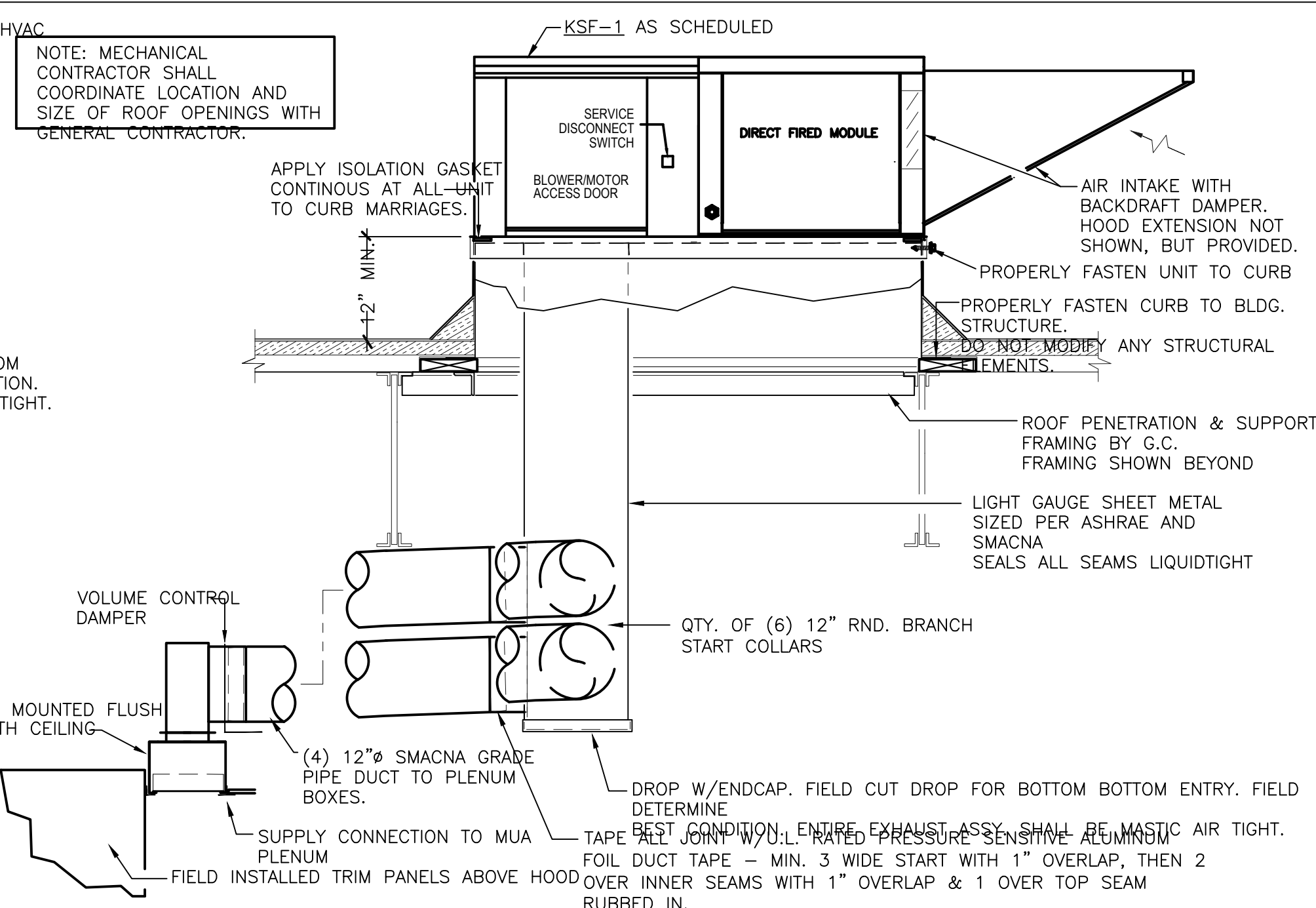
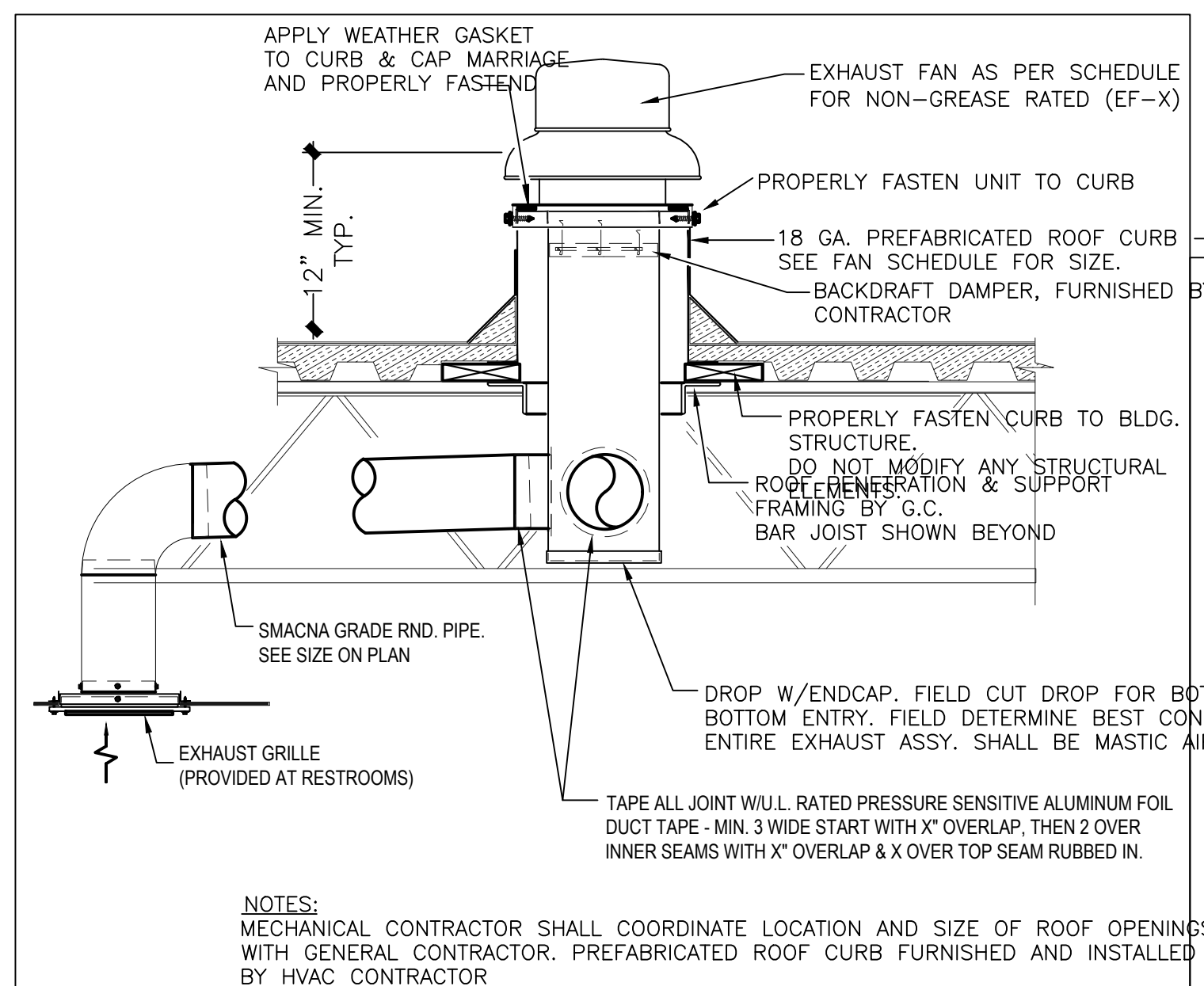
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 - GENERAL CONTRACTOR OR ROOFING CONTRACTOR SHALL FLASH AND ROOF IN THE CURB AS DETAILED ON THE DRAWINGS.
 - DUCT RUNS SHALL BE INSTALLED FROM THE TAPS TO THE DIFFUSER LOCATIONS AS SHOWN ON THE PLANS.
 - WRAP RIGID DUCT WORK AND DUCT TAPS WITH SPECIFIED DUCT INSULATION. SEAL AND TAPE INSULATION AROUND EACH DUCT TAP AND TO THE BOTTOM OF THE CURB.



