EXHAUST FAN SCHEDULE

	FAN NO.	EF 1		
	LOCATION	ROOF		
	AREA SERVED	KITCHEN GREASE EXHAUST HOOD #1&2		
	FAN DUTY	AIR EXHAUST		
	FAN TYPE	CENTRIFUGAL BELT-DRIVEN		
	FAN ARRANGEMENT	UPBLAST		
	MIN. WHEEL DIAMETER	-		
PERFORMANCE	C.F.M.	5,400		
	T.S.P.	1.658"		
	B.H.P.	3.0290		
	FAN R.P.M.	990		
MOTOR	MOTOR H.P.	5.0		
	ELEC. CHARACTERISTICS	208V/3PH/60HZ		
	MOTOR R.P.M.	1148		
	MOTOR SPECIAL FEATURES	OPEN DRIP-PROOF		
	ACCESSORIES	1. VENTED ROOF CURB 2. HINGED AND CHAINED FAN INSTALLATION FOR DUCT ACCESS		
	MANUFACTURER	CAPTIVEAIRE MODEL: DU180HFA WT. 320 LBS		

NOTES:

1. KITCHEN EXHAUST FANS SHALL BE ELECTRICALLY INTERLOCKED WITH MAKE-UP AIR UNIT AND ROOFTOP UNITS.
2. FOR WIRING DIAGRAM SEE 5/M-501

HVAC CONTROL SETTINGS

EACH HVAC UNIT SHALL BE PROVIDED WITH CONTROLS AS FOLLOWS:

THERMOSTAT: CARRIER COMMERCIAL PROGRAMMABLE THERMOSTAT WITH REMOTE TEMPERATURE SENSOR. SEE SHEET M-100 FOR THERMOSTAT AND SENSOR LOCATIONS.

ALL THERMOSTATS SHALL HAVE MANUAL OVERRIDE.

EACH UNIT CONTROL SHALL BE SET UP INITIALLY AS FOLLOWS:

CONTRACTOR SHALL DETERMINE OCCUPIED PERIOD FROM OWNER.

FAN OPERATION SHALL BE CONTINUOUS DURING OCCUPIED PERIOD AND CYCLE WITH COOLING/HEATING DURING UNOCCUPIED PERIOD.

PROGRAMMED SETPOINTS (FOR EACH THERMOSTAT):
COOLING OCCUPIED: 75°F.
COOLING UNOCCUPIED: 85°F.
HEATING OCCUPIED: 68°F.
HEATING UNOCCUPIED: 50°F.

NOTE: DEVIATIONS FROM THE ABOVE MAY RESULT IN UNACCEPTABLE AIR QUALITY, COMFORT AND/OR ENERGY CONSUMPTION.

MA-1 CONTROL SETTINGS

EACH UNIT CONTROL SHALL BE SET UP INITIALLY AS FOLLOWS:

FAN OPERATION SHALL BE CONTINUOUS DURING COOKING OPERATION INTERLOCK WITH KITCHEN EXHAUST FANS. REFER TO HOOD DRAWINGS.

PROGRAMMED SETPOINTS :
COOLING : 85°F.
HEATING : 55°F.

MAKE-UP AIR UNIT SCHEDULE

MARK	MFR/ MODEL	LOCATION	SERVICE AREA	GAS HEAT	TYPE	COOLING	CFM	ESP	MOTOR	REMARKS
MA-1	CAPTIVEAIRE A3-D.500-24D-MPU	ROOF-TOP	KITCHEN HOOD #1 & #2	INPUT: 243,211 BTHU OUTPUT: 223,754	DIRECT FIRE GAS HEATED, DX COOLED SUPPLY, DOWN DISCHARGE	DUAL CIRCUIT 5/5 MODULAR PACKAGED COOLING OPTION	5,000	1.0"	5 HP 208V/3PH/60HZ	SEE SHEET M-400 TO M-410 FOR MORE DETAILS.

DIFFUSER & GRILLE SCHEDULE

DESIGNATION	MANUFACTURER	MODEL NO	TYPE	COLOR	NOM NECK SIZE	NOM FACE SIZE	FRAME TYPE	NC MAX	REMARKS
A	TITUS	PMC3	PERFORATED MODULAR CORE	26 WHITE	14" x 14"	24" x 24"	LAY-IN T-BAR	< 30	INSULATION BLANKET FOR BACKPAN, CONTRACTOR FURNISHED ROUND NECK ADAPTER
C	TITUS	PMC-1C	PERFORATED MODULAR CORE	26 WHITE	8" x 8"	15" x 15"	SURFACE	< 30	AG95 OBD, (CONTRACTOR TO INSTALL INSULATED CEILING BOX 12"X12" ID)
F	TITUS	PAR-3	PERFORATED RETURN	26 WHITE	22" x 22"	24" x 24"	LAY-IN T-BAR	< 35	CONTRACTOR FURNISHED INSULATE RETURN BOX FOR CONNECTING FLEX DUCT

NOTE: PROVIDE FACTORY INSTALLED BACK PAN INSULATION ON AIR DEVICES.
HVAC CONTRACTOR IS TO PURCHASE ALL AIR DEVICES FROM PANDA APPROVED NATIONAL ACCOUNT VENDOR THERMAIR SYSTEMS INC.
PLEASE CONTACT RON CAMPTON AT 602-705-5010 OR EMAIL ronc@thermairsystems.com

AIR BALANCE TABULATION

KITCHEN

UNIT No.	SUPPLY AIR (CFM)	RETURN AIR	OUTSIDE AIR (CFM)	EXHAUST AIR (CFM)	TRANSFER (CFM)	
(E)VAV	1200	800				+400
MAU-1	5000					+5000
EF-1				-5400		-5400
SUB TOTAL	5730	1030	470	4700	0	0

MECHANICAL LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	ABV	ABOVE
	AFF	ABOVE FINISHED FLOOR
	CLG	CEILING
	DN	DOWN
		DUCT SECTIONS (SUPPLY, EXHAUST, RETURN)
		FLEXIBLE DUCT
	MVD	MANUAL VOLUME DAMPER
	OBD	OPPOSED BLADE DAMPER
	MFR	MANUFACTURER
	MIN	MINIMUM
	OSA	OUTSIDE AIR
		ROUND RIGID DUCTWORK
	TSP	TOTAL STATIC PRESSURE
		TURNING VANES
1		CONSTRUCTION NOTES
EF 1		MECHANICAL EQUIPMENT DESIGNATION
S		SMOKE DETECTOR
T 1		THERMOSTAT / UNIT
R 1		REMOTE SENSOR / UNIT

MECHANICAL SPECIFICATIONS

1. WORK INCLUDES INSTALLATION OF HVAC SYSTEMS, INCLUDING GREASE EXHAUST FANS AND MAKE-UP AIR UNIT FOR KITCHEN HOODS, SPACE HEATING/AIR CONDITIONING SYSTEMS, SUPPLY, RETURN, EXHAUST, AND GREASE EXHAUST DUCTWORK, GRILLES, REGISTERS, DIFFUSERS, COMPLETE CONTROLS SYSTEM, INTERLOCK WIRING FOR OPERATION OF KITCHEN HOODS, EXHAUST FANS, AND MAKE-UP AIR UNIT, DUCT INSULATION, AND RELATED ITEMS NECESSARY FOR A COMPLETE FUNCTIONING SYSTEM AS INDICATED ON THE PLANS. FURNISH ALL NEW MATERIALS AND EQUIPMENT UNLESS NOTED OTHERWISE (U.N.O.).

2. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT AND REQUIRED EQUIPMENT. DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. AS REQUIRED, REFER TO ARCHITECTURAL AND MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. FURNISH AND INSTALL DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND EQUIPMENT SHOWN ON PLANS.

3. CODE COMPLIANCE: ALL WORK COVERED BY THIS SECTION SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.

4. COORDINATE WORK WITH OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS AND OWNER REQUIREMENTS. PROVIDE DUCT RISES AND DROPS AS REQUIRED FOR INSTALLATION AND/OR TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK. WORK SHALL BE PERFORMED BY EXPERIENCED TRADESMEN AND THEIR WORK SHALL BE OF HIGH STANDARD ACCEPTABLE TO THE OWNER.

5. DUCTWORK: DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED AS PROVIDED IN THE INT'L ENERGY AND MECHANICAL CODES. SHEET METAL SHALL BE IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS. SHEET METAL SHALL BE GALVANIZED OF LOCK-FORMING QUALITY, ASTM A-525. UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON DRAWINGS ARE NET INSIDE CLEAR DIMENSIONS ON LINED DUCTS OR SHEET METAL DIMENSIONS ON UNLINED DUCTS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. ROUND RIGID DUCTWORK SHALL CONFORM TO SMACNA TABLE 3-2.

6. INSTALL DUCT HIGH AS POSSIBLE WITHIN JOIST SPACE. CONSULT ARCHITECT AND ENGINEER FOR ALTERNATE ROUTING IF CONFLICT OCCURS.

7. SEAL ALL TRANSVERSE AND LONGITUDINAL DUCT SEAMS AIR-TIGHT. PROVIDE TURNING VANES AT ALL ELBOWS OR OFFSETS EXCEEDING 30 DEGREES.

8. GREASE EXHAUST SYSTEM: ALL GREASE EXHAUST DUCTS SHALL BE FABRICATED BY WELDED JOINT CONSTRUCTION OF 16 GAUGE WELDED STEEL OR 18 GAUGE STAINLESS STEEL. PROVIDE RATED ACCESS DOORS AT ALL ELBOWS AND OFFSETS NECESSARY FOR COMPLETE CLEANING OF GREASE DUCT. PROVIDE MINIMUM 30"x30" UNOBSTRUCTED ACCESS OR ROUTE FROM THE CEILING TO EACH ACCESS DOOR. DO NOT BLOCK ACCESS WITH PLUMBING, ELECTRICAL OR HVAC OBSTRUCTIONS. ALL ELBOWS SHALL BE LONG RADIUS. GREASE DUCT SHALL BE INSTALLED EITHER IN A RATED ENCLOSURE PROVIDED BY THE GENERAL CONTRACTOR OR WRAPPED WITH FIREMASTER GREASE DUCT WRAP.

9. DUCT INSULATION: PROVIDE DUCT WRAP FOR ALL DUCTS ABOVE CEILING, INCLUDING VERTICAL, HORIZONTAL, RIGID AND FLEXIBLE DUCTS, EXCLUDING PREFABRICATED PREINSULATED DUCTS AND GREASE DUCTS. DUCT WRAP SHALL BE JOHNS MANVILLE MICROLITE OR EQUAL WITH FOIL/SCRIM/KRAFT, 1 IN THICKNESS, 1.5 POUNDS/FT3 DENSITY. DUCT WRAP SHALL BE BONDED GLASS FIBERS IN THERMOSETTING RESIN MEETING NFPA 90A, WITH K VALUE NOT TO EXCEED 0.23 AT 75 DEGREES F. FLAME SPREAD AND SMOKE DEVELOPED RATINGS SHALL NOT EXCEED 25/50. APPLY 100% ADHESIVE COVERAGE TO SHEET METAL DUCTWORK. PROVIDE ADDITIONAL MECHANICAL FASTENERS ON DUCTS OVER 12" WIDE OR 16" HIGH. MECHANICAL FASTENERS SHALL BE "GRIPNAIL" OR WELDED PIN AND SPEED CLIPS SPACED PER SMACNA STANDARDS.

10. FLEX DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEX DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50 AND SHALL BE RATED FOR 2" W.C. PRESSURE AND 0 TO 250 DEGREE TEMPERATURE. FLEX DUCT MAXIMUM ALLOWED LENGTH TO BE PER LOCAL CODE.

11. PROVIDE INSULATION APPLIED TO COMPLETE BACKPAN OF AIR DEVICES.

12. ACCESS DOOR: PROVIDE HINGED ACCESS PANELS IN DUCTWORK WHERE SHOWN AND AS REQUIRED FOR ACCESS TO DAMPERS OR EQUIPMENT. PROVIDE INSULATED ACCESS DOORS IN INSULATED DUCTWORK.

13. AUTOMATIC TEMPERATURE CONTROL: CONTRACTOR TO PROVIDE AND INSTALL 24/7 PROGRAMMABLE THERMOSTATS AND REMOTE SENSORS.

14. KITCHEN HOOD EQUIPMENT INTERLOCK: PROVIDE ALL INTERLOCK AND CONTROL WIRING FOR KITCHEN HOOD SYSTEMS, WHICH INCLUDES EF1, MA-1 AND ANSUL SYSTEM SHUT DOWN INTERLOCK TO MAKE-UP AIR FAN. UPON ACTIVATION OF ANSUL SYSTEM, MAKE-UP AIR FAN SHALL BE DEACTIVATED. PROVIDE ALL NECESSARY CONTROLS AND WIRING FOR A COMPLETE AND OPERABLE SYSTEM. INTERLOCK GREASE EXHAUST FANS AND MAKE-UP AIR UNIT TO START SIMULTANEOUSLY FROM SWITCH PROVIDED AT HOOD.

15. TEST AND ADJUST EACH PIECE OF EQUIPMENT AND EACH SYSTEM AS REQUIRED TO ASSURE PROPER AIR BALANCE AND OPERATION. PROVIDE A CERTIFIED AIR BALANCE REPORT TO OWNER SHOWING DESIGN AND MEASURED AIR VOLUMES, STATIC PRESSURES, FAN RPMS, ETC. AIR BALANCE CONTRACTOR SHALL ADJUST SYSTEMS TO MINIMIZE NOISE AND VIBRATION, AND TO ASSURE PROPER FUNCTION OF CONTROLS, MAINTENANCE OF TEMPERATURE AND OPERATION. GENERAL CONTRACTOR TO OBTAIN ALL INSPECTIONS REQUIRED BY LOCAL CODE AND GUARANTEE WORK AND INSTALLATION FOR ONE YEAR AFTER ACCEPTANCE BY OWNER. GENERAL CONTRACTOR TO FURNISH OWNER WITH TWO COMPLETE SETS OF AS-BUILT DRAWINGS INDICATING ALL INSTALLED WORK, INCLUDING ALL CONTROL WIRING DIAGRAMS AND INTERLOCK FOR SYSTEM OPERATION.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ECONOMIZERS INCLUDING INSTALLATION OF ALL NECESSARY SENSORS AND CONNECTIONS TO THERMOSTAT. PROVIDE SUPPORT OF ECONOMIZERS PER MANUFACTURER'S REQUIREMENTS AND TEST FOR PROPER OPERATION PRIOR TO FINAL TEST AND BALANCE.

PEC
PIVOT ENGINEERING CONSULTANTS INC.
11226 EVERGREEN LOOP
CORONA, CA 92883
(909) 610-5364

BID SET | 11/10/2023 | NOT FOR CONSTRUCTION

PANDA EXPRESS
CHINESE KITCHEN
PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

REVISIONS:

ISSUE DATE:

1	35% SUBMITTAL	06/23/2023
2	95% SUBMITTAL	10/04/2023
3	BID SET	11/10/2023

DRAWN BY: STAFF

PANDA PROJECT #:

ARCH PROJECT #:

GARY WANG
& ASSOCIATES, INC.
1000 Corporate Center Dr., Ste. 550
Monterey Park, CA 91754
TEL: (626) 288-6898 FAX: (626) 768-7101
http://www.garywang.com

STATE OF TEXAS
ANMAR HIASSAT
133591
LICENSED PROFESSIONAL ENGINEER

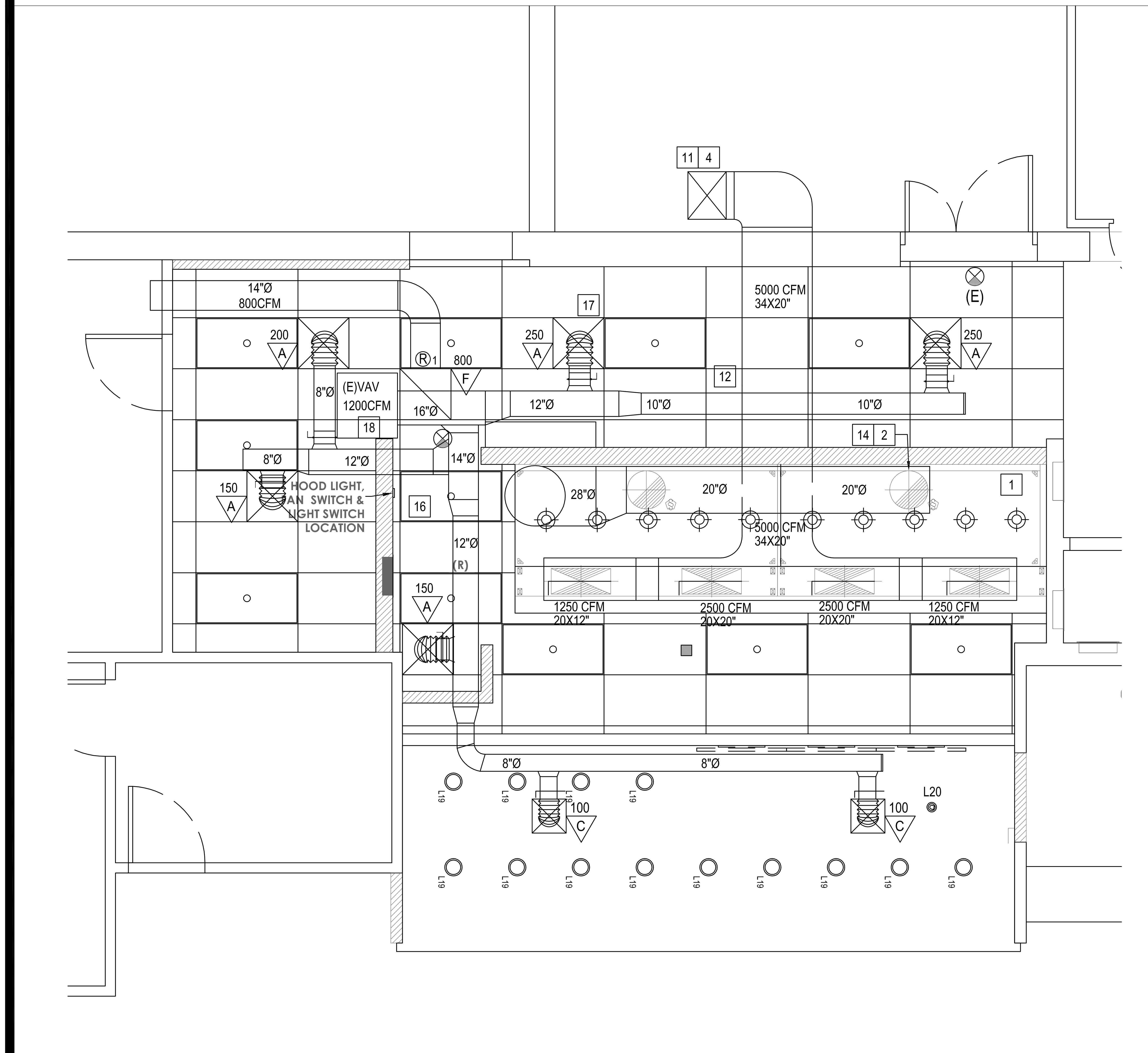
PANDA EXPRESS
BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

