

SECTION 15732 - PACKAGED ROOFTOP AIR-CONDITIONING UNITS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Shop Drawings.
- B. Comply with ASHRAE 15.
- C. EER: Equal to or greater than prescribed by the energy code adopted by the Authority Having Jurisdiction.
- D. Warranties: Submit a written warranty, signed by the manufacturer, agreeing to the repair or replacement of components that fail within 5 years of Substantial Completion.

PART 2 - PRODUCTS

2.1 PACKAGED UNITS, 5 TO 20 TONS

- A. Factory assembled and tested, consisting of compressors, condensers, evaporator coils, condenser and evaporator fans, refrigeration and temperature controls, filters, and dampers.
 - 1. Refer to Rooftop Heating/Cooling Unit Schedule on drawing M600 for capacities, and manufacturers.
 - 2. Evaporator Fans: Belt or direct driven, forward curved centrifugal.
 - 3. Exhaust/Relief Fans: Direct drive, forward curved centrifugal or propeller.
 - 4. Condenser Fans: Direct drive propeller.
 - 5. Refrigerant Coils: Aluminum fins and copper coil.
 - 6. Compressors: Serviceable hermetic or fully hermetic, with safety controls, hot gas bypass, and timed off controls.
 - 7. Heat Exchangers: Gas fired, with gas controls, electronic ignition, high limit cutout, and forced draft proving switch.
 - 8. Economizer controls (Comparative Enthalpy, 100% capacity).
 - 9. Smoke Detectors: Photoelectric in supply and/or return as called for in schedule on sheet M600.
 - 10. Operating Controls: Two stage heating and two stage cooling on units 7-1/2 tons and over.
 - 11. Roof curb.
 - 12. Control Wiring from T-stat to rooftop unit: Shall be 18ga / 7 conductor, rated for plenum applications.
 - 13. Control Wiring from T-stat to remote sensor: Shall be a separate 18ga / 2 conductor shielded, rated for plenum applications.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units level and plumb and firmly anchored.
- B. Connect gas piping to burner with pipe same size as gas train inlet, and provide union with sufficient clearance for burner removal and service.
- C. Install ducts to termination in roof mounting frames. Terminate ducts through roof structure.
- D. Connect units to wiring systems and to ground.

END OF SECTION 15732

SECTION 15810 - DUCTS AND ACCESSORIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data for fire and smoke dampers.
- B. Comply with NFPA 90A for systems serving spaces more than 25,000 cu. ft. in volume or building Types II, IV, and V construction more than 3 stories in height.
- C. Comply with NFPA 90B for systems serving spaces in 1 or 2 family dwellings or serving spaces less than 25,000 cu. ft..
- D. Comply with NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations," for kitchen hood ducts.
- E. Comply with UL 181 and UL 181A for ducts and closures.
- F. Testing, Adjusting, and Balancing Agency Qualifications: AABC certified (to be furnished by Tenant).

PART 2 - PRODUCTS

2.1 DUCTS

- A. Spiral Duct: Spiral Lock Seam, without insulation, G90 galvanized finish, ASTM A-653/924
 - 1. Basis of Design Manufacturers: Lindab SPIROsafe, alternates to the basis of design must be submitted for review.
 - 2. Fittings: Factory produced standing seam construction with internal sealing. Fittings with a major axis of 36" or smaller shall be 20 gauge. Fittings with a major axis of 37"-48" shall be 18 gauge.
- B. Galvanized Steel Sheet: Forming steel, ASTM A 653/653M, G90 coating designation.
- C. Duct Liner: ASTM C 1071, Type II, with an airstream surface coated with a temperature resistant coating. Thickness: 1-1/2 inch. R-value : 8.
 - 1. Adhesive: ASTM C 916, Type I.
 - 2. Mechanical Fasteners: Galvanized steel pin, length as required to penetrate liner plus a 1/8 inch projection maximum into the airstream.
- D. Joint and Seam Tape: Comply with UL 181A.
- E. Joint and Seam Sealant: Comply with UL 181A.
- F. Rectangular Metal Duct Fabrication: Comply with SMACNA's "HVAC Duct Construction Standard" for metal thickness, reinforcing types and intervals, tie rod applications, and joint types and intervals.

2.2 ACCESSORIES

- A. Volume-Control Dampers: Factory fabricated volume control dampers, complete with required hardware and accessories. Single blade and multiple opposed blade, standard leakage rating, and suitable for horizontal or vertical applications.
- B. Fire Dampers: Factory-fabricated fire dampers, complete with required hardware and accessories. UL labeled according to UL 555, "Fire Dampers".
- C. Flexible Connectors: Flame retardant or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.
- D. Flexible Ducts: Factory fabricated, insulated, round duct, with an outer jacket enclosing 2 inch thick, glass fiber insulation, R-value: 6.0, around a continuous inner liner.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Duct System Pressure Class: Construct and install each duct system with 2 inch positive and negative duct pressure classifications.
 - B. Conceal ducts from view in finished and occupied spaces. Except where noted as exposed.
 - C. Avoid passing through electrical equipment spaces and enclosures.
 - D. Support and connect metal ducts according to SMACNA's "HVAC Duct Construction Standard".
 - E. Install duct accessories according to applicable portions of details of construction as shown in SMACNA standards.
 - F. Install liner and/or insulation on ductwork per the material schedule on sheet M010.
 - G. Install volume control dampers in lined duct with methods to avoid damage to liner and to avoid erosion of duct liner.
 - H. Install fire and smoke dampers according to manufacturer's UL approved written instructions.
 - I. Install fusible links in fire dampers.
 - J. Provide saddle taps at tees for exposed ductwork.
- 3.2 TESTING, ADJUSTING, AND BALANCING
- A. The Tenant will supply an independent balance agent to to balance and adjust the HVAC installation. The balance agent will be responsible for any pulley or belt changes required.
 - B. The GC is to have trained staffed available during the balancing to correct issues noted by the balance agent.
 - C. The balance agent is to balance airflow within distribution systems, including submains, branches, and terminals to indicated quantities +/- 10%. The hood exhaust system shall be balanced to a tolerance of -0+10% and the make-up air system to a tolerance of -10+0%.
 - D. The balance agent is to supply a copy of the balance report to the Tenant, engineer and general contractor for review.

END OF SECTION 15810

SECTION 15855 - DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: None.

PART 2 - PRODUCTS

2.1 OUTLETS AND INLETS

- A. All air terminal devices:
 - 1. Refer to Grills, Registers, and Diffusers Schedule for equipment schedule
 - 2. Manufacturer: As scheduled (NO SUBSTITUTIONS)
 - 3. Material: As scheduled.
 - 4. Finish: As scheduled.
 - 5. Mounting: As scheduled.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Coordinate location and installation with duct installation and installation of other ceiling and wall mounted items.
- B. Locate ceiling diffusers, registers, and grilles, as indicated on the architectural "reflected ceiling plans." Unless otherwise indicated, locate units in center of acoustical ceiling panels.

END OF SECTION 15855

HVAC GENERAL NOTES

- A. GENERAL NOTES APPLY TO HVAC SHEETS.
- B. WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION, INCLUDING APPLICABLE SECTIONS OF NFPA, THE MECHANICAL CODE, AND ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PURCHASE PERMITS ASSOCIATED WITH THE WORK. OBTAIN INSPECTIONS REQUIRED BY CODE. SEE ARCHITECTURAL SHEETS FOR THE PREVAILING CODES.
- C. CONTRACTOR AND SUBCONTRACTORS SHALL REVIEW A COMPLETE SET OF THE CONSTRUCTION DOCUMENTS.
- D. COORDINATE WORK WITH THE WORK OF OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND OF THE EXISTING CONDITIONS AT THE PROJECT SITE.
- E. DRAWINGS FOR THE MECHANICAL WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWING SHALL NOT BE SCALED FOR EXACT MEASUREMENTS, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, OFFSETS, ACCESSORIES, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- F. DUCT DIMENSIONS ON PLANS INDICATE DIMENSIONS OF INTERNAL FREE AREA.
- G. PERFORATED CEILING DIFFUSERS SHALL BE 4-WAY UNLESS NOTED OTHERWISE.
- H. COORDINATE ROOF WORK WITH THE OWNER'S CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
- I. UNLESS NOTED OTHERWISE RECTANGULAR DUCT ELBOWS GREATER THAN 45° SHALL BE MITERED ELBOWS WITH DOUBLE-THICKNESS TURNING VANES AND RECTANGULAR DUCT ELBOWS 45° OR LESS SHALL BE RADIUSSED ELBOWS WITH AN INSIDE RADIUS OF AT LEAST 1/2 THE WIDTH OF THE DUCT.
- J. REPLACE AIR FILTERS WITH NEW, CLEAN MERV 8 AIR FILTERS AT TURNOVER.
- K. THE TERM "FURNISH" MEANS SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
- L. INSTALL LABELING CALLED FOR IN THE MECHANICAL DRAWINGS USING ENGRAVED PHENOLIC PLATES (WHITE WITH BLACK LETTERING). FURNISHED BY TSV.
- M. PROVIDE P3000 12 GA. UNISTRUT WITH PG FINISH FOR DUCT SUPPORTS AND OTHER UNISTRUT IN AREAS EXPOSED TO VIEW. SLOTTED UNISTRUT AND OTHER UNISTRUT WITH HOLES IS NOT ACCEPTABLE.

HVAC MATERIAL SCHEDULE

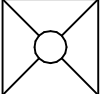
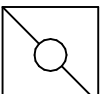
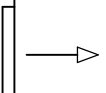
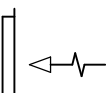

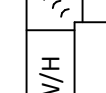
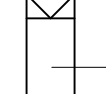
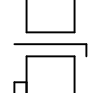
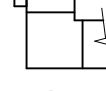

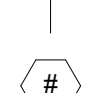
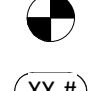
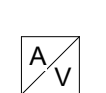
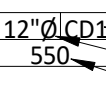


	APPLICATION	ALLOWABLE MATERIAL
DUCT	CONCEALED, GENERAL EXHAUST	RECT. OR ROUND AS SHOWN
	CONCEALED, RETURN	RECT. OR ROUND AS SHOWN, LINED OR INSULATED
	CONCEALED, SUPPLY	RECT. OR ROUND AS SHOWN, LINED OR INSULATED
	CONCEALED, TYPE I HOOD EXHAUST	RECTANGULAR 16 GA. BLACK IRON W/ WRAP OR UL 1978 FACTORY-MANUFACTURED DUCT W/ WRAP (SUBMIT SHOP DRAWINGS FOR FACTORY-MANUFACTURED DUCT PRIOR TO ORDERING FOR APPROVAL)
	EXPOSED GENERAL EXHAUST	RECTANGULAR, NO EXPOSED DUCT-SEALING MASTIC
	EXPOSED RETURN	RECTANGULAR, NO EXPOSED DUCT-SEALING MASTIC
	EXPOSED SUPPLY	RECT. LINED OR ROUND AS SHOWN, NO EXPOSED DUCT-SEALING MASTIC

HVAC ABBREVIATIONS

- (E) EXISTING
- ABV ABOVE
- ADA AMERICANS WITH DISABILITIES ACT
- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- AHJ AUTHORITY HAVING JURISDICTION
- BFF BELOW FINISHED FLOOR
- BFG BELOW FINISHED GRADE
- BOH BACK OF HOUSE
- CLG CEILING
- CTE CONNECT TO EXISTING
- DN DOWN
- EXT'G EXISTING
- FLR FLOOR
- FOH FRONT OF HOUSE
- GYP GYPSUM BOARD
- NTS NOT TO SCALE
- O/H OVERHEAD
- OBD OPPOSED BLADE DAMPER
- TYP TYPICAL
- U/G UNDERGROUND
- UNO UNLESS NOTED OTHERWISE
- VFD VARIABLE FREQUENCY DRIVE
- VSC VARIABLE SPEED CONTROLLER
- W/ WITH
- WIC WALK-IN COOLER

- CO2AS TENANT'S CO2 ALARM SUPPLIER
- GC GENERAL CONTRACTOR
- HES TENANT'S HVAC EQUIPMENT SUPPLIER
- HS TENANT'S HOOD SUPPLIER
- KES TENANT'S KITCHEN EQUIPMENT SUPPLIER
- LL LANDLORD
- MSS TENANT'S MUSIC SYSTEMS SUPPLIER
- SPS TENANT'S SODA POP SUPPLIER
- TAB TENANT'S TEST AND BALANCE VENDOR
- TCC TENANT'S CABLING CONTRACTOR
- TDC TENANT'S DUCT CLEANER
- TEMS TENANT'S ENERGY MANAGEMENT SYSTEM SUPPLIER
- TLS TENANT'S LIGHT/LAMP SUPPLIER
- TMB TENANT'S MENU BOARD SUPPLIER
- TMS TENANT'S MILLWORK SUPPLIER
- TP TENANT'S PHONE SUPPLIER
- TPS TENANT'S PANELBOARD SUPPLIER
- TRS TENANT'S RAILING SUPPLIER
- TSV TENANT'S SIGN VENDOR
- TUV TENANT'S UV SNAITIZER SUPPLIER
- WCS TENANT'S WALK-IN COOLER SUPPLIER
- WHS TENANT'S WATER HEATER SUPPLIER

HVAC SYMBOLS

-  CEILING DIFFUSER
-  CEILING-MOUNTED RETURN OR EXHAUST REGISTER
-  SUPPLY REGISTER
-  RETURN GRILLE
-  FLEXIBLE DUCT
-  MITERED CORNER WITH TURNING VANES
DUCTWORK INTERNAL FREE DIMENSIONS (WIDTH/HEIGHT)
RECTANGULAR TO ROUND DUCT TRANSITION
-  DUCT-MOUNTED SMOKE DETECTOR
-  MOTOR-OPERATED DAMPER
-  MANUAL VOLUME DAMPER
-  GREASE DUCT CLEANOUT
-  MITERED CORNER WITHOUT TURNING VANES
-  GRIDPOINT THERMOSTAT
-  GRIDPOINT ZONE SENSOR MODULE
-  GRIDPOINT SUPPLY PROBE
-  PLAN NOTE: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING
-  CONNECT TO EXISTING
- EQUIPMENT TAG: SEE EQUIPMENT SCHEDULE ON SHEET M600 FOR EQUIPMENT INFORMATION
- AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET
- GRILL, REGISTER, OR DIFFUSER TAG:
TAG
NECK SIZE
AIRFLOW [CFM]

Consultant:

Bowman

1480 W. 121ST AVE., STE 204
WESTMINSTER, CO 80234
TEL 303.676.1100
WWW.BOWMAN.COM



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CHIPOTLE MEXICAN GRILL, INC.
PO BOX 182566
COLUMBUS, OH 43218-2566
TELEPHONE: 614.318.2400
INTERNET: WWW.CHIPOTLE.COM

STORE NO.: 04-5647

SIR FRANCIS DRAKE,
150 BON AIR CENTER,
GREENBRAE, CA 94904

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Project No.