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HVAC DETAILS

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HOOD INFORMATION - Job#3949323

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	APPLIANCE DUTY	DESIGN CFM/RT	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S)				TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG.			
								WIDTH	LENG.	HEIGHT	DIA.			CFM	VEL.	S.P.	END TO
1		5424 ND-2-PSP-F	10' 0"	600 Deg.	Heavy	215	2150		4"	16"	2150	1540	-0.448"	1806	430 SS Where Exposed	LEFT	ALONE
2		5424 ND-2-PSP-F	10' 0"	600 Deg.	Heavy	225	2250		4"	16"	2250	1611	-0.491"	1710	430 SS Where Exposed	RIGHT	ALONE

PATENT NUMBERS
 AC-PSP (United States) - US Patent 7963830 B2
 AC-PSP Wall (Canada) - CA Patent 2820509
 AC-PSP Island (Canada) - CA Patent 2520330

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT		
		TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY.	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM	ELECTRICAL			SWITCHES	
1		SS Baffle with Handles	7	16"	16"	30%	6	L55 Series E26	NO	Left	12"x54"x24"	Ansel R102	3.0/3.0/3.0	SC-122220FP	2 Light 2 Fan	YES	697 LBS
2		SS Baffle with Handles	7	16"	16"	30%	6	L55 Series E26	NO							YES	558 LBS

HOOD OPTIONS

HOOD NO.	TAG	OPTION
1		FIELD WRAPPER 17.00" High Front, Left BACKSPLASH 80.00" High X 252.00" Long 430 SS Vertical INSULATION FOR BACK OF HOOD
2		FIELD WRAPPER 17.00" High Front, Right BACKSPLASH 80.00" High X 120.00" Long 430 SS Vertical INSULATION FOR BACK OF HOOD

PERFORATED SUPPLY PLENUM(S)

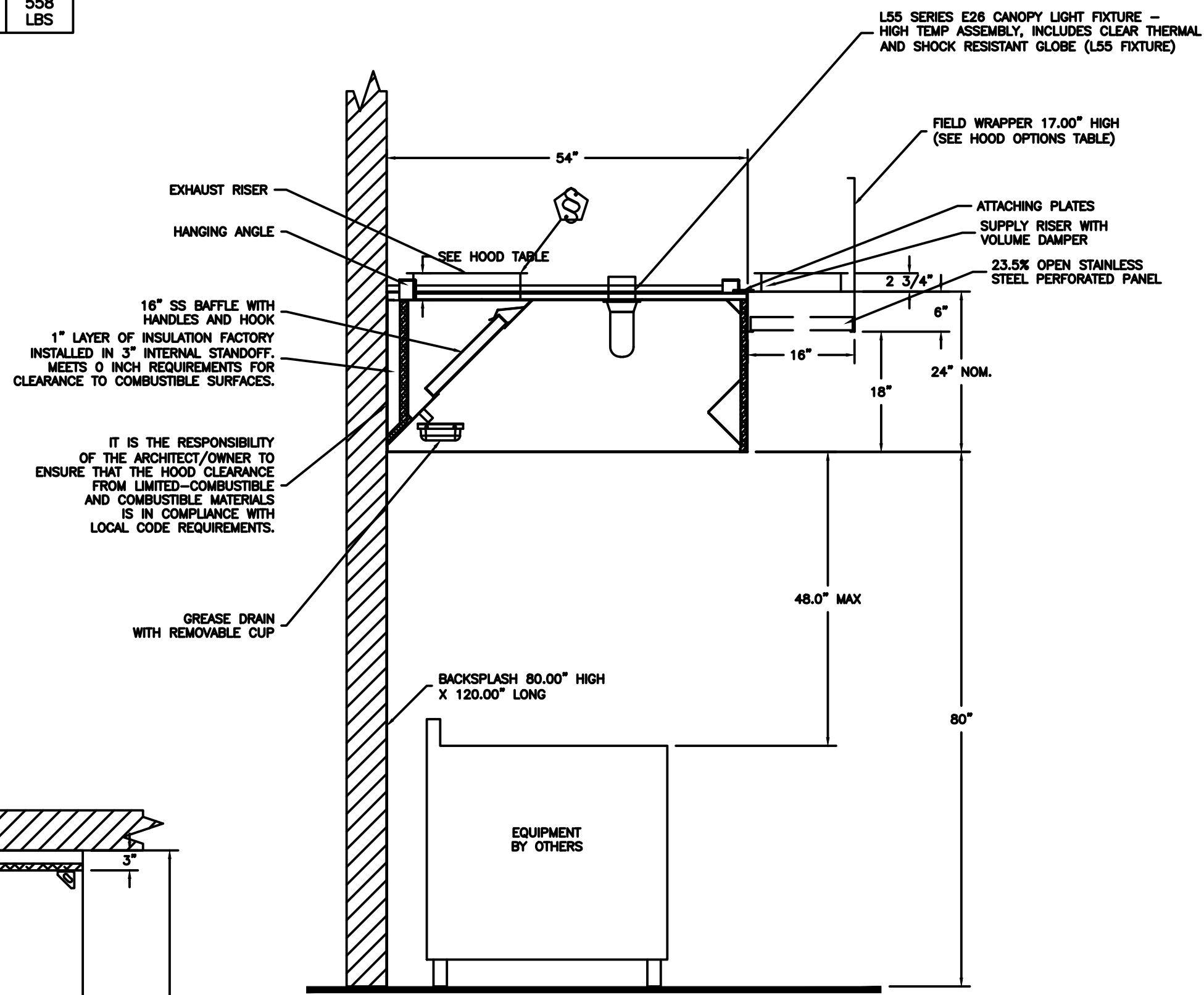
HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)			
							WIDTH	LENG.	DIA.	S.P.
1		Front	132"	16"	6"	MUA	8"	36"	802	0.163"
							8"	36"	802	0.163"
							8"	36"	802	0.163"
							10"	28"	570	0.151"
2		Front	120"	16"	6"	MUA	10"	28"	570	0.151"
							10"	28"	570	0.151"
							10"	28"	570	0.151"
							10"	28"	570	0.151"

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

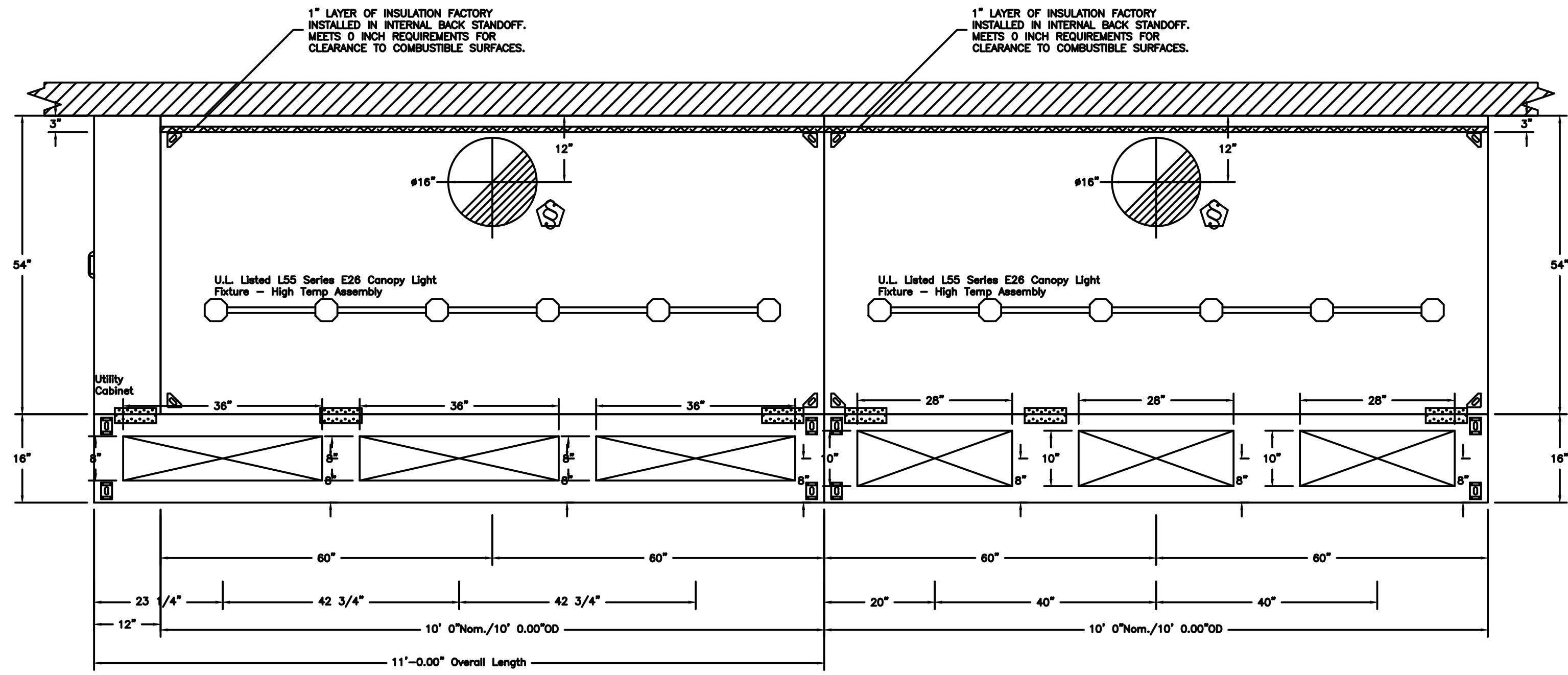
CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