M-000

MECHANICAL NOTES
SPECIFICATIONS & SCHEDULES

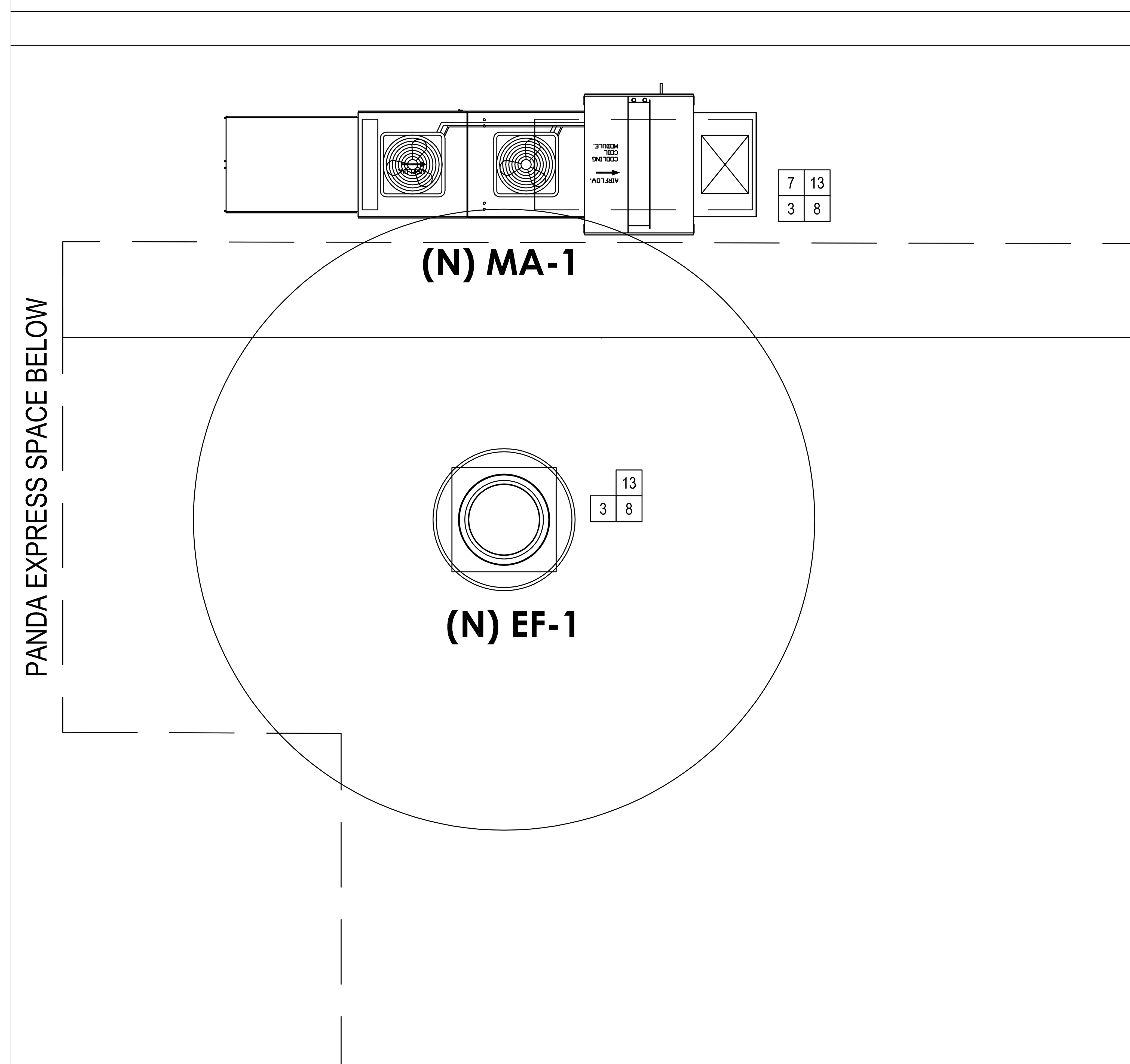
MECHANICAL KEY NOTES:

1. INSTALL GREASE EXHAUST HOODS FURNISHED BY PANDA. HOOD SHALL BE ONE CAPTIVEAIRE 4824-ND HOOD EXHAUSTING 5,400 CFM. SUPPORT FROM STRUCTURE ABOVE WITH UNISTRUT AND ALL THREAD ROD. MOUNT HOOD PER LOCAL CODE REQUIREMENTS. REFER TO PLAN FOR HOOD CONNECTIONS. SEE CODE COMPLIANCE DRAWINGS ON SHEET M-500 AND CAPTIVEAIRE HOOD DRAWINGS FOR ADDITIONAL REQUIREMENTS. (TWO SECTIONS TOTAL).
2. PROVIDE AND INSTALL GREASE EXHAUST DUCT, ROUTE ON TOP OF MAKE UP AIR DUCT, FROM INLET OF ROOF MOUNTED GREASE EXHAUST FAN, TRANSITION TO 31"x31" BETWEEN ROOF JOIST, CONNECT TO EXHAUST HOOD COLLAR, FIELD VERIFY.WRAP WITH THERMAL CERAMIC FIREMASTER DUCT WRAP+ OR EQUAL. FABRICATE DUCT FROM 16 GAUGE STEEL WITH WELDED SEAM CONSTRUCTION SEAL TO THE ROOF CURB WITH FIRE CAULKING . SEE HOOD DETAIL DRAWINGS ON SHEET M-500 AND CAPTIVEAIRE DRAWINGS. TRANSITION DUCT TO CURB AND FAN INLET SIZE. TRANSITION TO 31X31" DUCT COLLAR SIZE.
3. INSTALL GREASE EXHAUST FAN WITH CURB (EF-1) AND MAKE UP AIR (MA-1) FURNISHED BY PANDA. COORDINATE LOCATION OF UNIT WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
4. PROVIDE AND INSTALL DUCT MOUNTED SMOKE DETECTOR AT MAIN SUPPLY AIR DUCT PER UMC, SEC. 609, OR AT RETURN AIR DUCT PER IMC, SECTION 606.2.1. DETECTORS SHALL BE INTERLOCKED TO SHUT DOWN ROOFTOP UNITS UPON DETECTION OF SMOKE. PROVIDE ALL CONTROL WIRING NECESSARY TO PERFORM THIS OPERATION.
5. NOT USED.
6. NOT USED.
7. FOR GAS OR WATER CONNECTION, SEE PLUMBING DRAWINGS.
8. PROVIDE FABRICATED CURB PER MANUFACTURERS REQUIREMENTS AND COORDINATE EXACT LOCATION OF UNIT IN FIELD. SHIM ROOF CURB LEVEL FOR PROPER CONDENSATE DRAINAGE.
9. NOT USED.
10. NOT USED.
11. MA DUCT (BELOW MAKE UP AIR) CONNECT TO RISER FROM SUPPLY PLENUM. 5,000 CFM
12. PROVIDE DUCT EXTERNAL INSULATION WRAP AT TRUNK, TYPICAL.
13. PROVIDE AND INSTALL ALL EQUIPMENT WITH MANUFACTURER'S RECOMMENDED CLEARANCES FOR MAINTENANCE. MAINTAIN MINIMUM CLEARANCES TO ELECTRICAL AND SERVICE ACCESS PANELS AND DISCONNECTS.
14. GREASE DUCT CLEANOUT LOCATION. PROVIDE ACCESS TO CLEANOUT ABOVE CEILING. REFER TO MECHANICAL SPECIFICATIONS SHEET M-000
15. NOT USED.
16. ROOM AIR SENSOR FROM CAPTIVEAIRE HOOD ON BACK OF MENU BOARD WALL, AS CLOSE TO CEILING AS POSSIBLE.
17. NOTE: MAXIMUM FLEXIBLE DUCT LENGTH ALLOWED SHALL BE PER LOCAL CODE AND AMENDMENTS. IMC HAS NO LIMITATIONS FOR FLEXIBLE DUCT LENGTHS.
18. CONTRACTOR TO V.I.F. THE EXACT LOCATION OF THE EXITING DUCT AND CONNECT THE NEW DUCT TO IT.



HVAC FLOOR PLAN 1

SCALE: 3/8" = 1'-0" M-100



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HVAC ROOF PLAN 2

SCALE: 3/8" = 1'-0" M-100

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BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

M-100

H.V.A.C. FLOOR PLAN &
H.V.A.C. ROOF PLAN

FOR QUESTIONS, CALL THE
Southern CA National Accounts
REGION 83
PHONE: (714) 677 - 2963
EMAIL: reg83@captiveaire.com

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 - JOB#6330024

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM			RISER(S)				TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP			END TO END	ROW
1		5412 SND-2-PSP-F	CAPTIVEAIRE	10' 3.5"	600 DEG	I	HEAVY	262	2700			4"	18"	2700	1528	-0.833"	1900	430 SS WHERE EXPOSED	LEFT	ALONE
2		5412 SND-2-PSP-F	CAPTIVEAIRE	10' 3.5"	600 DEG	I	HEAVY	262	2700			4"	18"	2700	1528	-0.833"	2000	430 SS WHERE EXPOSED	RIGHT	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)					LIGHT(S)			UTILITY CABINET(S)						FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
												FIRE SYSTEM		ELECTRICAL	SWITCHES		
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE	MODEL #	QUANTITY		
1		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	5	L55 SERIES E26	NO							YES	502 LBS
2		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	5	L55 SERIES E26	NO							YES	531 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		LEFT QUARTER END PANEL 27" TOP WIDTH, 0" BOTTOM WIDTH, 27" HIGH 430 SS.
2		RIGHT END STANDOFF(FIN/SLP) 3" WIDE 54" LONG INSULATED.
		RIGHT WALL AS END PANEL.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1		Front	123.5"	20"	6"	MUA	12"	24"		633	0.179"
						MUA	12"	24"		633	0.179"
						MUA	12"	24"		633	0.179"
2		Front	126.5"	20"	6"	MUA	12"	28"		666	0.169"
						MUA	12"	28"		666	0.169"
						MUA	12"	28"		666	0.169"

WALL-MOUNT UTILITY CABINET

UTILITY CABINET(S)							
HOOD NO	LOCATION	SIZE	FIRE SYSTEM		ELECTRICAL	SWITCHES	WEIGHT
			TYPE	SIZE	MODEL #	QUANTITY	
1	WALL MNT	12"x66"x24"	TANK FS	4.0/4.0/4.0	SC-311110MA	1 LIGHT 1 FAN	440.00 LBS

FIRE SYSTEM INFORMATION - JOB#6330024

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0/4.0	60	59	WALL UTILITY CABINET LEFT	N/A

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS

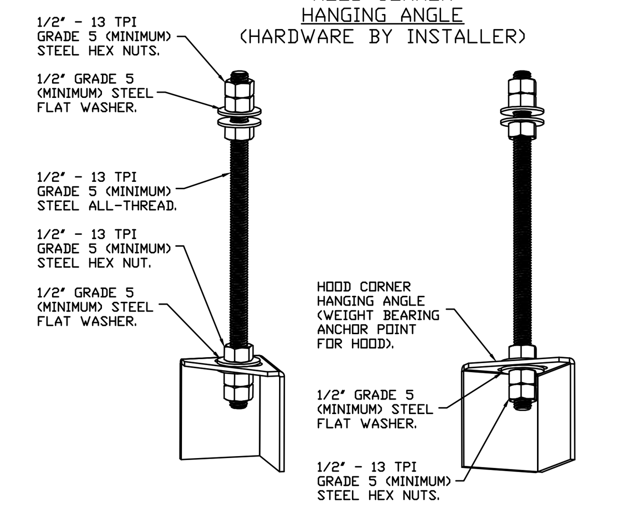
SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

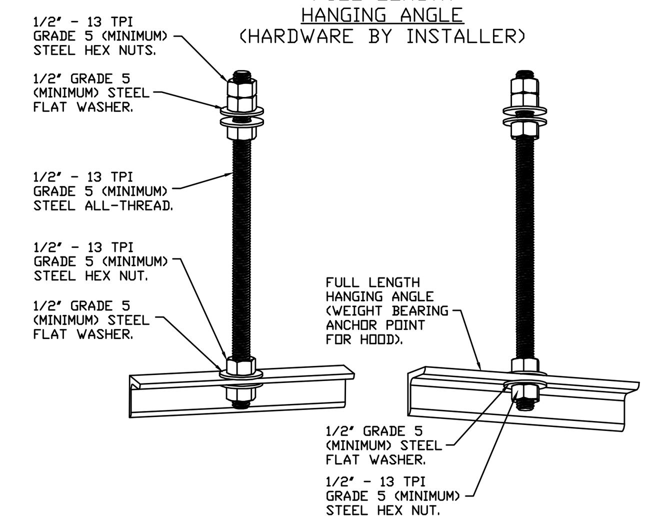
HOOD CORNER
HANGING ANGLE
(HARDWARE BY INSTALLER)



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.

FULL LENGTH
HANGING ANGLE
(HARDWARE BY INSTALLER)



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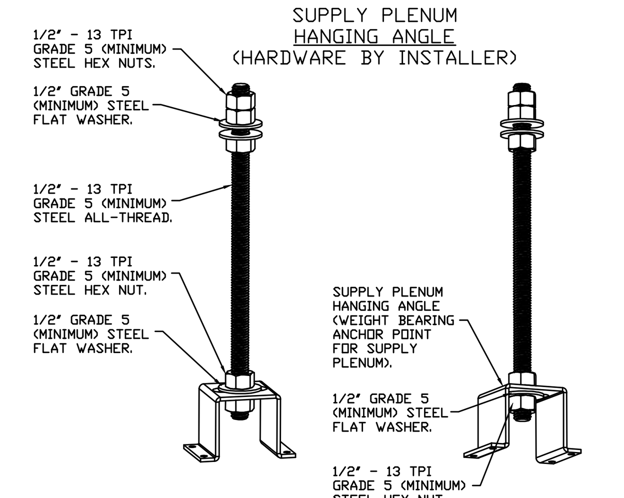
SUPPLY PLENUM
HANGING ANGLE
(HARDWARE BY INSTALLER)



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REVISIONS

	DESCRIPTION	DATE:
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Panda Express - Sheppard AFB (D22900) - rev1
SHEPPARD AFB, TX, 76311

DATE: 11/10/2023

DWG.#: 6330024

DRAWN BY: AH-83

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 1

PEC
PIVOT ENGINEERING CONSULTANTS INC.
11226 EVERGREEN LOOP
CORONA, CA 92883
(909) 610-5364

BID SET | 11/10/2023 | NOT FOR CONSTRUCTION

PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

REVISIONS:

ISSUE DATE:

1	35% SUBMITTAL	06/23/2023
2	95% SUBMITTAL	10/04/2023
3	BID SET	11/10/2023

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PANDA PROJECT #:

ARCH PROJECT #:

GARY WANG
& ASSOCIATES, INC.
1000 Corporate Center Dr., Ste. 550
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http://www.garywang.com

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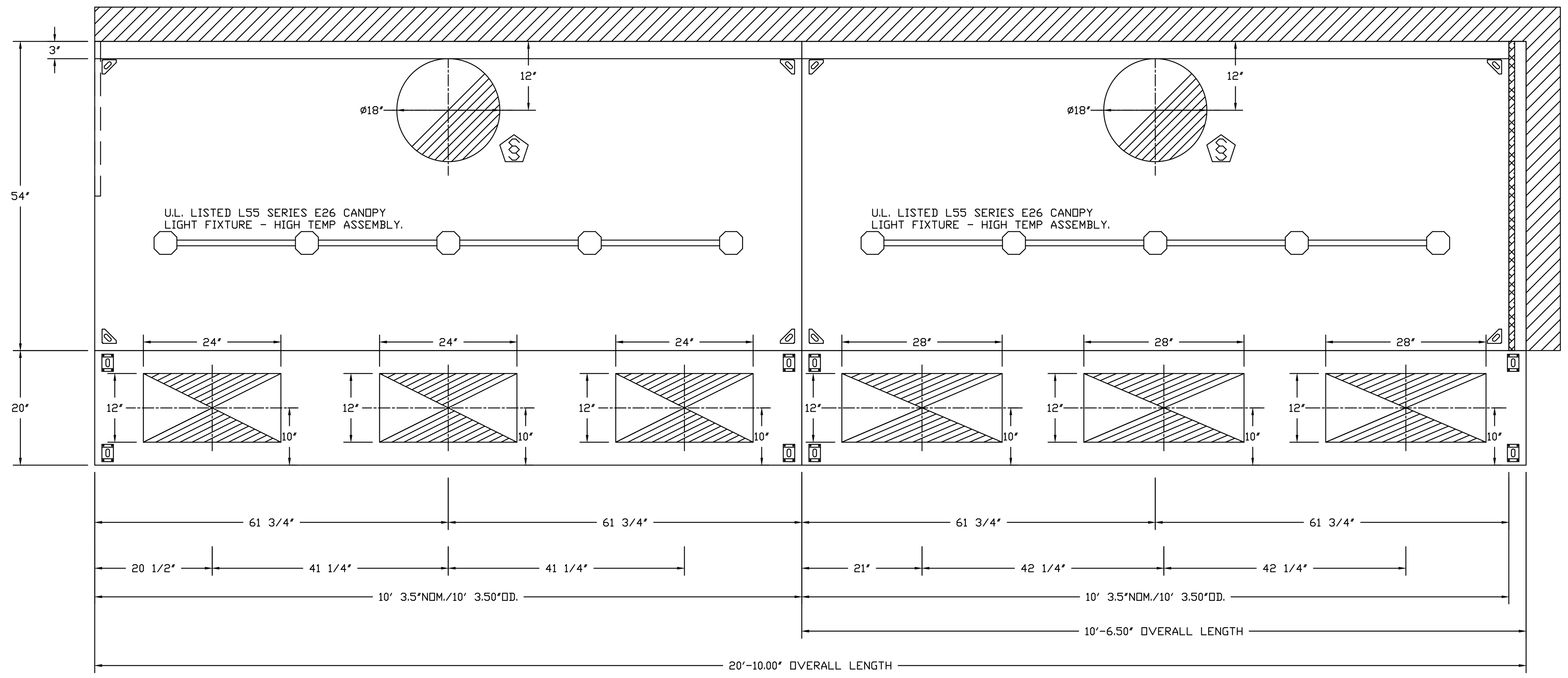
PANDA EXPRESS
BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

M-400

HOOD DETAIL PLAN



PLAN VIEW – HOOD #1
10' 3.50" LONG 5412SND-2-PSP-F

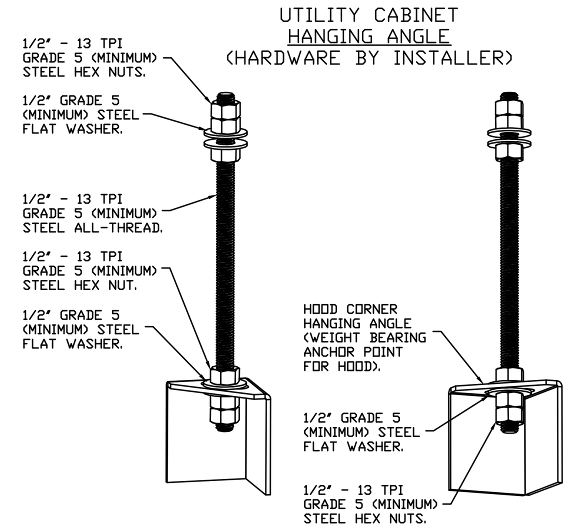
PLAN VIEW – HOOD #2
10' 3.50" LONG 5412SND-2-PSP-F