230654

Contents:

HVAC SPECIFICATIONS

M010

FOR QUESTIONS, CALL THE
Highwoods Group
REGION 40
PHONE: (919) 875 - 0420
EMAIL: reg40@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#7185483

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)				MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG			
										WIDTH	LENG	HEIGHT	DIA				CFM	VEL	SP	END TO END
1		5424 ND-2-ACPSP-F	CAPTIVEAIRE	12' 9"	600 DEG	I	HEAVY	200	2550	10'	24'	4'	2550	1530	-0.966'	1300	696	430 SS WHERE EXPOSED	ALONE	ALONE

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 TYPE	SIZE			ELECTRICAL MODEL #	SWITCHES QUANTITY
1		CAPTRATE SOLID FILTER	9	16"	16"	85% SEE FILTER SPEC	8	L55 SERIES E26	NO	LEFT	12"x54"x24"	TANK FS	4.0/4.0	SC-311110MA	1 LIGHT 1 FAN	YES	1213 LBS

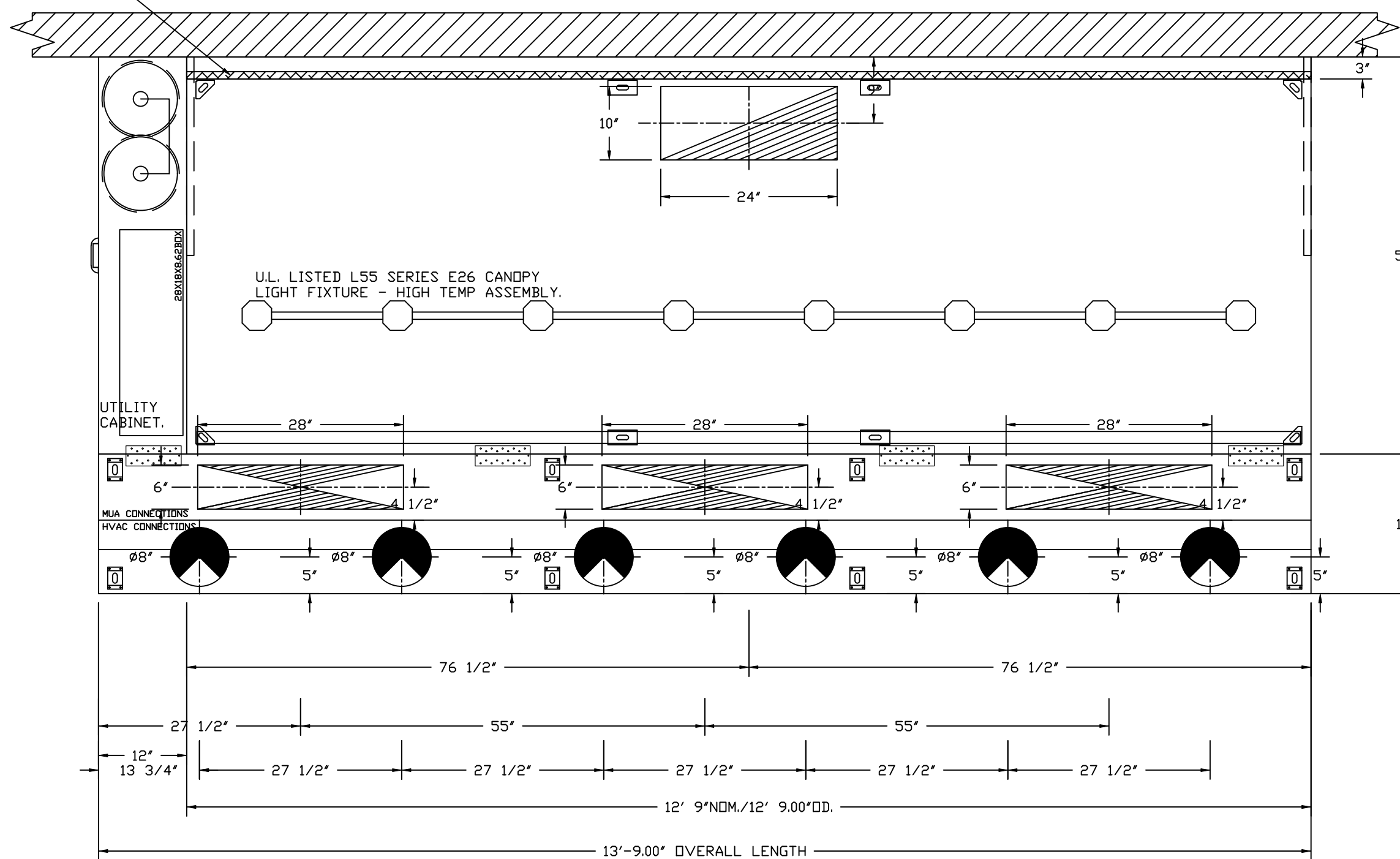
HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 10.00' HIGH FRONT, LEFT, RIGHT. INSULATION FOR BACK OF HOOD. RISER SENSOR INSTALL 6IN PLEN. RIGHT VERTICAL END PANEL 27' TOP WIDTH, 21' BOTTOM WIDTH, 80' HIGH INSULATED 430 SS. LEFT VERTICAL END PANEL 27' TOP WIDTH, 21' BOTTOM WIDTH, 80' HIGH INSULATED 430 SS. FULL DIMENSION HANGING BRACKET - FRONT.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	RISER(S)				
						TYPE	WIDTH	LENG	DIA	CFM
1	Front	165'	19'	6'	MUA	6"	28"		432	0.127"
					MUA	6"	28"		432	0.127"
					MUA	6"	28"		432	0.127"
					AC		8"	116	0.043'	
					AC		8"	116	0.043'	
					AC		8"	116	0.043'	
					AC		8"	116	0.043'	

1' LAYER OF INSULATION FACTORY INSTALLED IN INTERNAL BACK STANDOFF. MEETS 0 INCH REQUIREMENTS FOR CLEARANCE TO COMBUSTIBLE SURFACES.



PLAN VIEW - HOOD #1
12' 9.00" LONG 5424ND-2-ACPSP-F
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

ACPSP SHIPS LOOSE FOR FIELD INSTALLATION

CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	18'
	FRONT	0'
	BACK	0'
	LEFT	0'
	RIGHT	18'

- *0' CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLID FILTER

THE CAPTRATE GREASE-STOP SOLID FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

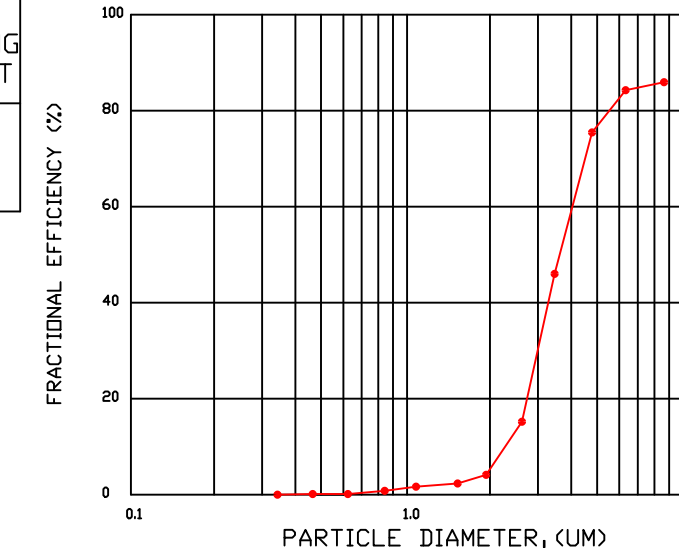
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

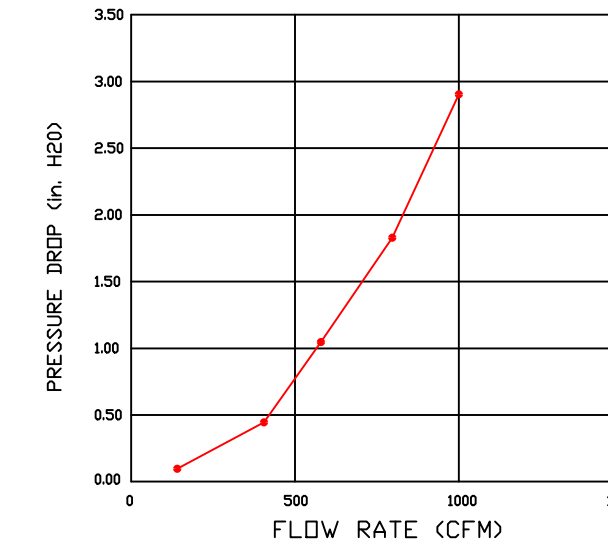
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLID WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

EFFICIENCY VS. PARTICLE DIAMETER

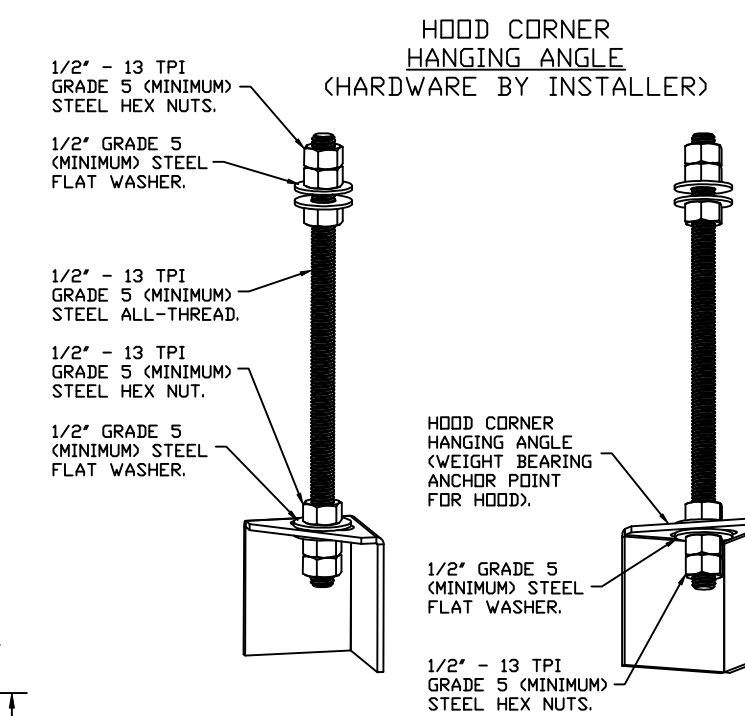


PRESSURE DROP VS. FLOW RATE



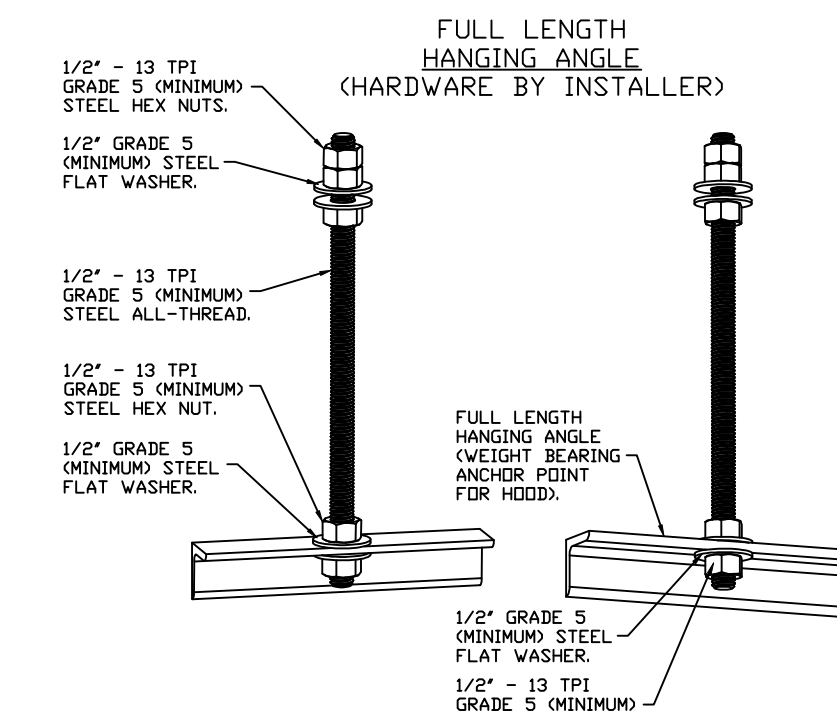
CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:

- NFPA #96.
- NSF STANDARD #2.
- UL STANDARD #1046.
- INT. MECH. CODE (IMC).
- ULC-S649.



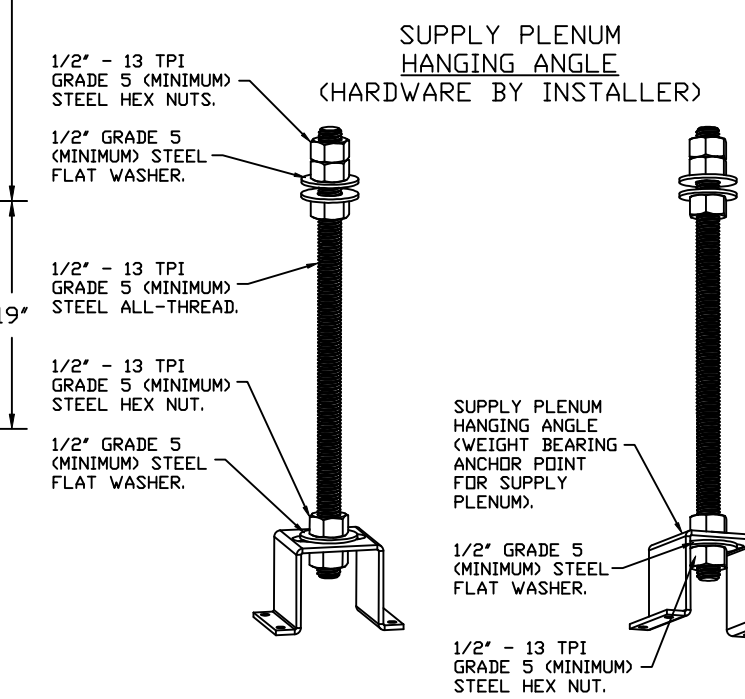
ASSEMBLY INSTRUCTIONS

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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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 ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

Bowman

- No Exceptions Taken
- Accepted As Noted
- Rejected
- Resubmit
- Submit Specified Item
- Reviewed

Bowman Consulting Group acknowledges its limited review of this document is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made by Bowman Consulting Group on any shop drawings / submittals during this review do not relieve the contractor or sub-contractor from full compliance with all requirements contained in any plans, specifications, construction related contracts, or documents. Review for a specific item shall not include review of an assembly of which the item is a component. Contractor and their subcontractors are responsible for quantities and dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all Work in a safe and satisfactory manner.

By: Brent Hoogland, Walter Shoup. Date: 03/12/2025

Bowman: Approval contingent on authority having jurisdiction (AHJ) review/approval of the submitted permit documents. Bowman Consulting Group is not liable for any revisions required by AHJ.