NFPA #96
 NSF
 UL 710 & ULC710 STANDARDS
 E.T.L. LISTED 3054804-001

FOR QUESTIONS
 CONTACT: JOE WYLIE
 NORTH CAROLINA REGIONAL OFFICE
 PHONE: (919) 825-3566
 EMAIL: REG36@CAPTIVEAIRE.COM FAX: (919) 227-5917

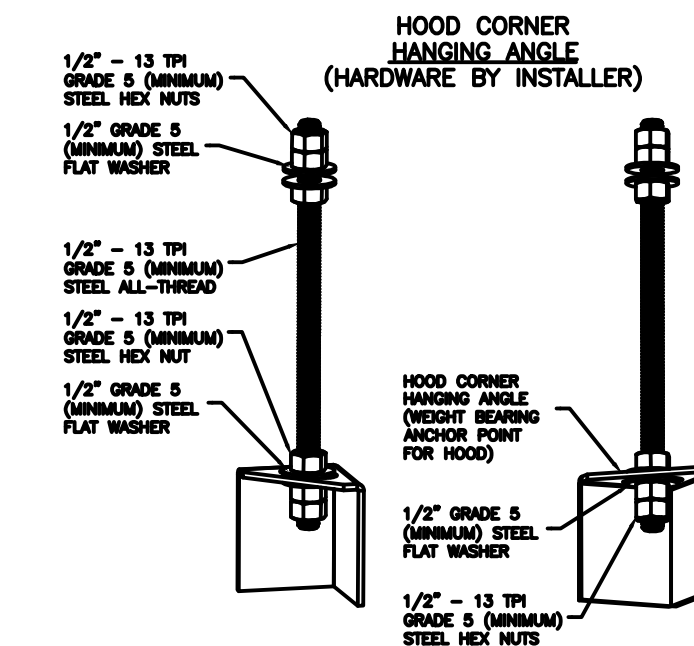


SECTION VIEW - MODEL 5424ND-2-PSP-F HOOD - #2



PLAN VIEW - Hood #1
 10' 0.00" LONG 5424ND-2-PSP-F

PLAN VIEW - Hood #2
 10' 0.00" LONG 5424ND-2-PSP-F



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD, SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT.-LBS.

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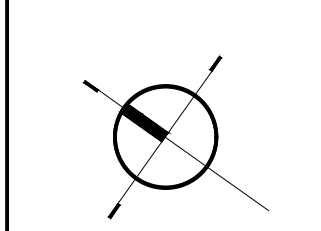
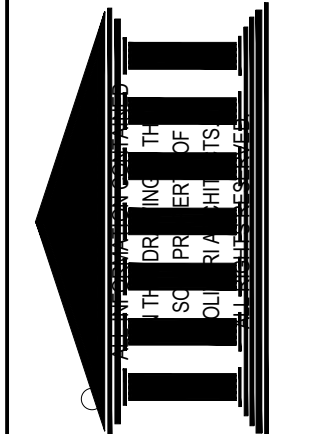
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Highway 55
BURGERS SHAKES FRIES
 NORTH MAIN STREET (HWY 210)
 Lillington, Harnett County, N.C.

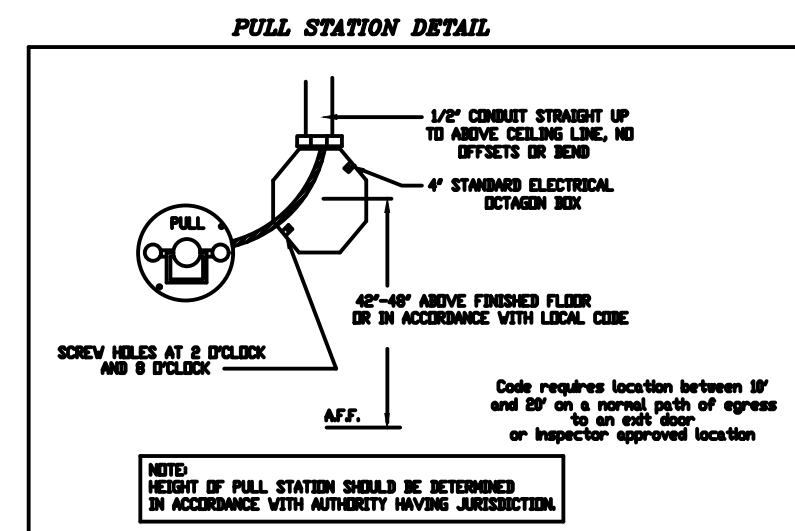
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Scale:	AS NOTED
Project Mgr:	DG
Drawn:	
Job:	19-142
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DATE	DESCRIPTION	BY
02-12-20	FOR CONSTRUCTION	KM

REVISIONS	BY

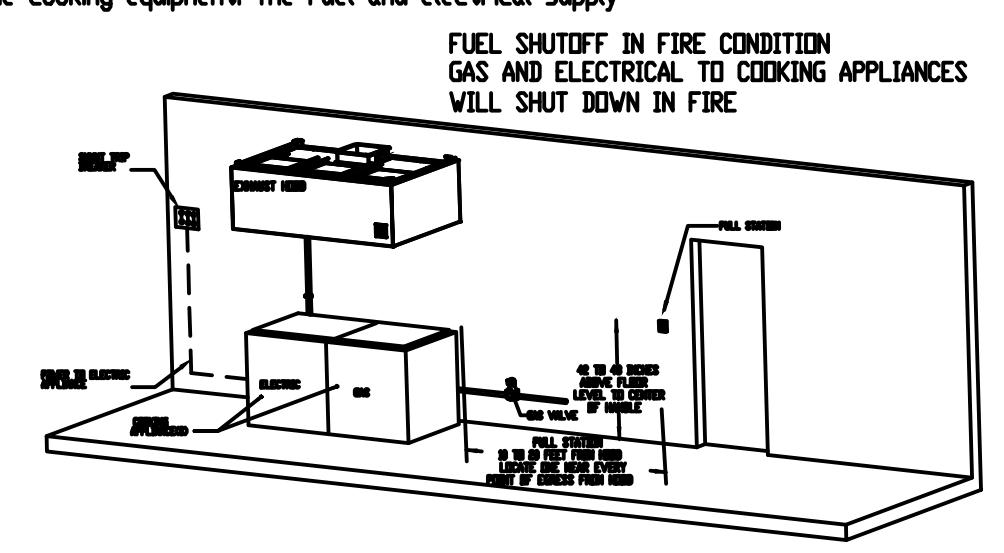
UL 300 HOOD FIRE SUPPRESSION SYSTEM



- FIRE SYSTEM OPERATION**
- Kitchen hood shall be constructed and installed per NFPA 96.
 - Hood Electrical Control Panel and Fire Control System shall shut down kitchen hood make up air fan upon activation of fire extinguishing system. Kitchen hood exhaust fan shall continue to operate or power on upon activation. The hood electrical panel and fire system will provide interlock for automatic operation of fire suppression system with:
 - Mechanical gas valve (installed by mechanical/plumbing contractor, if gas used)
 - Hood supply and exhaust fan (wiring by elec)
 - Remote manual pull station (by hood fire system distr)
 - Fire alarm system notification (if Bldg Fire Alarm present, by Fire Alarm Contractor)
 - See Hood details for drawings
 - All exposed piping with fire suppression system shall be covered with a chrome sleeve.
 - Mechanical contractor shall install conduit in wall for manual pull station. Pull Station shall be located at or near a means of egress from the cooking area.
 - Fire suppression system shall be in accordance with UL 300.

All Fire System Piping will be 3/8" schedule 40 black iron.

NC FIRE CODE 90A.112
System Interconnection
The Actuation of the fire extinguishing system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The Fuel and electrical supply reset shall be manual.



CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

NFPA #96
NSF
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

FOR QUESTIONS
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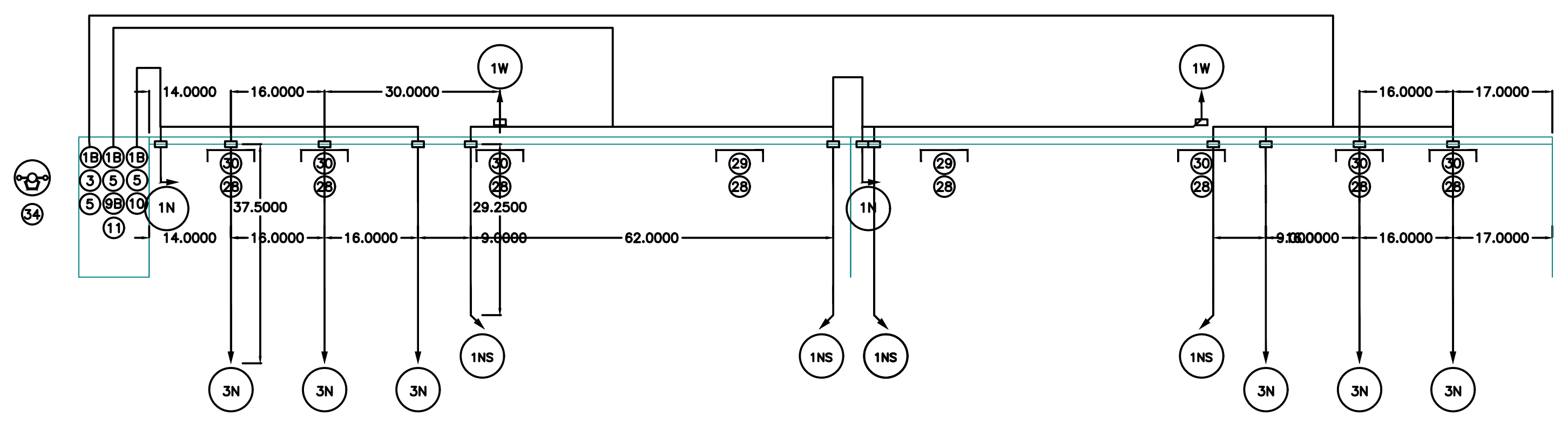
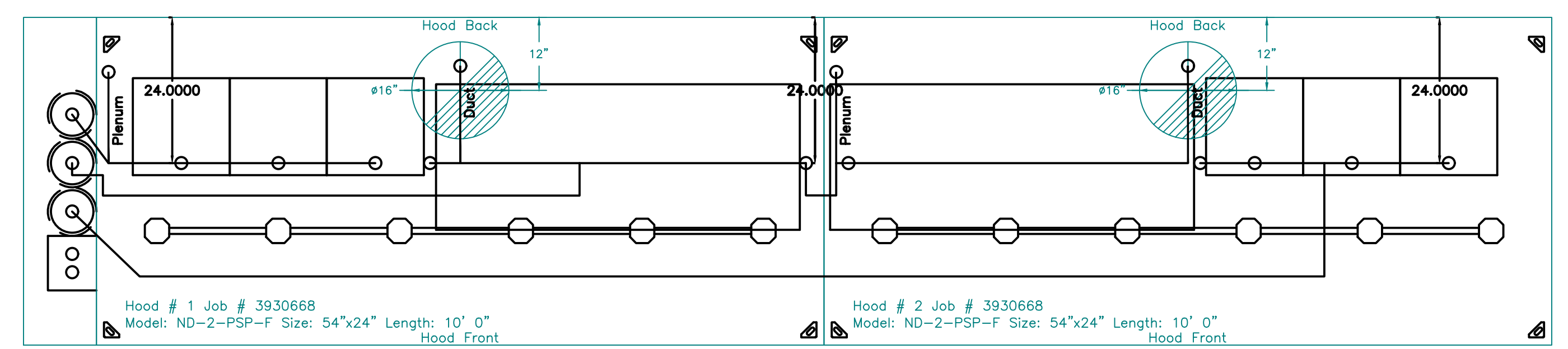
- NOTES**
- FIELD PIPE DROPS AS SHOWN
 - SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS
 - RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
 - MAXIMUM 9 ELBOWS IN SUPPLY LINE.
 - MINIMUM 72 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE.
 - IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
 - FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.
 - APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.
 - THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS

Job #: 3930668
Job Name: HWY 55-20FT PROTO-NCA 19606

System Size: ANSUL-3.0/3.0/3.0 Total FP required: 26
Hood # 1 10' 0.00" Long x 54" Wide x 24" High
Riser # 1 Size: 16" Dia.
Hood # 1 Metal Blow-Off Caps included.
Hood # 2 10' 0.00" Long x 54" Wide x 24" High
Riser # 1 Size: 16" Dia.
Hood # 2 Metal Blow-Off Caps included.

LEGEND - FIRE CABINET ANSUL SYSTEM

- 1A 1.5 GALLON TANK
- 1B 3 GALLON TANK
- 2 OEM AUTOMAN RELEASE
- 3 OEM REGULATED RELEASE
- 4 OEM REGULATED ACTUATOR
- 5 ANSULEX LIQUID AGENT (3 GAL.)
- 6 ANSULEX LIQUID AGENT (1.5 GAL.)
- 7 CARTRIDGE (101-20)
- 8 CARTRIDGE (101-10)
- 9 CARTRIDGE (101-30)
- 9A CARTRIDGE (LT-A-101-30)
- 9B DOUBLE TANK CARTRIDGE
- 10 TEST LINK
- 11 DOUBLE MICROSWITCH
- 12 HOSE ASSEMBLY
- 1100 DUCT NOZZLE (430913)
- 2W DUCT NOZZLE (419337)
- 1W NOZZLE ASSEMBLY (419336)
- 1F NOZZLE ASSEMBLY (419333)
- 1N NOZZLE ASSEMBLY (419335)
- 1/2N NOZZLE ASSEMBLY (419334)
- 3N NOZZLE ASSEMBLY (419338)
- 245 NOZZLE ASSEMBLY (419340)
- 230 NOZZLE ASSEMBLY (419339)
- 2120 NOZZLE ASSEMBLY (419343)
- 290 NOZZLE ASSEMBLY (419342)
- 260 NOZZLE ASSEMBLY (419341)
- 28 DETECTOR BRACKET
- 29 LOW TEMP FUSIBLE LINK
- 30 HIGH TEMP FUSIBLE LINK
- MGV MECHANICAL GAS VALVE
- EGV ELECTRICAL GAS VALVE
- 34 REMOTE MANUAL PULL STATION
- S SWIVEL ADAPTOR