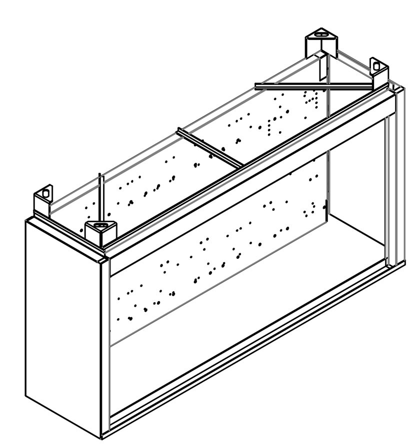
WALL-MOUNT UTILITY CABINET
ASSEMBLY INSTRUCTIONS

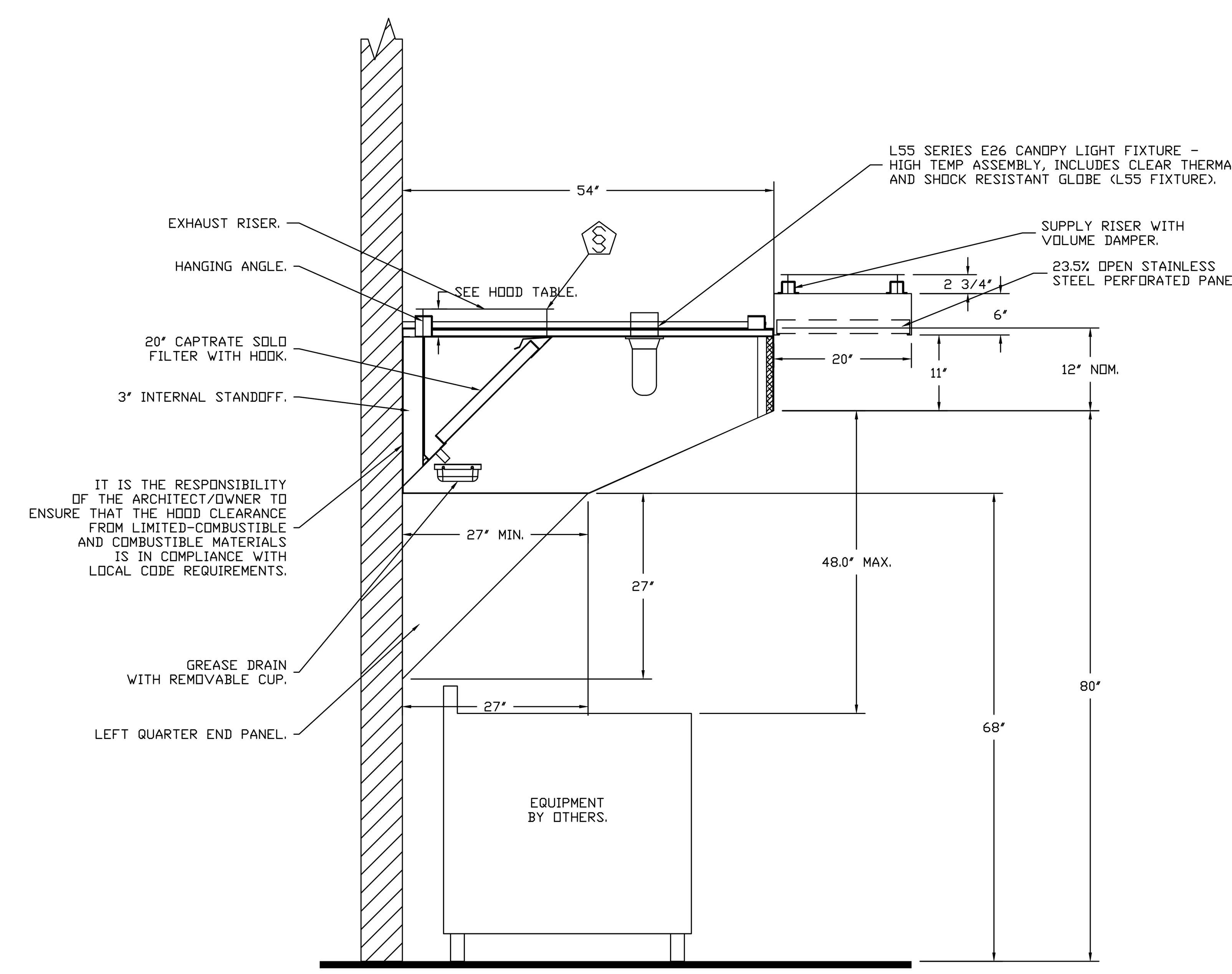
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH UTILITY CABINET HANGING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

CABINET TO BE HUNG BY HOOD INSTALLER. SEE UTILITY CABINET SCHEDULE FOR CABINET SIZE.

UTILITY CABINET
HANGING ANGLE
(HARDWARE BY INSTALLER)







SECTION VIEW – MODEL 5412SND-2-PSP-F
HOOD – #1

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Panda Express - Sheppard AFB (D22900) - rev1
SHEPPARD AFB, TX, 76311

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SHEPPARD AFB, TX
76311

M-401

HOOD DETAIL PLAN

EXHAUST FAN INFORMATION – JOB#6330024

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1		1	DU240HFA	CAPTIVEAIRE	5400	1.620	983	ODP,PREMIUM	5.000	2.9690	3	208	15.8	1227 FPM	308	19.5

CONDENSER DETAILS

FAN UNIT NO	TAG	FAN UNIT MODEL #	CONDENSER NO	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX FUSE SIZE	MIN WIRE SIZE	SEER
2		A3-D.500-24D-MPU	1	5	208-230	3 PHASE	60 HZ	21.4 AMPS	17.4 AMPS	30 AMPS	10 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#6330024

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	WEIGHT (LBS)	SONES
2		1	A3-D.500-24D-MPU	24MF-3-MOD	A3-D.500	3600	5000	1.000	1333	ODP,PREMIUM	5.000	4.2120	3	208	15.8	21A	35A	1902	11.8

COILS – JOB#6330024

FAN UNIT NO	TAG	COIL TYPE	DESIGN CFM	COOLING										
				ENTERING DB TEMP	ENTERING WB TEMP	LEAVING DB TEMP	LEAVING WB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	TOTAL CAPACITY	SENSIBLE CAPACITY	LATENT CAPACITY
2		DX	5000	100.0°F	73.0°F	82.3°F	67.2°F	---	---	---	---	100.2 MBH	88.4 MBH	11.8 MBH

FAN UNIT NO	HEATING								
	ENTERING DB TEMP	LEAVING DB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	STEAM PRESSURE	TOTAL CAPACITY	SENSIBLE CAPACITY
2	---	---	---	---	---	---	---	---	---

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2		302193	278018	54°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1		1	GREASE BOX
		1	2 YEAR PARTS WARRANTY
2		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	BUTTERFLY MOD VALVE OPTION FOR MOD SIZE 3 (1" MOD VALVE)
		1	SHIP LOOSE GAS STRAINER 1"
		1	MOTORIZED BACKDRAFT DAMPER FOR A3-D HOUSING - MEETS AMCA CLASS 1A RATING
		1	10 TON 2 CIRCUIT (5/5) MODULAR PACKAGED COOLING OPTION FOR SIZE 3 DF/EH MUA (3,600 TO 6,000 CFM), 208V/230V, 3 PHASE. COOLING THERMOSTAT OR PROGRAMMABLE STAT REQUIRED FOR PROPER OPERATION
		1	DOWNTURN PLENUM FOR SIZE 3 DX COIL MODULE
		1	FREEZESTAT
		1	UNIT MOUNTED VFD FOR USE WITH ECPM03
		1	2 YEAR PARTS WARRANTY

FAN ACCESSORIES

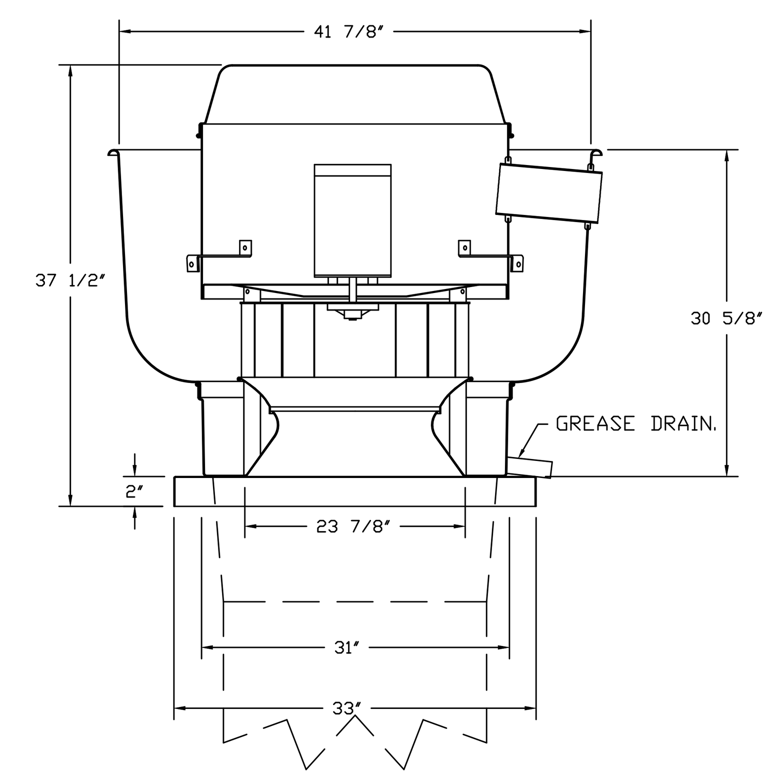
FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1		YES						
2							YES	

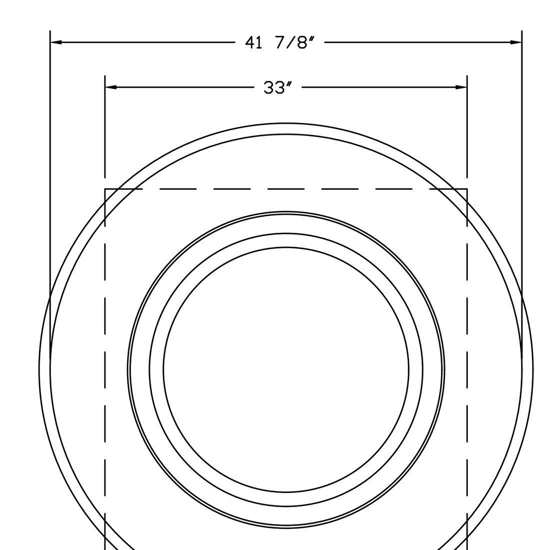
CURB ASSEMBLIES

NO	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	61 LBS	CURB	31.500"W X 31.500"L X 30.000"H VENTED.
2	# 2	114 LBS	CURB	35.000"W X 84.000"L X 20.000"H INSULATED.
	# 2		RAIL	6.000"W X 35.000"L X 20.000"H.

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 - UNIT HMI #1	MOUNTED IN UNIT	NOT AVERAGED	55
FAN #2	HMI #1 - SPACE HMI #0	MOUNTED IN UNIT	NOT AVERAGED	55

FAN #1 DU240HFA - EXHAUST FAN





TOP VIEW

FEATURES:

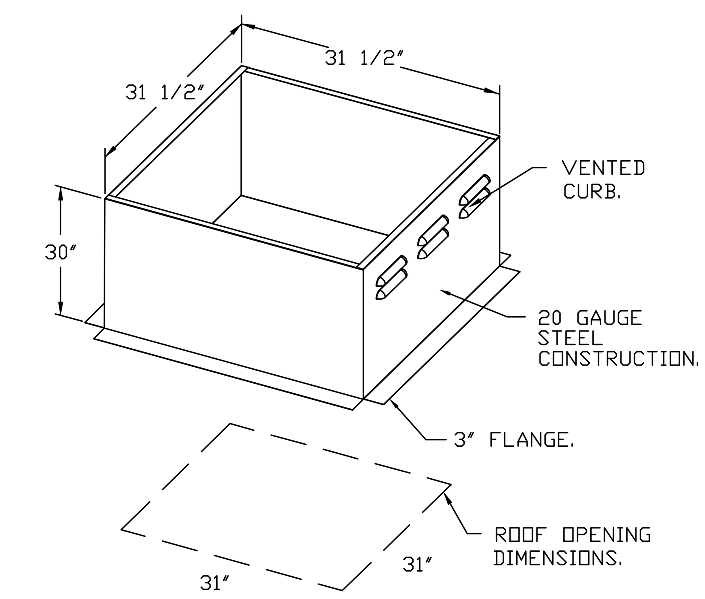
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

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.
- 2 YEAR PARTS WARRANTY.



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SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 3

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PIVOT ENGINEERING CONSULTANTS INC.
11226 EVERGREEN LOOP
CORONA, CA 92883
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PANDA EXPRESS CHINESE KITCHEN

PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

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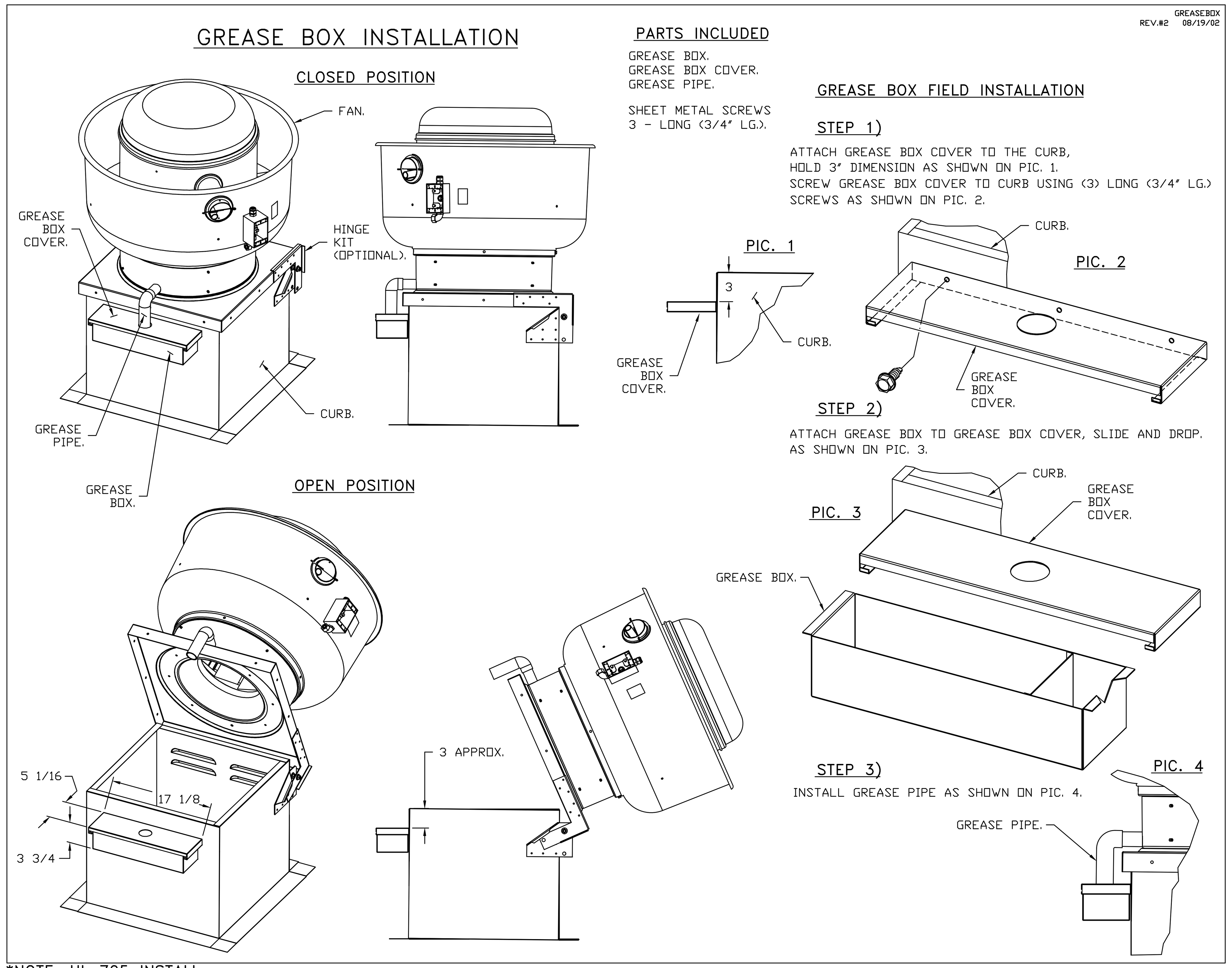
PANDA EXPRESS

BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

M-402

HOOD DETAIL PLAN



*NOTE: UL 705 INSTALL.

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11226 EVERGREEN LOOP
CORONA, CA 92883
(909) 610-5364

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PANDA EXPRESS
BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

M-403

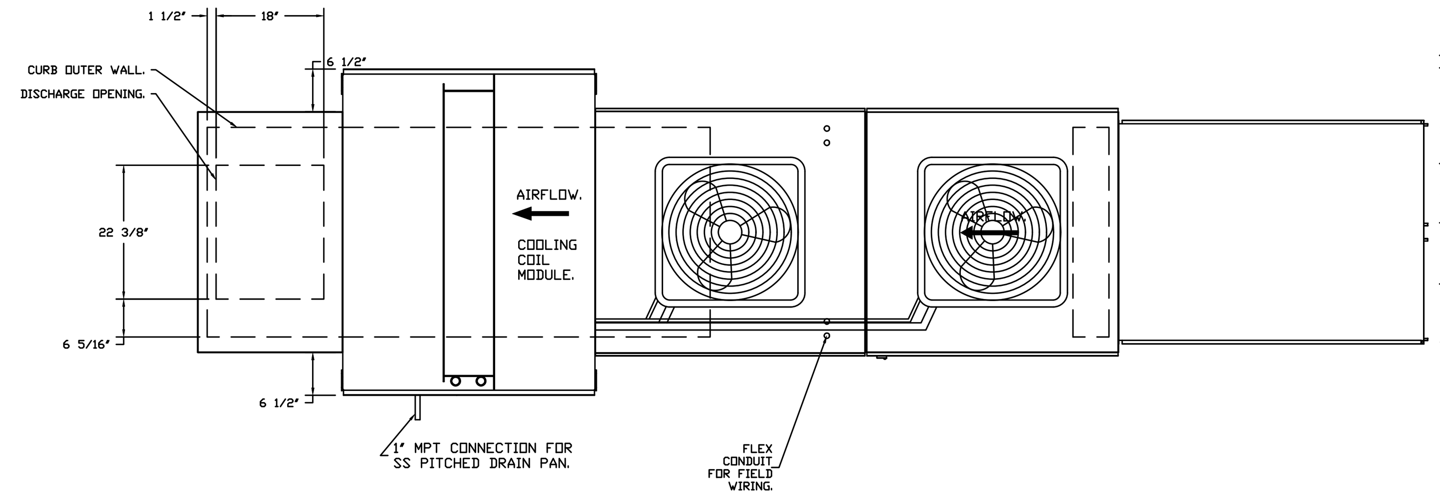
HOOD DETAIL PLAN

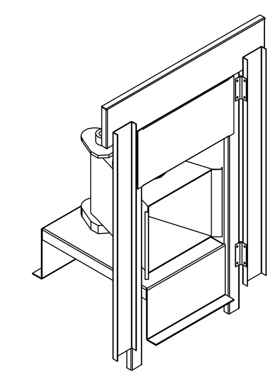
FAN #2 A3-D.500-24D-MPU - HEATER
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 24" MIXED FLOW DIRECT DRIVE FAN AND 12" BURNER.
2. INTAKE HOOD WITH EZ FILTERS.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
5. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE.
6. BUTTERFLY MOD VALVE OPTION FOR MOD SIZE 3 (1" MOD VALVE).
7. SHIP LOOSE GAS STRAINER. TO BE INSTALLED UPSTREAM OF UNIT CONNECTION. 1" CONNECTION.
8. MOTORIZED BACK DRAFT DAMPER 30" X 30" FOR SIZE 3 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, NFBUP-S ACTUATOR INCLUDED.
9. 10 TON, DUAL CIRCUIT (5/5) MODULAR PACKAGED COOLING OPTION FOR SIZE 3 DF/EH MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (3,600 TO 6,000 CFM) WHEN ORDERED WITH OPPOSITE AIRFLOW CONDENSERS ACCESS AND COIL PIPING WILL REMAIN IN STANDARD POSITION. DRAIN AND SLEDS WILL MOVE TO THE OPPOSITE SIDE. ANY OTHER CHANGE WILL REQUIRE CLI. CONDENSERS REQUIRE SEPARATE 208V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION. COIL = 3EZ0602M.
10. DOWNTURN PLENUM FOR SIZE 3 COOLING COIL MODULE - REQUIRED FOR DOWN DISCHARGE COOLING COIL APPLICATIONS.
11. FREEZESTAT FACTORY SET AT 35°F AND 10 MINUTES.
12. UNIT MOUNTED VFD FOR USE WITH ECPM03.
13. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/MPU SECTION).
14. 2 YEAR PARTS WARRANTY.