REVISIONS

DESCRIPTION	DATE

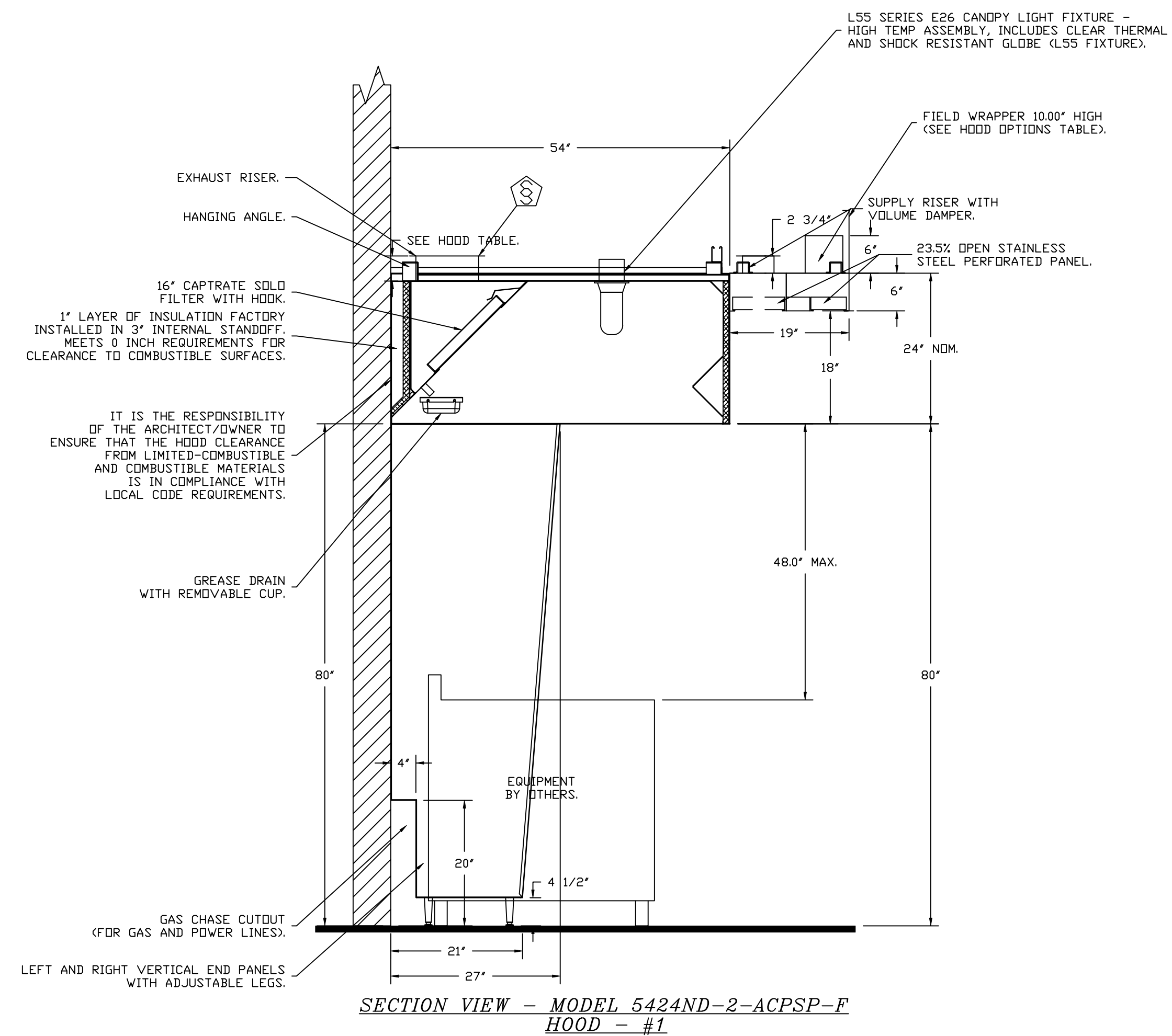
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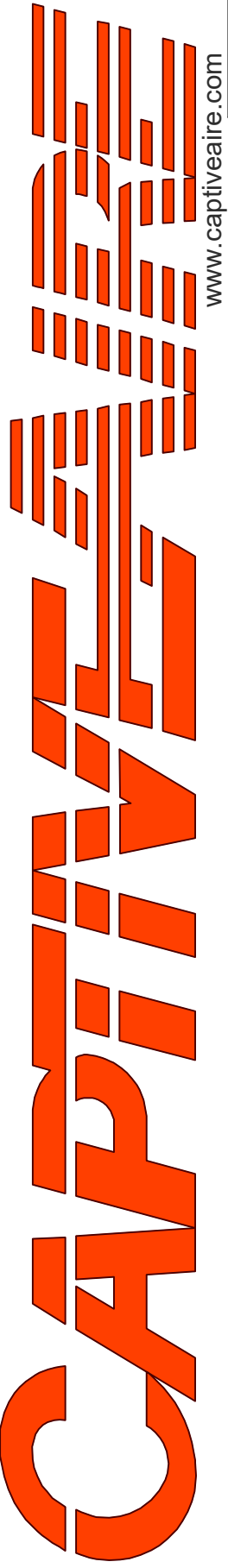
CHIPOTLE SIR FRANCIS DRAKE CA #5647
GREENBRAE, CA, 94904

DATE: 3/7/2025
DWG.#: 7185483
DRAWN BY: JMB-40
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 1



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SHEET NO.
 2

FIRE SYSTEM INFORMATION - JOB#7185483

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	32	FIRE CABINET LEFT	LEFT, HOOD 1

GAS VALVE(S)

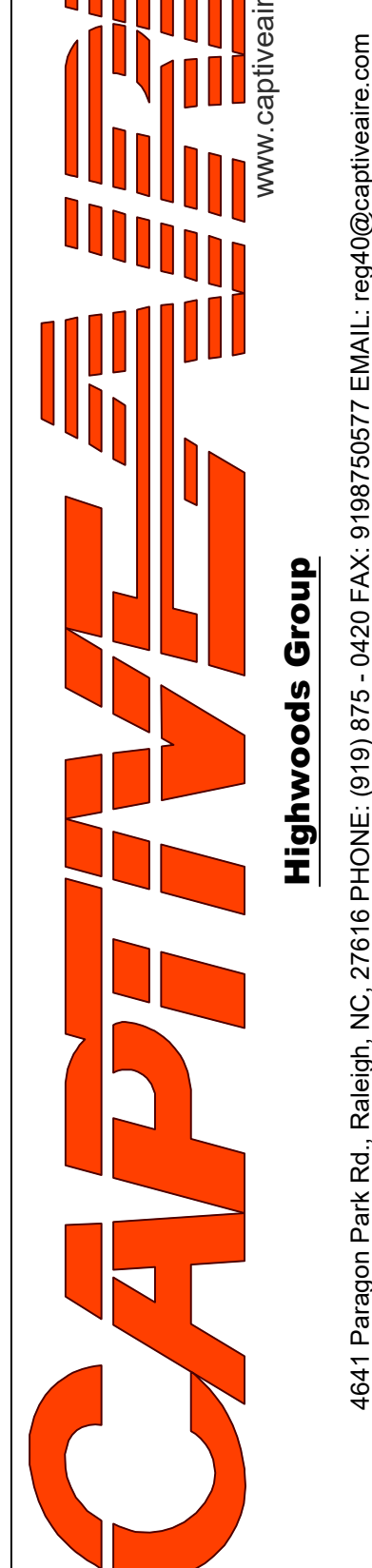
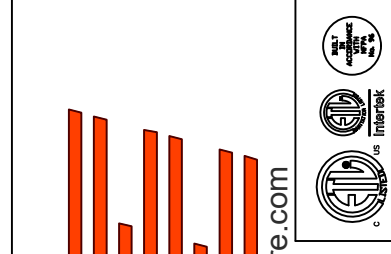
FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	1.500	CAPTIVEAIR SYSTEMS

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
		0 - 0 - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - 12-F28021-32144-DT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. ND, CLOSE ON TEMP RISE AT 360°F. (A0034310).	1	0
		0 - 0 - 32-00002 QUIK SEAL - 1/2" (UL).	1	0
		0 - 0 - 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	2	0
		0 - 0 - 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
		0 - 0 - 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	1	0
		0 - 0 - 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5' BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	7	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	7	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	1	0
		0 - 0 - B1145 3/8" BLACK IRON 90 ELL.	3	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
		16 - 16 - DL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	8	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	8	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0

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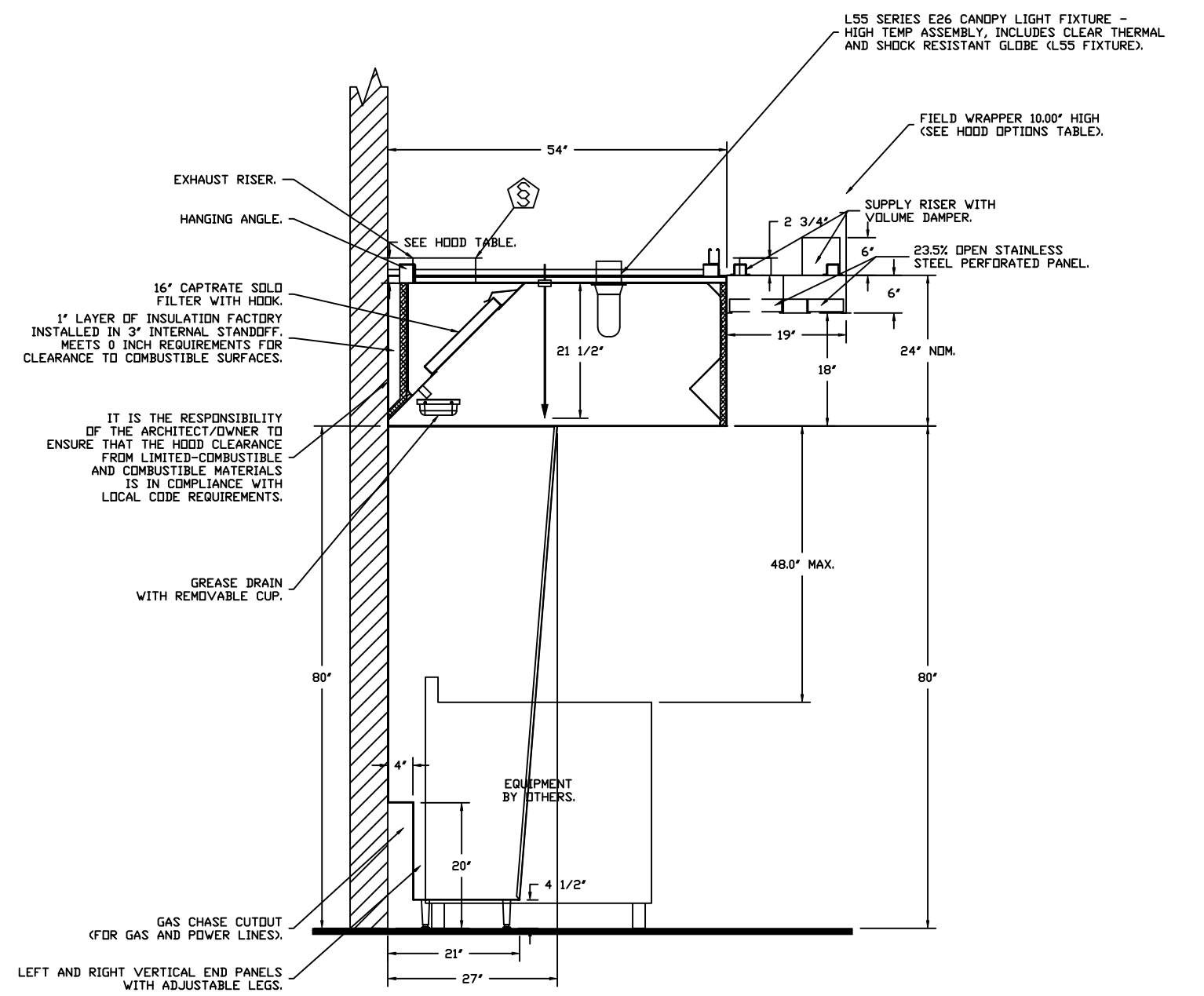
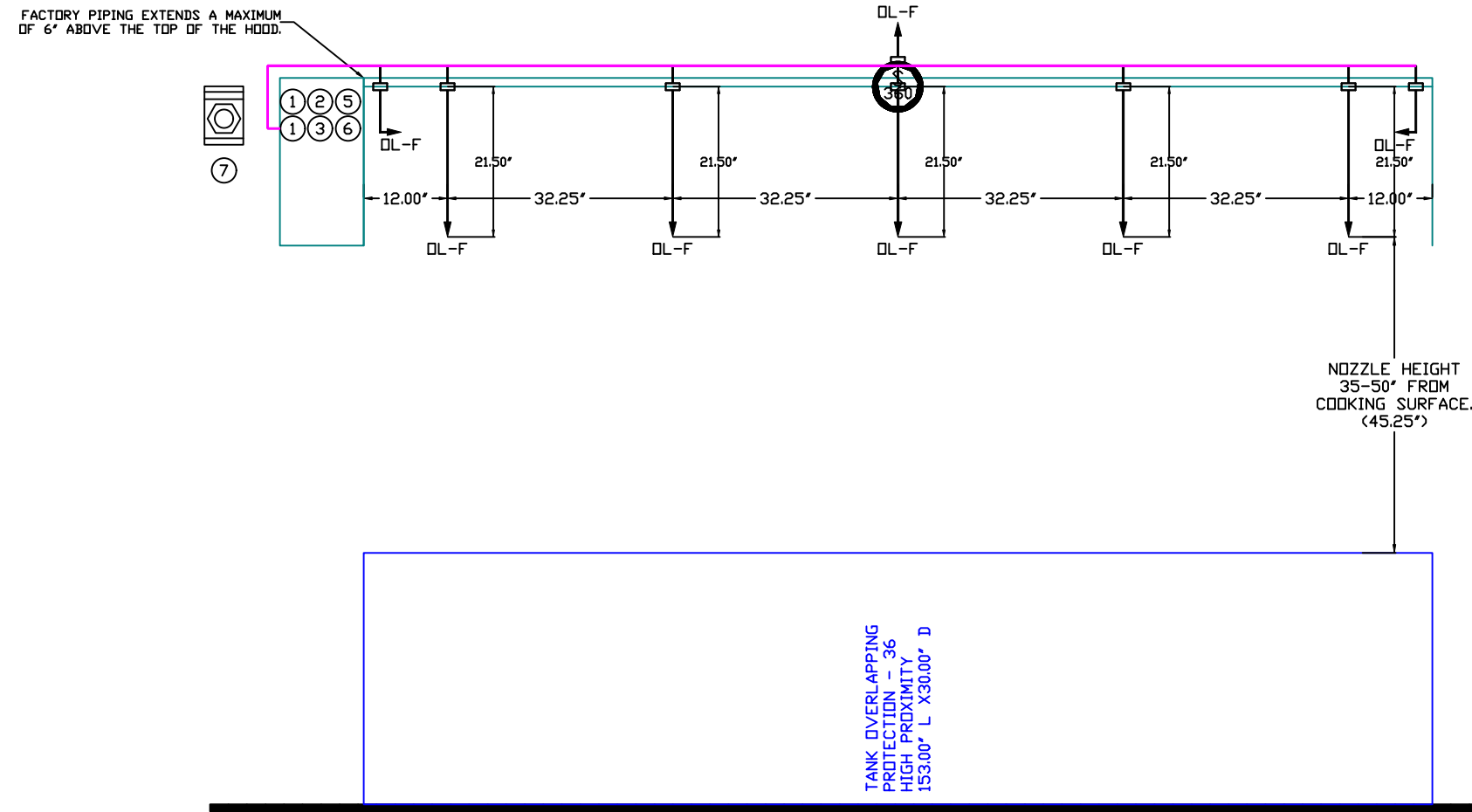
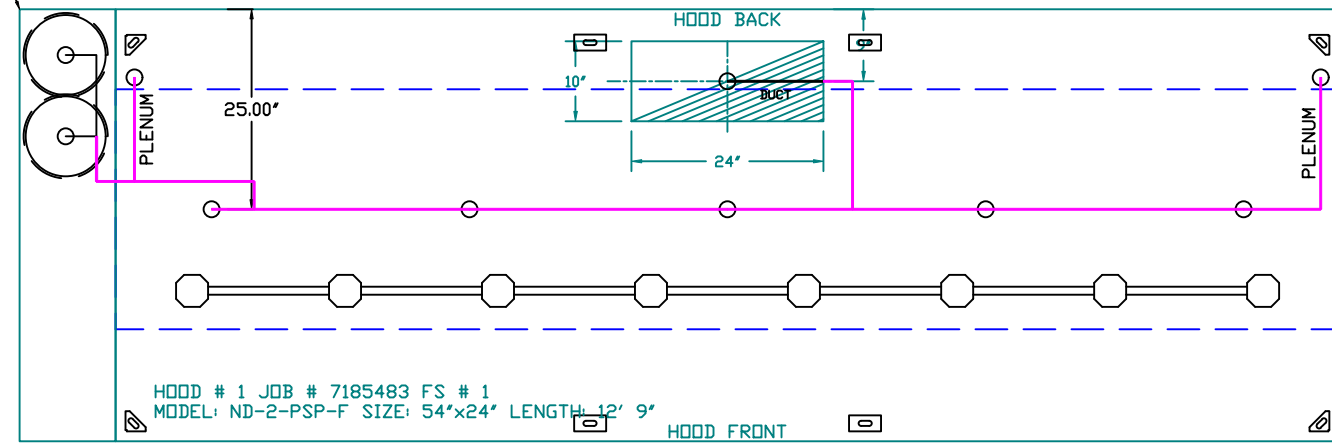
DRAWN BY: JMB-40

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

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SHEET NO.
3

- SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 1.5 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS.