Foyer-M w/Drip Board High Proximity 18.00" L x 18.00" D	Foyer-M w/Drip Board High Proximity 18.00" L x 18.00" D	Foyer-M w/Drip Board High Proximity 18.00" L x 18.00" D	Griddle (1N) High Proximity 60.00" L x 24.00" D	Griddle (1N) High Proximity 60.00" L x 24.00" D	Foyer-M w/Drip Board High Proximity 18.00" L x 18.00" D	Foyer-M w/Drip Board High Proximity 18.00" L x 18.00" D	Foyer-M w/Drip Board High Proximity 18.00" L x 18.00" D
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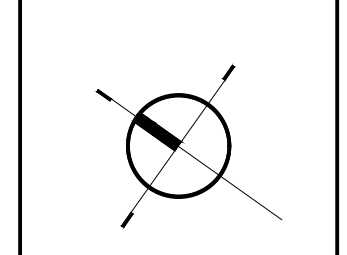
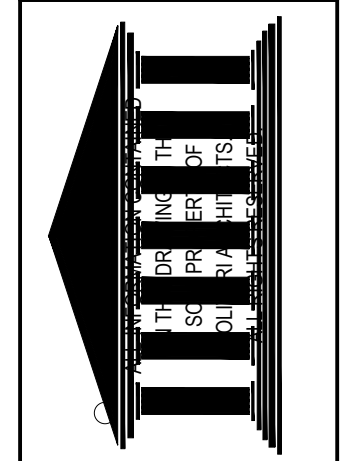
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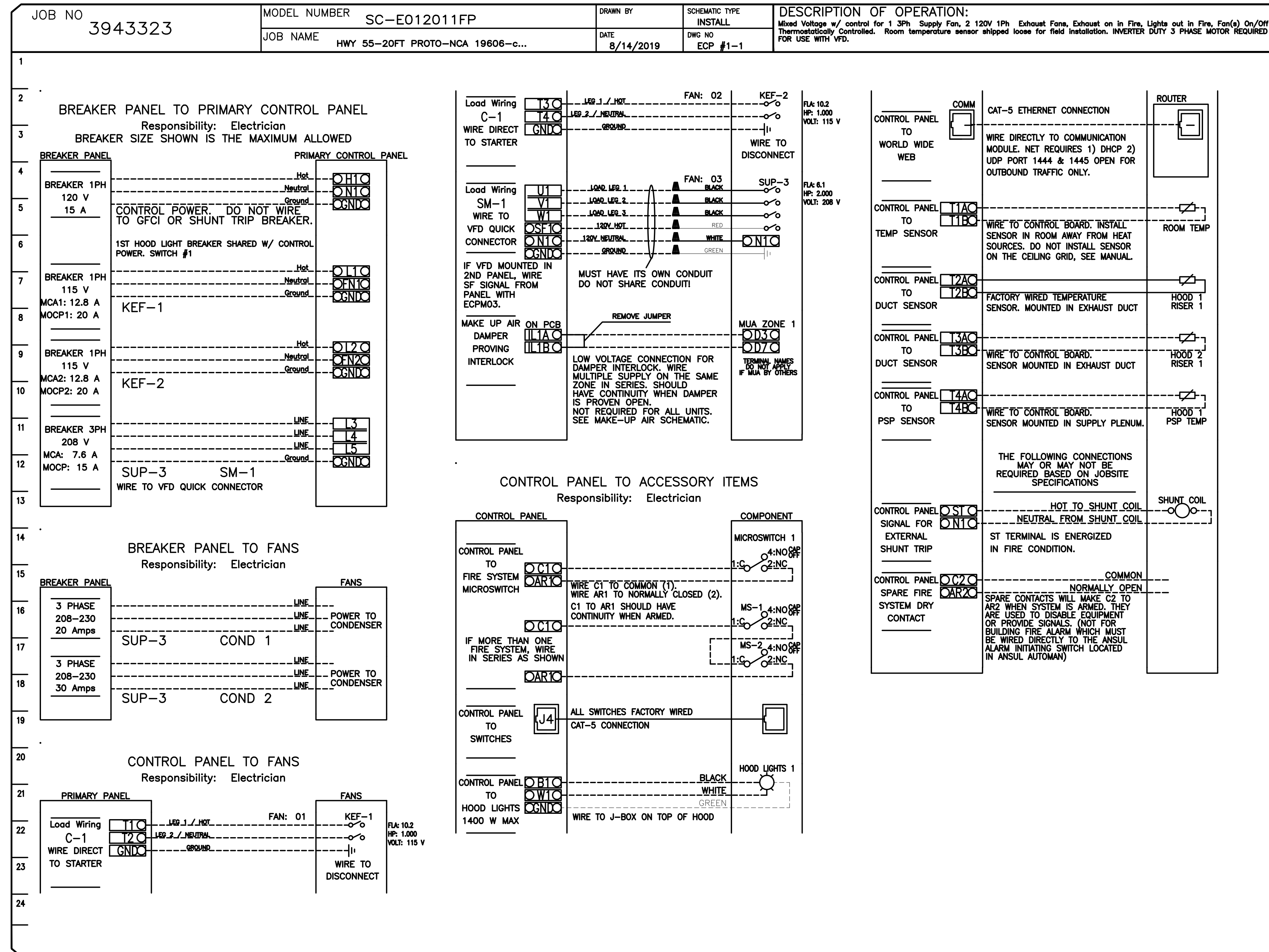
Highway 55
BURGERS SHAKES FRIES
NORTH MAIN STREET (HWY 210)
Lillington, Harnett County, N.C.

Date: 1. 24. 20
Scale: AS NOTED
Project Mgr: DG
Drawn:
Job: 19-142
Sheet

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ELECTRICAL PACKAGE - Job#3943323

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	φ	H.P.	VOLT	FLA
1		SC-E012011FP	Utility Cabinet Left	03 - Utility Cabinet Left	1 Light	Smart Controls Thermostatic Control	KEF-1	Exhaust	1	1.000	115	10.2
				Hood # 1	1 Fan		KEF-2	Exhaust	1	1.000	115	10.2
							KMUA-1	Supply	3	2.000	208	6.1



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HOOD DETAILS
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SPRINGFIELD

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License # RA11925

Highway 55
BURGERS SHAKES FRIES
NORTH MAIN STREET (HWY 210)
Lillington, Harnett County, N.C.

Date: 1. 24. 20
Scale: AS NOTED
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Job: 19-142
Sheet

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DATE	DESCRIPTION	BY
02-12-20	FOR CONSTRUCTION	KM

EXHAUST FAN INFORMATION - Job#3943323

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	#	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1	KEF-1	DUB5HFA	2150	0.900	1419	1.000	0.5670	1	115	10.2	680 FPM	92	17
2	KEF-2	DUB5HFA	2150	0.900	1419	1.000	0.5670	1	115	10.2	680 FPM	92	17
4	EF-3 (BATHROOM)	DR10HFA	300	0.250	1299	0.166	0.0430	1	115	1.9		45	4.8

CONDENSER DETAILS

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CONDENSER NO.	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX. FUSE SIZE	MIN. WIRE SIZE	SEER
3	KMUA-1	A2-D.250-20D-MPU	1	3	208-230	3 PHASE	60 Hz	14.5 Amps	11.9 Amps	20 Amps	14 AWG	14
			2	5	208-230	3 PHASE	60 Hz	21.4 Amps	17.4 Amps	30 Amps	10 AWG	14

MUA FAN INFORMATION - Job#3943323

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	#	VOLT	FLA	COOLING COIL ENTERING DB TEMP.	COOLING COIL ENTERING WB TEMP.	COOLING COIL LEAVING DB TEMP.	COOLING COIL LEAVING WB TEMP.	COOLING COIL TOTAL CAPACITY	COOLING COIL SENSIBLE CAPACITY	COOLING COIL LATENT CAPACITY	WEIGHT (LBS.)	SONES	BURNER EFFICIENCY(%)
3	KMUA-1	A2-D.250-20D-MPU	20MF-2-MOD	A2-D.250	2000	3400	0.450	1438	2.000	1.6500	3	208	6.1	92.0°F	74.0°F	73.8°F	67.8°F	76.1 MBH	63.7 MBH	12.4 MBH	1686	13.6	92

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
3	KMUA-1	192538	177135	50 deg F	7 in. w.c. - 14 in. w.c.	Natural

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	KEF-1	1 - Grease Box
		1 - ECM Wiring Package-Exhaust - Manual or 0-10VDC Reference Speed Control (NIDEC Motor)
2	KEF-2	1 - Grease Box
		1 - ECM Wiring Package-Exhaust - Manual or 0-10VDC Reference Speed Control (NIDEC Motor)
3	KMUA-1	1 - Motorized Backdraft Damper for A2-D Housing
		1 - Low Fire Start
		1 - Inlet Pressure Gauge, 0-35"
		1 - Manifold Pressure Gauge, -5 to 15" wc
		1 - Cooling Thermostat and Relay (Not req for evap)
		1 - 8 Ton 2 Circuit (3/5) Modular Packaged Cooling Option for Size 2 MUA (2,900 to 4,800 cfm), 208V/230V, 3 phase. Cooling Thermostat or Programmable Stat Required for Proper Operation.
		1 - Downturn Plenum for Size 2 DX Coil Module
		1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only
		1 - Size 2 Direct Fired Heater Low CFM Profile Package. Used on Heaters under 2500 cfm.
		1 - ECM Wiring Package - Manual or 0-10VDC Reference Speed Control (TELCO Motor), CCW Rotation
4	EF-3 (BATHROOM)	1 - ECM Wiring Package - Manual or 0-10VDC Reference Speed Control (TELCO Motor), CCW Rotation

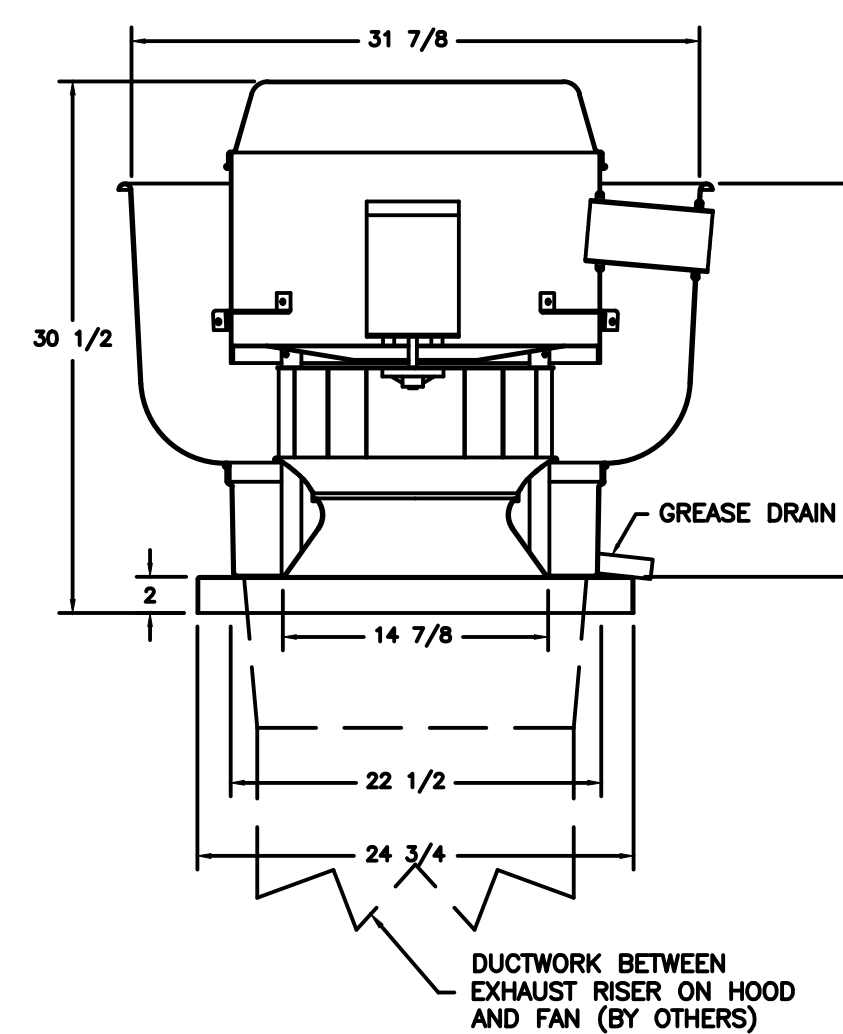
FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST				SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT	
1	KEF-1	YES							
2	KEF-2	YES							
3	KMUA-1					YES			
4	EF-3 (BATHROOM)								