*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. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. 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 24" x 24".

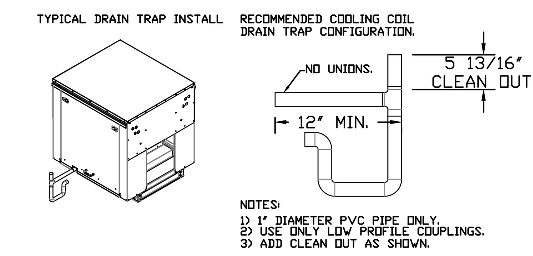
SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 21°F. TEMP. RISE = 54°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY.
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 288452.
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 313535.
OUTPUT BTUs AT ALTITUDE OF 1016 FT. = 278018.
INPUT BTUs AT ALTITUDE OF 1016 FT. = 302193.





DIRECT FIRED (DF) PROFILE PLATE ASSEMBLY



NOTES:
1) 1" DIAMETER PVC PIPE ONLY.
2) USE ONLY LOW PROFILE COUPLINGS.
3) ADD CLEAN OUT AS SHOWN.

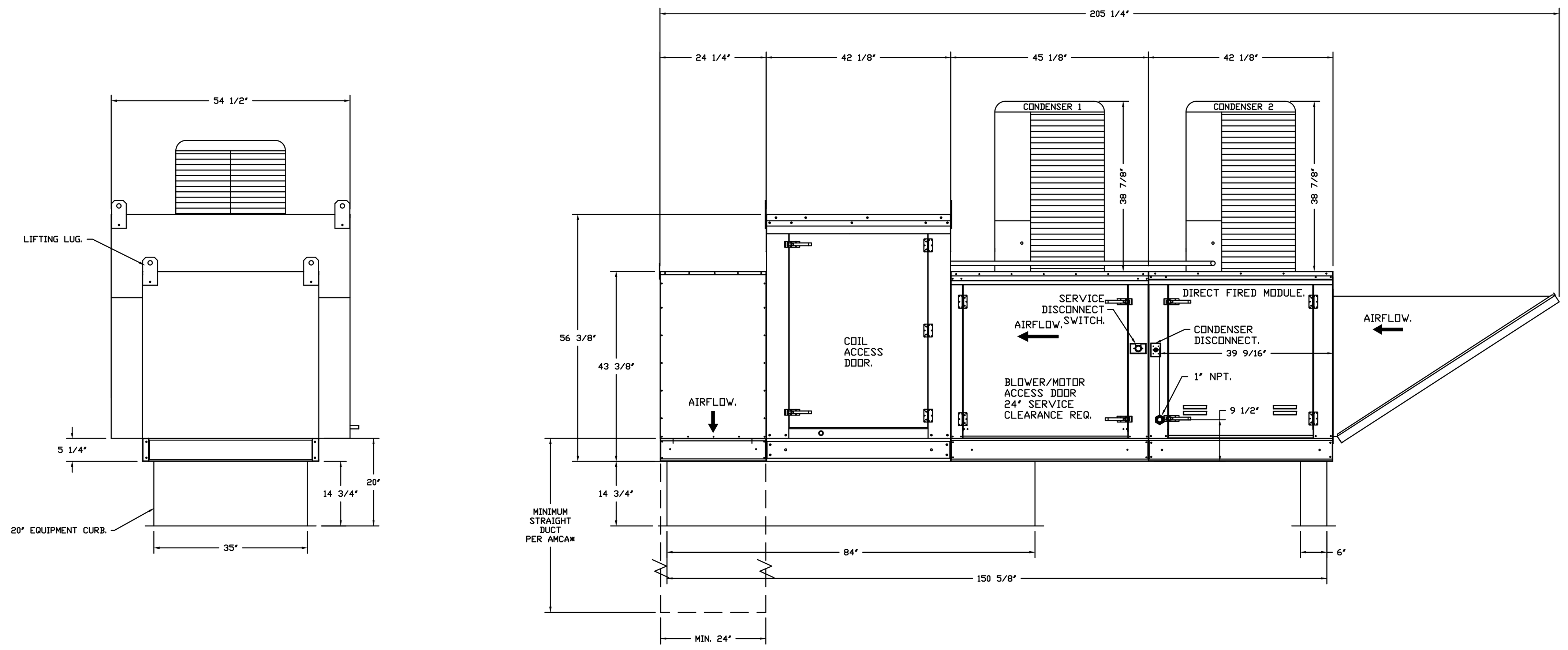
DIRECT FIRED PROFILE PLATE SPECIFICATIONS:

DESCRIPTION:
DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO.: US6629523B2), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER. PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 5PPM OF CARBON MONOXIDE (CO), AND 0.5PPM OF NITROGEN DIOXIDE (NO2)DIRECT FIRED UNITS SHALL BE CONFIGURED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.

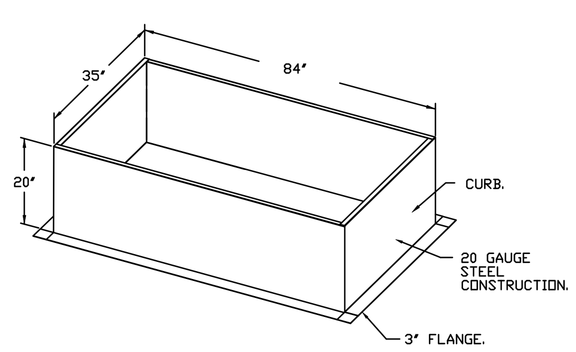
APPLICATION:
SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

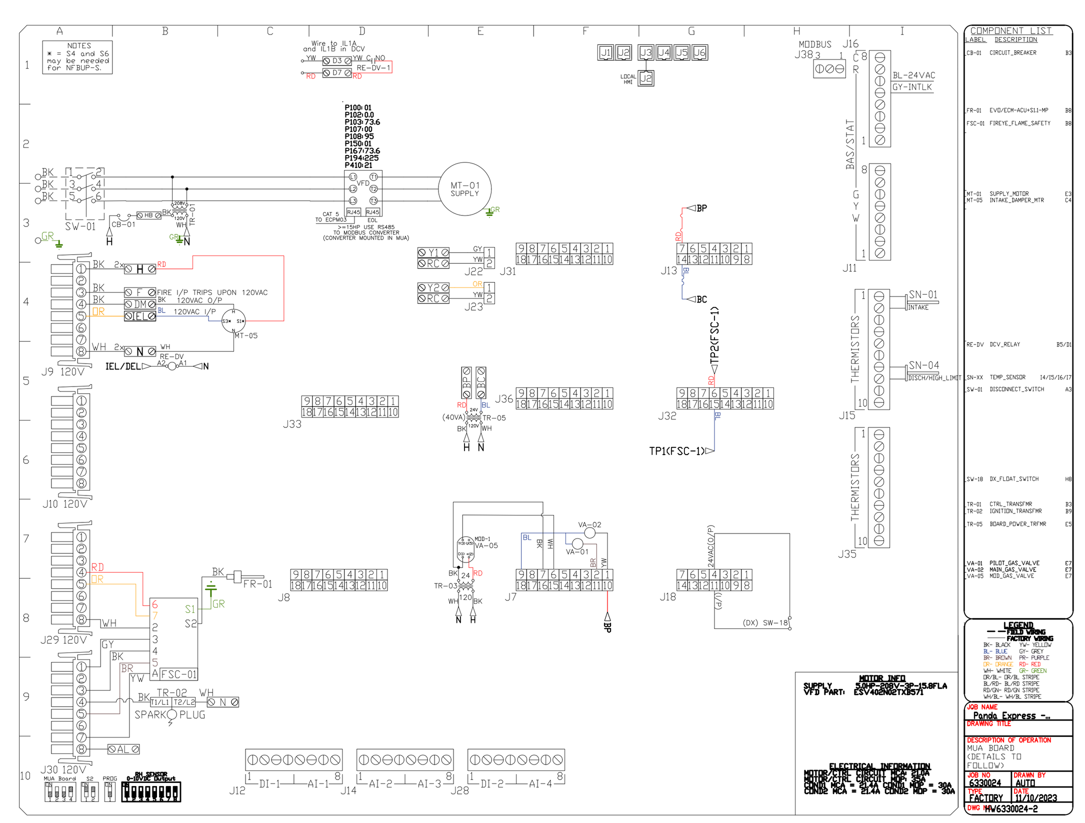
CERTIFICATIONS:
ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY WITH COMBINED SAFETY STANDARDS ANSI Z83.4 AND CSA 3.7 (NON-RECIRCULATING DF HEATERS) AND ANSI Z83.18 (RECIRCULATING DF HEATERS).

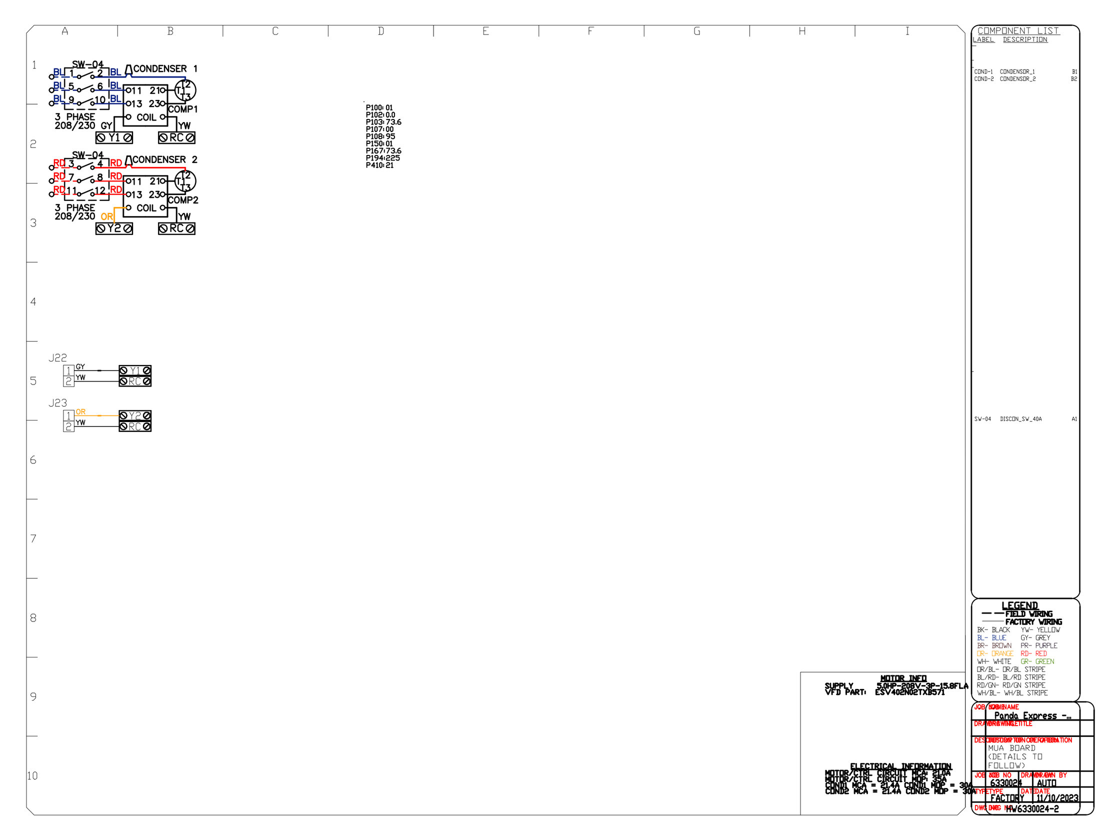
GENERAL CONSTRUCTION:
-PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
-PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
-PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
-DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
-SPRING HINGES SHALL BE MADE FROM PLATED STEEL.

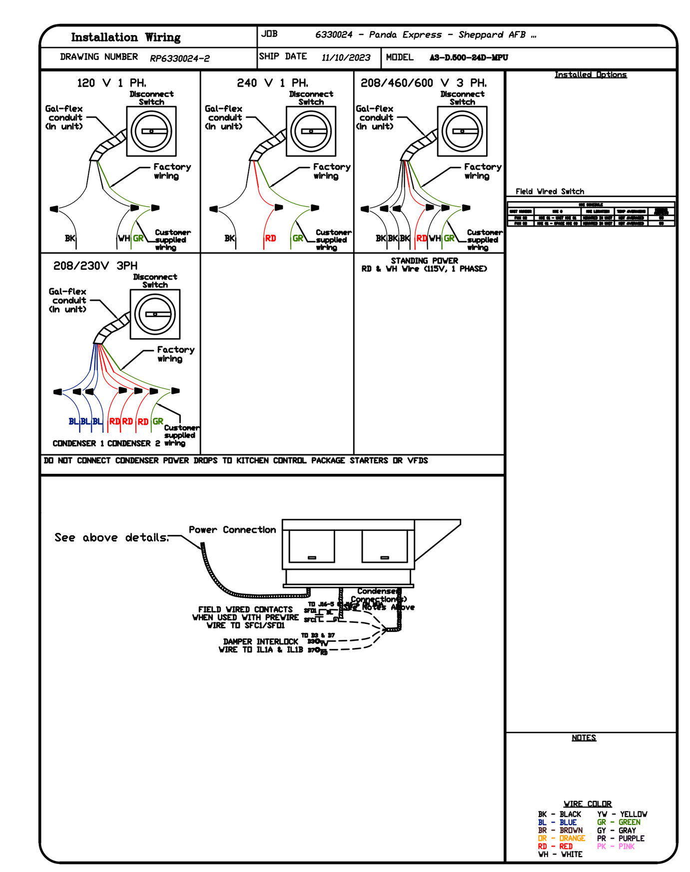


OPTIONS:
- FULL BOTTOM CORNERS.









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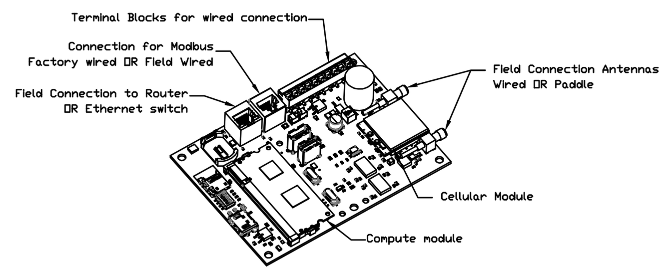
76311

M-404

HOOD DETAIL PLAN

ELECTRICAL PACKAGE – JOB#6330024

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	ϕ	HP	VOLT	FLA
1		SC-311110MA	WALL UTILITY CABINET LEFT	SHIP LOOSE W/ PREWIRE	1 LIGHT	SMART CONTROLS THERMOSTATIC CONTROL W/ RELAY ON/OFF WITH SUPPLY	EXHAUST	3	5.000	208	15.8
					1 FAN		SUPPLY	3	5.000	208	15.8



CASlink Monitor and Control

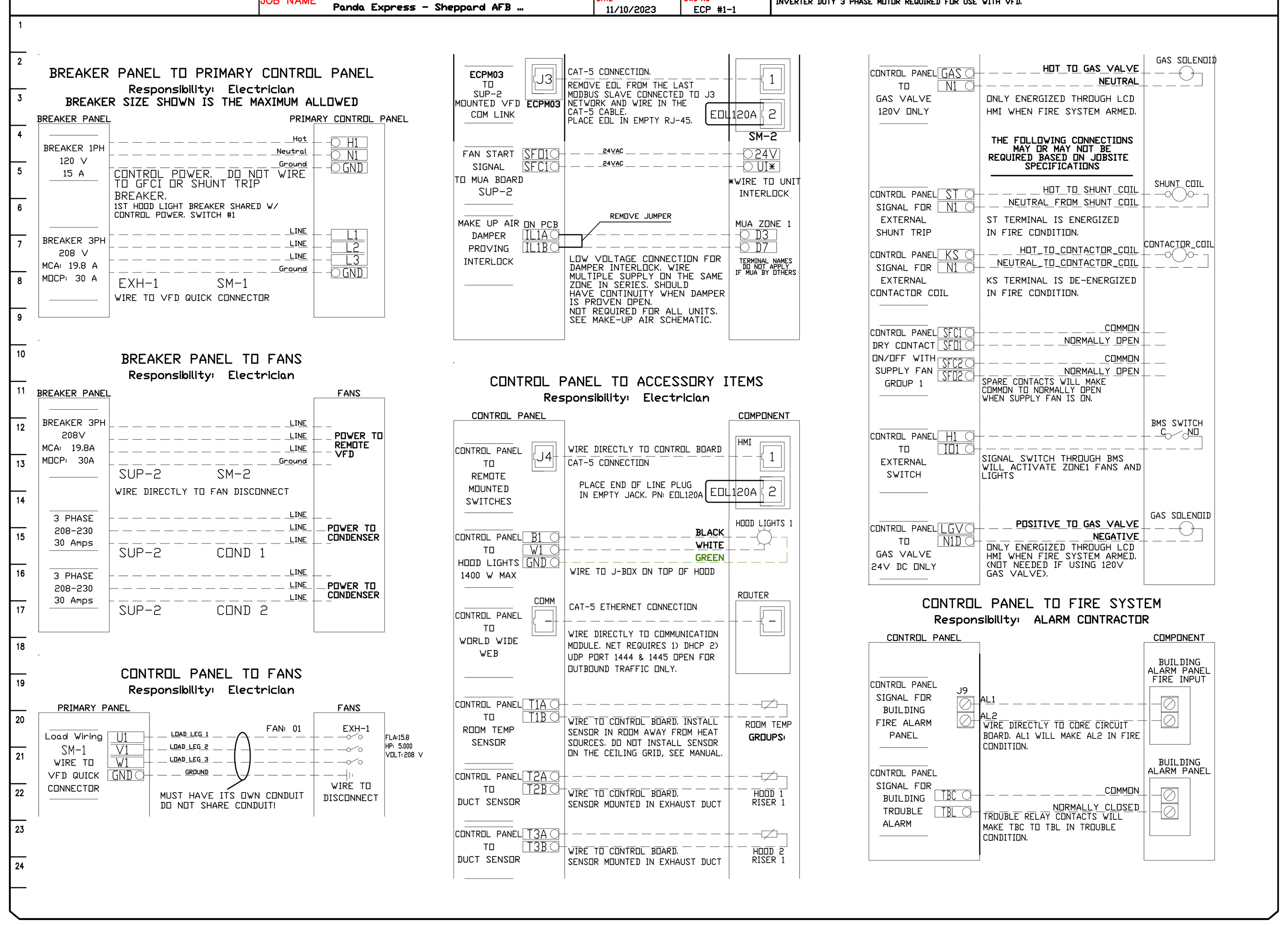
– Hood control panel to support communications to cloud-based Building Management System.
– Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
– Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.
– Hood Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