- NOTES
- FIELD PIPE DROPS AS SHOWN
 - PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
 - FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
 - SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
 - RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
 - OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
 - IF APPLICABLE, EXTENDED PRE-PIPED 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 UL 300 REQUIREMENTS.
- DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS
- JOB #: 7185483.
- JOB NAME: CHIPOTLE - GREENBRAE (SIR FRANCIS DRAKE) CA.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 32. MAXIMUM FP: 40.
HOOD # 1 12" 9.00' LONG X 54" WIDE X 24" HIGH.
RISER # 1 SIZE: 10" X 24".
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

AGENT DISTRIBUTION PIPING LIMITATIONS	
PIPE SECTION	MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE	42
OVERLAPPING NOZZLE APPLIANCE BRANCH	10
DEDICATED NOZZLE APPLIANCE BRANCH	10

LEGEND - FIRE CABINET TANK SYSTEM

- 4 GALLON TANK.
- PRIMARY ACTUATOR RELEASE.
- SECONDARY ACTUATOR RELEASE.
- PRESSURE SUPERVISION SWITCH.
- PRIMARY HOSE ASSEMBLY.
- SECONDARY HOSE ASSEMBLY.
- REMOTE MANUAL ACTUATION DEVICE.

INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE. TWO SITE VISITS ONLY ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST. ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES. ONE MECHANICAL OR ELECTRICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2". PERMIT, AND SYSTEM TEST.
EXCLUDES: UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE), GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHERS, ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

REVISIONS

DESCRIPTION	DATE:

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4641 Paragon Park Rd., Raleigh, NC, 27616 PHONE: (919) 975 - 0420 FAX: 9198750577 EMAIL: reg40@captivefire.com

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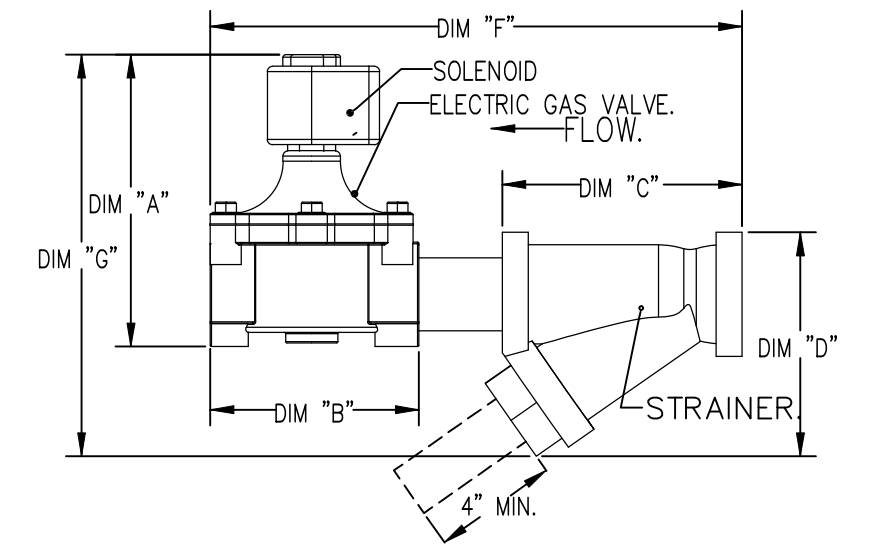
SHEET NO. 4

GAS VALVES AND STRAINERS															
GAS VALVE SIZING				GAS VALVE DIMENSIONS				INSTALLATION		PART NUMBERS					
TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	PIPE ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT
ELECTRICAL	1-1/2"	24 VDC	0 (0 IN.W.C.)	5 PSIG (138 IN.W.C.)	2,400,000 BTU/HR	1,561,219 BTU/HR	7-5/8"	6-3/8"	5-3/4"	6-3/16"	14-1/8"	12-5/16"	8214276-24VDC	4417967	(SCE)EVC1-1/2-24

ELECTRIC GAS VALVES ONLY/SOLOID ORIENTATION
3/4"-2" 120VAC GAS VALVES CAN BE MOUNTED WITH THE SOLENOID IN ANY POSITION AT OR ABOVE HORIZONTAL.
2 1/2"-3" 120VAC GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.
24VDC GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.

ALL GAS VALVES/STRAINERS
PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS. A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED. THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING, SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

CALCULATIONS
TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP:
NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP^{0.85}
TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY:
NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)^{0.85}



EXHAUST FAN INFORMATION – JOB#7185483

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDNES
1	EF-1	1	DUI80HFA	CAPTIVEAIRE	2550	1.450	1220	TEFC,PREMIUM	2.000	1.2800	3	208	7.3	589 FPM	199	16.6
2	EF-2	1	DR12HFA	CAPTIVEAIRE	300	0.600	1370	TEAD-ECM	0.250	0.1140	1	115	2.9		50	7.1

MUA FAN INFORMATION – JOB#7185483

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)	SDNES
3	MAU-1	1	A1-D.250-15D	15MF-1-MDD	A1-D.250	1000	1300	0.500	1546	DDP,PREMIUM	1.000	0.5690	3	208	3.1	3.9A	15A	507	12.1

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(%)
3	MAU-1	64904	59712	43°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92

FAN #1 DUI80HFA – EXHAUST FAN (EF-1)

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF-1	1	GREASE BOX
		1	REMOVE HINGE KIT LABEL FROM THE FAN BASE
2	EF-2	1	2 YEAR PARTS WARRANTY
		1	I 12-BDD DAMPER
3	MAU-1	1	ECM WIRING PACKAGE – MANUAL OR 0-10VDC REFERENCE SPEED CONTROL –RTC- (TELCD MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
		1	SIZE 1 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING – MEETS AMCA CLASS 1A RATING
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) – THREE PHASE ONLY
		1	2 YEAR PARTS WARRANTY
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

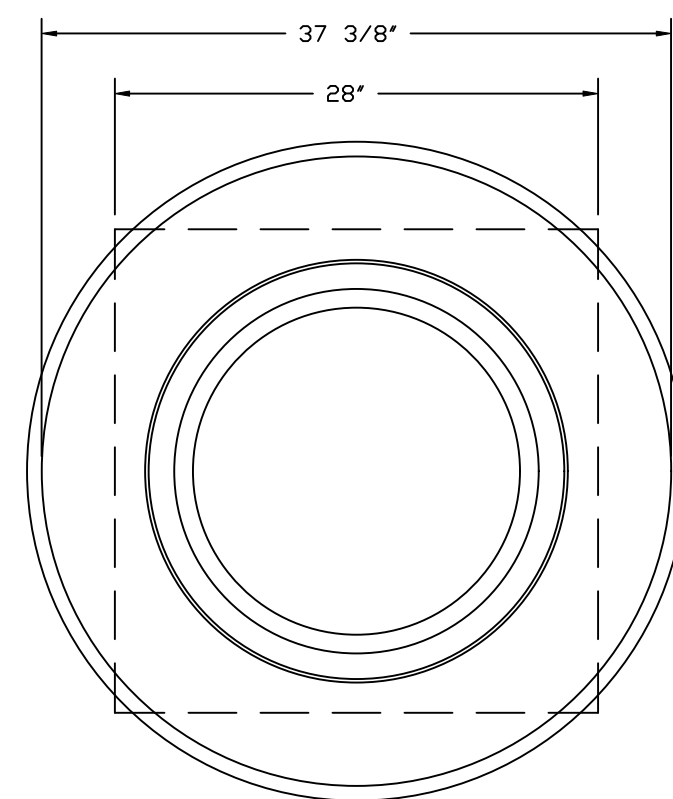
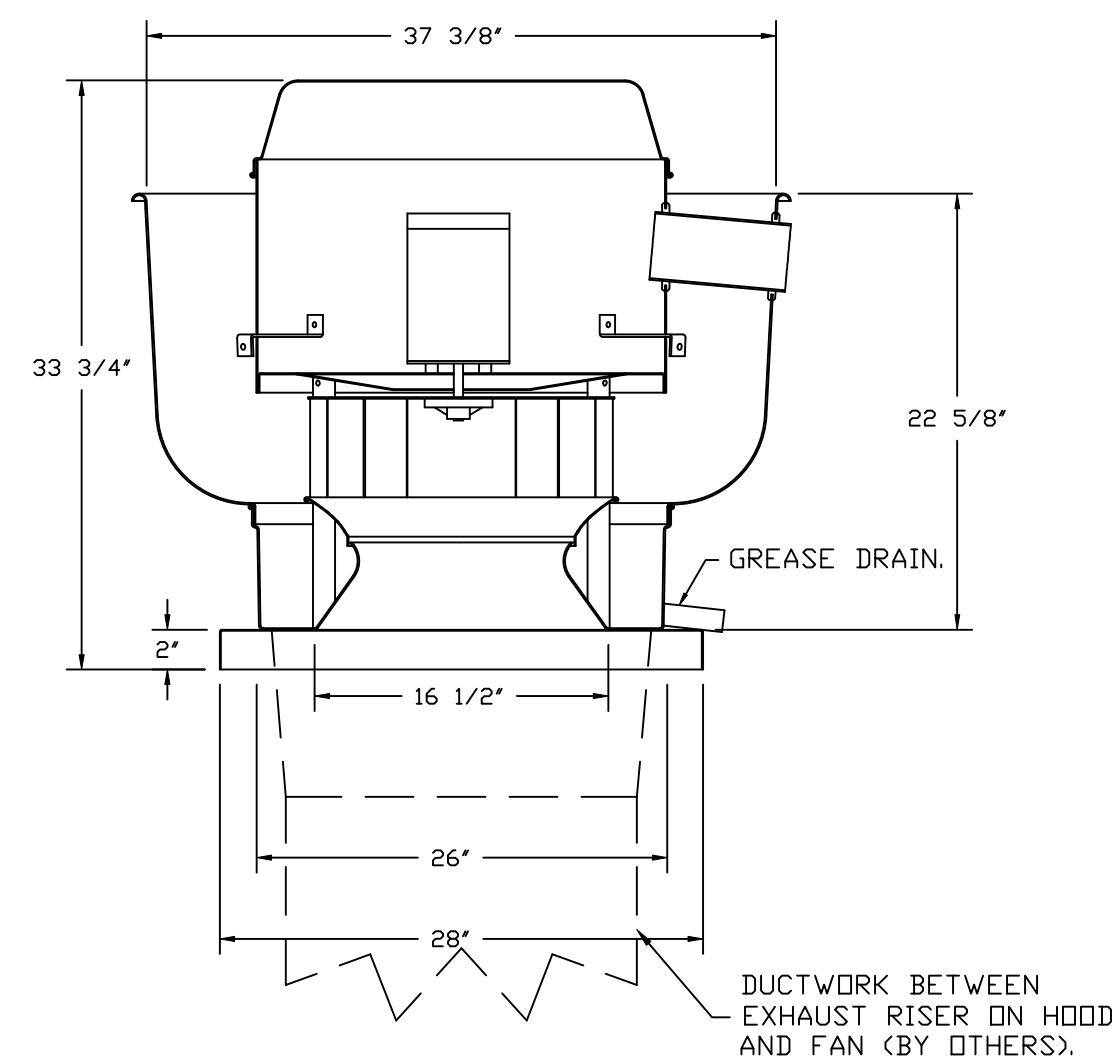
FAN ACCESSORIES

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

CURB ASSEMBLIES

NO	DN FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	EF-1	39 LBS	CURB	26.500"W X 26.500"L X 20.000"H VENTED.
2	# 2	EF-2	31 LBS	CURB	17.500"W X 17.500"L X 26.000"H.
3	# 3	MAU-1	65 LBS	CURB	21.000"W X 71.000"L X 20.000"H INSULATED.

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #3	HMI #1 – UNIT	IN UNIT	NOT AVERAGED	55



TOP VIEW

FEATURES:

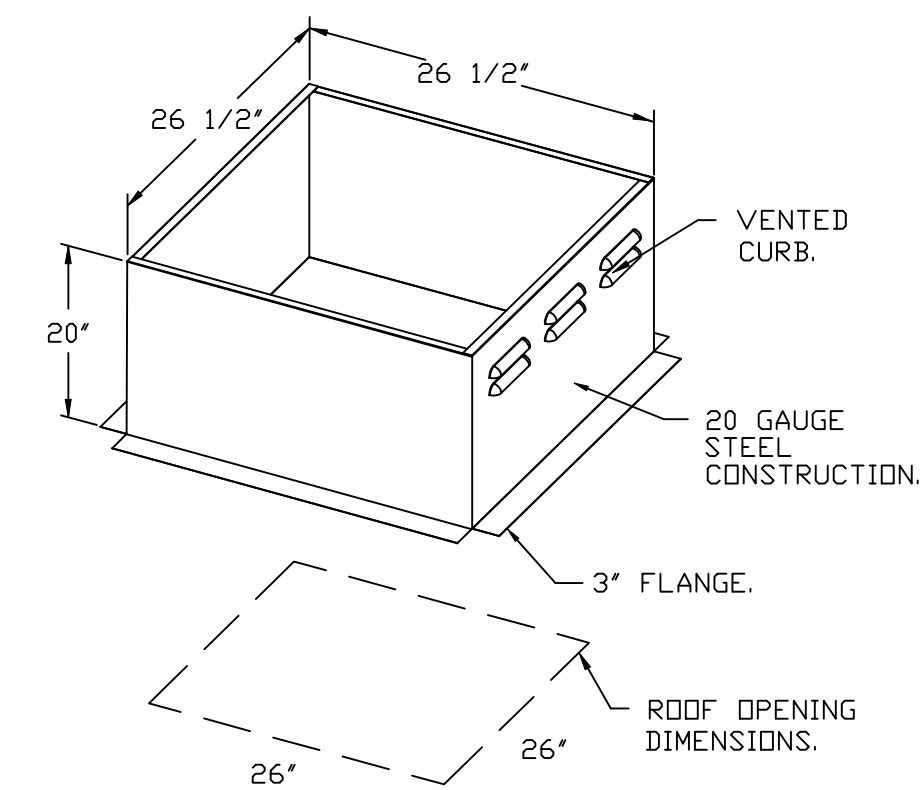
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT 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.
- REMOVE HINGE KIT LABEL FROM THE FAN BASE.
- 2 YEAR PARTS WARRANTY.