CURB ASSEMBLIES

NO.	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF-1	41 LBS	Curb	23,000"W x 23,000"L x 24,000"H Vented Hinged
2	# 2	KEF-2	41 LBS	Curb	23,000"W x 23,000"L x 24,000"H Vented Hinged
3	# 3	KMUA-1	96 LBS	Curb	31,000"W x 79,000"L x 15,000"H Insulated
	# 3			Rail	6,000"W x 31,000"L x 15,000"H
4	# 4	EF-3 (BATHROOM)	22 LBS	Curb	17,500"W x 17,500"L x 18,000"H

FANS #1 (KEF-1), #2 (KEF-2) - DUB5HFA EXHAUST FAN



FEATURES:

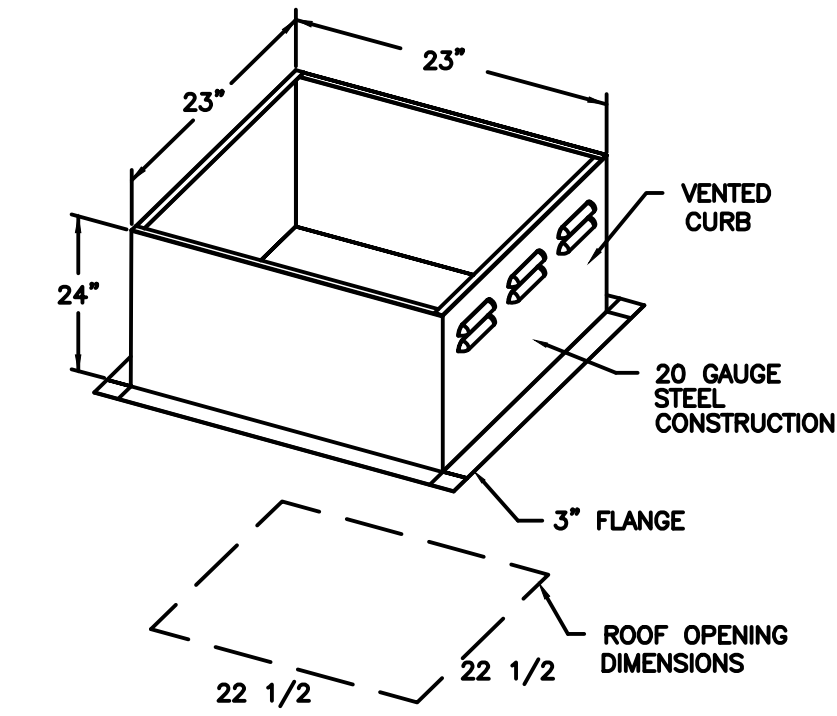
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL782 AND ULC-S845
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

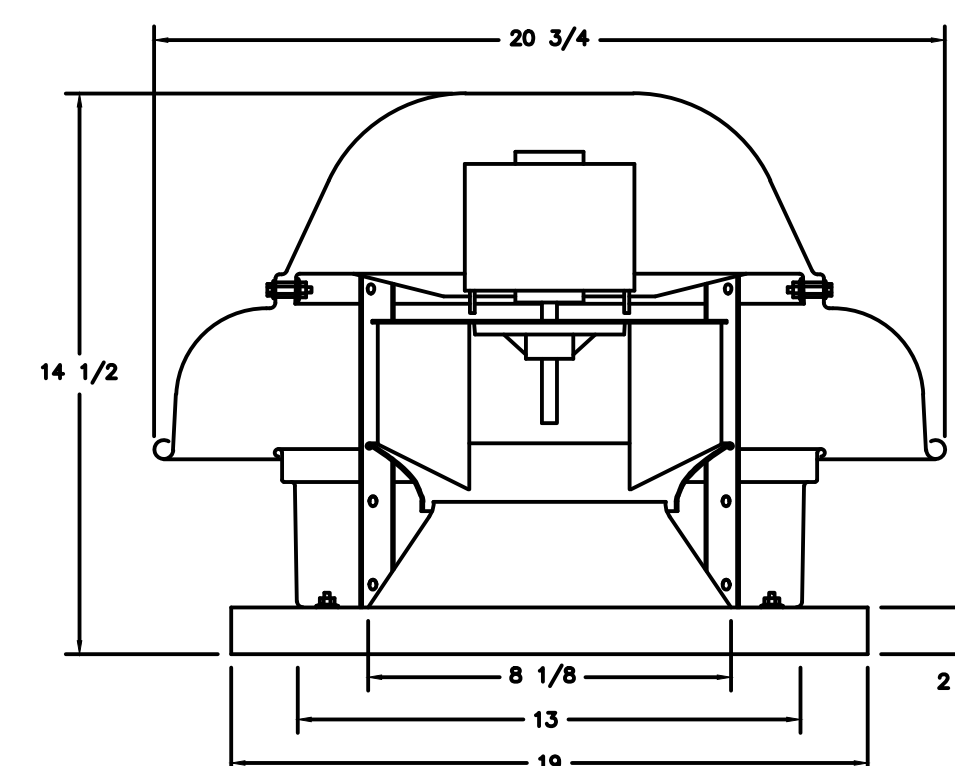
GREASE BOX.
ECM WIRING PACKAGE-EXHAUST - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL (NIDEC MOTOR).



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE

FAN #4 DR10HFA - EXHAUST FAN (EF-3 (BATHROOM))

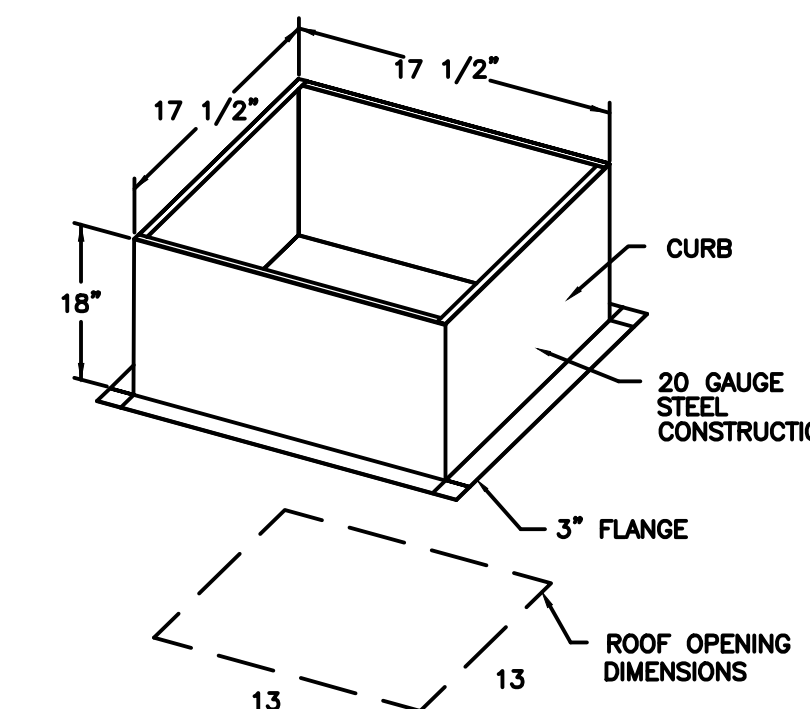


FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- UL705
- SAFETY DISCONNECT
- STANDARD BIRD SCREEN
- SPEED CONTROL

OPTIONS

ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL (TELCO MOTOR), CCW ROTATION.