MONITORING AND CONTROL POINTS LIST

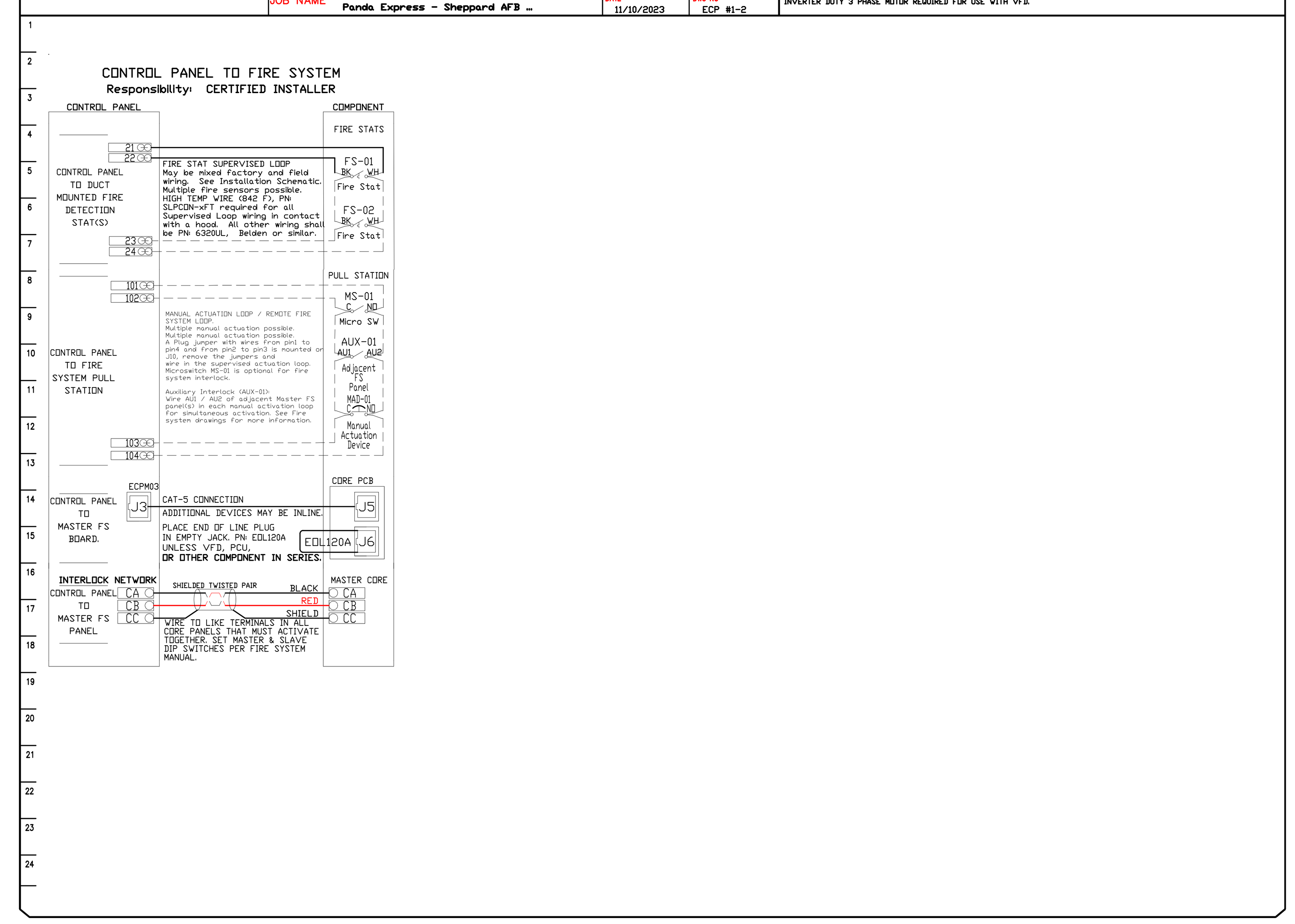
DCV Packages	Function
Room Temperature	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR
Fan Amperage	MONITOR
Fan Power	MONITOR
VFD Faults	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Prep Time Button	MONITOR & CONTROL
Fans Button	MONITOR & CONTROL
Lights Button	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

SC Packages	Function
Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR
MUA DIscharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Fans Button(s)	MONITOR & CONTROL
Lights Button(s)	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

JOB NO 6330024 | MODEL NUMBER SC-311110MA | JOB NAME Panda Express – Sheppard AFB ... | DATE 11/10/2023 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-1 | DESCRIPTION OF OPERATION



JOB NO 6330024 | MODEL NUMBER SC-311110MA | JOB NAME Panda Express – Sheppard AFB ... | DATE 11/10/2023 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-2 | DESCRIPTION OF OPERATION



JOB NO 6330024 | MODEL NUMBER SC-311110MA | JOB NAME Panda Express – Sheppard AFB ... | DATE 11/10/2023 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-3 | DESCRIPTION OF OPERATION: Fire System #1 TANK FS – 4.0/4.0/4.0.

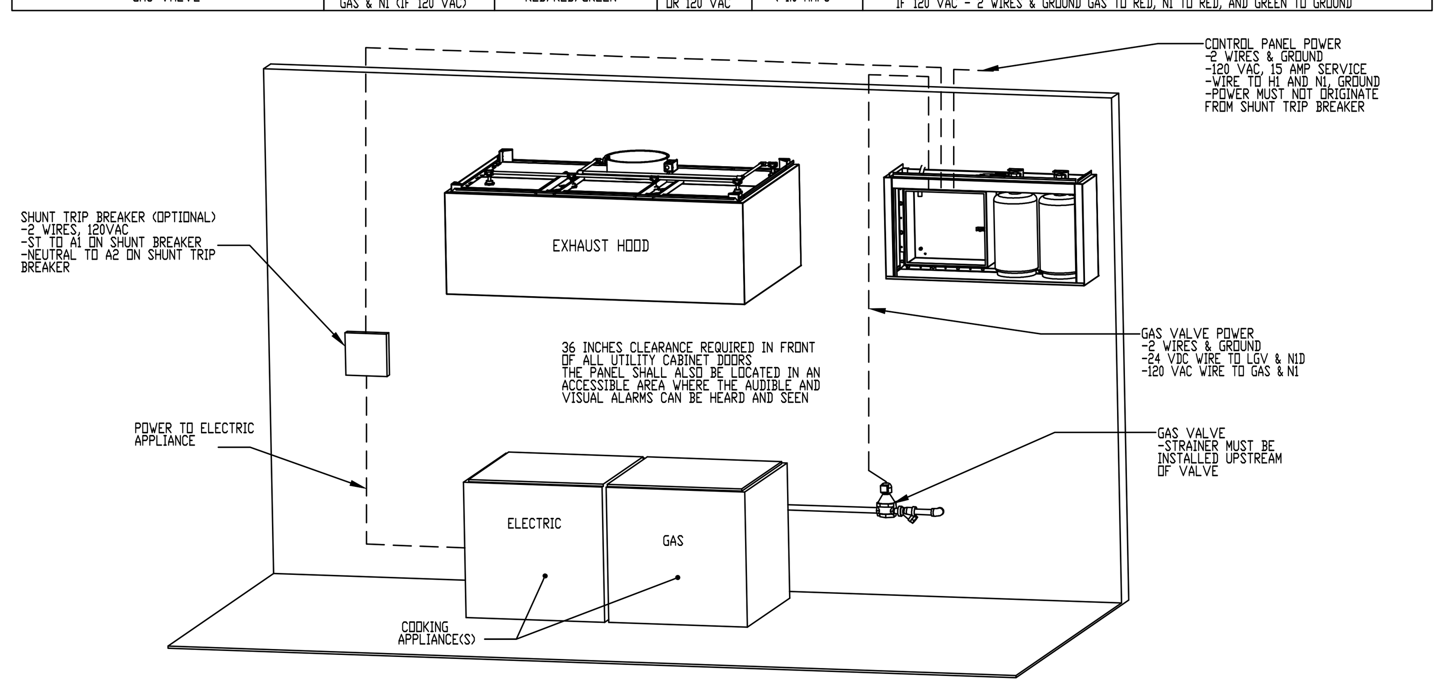
WALL MOUNT UTILITY CABINET CAS ELECTRIC WET CHEMICAL PROTECTION ELECTRICAL DETAIL

02/11/2021 Rev. 02

FS-1: MASTER

ELECTRICIAN:
1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
2. WIRE ALL FANS PER INCLUDED SCHEMATIC
3. WIRE SHUNT TRIP BREAKER (OPTIONAL)
4. WIRE UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	LGV & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, LGV TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

JOB NO 6330024 | MODEL NUMBER SC-311110MA | JOB NAME Panda Express – Sheppard AFB ... | DATE 11/10/2023 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-4 | DESCRIPTION OF OPERATION: Fire System #1 TANK FS – 4.0/4.0/4.0.

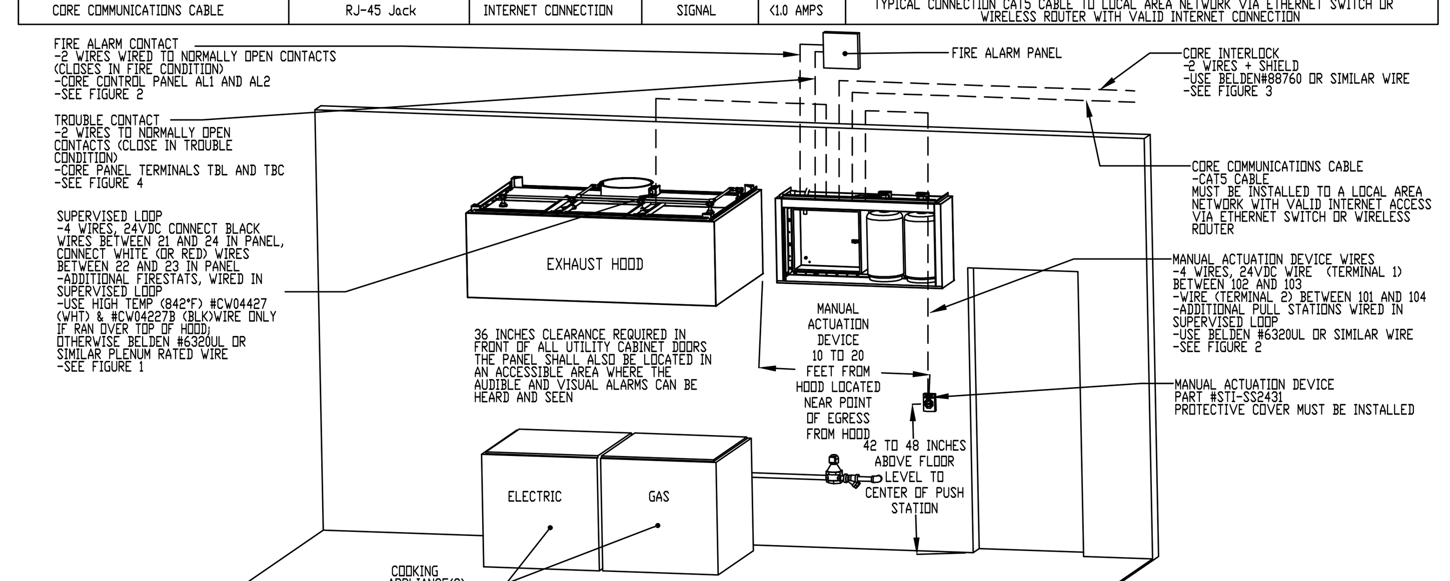
WALL MOUNT UTILITY CABINET CAS ELECTRIC WET CHEMICAL PROTECTION LOW-VOLTAGE DETAIL

02/05/2018 Rev. 1

FS-1: MASTER

ALARM CONTRACTOR:
1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL HOOKUP OF SYSTEM
3. VERIFY FINAL FIRE SYSTEM TEST

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION STI-6531B
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (842°F) #CW04427 (WHT) & #CW04427B (BLK)WIRE OR SIMILAR ONLY IF RAN OVER TOP OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE; SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) ILA, TO CORE SYSTEM (2) ILA. CORE SYSTEM (1) ILB, TO CORE SYSTEM (2) ILB. CORE SYSTEM (1) ILC, TO CORE SYSTEM (2) ILC. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

REVISIONS

	DESCRIPTION	DATE
△		
△		
△		
△		

CAPTIVEAIRE
www.captiveaire.com
Southern CA National Accounts
3002 Dow Ave., Suite 202, Tustin, CA, 92780 PHONE: (714) 677 - 2963 EMAIL: reg83@captiveaire.com

Panda Express – Sheppard AFB (D22900) – rev1
SHEPPARD AFB, TX, 76311

DATE: 11/10/2023
DWG.#: 6330024
DRAWN BY: AH-83
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 6

PEC
PIVOT ENGINEERING CONSULTANTS INC.
11226 EVERGREEN LOOP
CORONA, CA 92883
(909) 610-5364

BID SET | 11/10/2023 | NOT FOR CONSTRUCTION

PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

REVISIONS:

ISSUE DATE:

1	35% SUBMITTAL	06/23/2023
2	95% SUBMITTAL	10/04/2023
3	BID SET	11/10/2023

DRAWN BY: STAFF

PANDA PROJECT #:
ARCH PROJECT #:

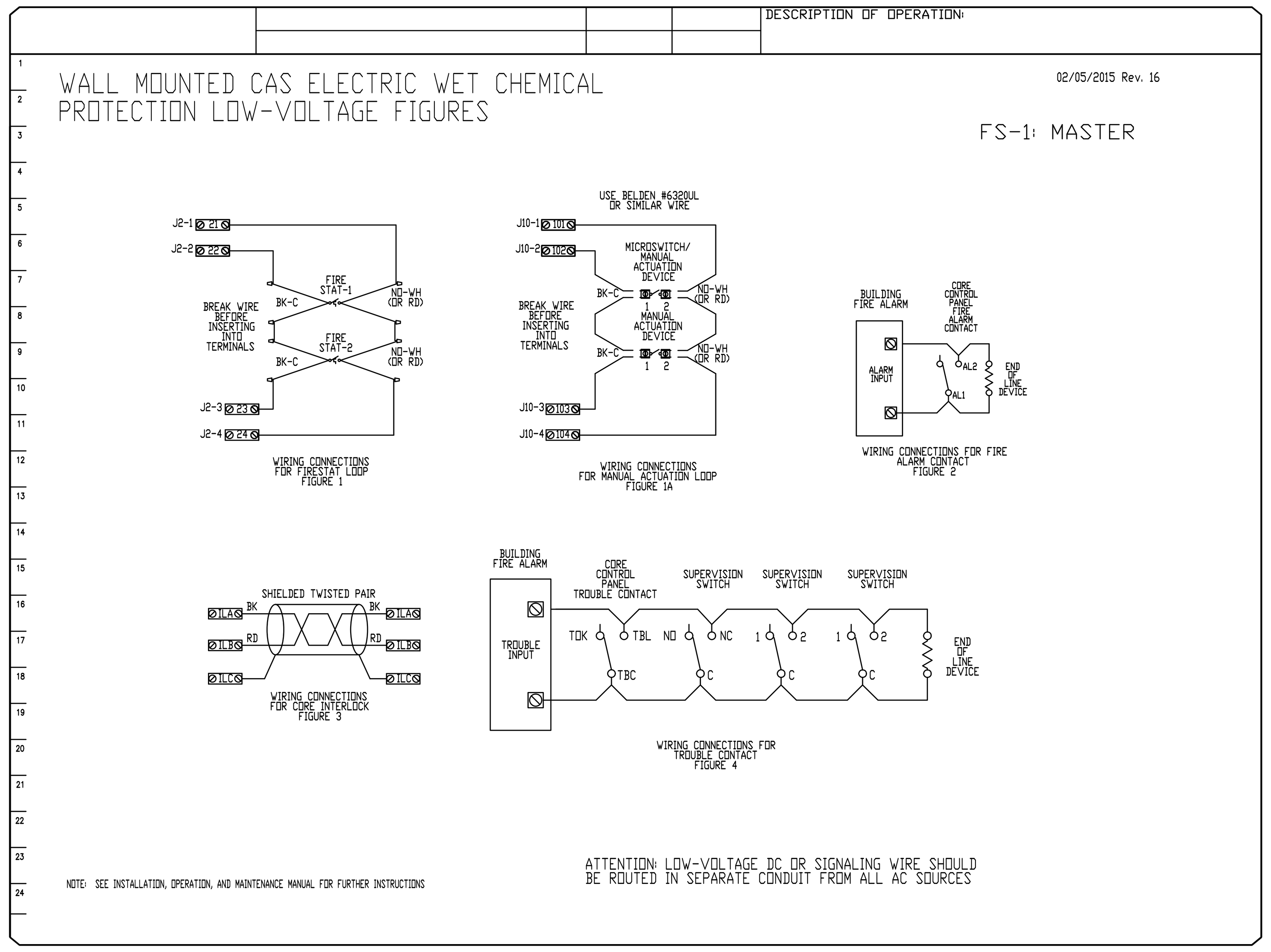
GARY WANG & ASSOCIATES, INC.
1000 Corporate Center Dr., Ste. 550
Monterey Park, CA 91754
TEL: (626) 288-6898 FAX: (626) 768-7101
http://www.garywang.com