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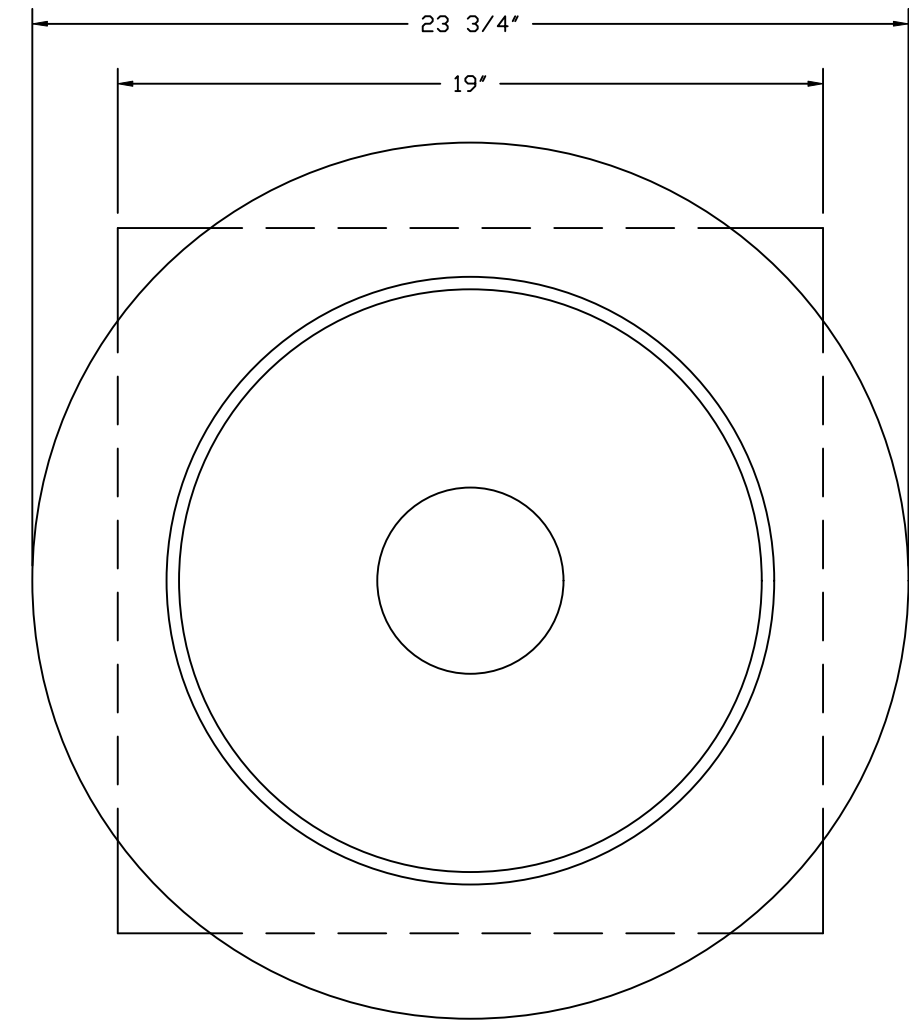
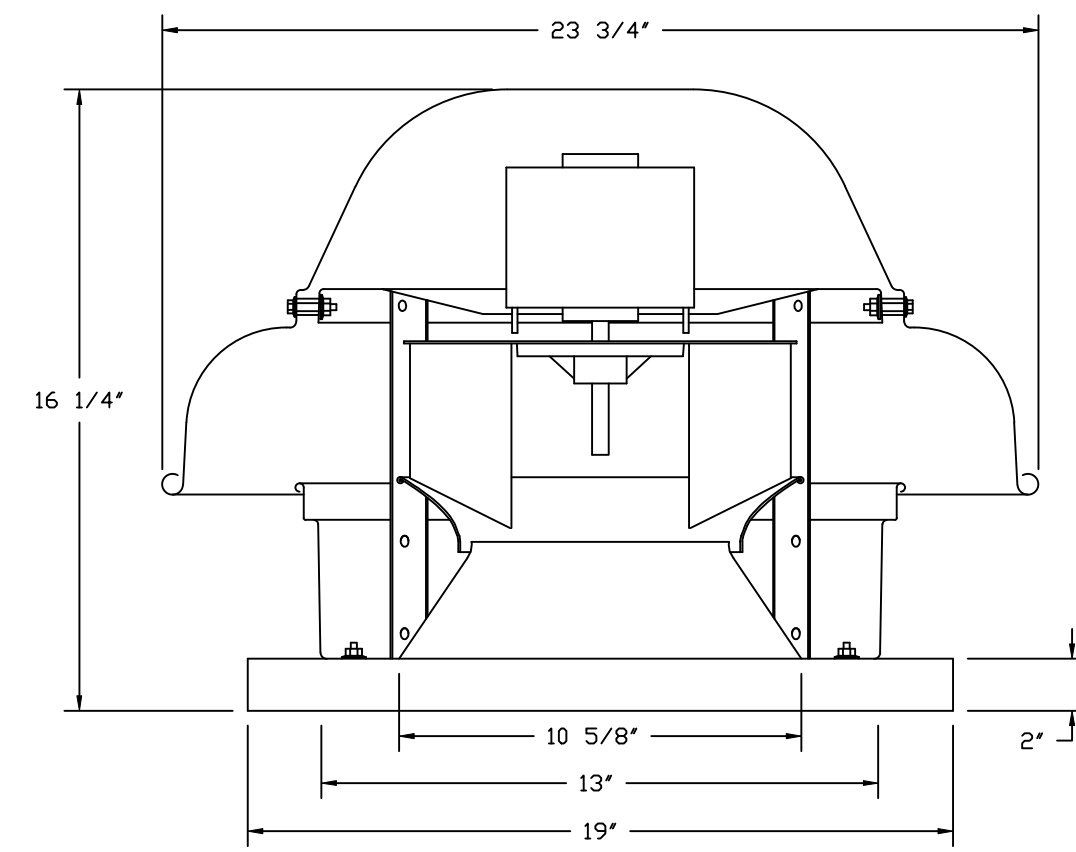
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SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 5

FAN #2_DR12HFA - EXHAUST FAN (EF-2)



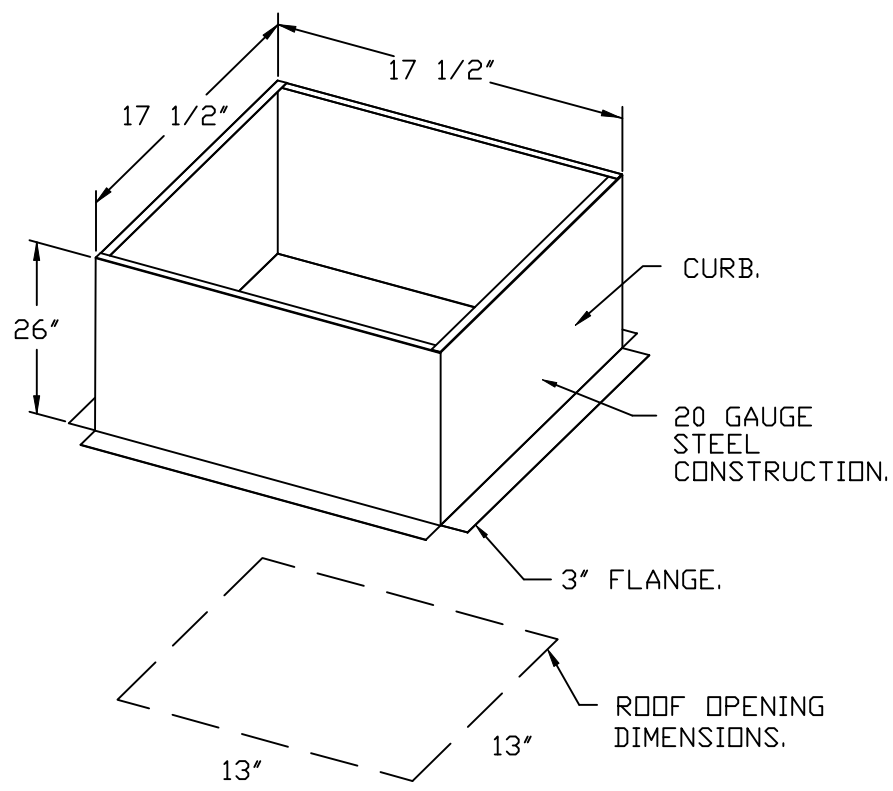
TOP VIEW

FEATURES:

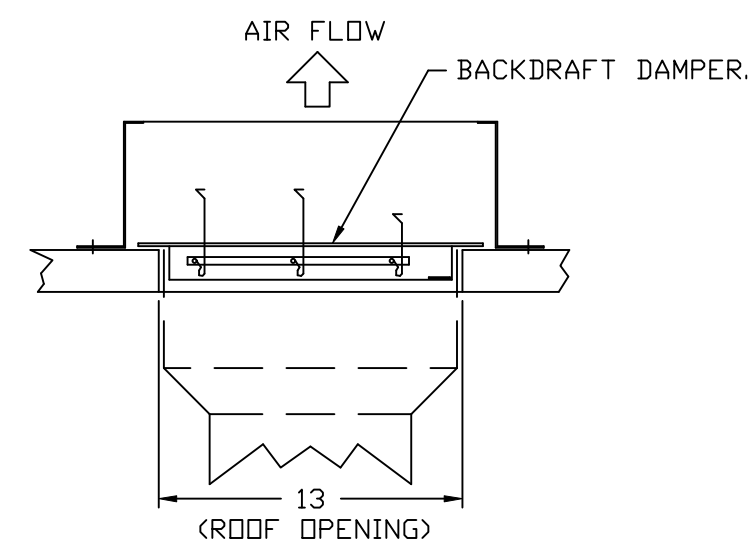
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- UL705.
- SAFETY DISCONNECT.
- STANDARD BIRD SCREEN.
- SPEED CONTROL.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).

OPTIONS:

- 1 12-BDD DAMPER.
- ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL.
- RTC - (TELCO MOTOR), CCW ROTATION.
- 2 YEAR PARTS WARRANTY.

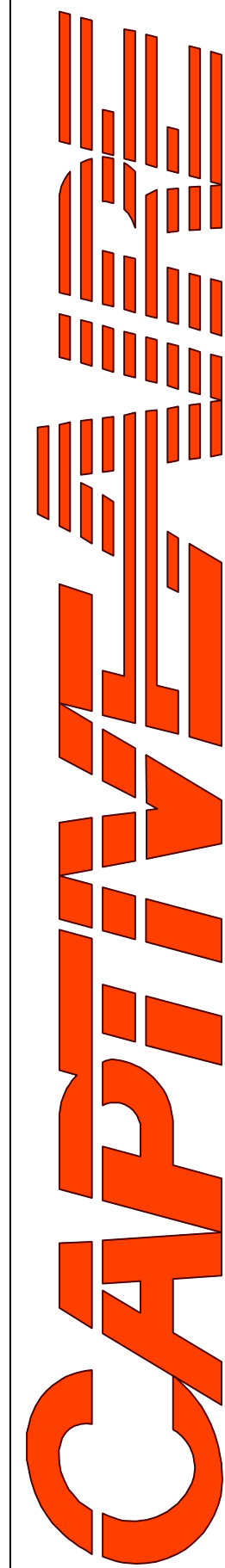
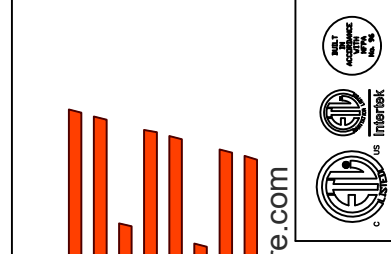


BACKDRAFT DAMPER INSTALLATION



REVISIONS

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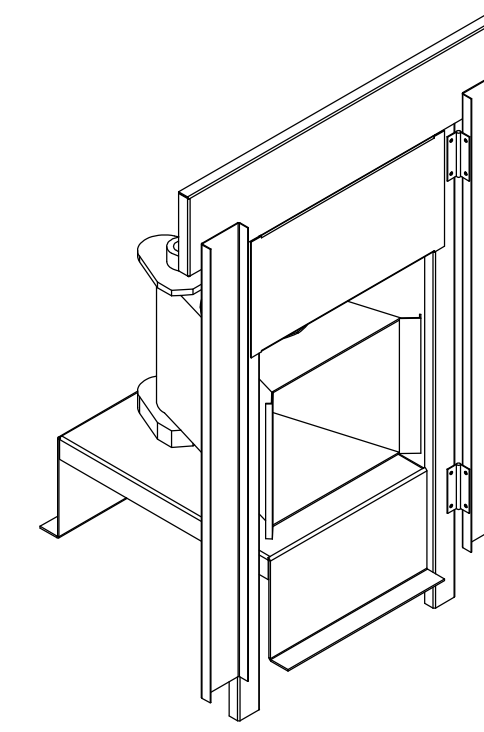
SHEET NO.

- FAN #3 AI-D250-1SD - HEATER (MAU-1)
1. DIRECT GAS FIRED HEATED MAKE-UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN.
 2. INTAKE HOOD WITH EZ FILTERS.
 3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
 4. DOWN DISCHARGE CONSTRUCTION FOR SIZE 1 DIRECT DRIVE AHUS.
 5. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
 6. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE.
 7. SHIP LOOSE GAS STRAINER TO BE INSTALLED UPSTREAM OF UNIT CONNECTION, 3/4" CONNECTION.
 8. MODORIZED BACK DRAFT DAMPER 16" X 16" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LDW LEAKAGE, TFB20S ACTUATOR INCLUDED.
 9. 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 MUA SWITCH.
 10. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
 11. EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.
 12. 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 14" X 14".

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 32°F. TEMP. RISE = 43°F.
 BTUs CALCULATED OFF ACTUAL AIR DENSITY.
 OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 59720.
 INPUT BTUs AT ALTITUDE OF 0.0 FT. = 64913.
 OUTPUT BTUs AT ALTITUDE OF 4 FT. = 59712.
 INPUT BTUs AT ALTITUDE OF 4 FT. = 64904.