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE

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Consulting Engineer

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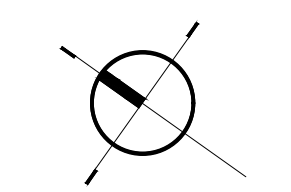
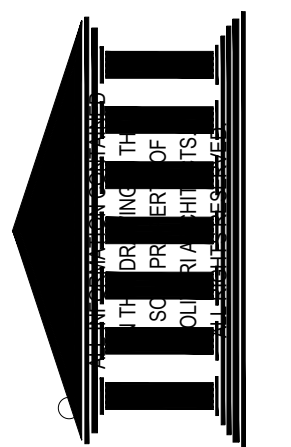
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Professional Seal for Shane R. Hamilton, P.E., License RA11925

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Shaw55
BURGERS SHAKES FRIES
NORTH MAIN STREET (HWY 210)
Lillington, Harnett County, N.C.

Date: 1. 24. 20

Scale: AS NOTED

Project Mgr: DG

Drawn:

Job: 19-142

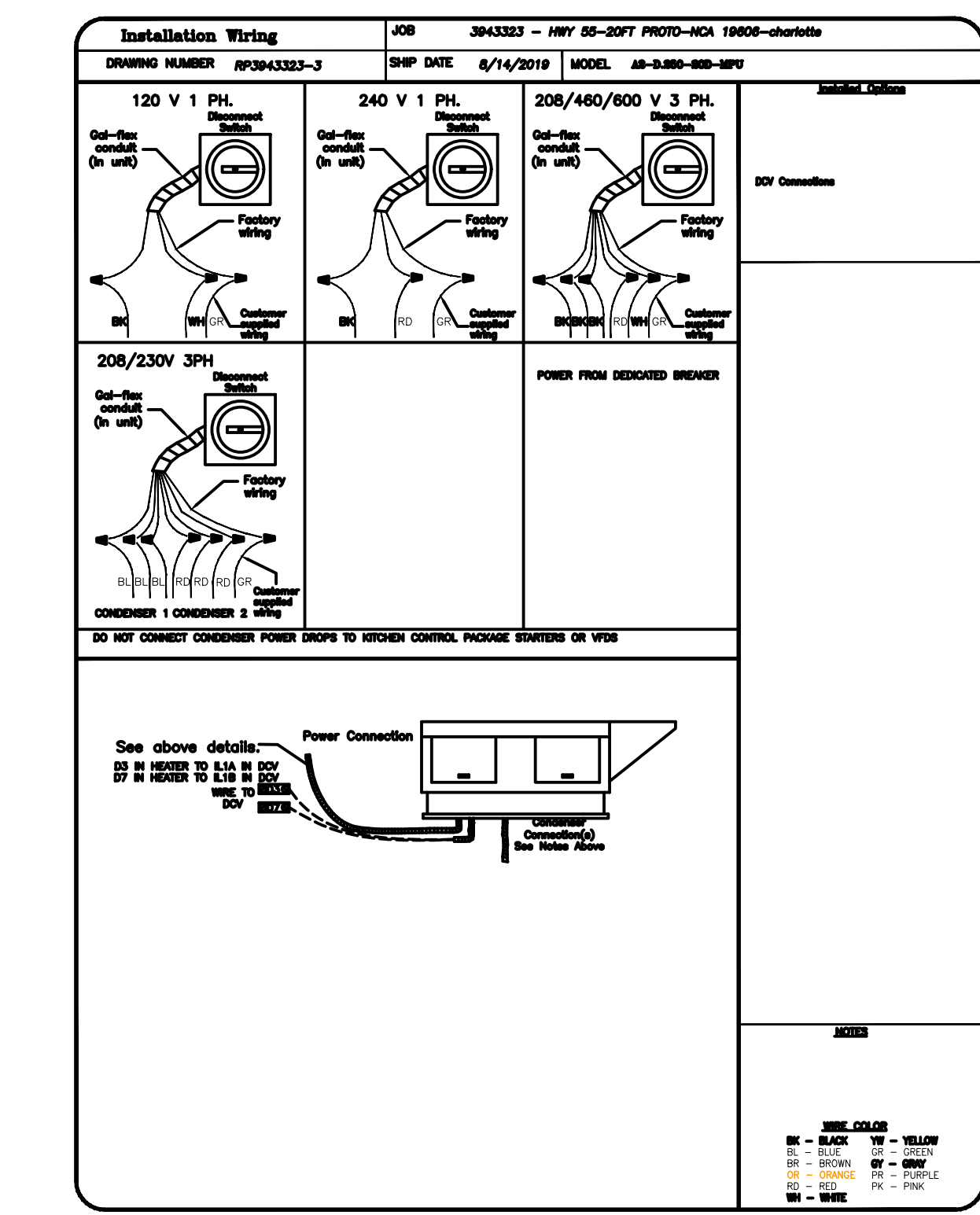
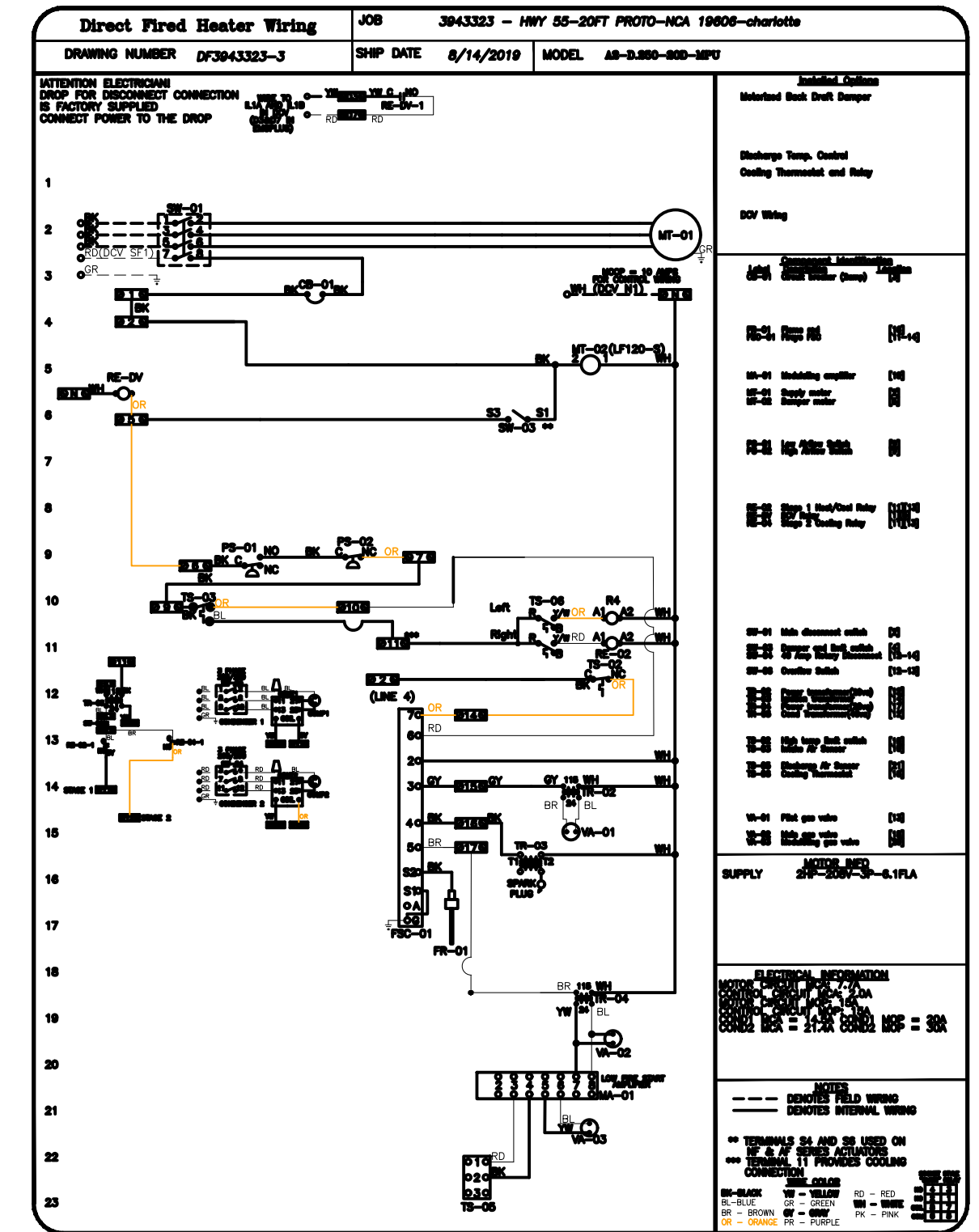
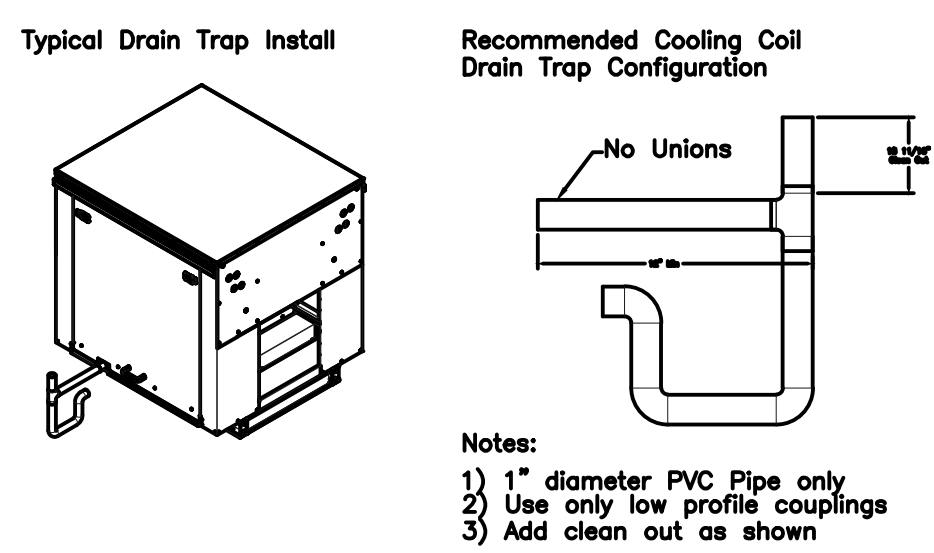
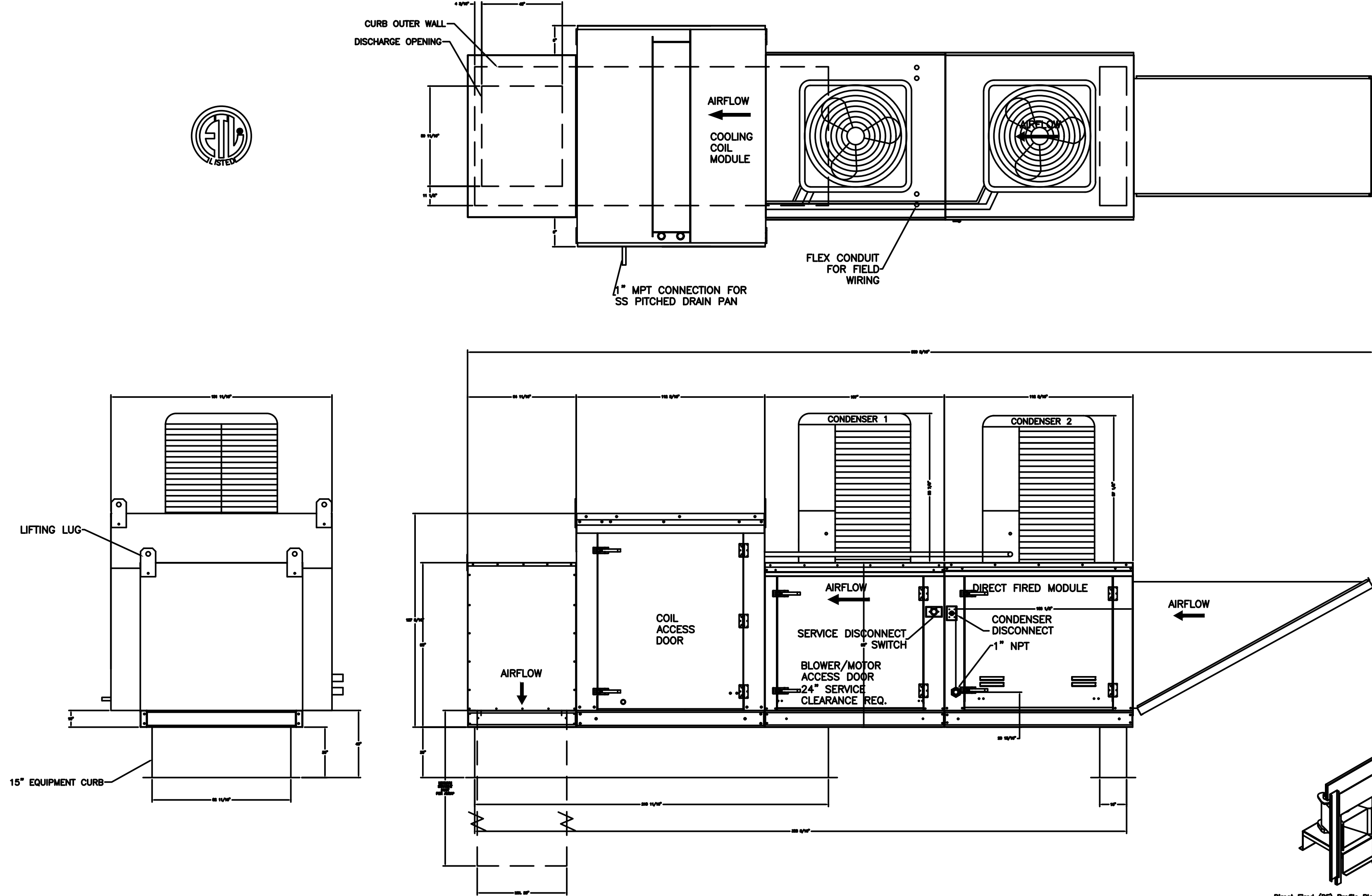
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DRAWING INFORMATION		
DATE	DESCRIPTION	BY
02-12-20	FOR CONSTRUCTION	KM