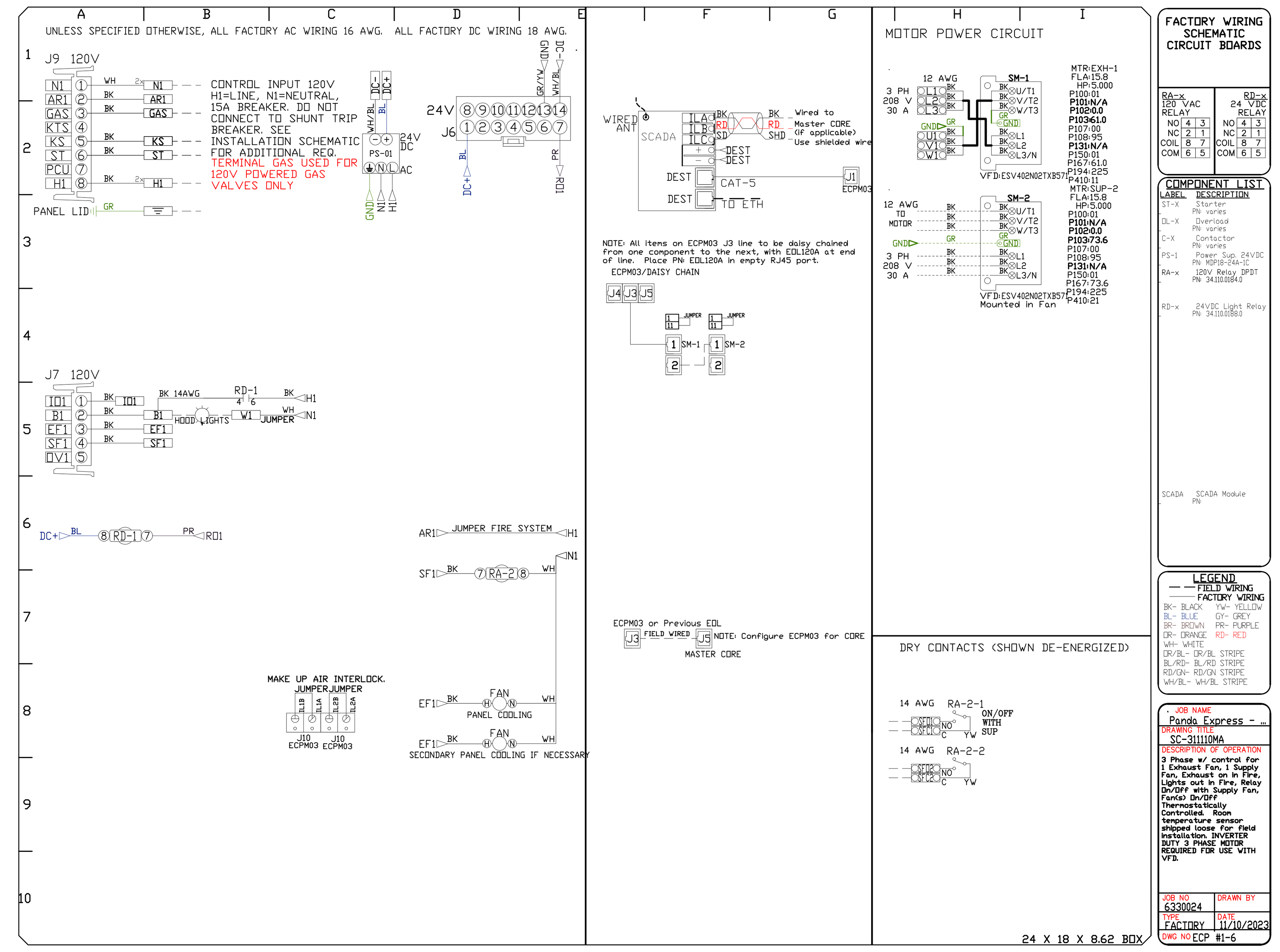
FOR INFORMATION ONLY

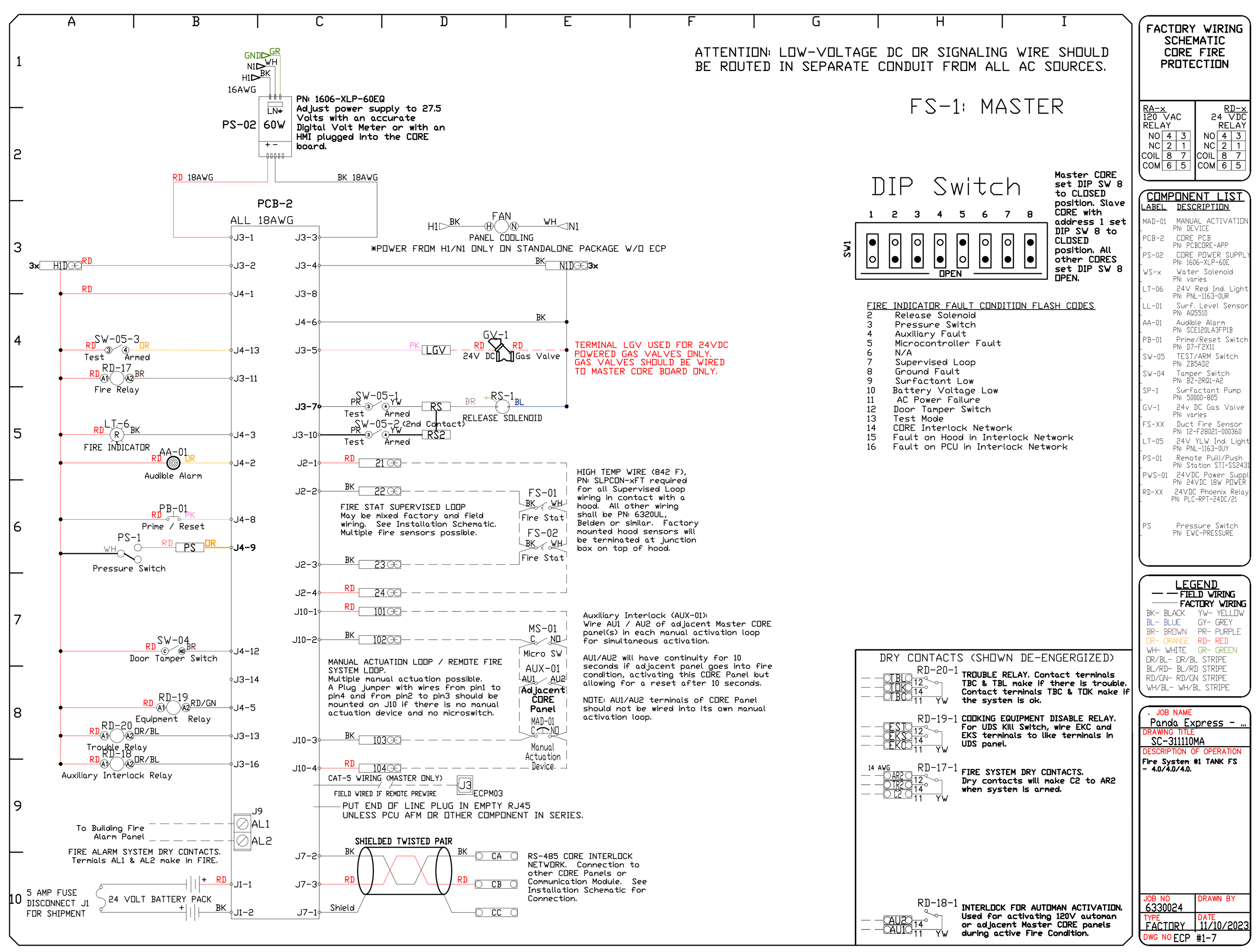
PANDA EXPRESS
BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

M-405

HOOD DETAIL PLAN







REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE

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Southern CA National Accounts

3002 Dow Ave., Suite 202, Tustin, CA, 92780 PHONE: (714) 677 - 2963 EMAIL: reg83@captiveaire.com

Panda Express - Sheppard AFB (D22900) - rev1

SHEPPARD AFB, TX, 76311

DATE: 11/10/2023

DWG.#: 6330024

DRAWN BY: AH-83

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 7

PEC

PIVOT ENGINEERING CONSULTANTS INC.
11226 EVERGREEN LOOP
CORONA, CA 92883
(909) 610-5364

BID SET | 11/10/2023 | NOT FOR CONSTRUCTION

PANDA EXPRESS CHINESE KITCHEN

PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

REVISIONS:

ISSUE DATE:

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DRAWN BY: STAFF

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PANDA EXPRESS

BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

M-406

HOOD DETAIL PLAN

DUCTWORK #1 PARTS – JOB#6330024 DOUBLE WALL

TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
E1	DW24DWRISER-3	2700				-0.833	0.00	0.00	1	UNAVAILABLE PART OR IT IS MISSING FROM THE PARTS LIST.
E1	DW24DWRISER-3	2700				-0.8325	0.00	0.00	1	UNAVAILABLE PART OR IT IS MISSING FROM THE PARTS LIST.
P1	DW1827DWAJD-3Z-S	2700				-0.002	74.25	1527.89	1	DOUBLE WALL ADJUSTABLE DUCT - 18" INNER DUCT - 3 LAYERS ZERO CLEARANCE - 24" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 24.5" / ADJUSTMENT = 13.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P2	DW1822DWRNDADP3ASY17-3Z-S	2700				-0.018	47.00	1527.89	1	DOUBLE WALL DUCT - 18" X 22" RND2RND ADAPTER - 17" TALL - 3 LAYERS ZERO CLEARANCE - 24" X 28" STAINLESS STEEL OUTER SHELL. STANDARD ADAPTER.
P3	DW22DWTEASY-3Z-S	5400		1		-0.3982	90.52	2045.60	1	DOUBLE WALL DUCT - 22" INNER TEE DUCT - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL.
P4	DW2247DWAJD-3Z-S	5400				-0.012	156.57	2045.60	1	DOUBLE WALL ADJUSTABLE DUCT - 22" INNER DUCT - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 48.5" / ADJUSTMENT = 30.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P5	DW2235DWLT-3Z-S	5400				-0.01	85.35	2045.60	1	DOUBLE WALL DUCT - 22" INNER DUCT, 35" LONG - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL.
P6	DW2290DWASY-3Z-S	5400				-0.2811	76.54	2045.60	1	DOUBLE WALL DUCT - 22" INNER 90 DUCT - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL.
P7	DW2227DWAJD-3Z-S	5400				-0.005	83.04	2045.60	1	DOUBLE WALL ADJUSTABLE DUCT - 22" INNER DUCT - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 24.5" / ADJUSTMENT = 13.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P8 ASSEMBLED W/P9	DW2235DWLTTP-3Z-S	5400				-0.01	86.90	2045.60	1	DOUBLE WALL DUCT - 22" INNER DUCT, 35" LONG - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL - USED WITH TRANSITION PLATE.
P9 ASSEMBLED W/P8 O=B	DW3122TPDBEX	5400					23.00	2045.60	1	DUCT TO CURB TRANSITION 3/4" DOWN TURN, 31-1/2" CURB TO 22" DUCT, 16 GA ALUMINIZED. NON-STANDARD PART. FOR USE WITH EXHAUST FANS.
SYSTEM AT P9						-1.6203	0.00			
P10	DW2832SADKIT						11.18		1	DUCT - HORIZONTAL SADDLE SUPPORT KIT, USED WITH 28" OD - INCLUDES UNI-STRUT CUT TO LENGTH, DW2832SAD, & HARDWARE BAG 4.
P11	DW2832SADKIT						11.18		1	DUCT - HORIZONTAL SADDLE SUPPORT KIT, USED WITH 28" OD - INCLUDES UNI-STRUT CUT TO LENGTH, DW2832SAD, & HARDWARE BAG 4.
P12	DW2247DWAJD-3Z-S	2700				-0.003	156.57	1022.80	1	DOUBLE WALL ADJUSTABLE DUCT - 22" INNER DUCT - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 48.5" / ADJUSTMENT = 30.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P13	DW2832SADKIT						11.18		1	DUCT - HORIZONTAL SADDLE SUPPORT KIT, USED WITH 28" OD - INCLUDES UNI-STRUT CUT TO LENGTH, DW2832SAD, & HARDWARE BAG 4.
P14	DW2247DWLT-3Z-S	2700				-0.003	114.76	1022.80	1	DOUBLE WALL DUCT - 22" INNER DUCT, 47" LONG - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL.
P15	DW2832SADKIT						11.18		1	DUCT - HORIZONTAL SADDLE SUPPORT KIT, USED WITH 28" OD - INCLUDES UNI-STRUT CUT TO LENGTH, DW2832SAD, & HARDWARE BAG 4.
P16	DW2290DWASY-3Z-S	2700				-0.0455	76.54	1022.80	1	DOUBLE WALL DUCT - 22" INNER 90 DUCT - 3 LAYERS ZERO CLEARANCE - 28" STAINLESS STEEL OUTER SHELL.
P17	DW1822DWRNDADP3ASY17-3Z-S	2700				-0.018	47.00	1527.89	1	DOUBLE WALL DUCT - 18" X 22" RND2RND ADAPTER - 17" TALL - 3 LAYERS ZERO CLEARANCE - 24" X 28" STAINLESS STEEL OUTER SHELL. STANDARD ADAPTER.
P18	DW1827DWAJD-3Z-S	2700				-0.002	74.25	1527.89	1	DOUBLE WALL ADJUSTABLE DUCT - 18" INNER DUCT - 3 LAYERS ZERO CLEARANCE - 24" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 24.5" / ADJUSTMENT = 13.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
	3M-2000PLUS						0.80		6	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS.
	DW22DWCLASY-3Z-S						9.49		4	DUCT - 22" DUCT - 28" DOUBLE "V" CLAMP - 3Z INSULATION & SINGLE "V" CLAMP INCLUDED - ZERO CLEARANCE.
TOTAL WEIGHT							1279.77			

<u>SINGLE WALL FACTORY BUILT DUCTWORK</u>

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

DUCT DIAMETER	HORIZONTAL SUPPORT (FT)	VERTICAL WALL SUPPORT (FT)	VERTICAL CURB SUPPORT (FT)
5"	10'	10'	24'
6"	10'	10'	24'
7"	10'	10'	24'
8"	10'	10'	24'
10"	10'	10'	24'
12"	10'	10'	24'
14"	10'	10'	24'
16"	10'	10'	24'
18"	10'	10'	24'
20"	10'	10'	24'
22"	10'	10'	24'
24"	10'	10'	24'
26"	10'	10'	24'
28"	10'	10'	24'
30"	10'	10'	24'
32"	10'	10'	24'
34"	10'	10'	24'
36"	10'	10'	24'

<u>DOUBLE WALL FACTORY BUILT DUCTWORK</u>

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (FT)
5"	7'
6"	7'
7"	7'
8"	7'
10"	7'
12"	7'
14"	7'
16"	7'
18"	5'
20"	5'
22"	5'
24"	5'
26"	5'
28"	5'
30"	5'
32"	5'
34"	5'
36"	5'

VERTICAL			
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
2R & 2R HT (5"-16")	20'	24'	24'
2R (18")	18'	24'	24'
3R & 3Z (5"-24")	10'	24'	24'
3Z (26" -36")	10'	20'	20'

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

REVISIONS

DESCRIPTION	DATE:

www.captiveaire.com
Southern CA National Accounts
3002 Dow Ave., Suite 202, Tustin, CA, 92780 PHONE: (714) 677 - 2963 EMAIL: reg83@captiveaire.com

Panda Express - Sheppard AFB (D22900) - rev1
SHEPPARD AFB, TX, 76311

DATE: 11/10/2023

DWG.#: 6330024

DRAWN BY: AH-83

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 8

PIVOT ENGINEERING CONSULTANTS INC.
11226 EVERGREEN LOOP
CORONA, CA 92883
(909) 610-5364

BID SET | 11/10/2023 | NOT FOR CONSTRUCTION

PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

REVISIONS:

ISSUE DATE:

1	35% SUBMITTAL	06/23/2023
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DRAWN BY: STAFF

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GARY WANG
& ASSOCIATES, INC.
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TEL: (626) 288-6898 FAX: (626) 768-7101
http://www.garywang.com

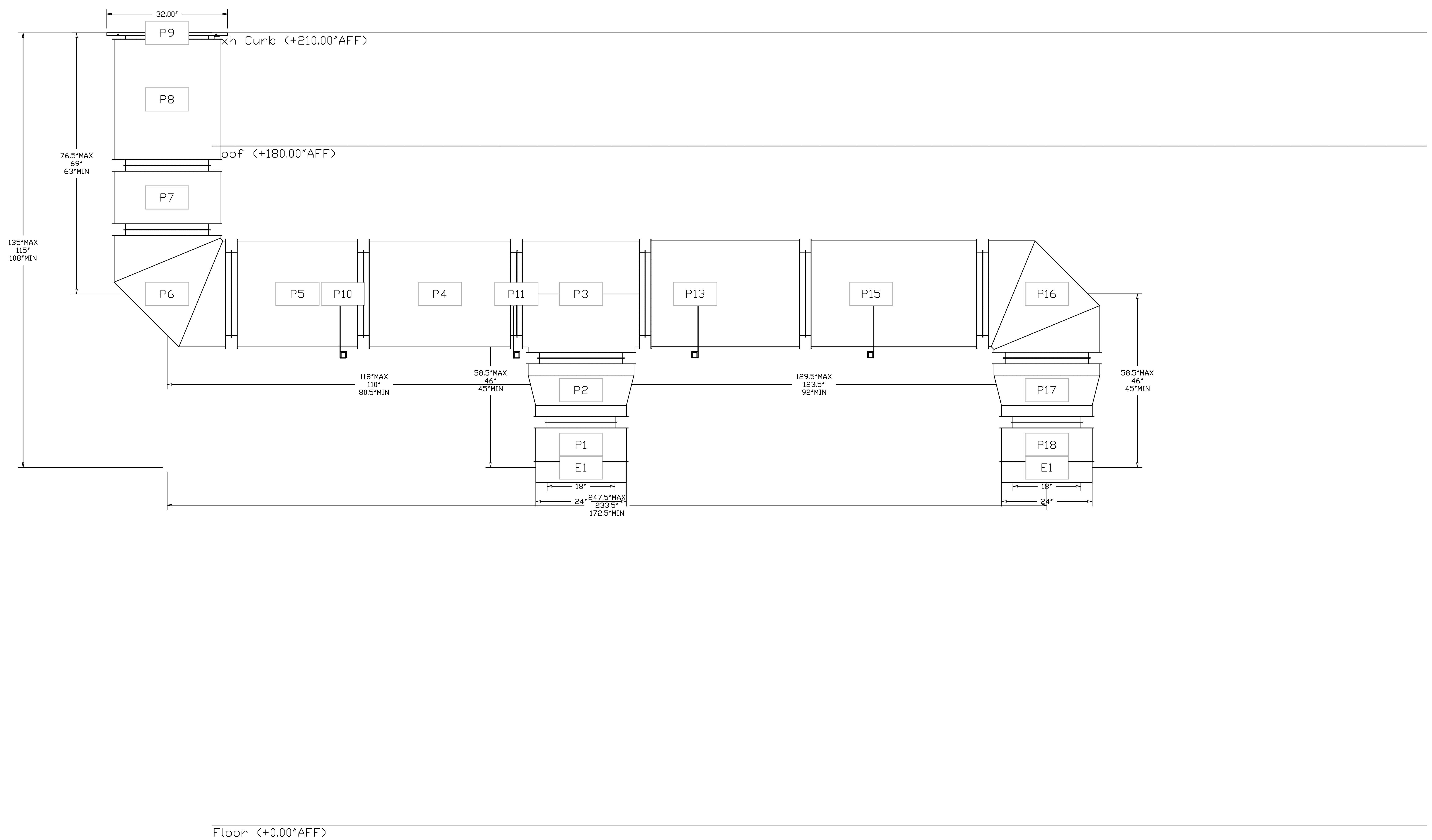
FOR INFORMATION ONLY

PANDA EXPRESS
BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

M-407

HOOD DETAIL PLAN

DUCTWORK #1 FRONT VIEW



NOTE:
GREASE DUCT WORK TO BE PROVIDED AND INSTALLED BY CONTRACTOR. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS. CONTRACTOR TO EMAIL CAPTIVE AIRE AT reg83@captiveaire.com FOR PRICING.