DIRECT FIRED (DF) PROFILE PLATE ASSEMBLY

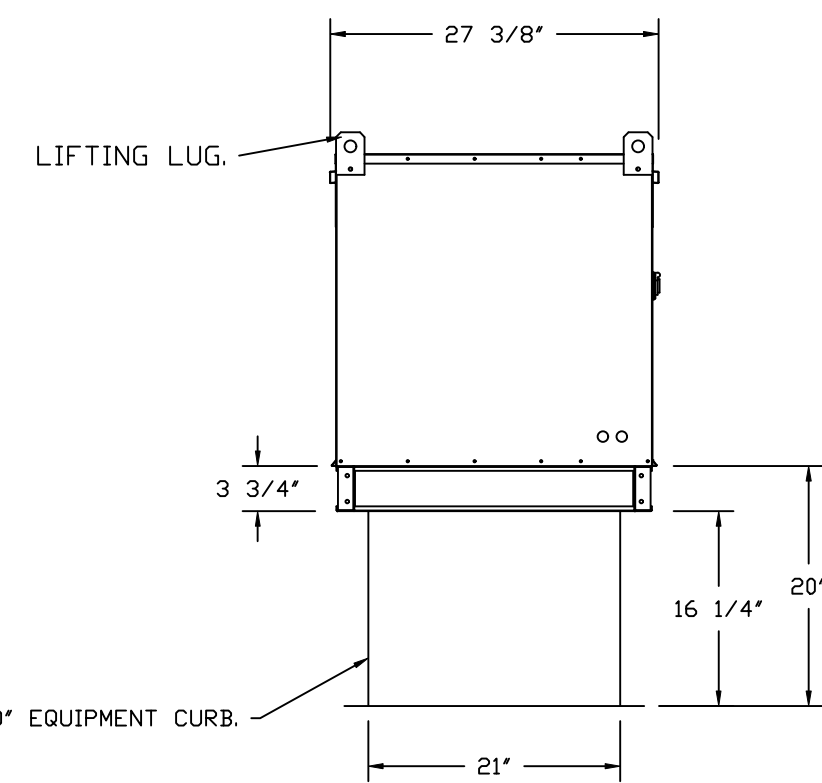
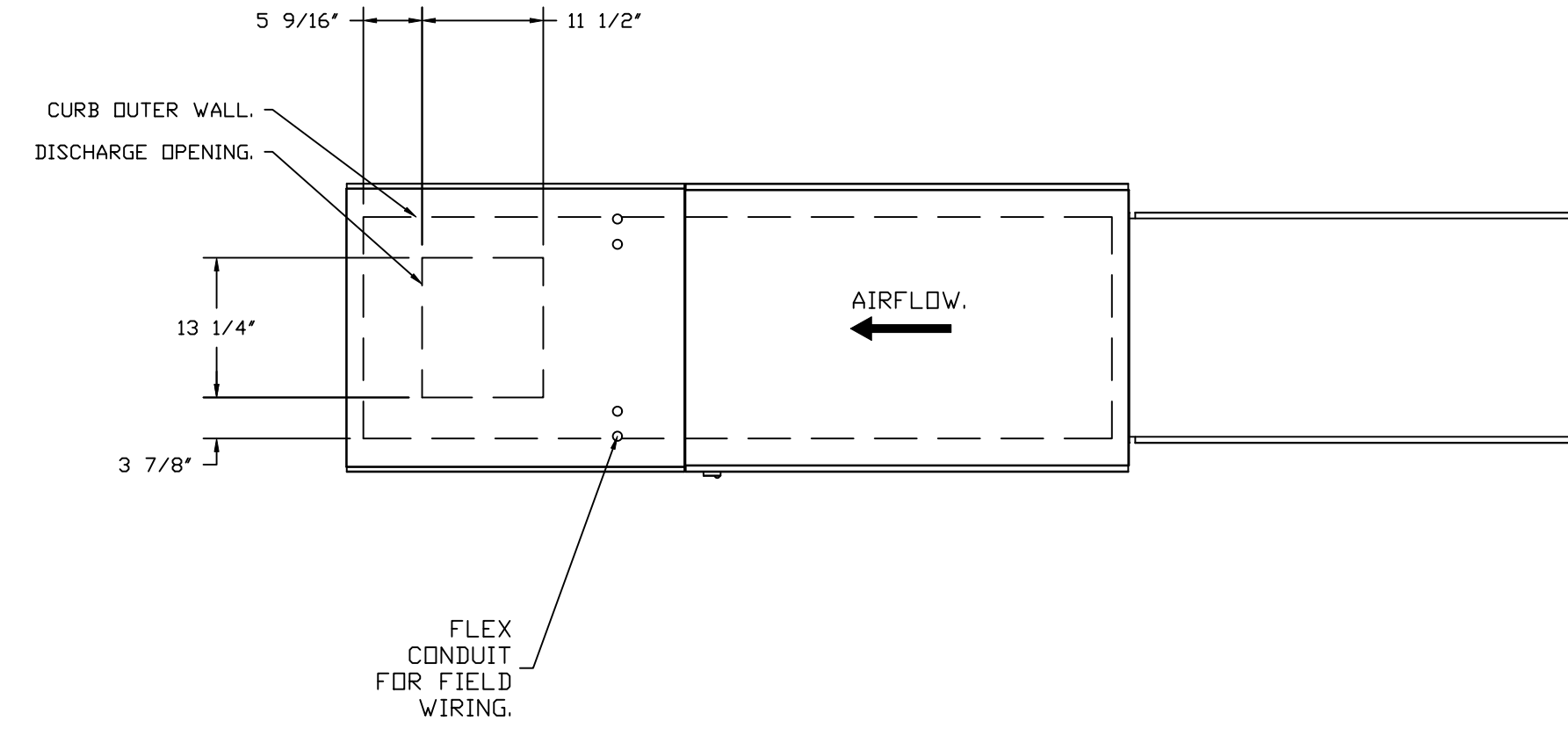
DIRECT FIRED PROFILE PLATE SPECIFICATIONS:

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.

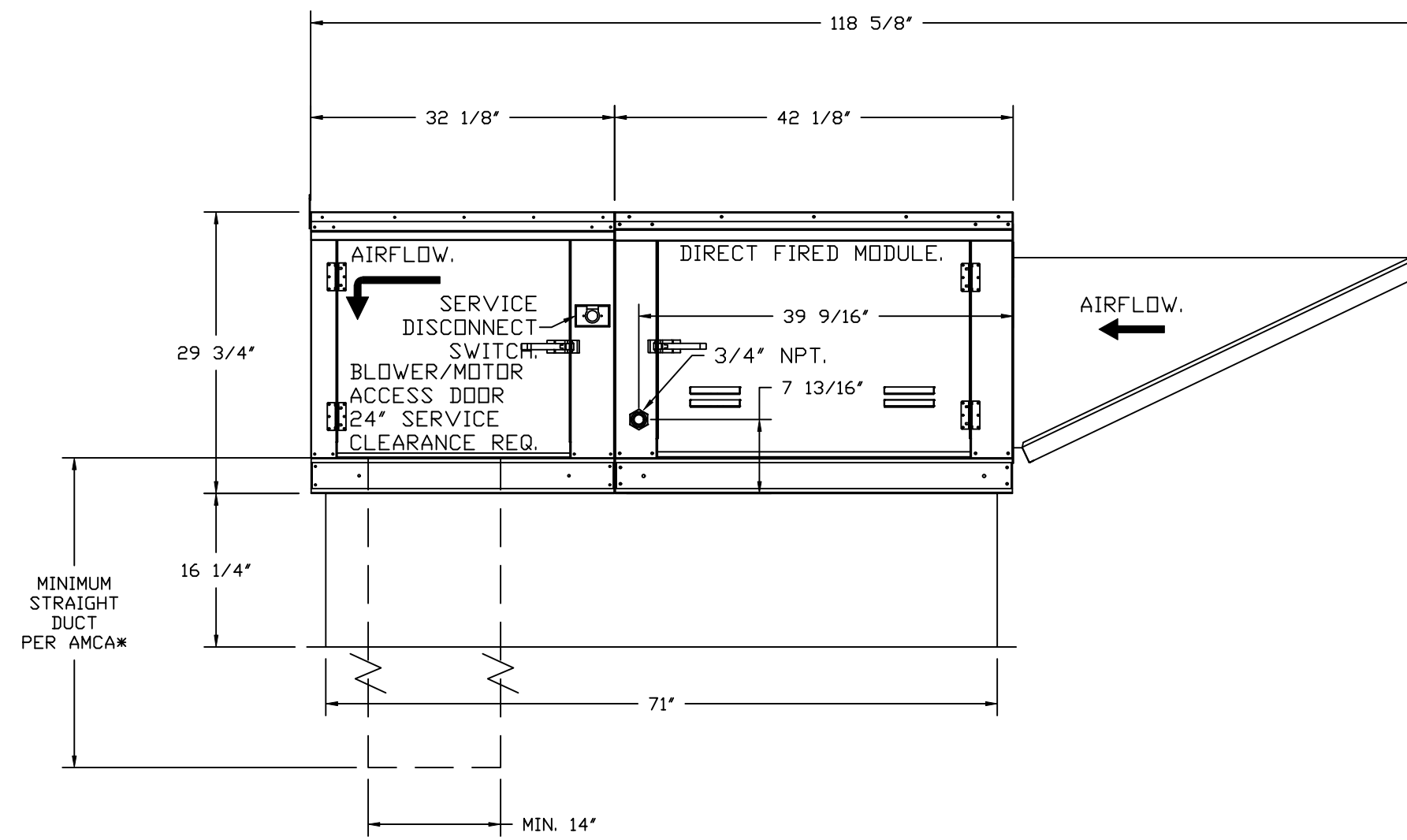
APPLICATION:
 SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

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).

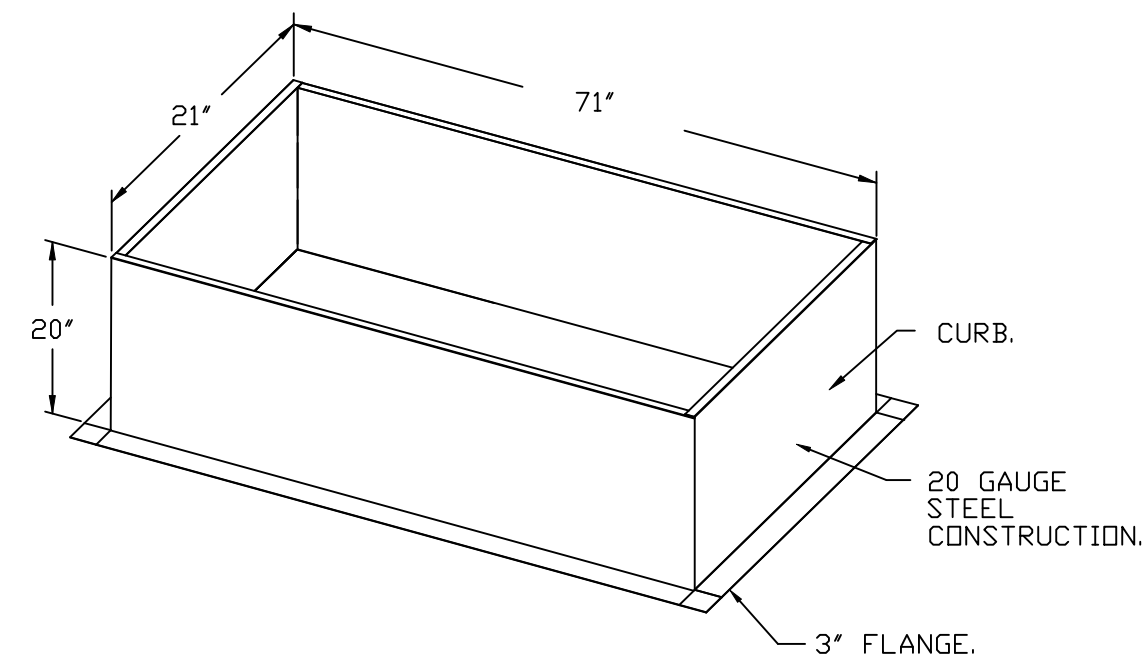
GENERAL CONSTRUCTION:
 -PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
 -PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
 -PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
 -DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
 -SPRING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



ROOF OPENING 2" SMALLER THAN CURB DIMENSION.

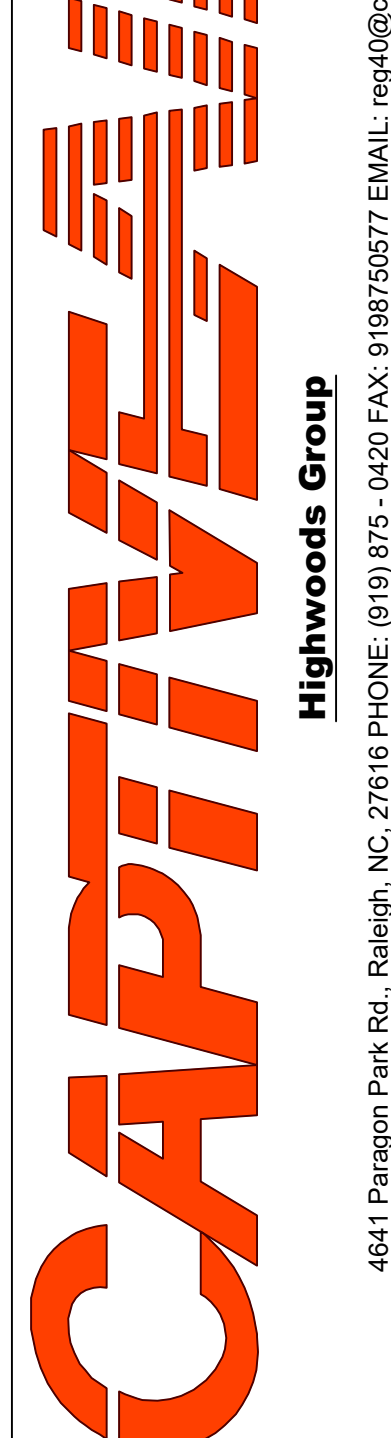
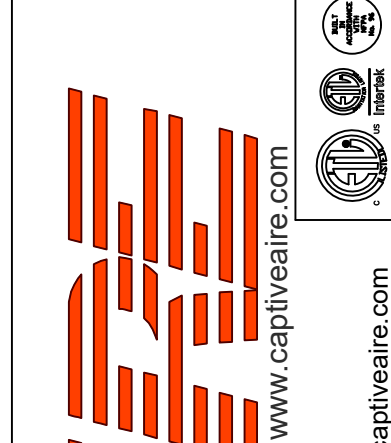


OPTIONS:
 - FULL BOTTOM CORNERS.



REVISIONS

DESCRIPTION	DATE



Highwoods Group
 4641 Paragon Park Rd., Raleigh, NC, 27616 PHONE: (919) 975 - 0420 FAX: 9198750577 EMAIL: reg40@captivair.com