- FAN #3 A2-D.250-200-MPU - HEATER (KMA-1)
- DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20" DIRECT DRIVE FAN
 - INTAKE HOOD WITH EZ FILTERS
 - DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
 - MOTORIZED BACK DRAFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR PACKAGED UNITS W/EXTENDED SHAFT, STANDARD GALVANNEED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, LF120S ACTUATOR INCLUDED
 - LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
 - GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
 - GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE
 - DX COOLING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT - SET POINT FOR THERMOSTAT SHOULD BE 85F.
 - 8 TON, DUAL CIRCUIT (3/5) MODULAR PACKAGED COOLING OPTION FOR SIZE 2 MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (2,500 TO 4,000 CFM). NOT BUILT WITH OPPOSITE SIDE CONTROLS OR OPPOSITE AIRFLOW DIRECTION. CONDENSERS REQUIRE SEPARATE 208V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION. COIL = 3E21101D
 - DOWNTURN FLEXUM FOR SIZE 2 COOLING COIL MODULE - REQUIRED FOR DOWN DISCHARGE COOLING COIL APPLICATIONS
 - SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MJA SWITCH.
 - PROFILE PLATE CONFIGURATION FOR SIZE 2 DIRECT FIRED UNIT FOR LOW CFM APPLICATIONS.
- NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20" x 20"

SUPPLY SIDE HEATER INFORMATION:
 WINTER TEMPERATURE = 25F. TEMP. RISE = 50F.
 BTU_s CALCULATED OFF ACTUAL AIR DENSITY
 OUTPUT BTU_s AT ALTITUDE OF 0.0 ft. = 181618
 INPUT BTU_s AT ALTITUDE OF 690 ft. = 197411
 OUTPUT BTU_s AT ALTITUDE OF 690 ft. = 177135
 INPUT BTU_s AT ALTITUDE OF 690 ft. = 192538



Direct Fired (DF) Profile Plate Specifications:

Design:
 Direct fired burners shall have patented (US Patent No. US98292382), self-adjusting profile plates designed to ensure proper air velocity and pressure drop across the burner. Profile plates shall allow burners to achieve design combustion by adjusting for reduced flow. Direct fired units shall be configured with the burner-mounted downcomer of the burner. This arrangement will ensure a consistent orifice, regardless of fuel air temperature.

Application:
 Spring-loaded burner profile plates are engineered to automatically react to the momentum of a flow of steam, without the need for any motors or actuators to mechanically adjust them. With this feature, all DF units are designed for demand control ventilation (DCV) requirements.

Installation:
 All profile plate assemblies shall be included in the DF unit's ETL listing and comply with combined safety standards ANSI Z83.4 and CSA 3.7 (non-rotating DF heaters) and ANSI Z83.15 (rotating DF heaters).

General Construction:
 -Profile plates shall be formed from G60 galvanized steel.
 -Profile plates shall vary in size per unit.
 -Profile plates shall be installed along the same plane as the discharge of the burner.
 -Design shall incorporate properly torqued, permanently mounted spring blades.
 -Spring blades shall be made from plated steel.

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FAN DETAILS

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