REVISIONS

DESCRIPTION	DATE:

CAPTIVEAIRE
www.captiveaire.com
Southern CA National Accounts
3002 Dow Ave., Suite 202, Tustin, CA, 92780 PHONE: (714) 877 - 2963 EMAIL: reg83@captiveaire.com

Panda Express - Sheppard AFB (DD22900) - rev1
SHEPPARD AFB, TX, 76311

DATE: 11/10/2023
DWG.#: 6330024
DRAWN BY: AH-83
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 9

PEC
PIVOT ENGINEERING CONSULTANTS INC.
11226 EVERGREEN LOOP
CORONA, CA 92883
(909) 610-5364

BID SET | 11/10/2023 | NOT FOR CONSTRUCTION

PANDA EXPRESS CHINESE KITCHEN

PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

REVISIONS:

ISSUE DATE:

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2	95% SUBMITTAL	10/04/2023
3	BID SET	11/10/2023

DRAWN BY: STAFF

PANDA PROJECT #:
ARCH PROJECT #:

GARY WANG & ASSOCIATES, INC.
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http://www.garywang.com

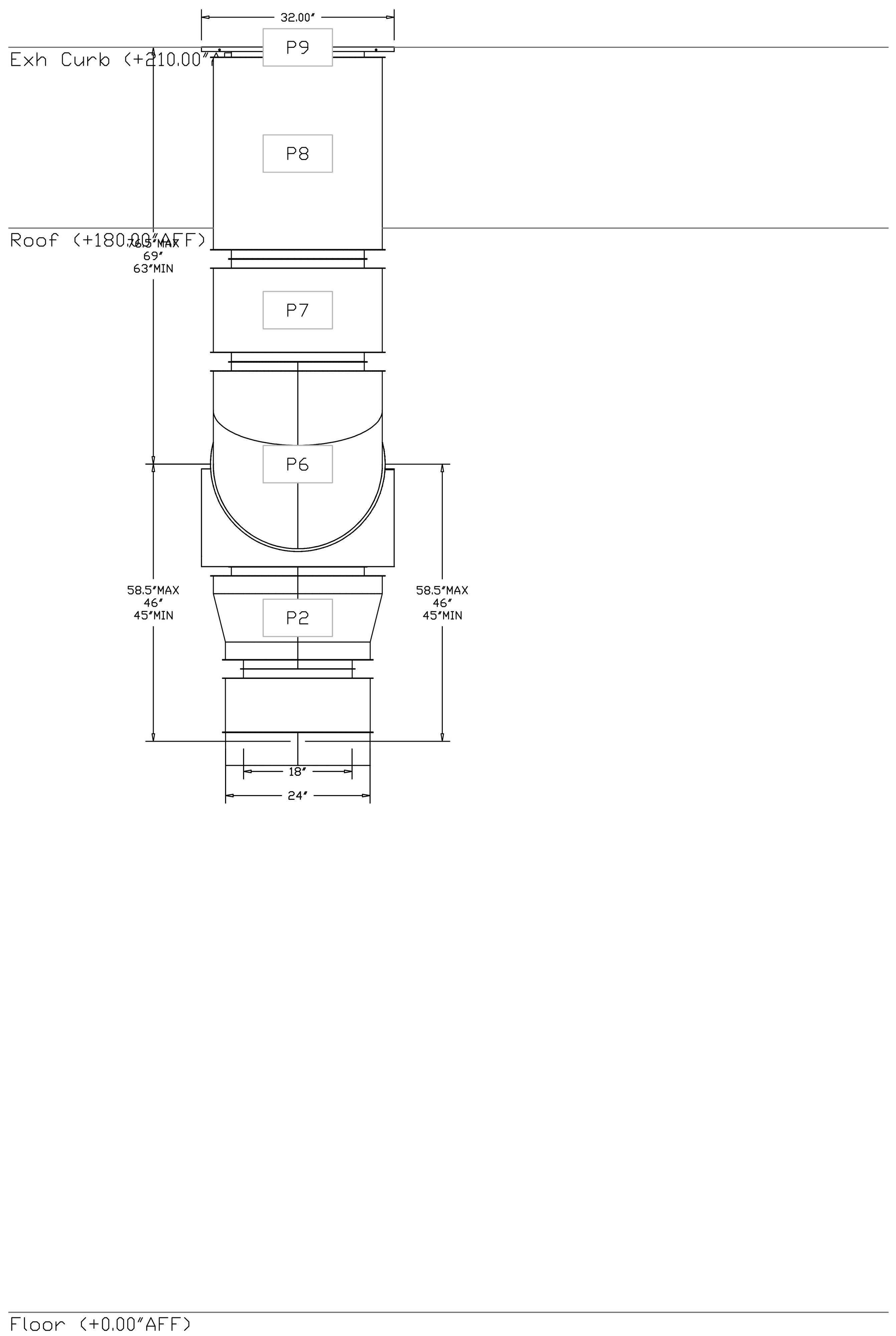
FOR INFORMATION ONLY

PANDA EXPRESS
BLDG 740 TROOP STORE FOOD COURT
SHEPPARD AFB, TX
76311

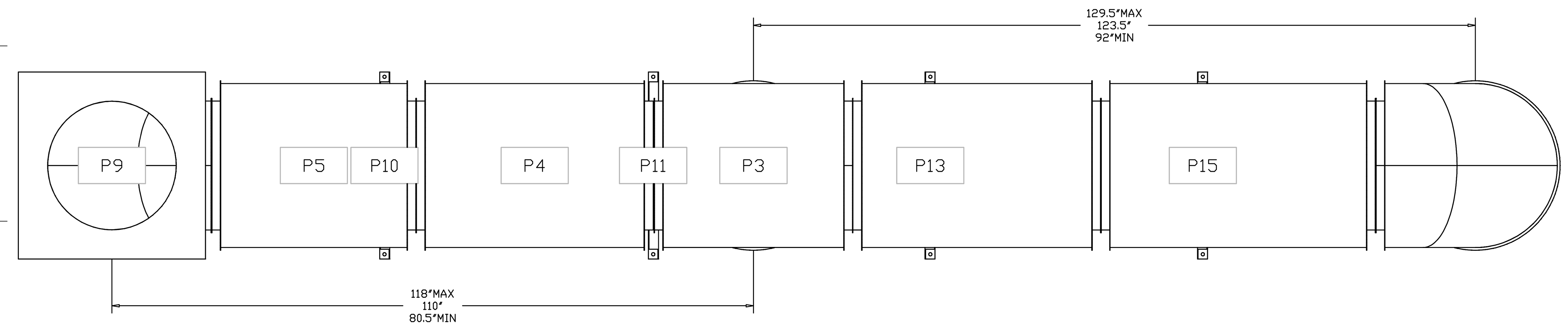
M-408

HOOD DETAIL PLAN

DUCTWORK #1 SIDE VIEW



DUCTWORK #1 TOP VIEW



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Southern CA National Accounts

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Panda Express - Sheppard AFB (D22900) - rev1

SHEPPARD AFB, TX, 76311

DATE: 11/10/2023

DWG.#: 6330024

DRAWN BY: AH-83

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 10

NOTE:
GREASE DUCT WORK TO BE PROVIDED AND INSTALLED BY CONTRACTOR. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS. CONTRACTOR TO EMAIL CAPTIVE AIRE AT reg83@captiveaire.com FOR PRICING.

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PIVOT ENGINEERING CONSULTANTS INC.
11226 EVERGREEN LOOP
CORONA, CA 92883
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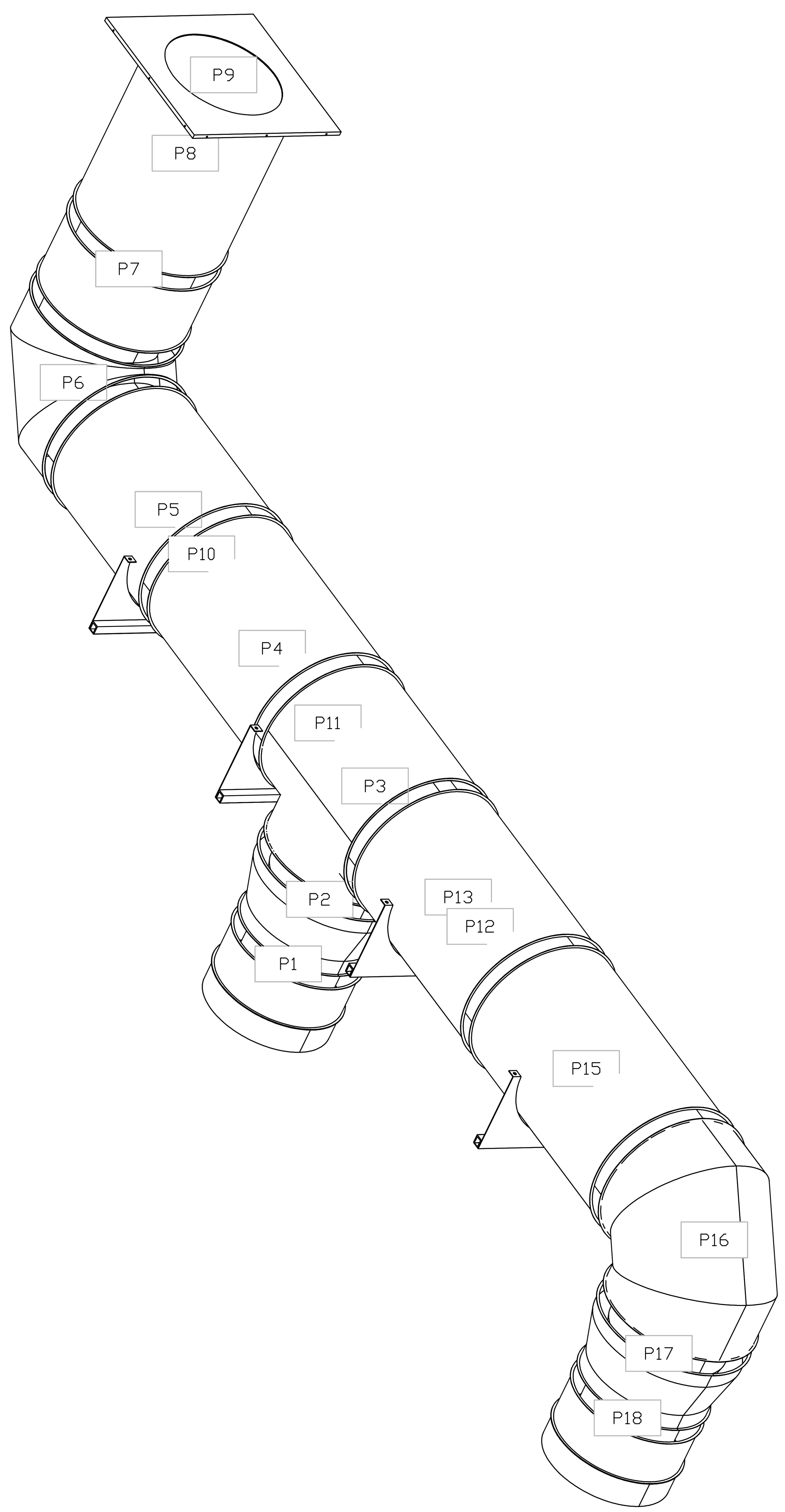
M-409

HOOD DETAIL PLAN

DUCTWORK #1 SE VIEW



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HOOD DETAIL PLAN

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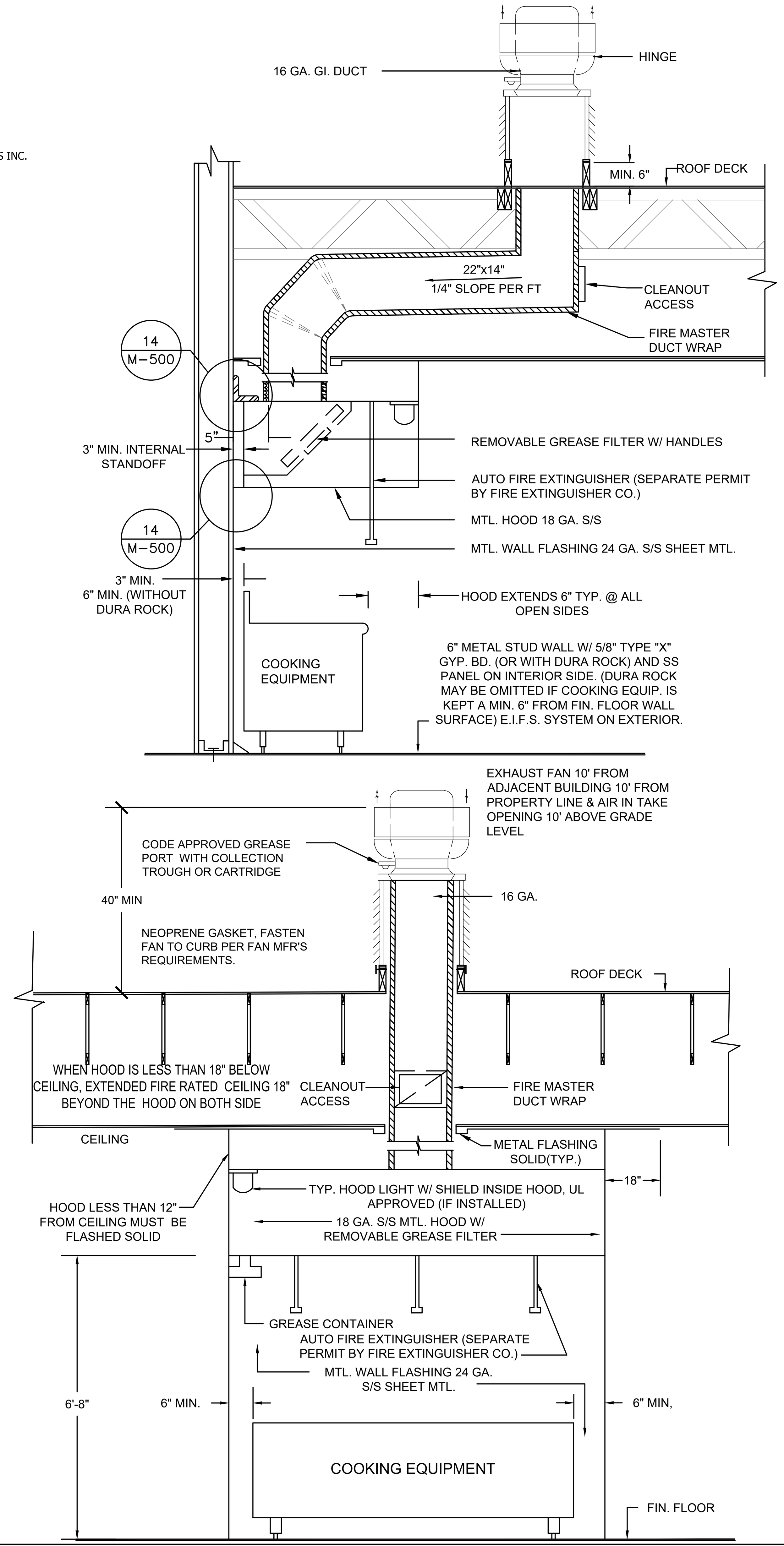
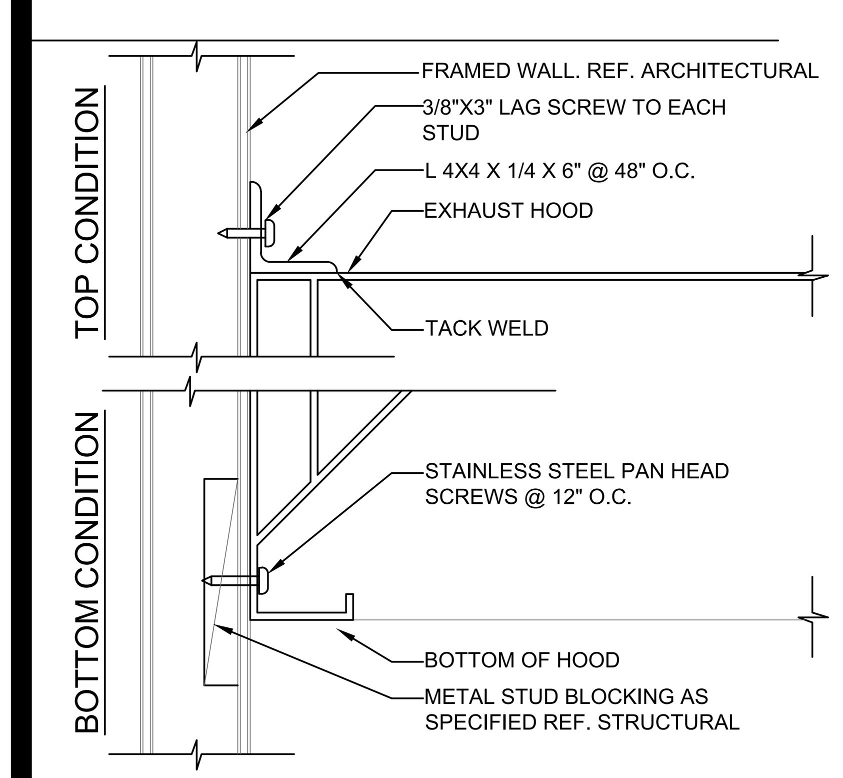
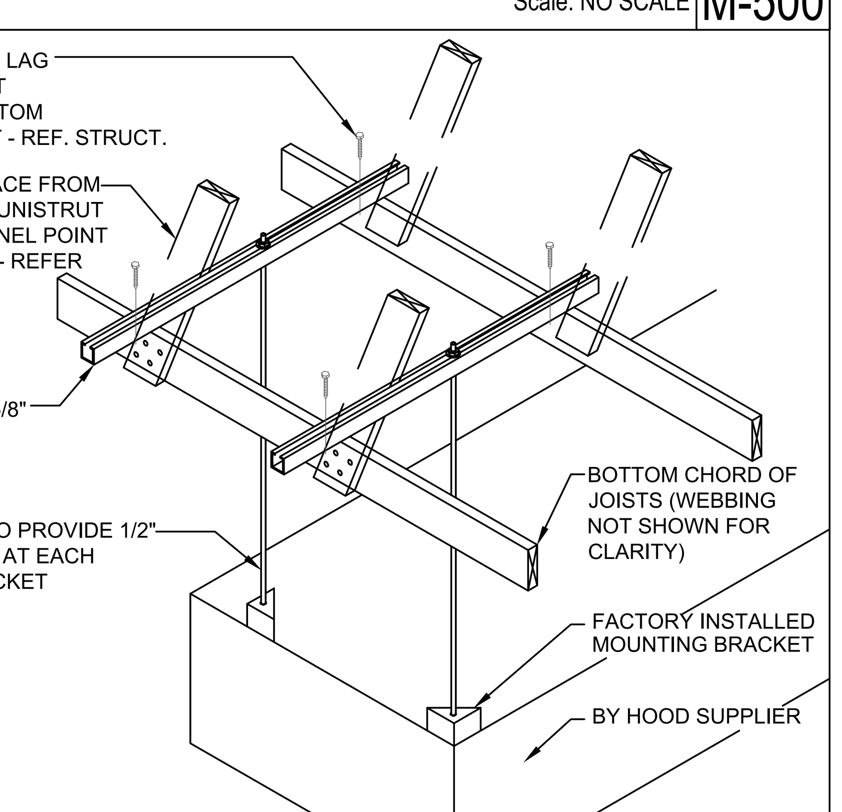


HOOD SECTIONS 18
Scale: NO SCALE M-500



HOOD CLIP AT WALL 14
Scale: NO SCALE M-500



HOOD SUPPORT AT TRUSS 13
Scale: NO SCALE M-500

PERFORMANCE TEST FOR LISTED MECHANICAL HOOD IS REQUIRED PER UMC 509.11

GREASE HOOD SYSTEM CALCULATION

1. TYPE : CANOPY TYPE I, STAINLESS STEEL 18 GAUGE.
2. COOKING EQUIPMENT: (2) CHINESE RANGE, (2) DEEP FRYER, RICE COOKER
3. SIZE: 23'-6" x 4'-0" + 2'-0" MAKEUP AIR PLENUM
4. MIN. REQ'D CAPACITY CFM: (2) U.L. LISTED HOOD @ 2,700 CFM EACH
5. PROPOSED (2) EXHAUST FAN & (1) MAKE-UP AIR UNIT. EF1 & EF2 (2,350 CFM EACH); MAU1 (4,230 CFM, 90% OF EXHAUST)
6. EXHAUST DUCT SIZE: 16"
7. EXHAUST VELOCITY @ EXHAUST DUCT 5400=
2045FPM 1500FPM < 2045 FPM < 2500FPM
8. EXHAUST FAN (EF1) AND MAKE-UP AIR UNIT (MA-1) SHALL BE ELECTRICALLY INTERLOCKED
9. FOR CODE COMPLIANCE SEE DETAIL
10. FOR FILTER INFORMATION SEE CAPTIVEAIRE DWG #M-400.
11. INTERLOCK KEF'S WITH MAKEUP AIR FAN.