DATE: 3/7/2025

DWG.#:
7185483

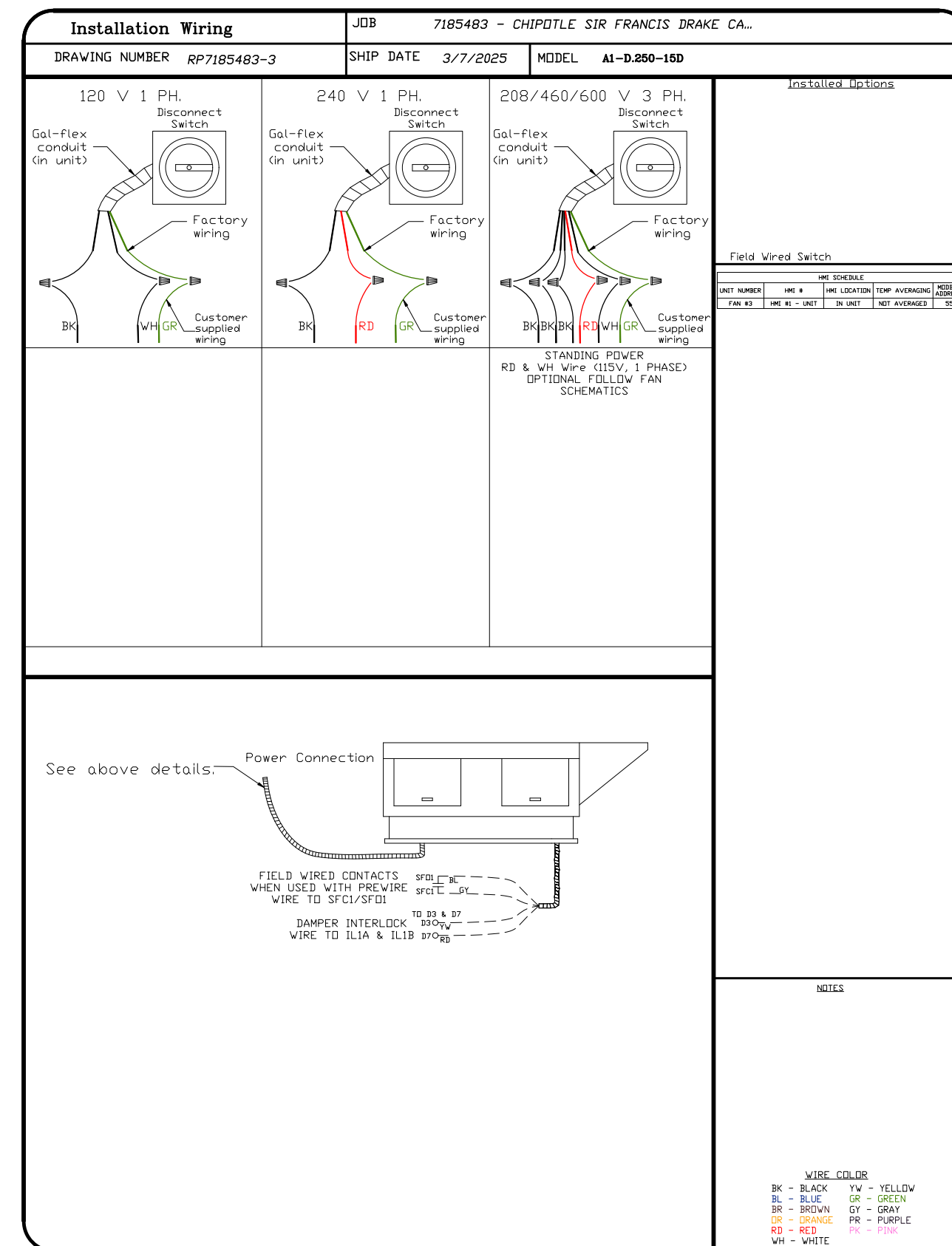
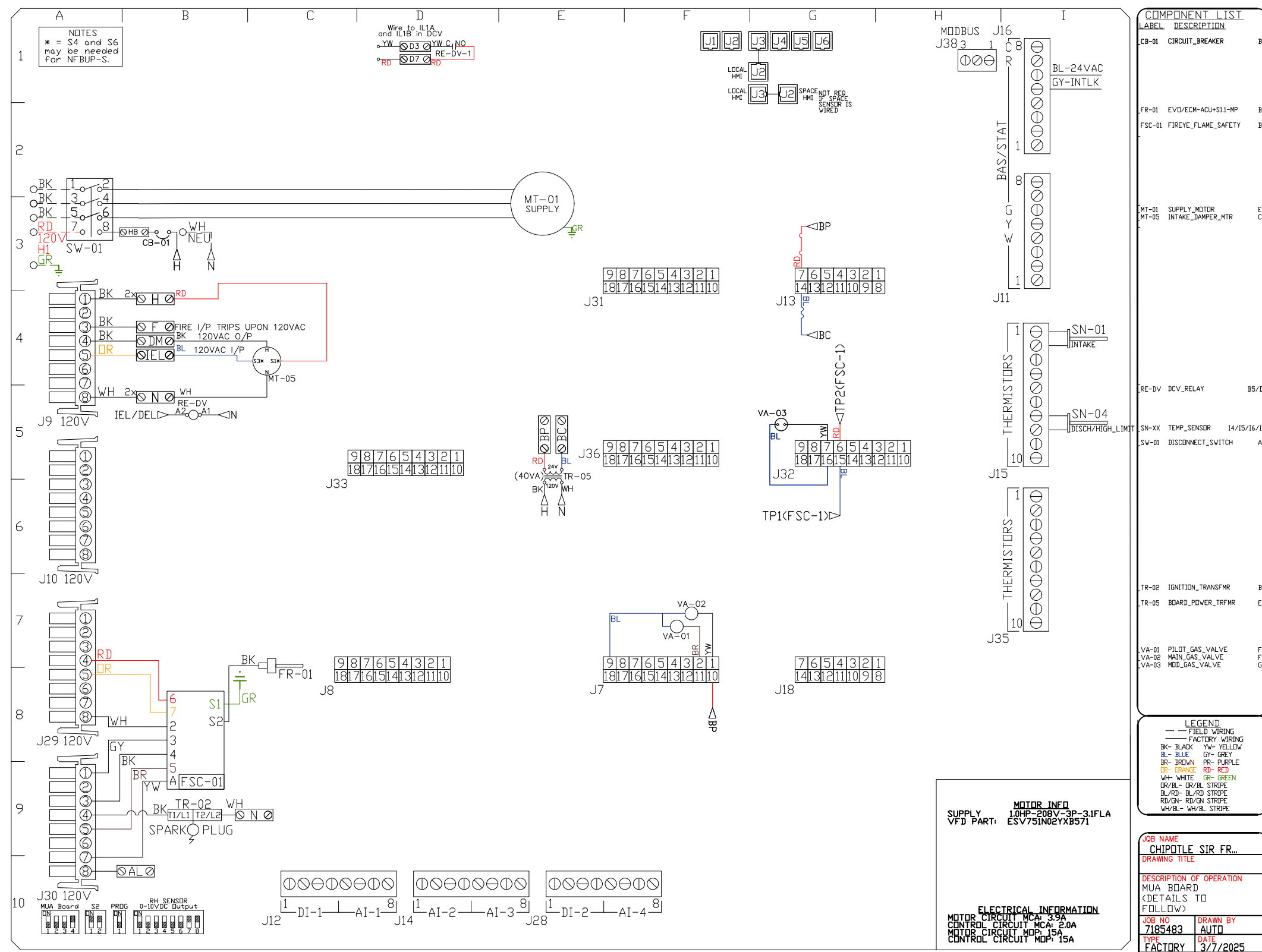
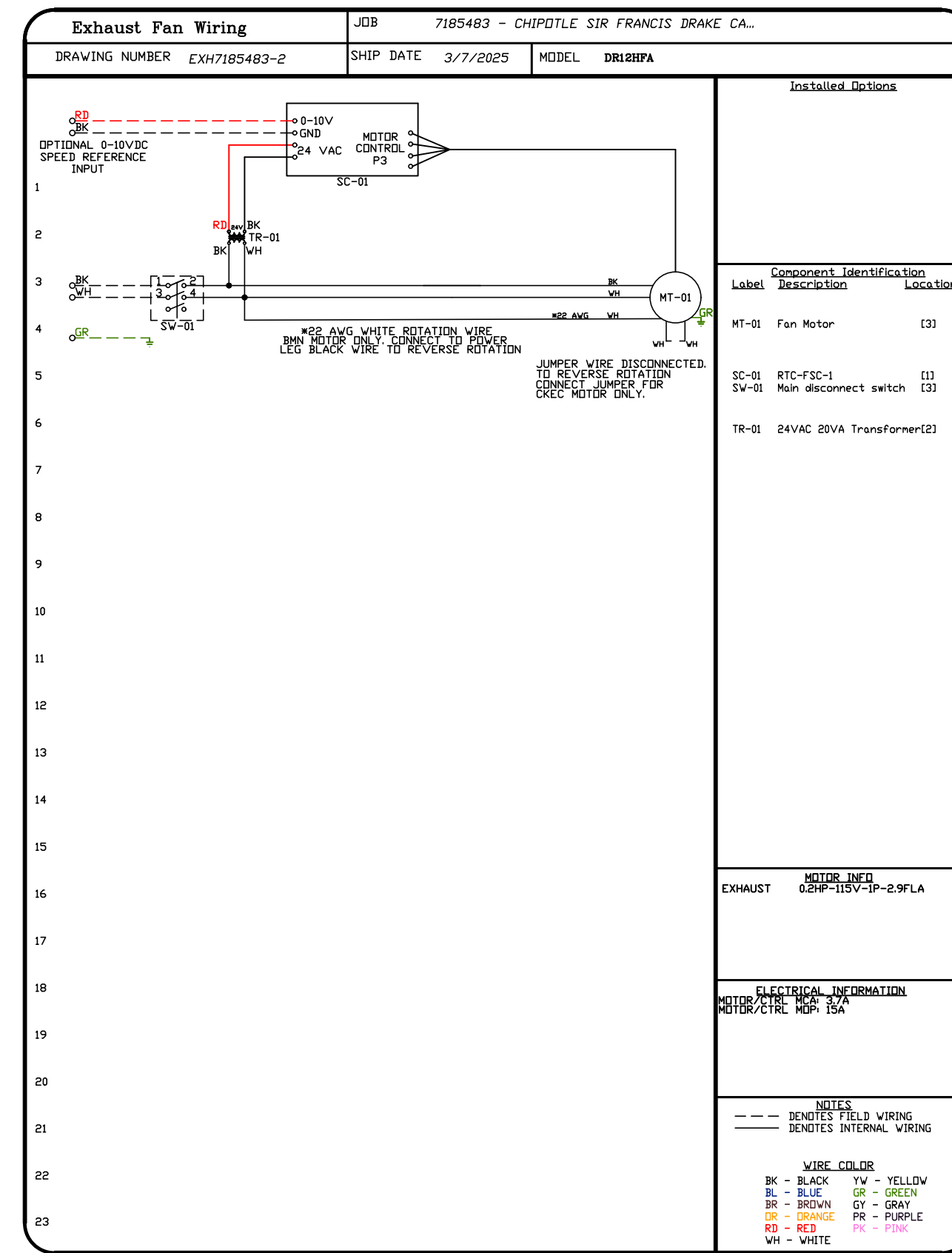
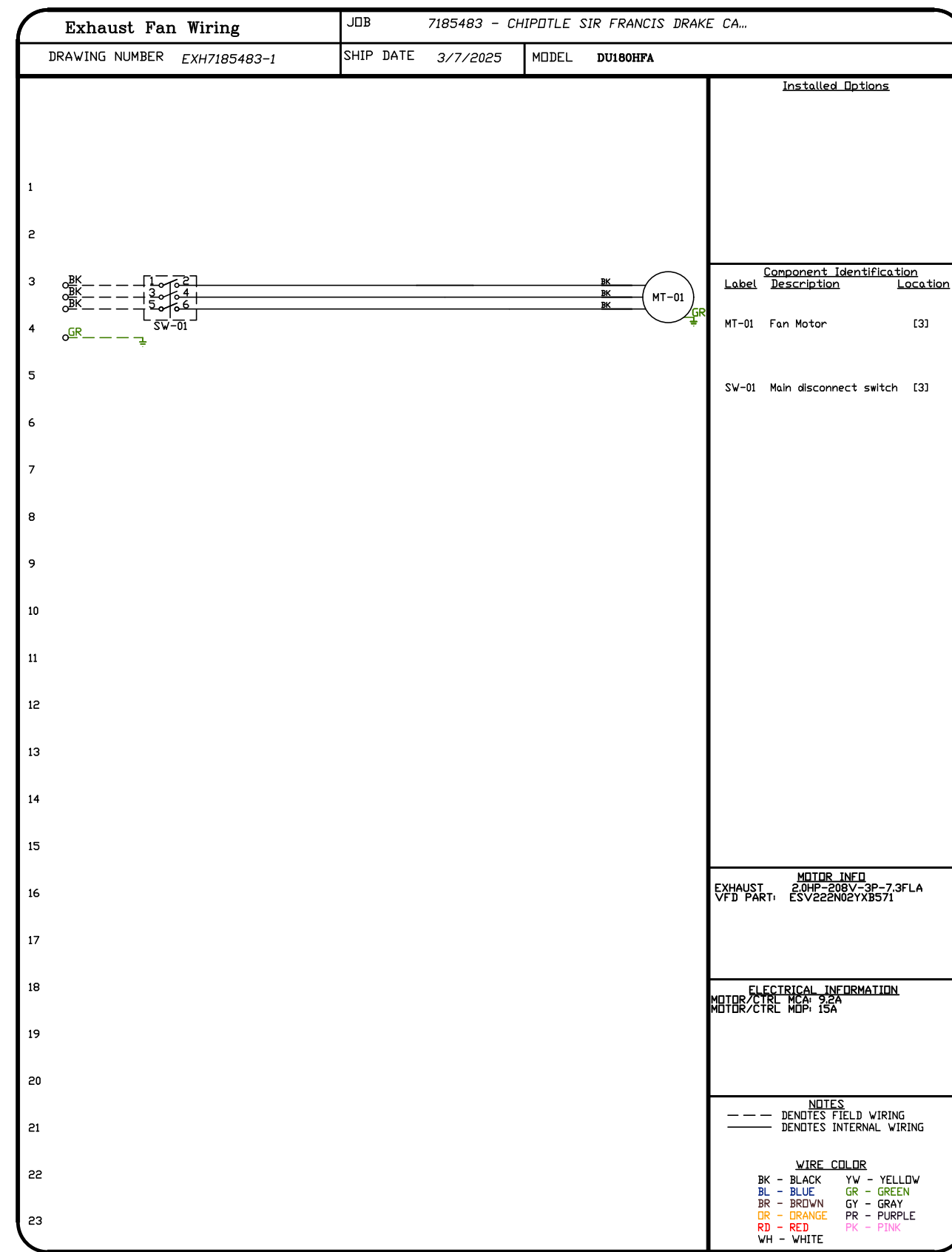
DRAWN BY: JMB-40

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

MASTER DRAWING

SHEET NO.
7

CHIPOTLE SIR FRANCIS DRAKE CA #5647
 GREENBRAE, CA, 94904



REVISIONS	
DESCRIPTION	DATE

www.captiveaire.com
Highwoods Group
4641 Paragon Park Rd., Raleigh, NC 27616 PHONE: (919) 375-0420 FAX: 9198750577 EMAIL: reg40@captiveaire.com

CAPTIVE

CHIPOTLE SIR FRANCIS DRAKE CA #5647
GREENBRAE, CA, 94904

DATE: 3/7/2025

DWG.#: 7185483

DRAWN BY: JMB-40

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

MASTER DRAWING

SHEET NO.

8

STATE OF CALIFORNIA		CALIFORNIA ENERGY COMMISSION	
Mechanical Systems		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E	
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, or 141.0(b)2 for alterations.			
Project Name:	CMG Greenbrae Sir Francis Drake	Report Page:	(Page 1 of 11)
Project Address:		Date Prepared:	2025-02-24T16:26:16-05:00

A. GENERAL INFORMATION			
01 Project Location (city)	Greenbrae	04 Total Conditioned Floor Area	2680
02 Climate Zone	2	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1
• Restaurant			

B. PROJECT SCOPE		
This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.		
01	02	03
Air System(s)	Wet System Components	Dry System Components
<input checked="" type="checkbox"/> Heating Air System	<input type="checkbox"/> Water Economizer	<input checked="" type="checkbox"/> Air Economizer
<input checked="" type="checkbox"/> Cooling Air System	<input type="checkbox"/> Pumps	<input type="checkbox"/> Electric Resistance Heat
Mechanical Controls	<input type="checkbox"/> System Piping	<input checked="" type="checkbox"/> Fan Systems
<input checked="" type="checkbox"/> Mechanical Controls (existing to remain, altered or new)	<input type="checkbox"/> Cooling Towers	<input checked="" type="checkbox"/> Ductwork (existing to remain, altered or new)
	<input type="checkbox"/> Chillers	<input checked="" type="checkbox"/> Ventilation
	<input type="checkbox"/> Boilers	<input type="checkbox"/> Zonal Systems/ Terminal Boxes

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 275812-0225-0004 Report Generated: 2025-02-24 13:26:21
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STATE OF CALIFORNIA		CALIFORNIA ENERGY COMMISSION	
Mechanical Systems		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E	
Project Name:	CMG Greenbrae Sir Francis Drake	Report Page:	(Page 4 of 11)
Project Address:		Date Prepared:	2025-02-24T16:26:16-05:00

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)								
Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)								
01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
RTU-1	>=65,000 and <135,000					EER	11	11.2
RTU-2	<65,000					SEER	13	14

G. PUMPS	
This section does not apply to this project.	

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 275812-0225-0004 Report Generated: 2025-02-24 13:26:21
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STATE OF CALIFORNIA		CALIFORNIA ENERGY COMMISSION	
Mechanical Systems		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E	
Project Name:	CMG Greenbrae Sir Francis Drake	Report Page:	(Page 2 of 11)
Project Address:		Date Prepared:	2025-02-24T16:26:16-05:00

C. COMPLIANCE RESULTS										
Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.										
01	02	03	04	05	06	07	08	09		
System Summary	Pumps	Fans/Economizers	System Controls	Ventilation	Terminal Box Controls	Distribution	Cooling Towers	Compliance Results		
110.1, 110.2, 140.4, 170.2(c)	140.4(k), 170.2(c)4i	140.4(e), 170.2(c)	110.2, 120.2, 140.4(f), 170.2(c)	120.1, 160.2	140.4(d), 170.2(c)4B	120.3, 140.4(i), 160.2, 160.3	110.2(e)2			
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	(See Table M)			
Yes	AND	AND	Yes	AND	Yes	AND	Yes	AND	COMPLIES with Exceptional Conditions	
Mandatory Measures Compliance (See Table Q for Details) COMPLIES										

D. EXCEPTIONAL CONDITIONS	
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.	
The permit applicant has indicated on Table I that ventilation calculations have been attached or included elsewhere on the plans.	