INFORMATIONAL GUIDE FOR COMMERCIAL COOKING HOODS

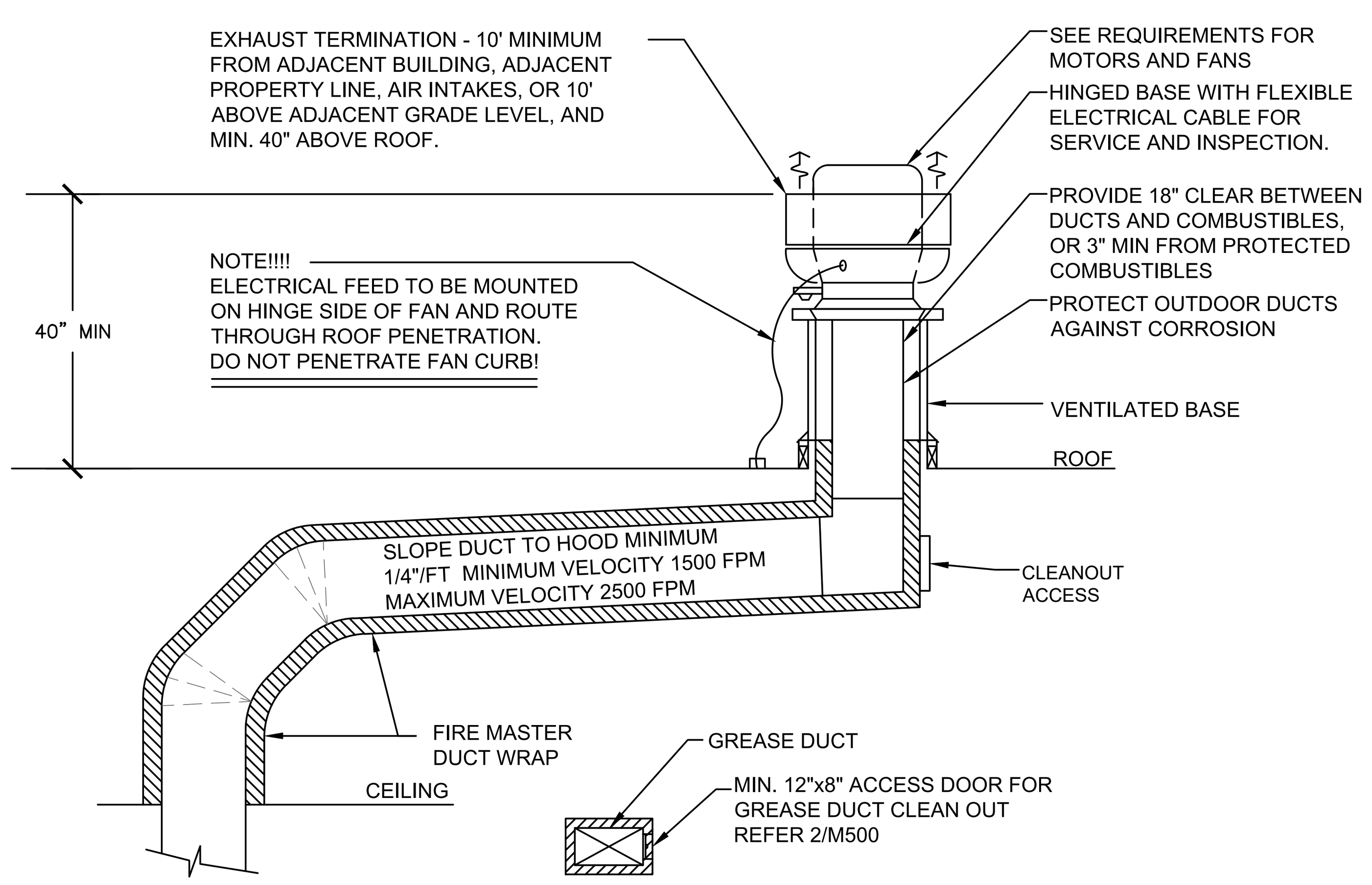
1. STAINLESS STEEL TO BE NO. 18 U.S. GAGE.
2. WHEN GUTTERS ARE PROVIDED THEY SHALL DRAIN TO A COLLECTING PAN WHICH IS READILY ACCESSIBLE FOR CLEANING
3. SEE TABLE 507.11 FOR MINIMUM DISTANCE BETWEEN LOWER EDGE OF GREASE FILTER AND THE COOKING OR HEATING SURFACE.
4. GREASE FILTERS SHALL BE OF STEEL CONSTRUCTION AND READILY ACCESSIBLE FOR CLEANING.
5. ALL JOINTS AND SEAMS SHALL BE GREASE TIGHT.
6. HOODS SHALL BE SECURELY FASTENED IN PLACE BY INCOMBUSTIBLE SUPPORTS.

NOTES

1. PROVIDE ADEQUATE CLEANOUT OPENINGS FOR THOROUGH CLEANING OF DUCT SYSTEM.
2. PROVIDE ADEQUATE MAKE-UP AIR FOR PROPER OPERATION.
3. PROVIDE A SEPARATE DUCT SYSTEM FOR EACH HOOD.
4. THICKNESS OF DUCTS SHALL BE:

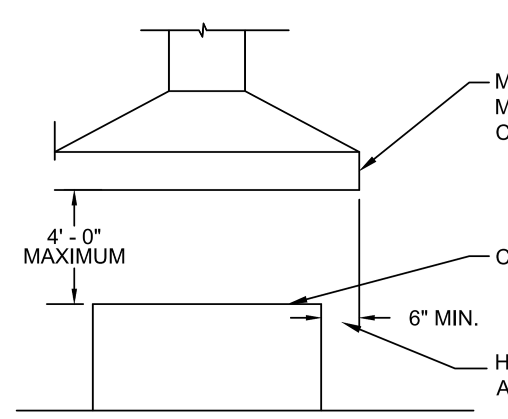
DUCT AREA	U.S. GAGE STEEL
UP TO 4 SQ. FT.	16 GA
OVER 4 SQ. FT.	14 GA

5. WELD OR BRAZE ALL DUCT JOINTS AND SEAMS ON THE EXTERNAL SURFACE.
6. SUPPORT THE DUCTS AS REQUIRED. DO NOT PENETRATE DUCT WALLS WITH SCREWS, NAILS, ETC.
7. SECTIONS OF DUCT SHALL NOT CONTAIN GREASE POCKETS.



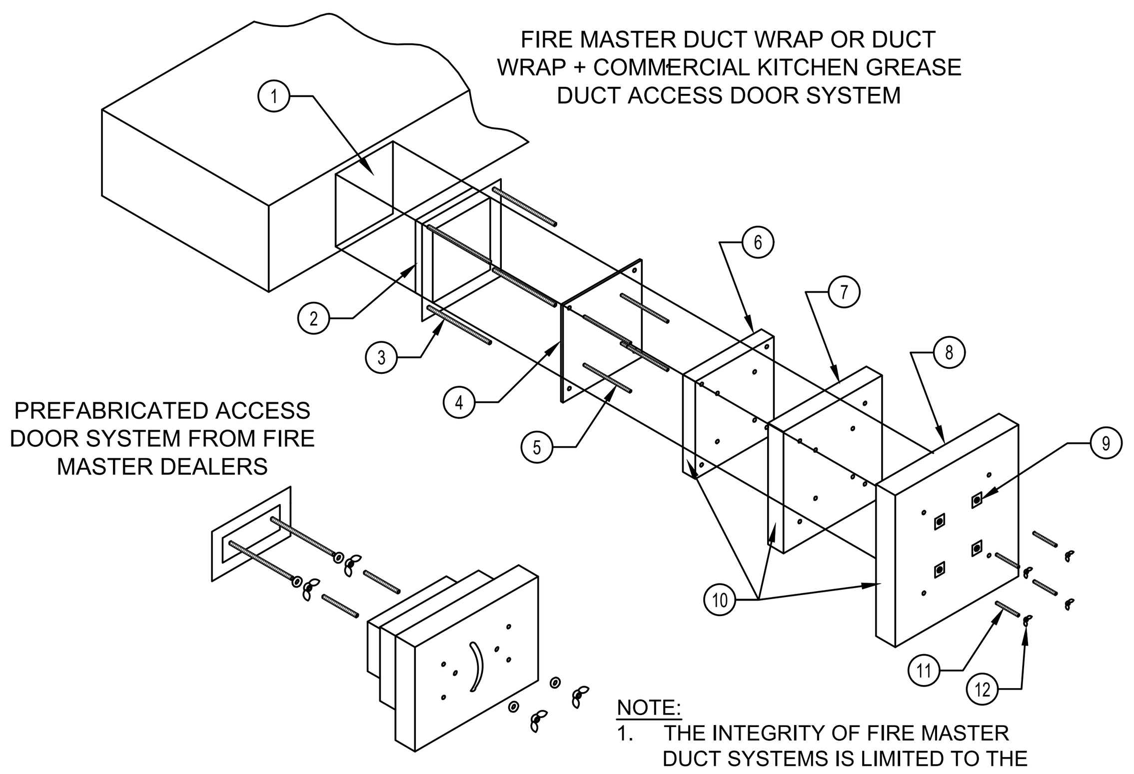
CLEAN OUT DOOR DETAIL
N.T.S.

CANOPY TYPE
(FRONT VIEW)



(FOR REFERENCE ONLY)

HOOD VENTILATION AND SECTION 5
Scale: NO SCALE M-500

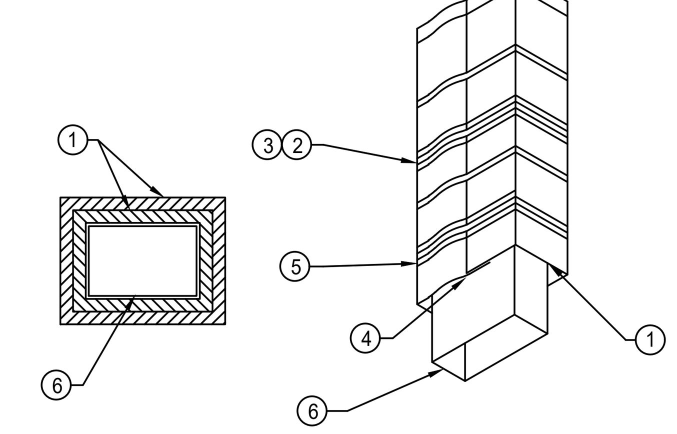


NOTE:
1. THE INTEGRITY OF FIRE MASTER DUCT SYSTEMS IS LIMITED TO THE QUALITY OF THE INSTALLATION.
2. REFER TO ICC EVALUATION REPORT 9424E.

FIRE MASTER DUCT WRAP or DUCT WRAP+	
1	DOOR HOLE
2	ACCESS FRAME WELDED TO DUCT
3	1/4" DIA. ALL THREAD RODS
4	ACCESS COVER - 18 GAUGE
5	INSULATION PINS - WELDED
6	ONE LAYER FIRE MASTER DUCT WRAP or DUCT WRAP +
7	ONE LAYER FIRE MASTER DUCT WRAP or DUCTWRAP + 1" OVERLAP
8	ONE LAYER FIRE MASTER DUCT WRAP or DUCTWRAP + 1" OVERLAP
9	SPEED CLIPS
10	ALUMINUM TAPE AT EDGES
11	SPOOL PIECES FOR THREADED RODS
12	1/4" DIA. WING NUTS

GREASE DUCT ACCESS DOOR 2
M-500

NOTE:
GREASE EXHAUST DUCT INSULATION TYPE FIRE MASTER FASTWRAP+ + SILICON SEALANT APPROVED FOR 2-HOUR STRUCTURE.



LEGEND	
1	TWO LAYERS FIRE MASTER FASTWRAP+
2	FILAMENT TAPE
3	BANDING
4	3-INCH PERIMETER OVERLAP
5	3-INCH LONGITUDINAL OVERLAP
6	GREASE DUCT

FOR SI: 1 INCH=25.4 MM UL # GL-18

FIGURE 2-HOUR FIRE-RESISTIVE PROTECTION SYSTEM FOR GREASE DUCTS

2 HOUR GREASE DUCT WRAP 1
Scale: NO SCALE M-500

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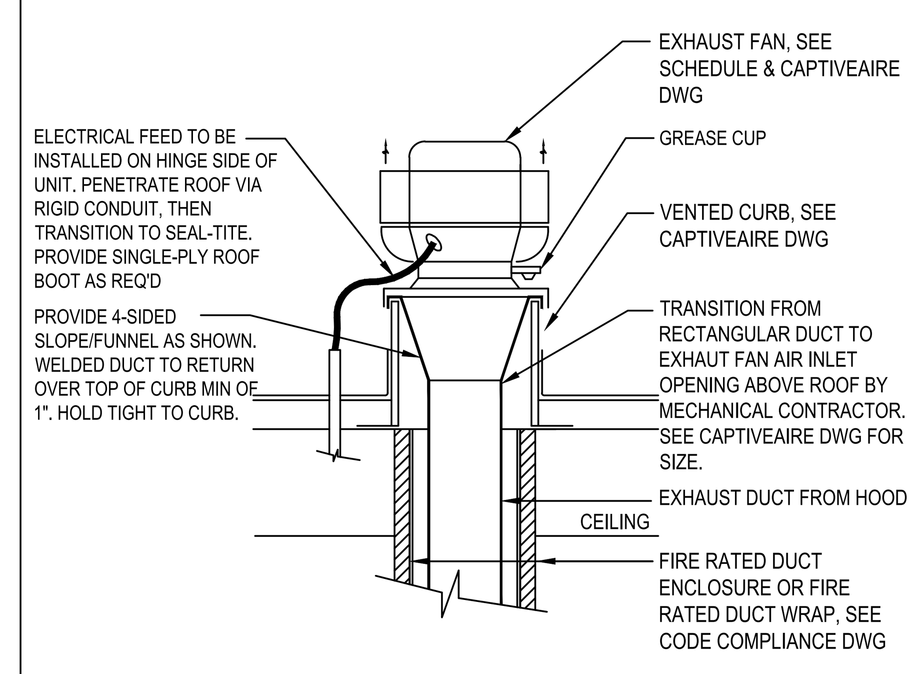
M-500
KITCHEN HOOD DETAILS

- 20
Scale: NO SCALE M-501

- 16
Scale: NO SCALE M-501

- 4
Scale: NO SCALE M-501

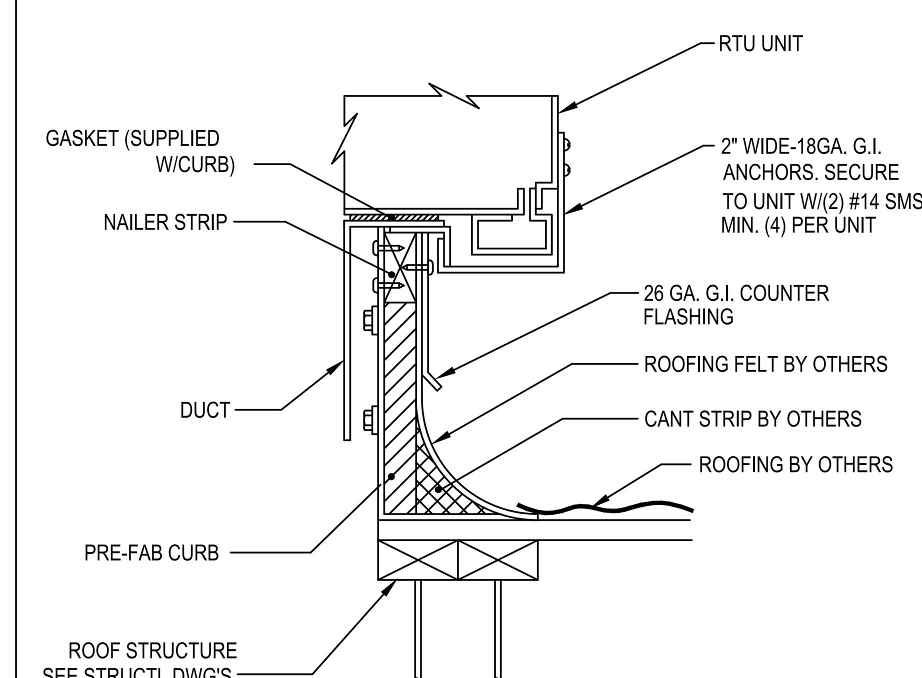


- 19
Scale: NO SCALE M-501

- 15
Scale: NO SCALE M-501

- 7
Scale: NO SCALE M-501

GREASE EXHAUST FAN DETAIL 3
Scale: NO SCALE M-501

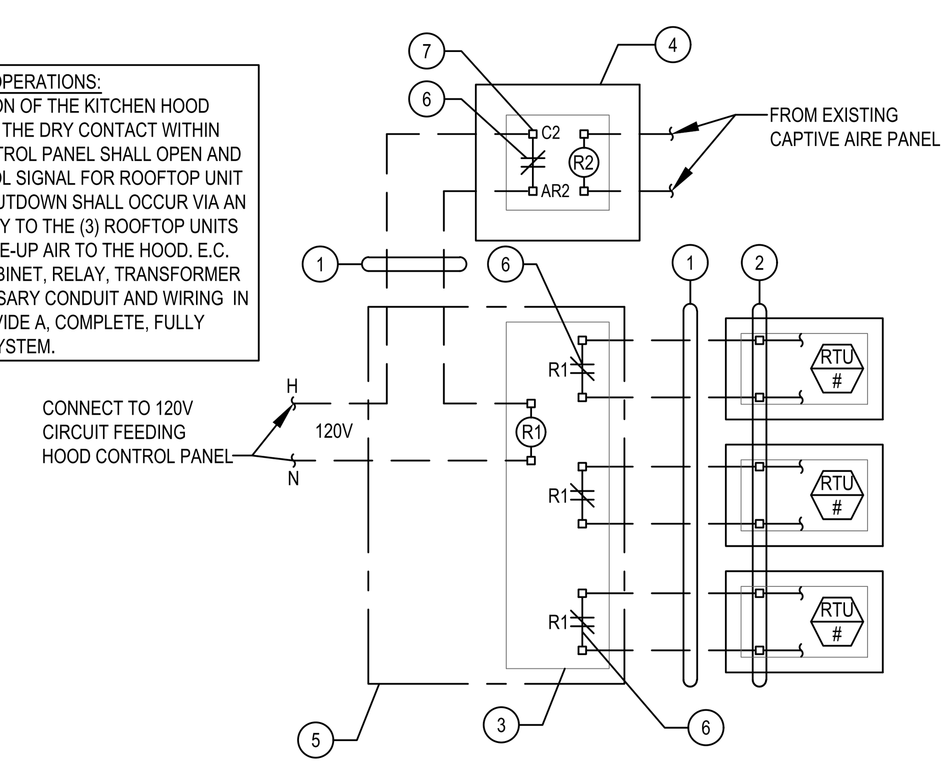


- 18
Scale: NO SCALE M-501

- 14
Scale: NO SCALE M-501

RTU UNIT CURB DETAIL 2
Scale: NO SCALE M-501

SEQUENCE OF OPERATIONS:
UPON ACTIVATION OF THE KITCHEN HOOD ANSUL SYSTEM, THE DRY CONTACT WITHIN THE HOOD CONTROL PANEL SHALL OPEN AND SEND A CONTROL SIGNAL FOR ROOFTOP UNIT SHUTDOWN. SHUTDOWN SHALL OCCUR VIA AN ISOLATION RELAY TO THE (3) ROOFTOP UNITS SUPPLYING MAKE-UP AIR TO THE HOOD. E.C. TO PROVIDE CABINET, RELAY, TRANSFORMER AND ALL NECESSARY CONDUIT AND WIRING IN ORDER TO PROVIDE A, COMPLETE, FULLY FUNCTIONING SYSTEM.



LEGEND
1. (2) #12 CONTROL WIRES IN 1/2" CONDUIT BY E.C.
2. M.C. TO CONNECT INTO REMOTE UNIT SHUTDOWN TERMINAL ON CARRIER ROOFTOP UNIT CONTROL BOARD AND REMOVE JUMPER. REFER TO MANUFACTURER FOR ADDITIONAL INFORMATION.
3. DPDT 120V RATED RELAY BY E.C. ENERGIZE FOR FAILSAFE OPERATION.
4. HOOD CONTROL PANEL AT KITCHEN.
5. 12X12X6 NEMA 1 CABINET MOUNTED ON WALL ADJACENT TO KITCHEN HOOD BY E.C.
6. N.O. DRY CONTACT (SHOWN ENERGIZED) THAT OPENS IN FIRE CONDITIONS.
7. 120V RATED DRY CONTACT WITHIN CAPTIVE AIRE PANEL.

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- 17
Scale: NO SCALE M-501

- 13
Scale: NO SCALE M-501

RTU CONTROL WIRING DIAGRAM 5
Scale: NO SCALE M-501

- 1
Scale: NO SCALE M-501

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M-501

MECHANICAL DETAILS