E. ADDITIONAL REMARKS	
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.	

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)					
Space Conditioning System Information					
01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
RTU-1	1	Single zone	New/ Addition	Retail	<input type="checkbox"/>

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 275812-0225-0004 Report Generated: 2025-02-24 13:26:21
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STATE OF CALIFORNIA		CALIFORNIA ENERGY COMMISSION	
Mechanical Systems		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E	
Project Name:	CMG Greenbrae Sir Francis Drake	Report Page:	(Page 5 of 11)
Project Address:		Date Prepared:	2025-02-24T16:26:16-05:00

H. FAN SYSTEMS & AIR ECONOMIZERS																			
This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.																			
System Name	RTU-1	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	3,000	Site Elevation	55	Economizer	Differential Enthalpy				
01	02	03	04	05	06	07	08	09	10	11									
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance (watt/cfm)	Fan Allowance (watt/cfm) ³	Design Electrical Input Power Method	Motor Nameplate Horsepower	Fan Electrical Input Power (kW)									
RTU-1	Supply	1	Hydronic/DX cooling coil or heat pump coil	100		0.139	0.585	Manufacturer provided		1.1									
			Air Blender	100		0.046													
			Gas heat	100		0.058													
			Filtration allowance for > MERV 16 or HEPA filter	100		0.342													
Supply Fan Base Allowance (watt/cfm)	0.232		Exhaust/Return/Relief/Transfer Fan Base Allowance(watt/cfm)	0		Fan System Allowance (kW) ³	2.45	Fan System Electrical Input Power (kW)		1.1									

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 275812-0225-0004 Report Generated: 2025-02-24 13:26:21
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STATE OF CALIFORNIA		CALIFORNIA ENERGY COMMISSION	
Mechanical Systems		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E	
Project Name:	CMG Greenbrae Sir Francis Drake	Report Page:	(Page 3 of 11)
Project Address:		Date Prepared:	2025-02-24T16:26:16-05:00

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)											
Space Conditioning System Information											
01	02	03	04	05	06	07	08	09	10	11	
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat						
RTU-2	1	Single zone	New/ Addition	Retail	<input type="checkbox"/>						
Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters and DOAS systems)											
01	02	03	04	05	06	07	08	09	10	11	
Name or Item Tag	Equipment Category per Tables 110.2, 140.4(a)2 and 170.2(c)3aii	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available ¹ 140.4(a) and 170.2(c)1	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Cooling Output ^{2,3} (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
RTU-1	Unitary AC/ Cond. (no elec. resistance)	AC, air-cooled pkg (3 phase)	Yes					71.12	93.4		67.6
RTU-2	Unitary AC/ Cond. (no elec. resistance)	AC, air-cooled pkg (3 phase)	Yes					46.17	62.01		44.6

¹ FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per 140.4(a) and 170.2(c)1. Healthcare facilities are exempted.
² It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).

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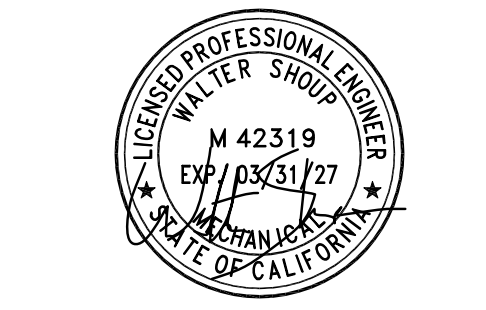
STATE OF CALIFORNIA		CALIFORNIA ENERGY COMMISSION	
Mechanical Systems		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E	
Project Name:	CMG Greenbrae Sir Francis Drake	Report Page:	(Page 6 of 11)
Project Address:		Date Prepared:	2025-02-24T16:26:16-05:00

H. FAN SYSTEMS & AIR ECONOMIZERS																			
System Name	RTU-2	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,000	Site Elevation	55	Economizer	Differential Enthalpy				
01	02	03	04	05	06	07	08	09	10	11									
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance (watt/cfm)	Fan Allowance (watt/cfm) ³	Design Electrical Input Power Method	Motor Nameplate Horsepower	Fan Electrical Input Power (kW)									
RTU-2	Supply	1	Hydronic/DX cooling coil or heat pump coil	100		0.139	0.527	Manufacturer provided		0.79									
			Air Blender	100		0.046													
			Filtration allowance for > MERV 16 or HEPA filter	100		0.342													
Supply Fan Base Allowance (watt/cfm)			Exhaust/Return/Relief/Transfer Fan Base Allowance(watt/cfm)			Fan System Allowance (kW) ³		Fan System Electrical Input Power (kW)		0.79									

¹ FOOTNOTES: Fans serving spaces with design background noise goals below NC35
² Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.
³ Fan system allowance includes fan system base allowance.
⁴ Filter pressure loss can only be counted once per fan system.
⁵ Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.
⁶ Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document.

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4D										
01	02	03	04	05	06	07	08	09	10	11

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 275812-0225-0004 Report Generated: 2025-02-24 13:26:21
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 PO BOX 182566
 COLUMBUS, OH 43218-2566
 TELEPHONE: 614.318.2400
 INTERNET: WWW.CHIPOTLE.COM

STORE NO.: 04-5647
 SIR FRANCIS DRAKE,
 150 BON AIR CENTER,
 GREENBRAE, CA 94904

Issue Record:	02/24/25	PERMIT SET
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Revisions:

Drawn:	PM:	CC:	Checked:
BH	AG	WN	WS

Project No:
 230654

Contents:
 TITLE 24 FORMS

M011

Ventilation Calculations

Ventilation Calculations Comply with: ASHRAE 62.1

Room Name	Room Area	Room Type	Number of People	CFM/Person	CFM/sqft	Total Required OA CFM	Total Provided OA CFM
RTU-1							
Dining	903	Dining rooms	64	7.5	0.18	643	645
Utensil	42	Dining rooms	3	7.5	0.18	31	30
Passage	80	Corridors	0	0	0.06	5	5
Total						679	680
RTU-2							
POS	135	Kitchens (cooking)b	3	7.5	0.12	39	40
Serving	54	Dining rooms	4	7.5	0.18	40	40
Cooking	466	Kitchens (cooking)b	10	7.5	0.12	131	130
Kitchen	228	Kitchens (cooking)b	5	7.5	0.12	65	65
Office	46	Office spaces	1	5	0.06	8	10
Total						283	285

SANITIZING EQUIPMENT SCHEDULE

TAG	COUNT	DESCRIPTION	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
					MANUFACTURER	MODEL	
SB-1	2	BATHROOM AIR PURIFICATION UNIT	TUV	GC	RGF ENVIRONMENTAL GROUP	BRU ASSEMBLY	SEE ELECTRICAL SHEETS FOR CONNECTION INFORMATION
SH-1	2	HVAC AIR PURIFICATION UNIT	TUV	GC	RGF ENVIRONMENTAL GROUP	REME-HALO	SEE DETAIL 6/M700 FOR INSTALLATION INFORMATION.
SI-1	2	ICE MACHINE TREATMENT SYSTEM	TUV	GC	RGF ENVIRONMENTAL GROUP	IMS-B-GA	SEE PLUMBING DRAWINGS FOR INSTALLATION INFORMATION.

FAN SCHEDULE

TAG	DESCRIPTION	AIRFLOW	E.S.P.	WEIGHT	ELECTRICAL		FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
					MOTOR POWER	V/P/H			MANUFACTURER	MODEL	
EF-1	UPBLAST UL762 EXHAUST FAN	2,550 CFM	1.45 in-wg	199 lb	2 hp	208/3/60	HS	GC	CAPTIVE-AIRE	DU180HFA	DIRECT DRIVE UL762 UPBLAST EXHAUST FAN FURNISHED WITH WEATHERPROOF DISCONNECT AND VENTED ROOF CURB
EF-2	DOWNBLAST RESTROOM EXHAUST FAN	150 CFM	0.60 in-wg	50 lb	0.25 hp	120/1/60	HS	GC	CAPTIVE-AIRE	DR12HFA	DIRECT DRIVE DOWNBLAST RESTROOM EXHAUST FAN FURNISHED WITH INTEGRAL DISCONNECT, SPEED CONTROL, BACKDRAFT DAMPER, AND CURB

VIROGUARD SCHEDULE

TAG	COUNT	DESCRIPTION	DUCT CONNECTION SIZE	FAN	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN
VG-1	1	VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM	16" X 16"	CAPTIVE-AIRE DU180HFA	TDC	GC	ENVIROMATIC

CONDENSING UNIT SCHEDULE

TAG	DESCRIPTION	NOMINAL CAPACITY	NUMBER OF		REFRIGERANT		WEIGHT	ELECTRICAL			FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
			COMPRESSORS	CIRCUITS	TYPE	CHARGE		MOCP	FLA	V/P/H			MANUFACTURER	MODEL	
CU-1	CONDENSING UNIT - WALK-IN COOLER		1	1	R-404A	10.4 lb	250 lb	15 A	9 A	208/3/60	WCS	GC	HARFORD	KPCL99MZOP-3E	FURNISHED WITH WALK-IN COOLER
CU-2	REMOTE CONDENSER - LOW CAPACITY ICE MAKER		0	1	R-404A	11.46 lb	100 lb			120/1/60	KES	GC	HOSHIZAKI	URC-9FZ	FURNISHED WITH ICE MAKER

MAKEUP AIR UNIT SCHEDULE

TAG	DESCRIPTION	AIRFLOW	E.S.P.	HEATING			WEIGHT	ELECTRICAL		FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
				INPUT	OUTPUT	EAT		MOTOR POWER	V/P/H			MANUFACTURER	MODEL	
MAU-1	DIRECT-FIRED MAKEUP AIR UNIT	1,300 CFM	0.50 in-wg	78,010 Btu/h	71,769 Btu/h	21 °F	507 lb	1 hp	208/3/60	HS	GC	CAPTIVE-AIRE	A1-D.250-15D	12.5:1 MAX TURNDOWN. FURNISHED WITH DISCONNECT, ROOF CURB, SCREEN INTAKE, AND WASHABLE ALUMINUM FILTERS

KITCHEN HOOD SCHEDULE

TAG	DESCRIPTION	MAX COOKING TEMP.	EXHAUST PLENUM						PERFORATED SUPPLY PLENUMS						BASIS FOR DESIGN				REMARKS						
			DUCT COLLARS						MAU PLENUM			AC PLENUM			NO. OF LIGHT FIXTURES	WEIGHT	FURNISHED BY	INSTALLED BY		MANUFACTURER	MODEL				
			AIRFLOW	E.S.P.	NO.	WIDTH	LENGTH	LENGTH	WIDTH	LENGTH	WIDTH	AIRFLOW	NO.	WIDTH								LENGTH	AIRFLOW	NO.	DIAMETER
HD-1	TYPE I CANOPY HOOD WITH PERFORATED MAU AND AC SUPPLY PLENUMS	600 °F	2,550 CFM	0.97 in-wg	1	10"	2'-0"	12'-9"	4'-3"	13'-9"	1'-7"	1,300 CFM	3	6"	2'-4"	700 CFM	6	8"	8	1,150 lb	HS	GC	CAPTIVE-AIRE	S424 ND-2-ACPSPF	MAT'L: 18 GA. TYPE 430 SS. FURNISHED WITH VERTICAL END PANELS, VAPORPROOF INCANDESCENT LIGHT FIXTURES, 16" TALL HE SS FILTERS, INTEGRAL UTILITY CABINET, ANSUL SYSTEM, DUCT COLLAR TEMPERATURE SENSOR, PREWIRE PACKAGE, SPARE FIRE SYSTEM DRY CONTACT, AND 4-POLE 20A CONTACTOR

ROOFTOP UNIT SCHEDULE

TAG	DESCRIPTION	NOMINAL CAPACITY	EER	AIRFLOW			NET COOLING CAPACITY			HEATING CAPACITY			NUMBER OF		REFRIGERANT		WEIGHT	ELECTRICAL			FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS			
				TOTAL	OA	E.S.P.	TOTAL	SENSIBLE	DB	WB	EAT	COND.	INPUT	OUTPUT	EAT	COMPRESSORS		CIRCUITS	TYPE	CHARGE			MOCP	FLA		V/P/H	MANUFACTURER	MODEL
RTU-1	CARRIER ROOFTOP UNIT	7.5 ton	11.2	3,000 CFM	800 CFM	0.80 in-wg	93,400 Btu/h	71,120 Btu/h	80 °F	67 °F	95 °F	125,000 Btu/h	103,000 Btu/h	70 °F	2	2	R-454B	15 lb	1,047 lb	45 A	39 A	208/3/60	HES	GC	CARRIER	48FEDM08B2M5-8 WACO	RA SMOKE DETECTOR, AL/CU - AL/CU - LOUVERED HAIL GUARDS, MERV-13 HIGH EFFICIENT FILTERS, ULTRA LOW LEAK ENTY ECONOMIZERONE WITH BAROMETRIC RELIEF, SMOKE DETECTOR REMOTE TEST/RESET/ALARM INDICATOR KIT, HORN/STROBE ANNUNCIATOR WITH CLEAR COLORED LENS, ENTHALPY/DIFFERENTIAL DRY BULB SENSOR FOR POL224 CONTROLLER (ECONOMIZERONE) ONLY, 14 INCH TALL ROOF CURB	
RTU-2	CARRIER ROOFTOP UNIT	5 ton	11.2	2,000 CFM	700 CFM	0.80 in-wg	62,010 Btu/h	46,170 Btu/h	80 °F	67 °F	95 °F	60,000 Btu/h	49,000 Btu/h	70 °F	1	1	R-454B	15 lb	771 lb	45 A	31 A	208/3/60	HES	GC	CARRIER	48FEGA06B2M5-8 WACO	ULTRA LOW NOX LOW HEAT, RA SMOKE DETECTOR, AL/CU - AL/CU - LOUVERED HAIL GUARDS, MERV 13 HIGH EFFICIENT FILTERS, ULTRA LOW LEAK ENTY ECONOMIZERONE WITH BAROMETRIC RELIEF, SMOKE DETECTOR REMOTE TEST/RESET/ALARM INDICATOR KIT, HORN/STROBE ANNUNCIATOR WITH CLEAR COLORED LENS, ENTHALPY/DIFFERENTIAL DRY BULB SENSOR, 14 INCH TALL ROOF CURB	

AIR BALANCE SCHEDULE

TAG	SUPPLY FLOW	RETURN FLOW	EXHAUST FLOW	SUBTOTAL
EF-1	0 CFM	0 CFM	2,550 CFM	-2,550 CFM
EF-2	0 CFM	0 CFM	150 CFM	-150 CFM
MAU-1	1,300 CFM	0 CFM	0 CFM	1,300 CFM
RTU-1	3,000 CFM	2,200 CFM	0 CFM	800 CFM
RTU-2	2,000 CFM	1,300 CFM	0 CFM	700 CFM
NET PRESSURIZATION				100 CFM

CONTROL FUNCTIONS

- THE MAIN COOKING EXHAUST FAN AND MAKE-UP AIR UNIT SHALL BE INTERLOCKED TO OPERATE TOGETHER. THIS CONTROL CIRCUIT IS ACTIVATED BY A SWITCH AND INCLUDES A FIRE PROTECTION OVERRIDE.
- THE TEMPERATURE IN EACH ZONE IS CONTROLLED BY SPACE TEMPERATURE SENSORS CONNECTED TO THE THERMOSTATS LOCATED IN THE OFFICE. ALL ZONES SHALL OPERATE WITH CONTINUOUS FAN OPERATION DURING OCCUPIED TIMES AND INTERMITTENTLY AS NEEDED TO MAINTAIN SET POINTS DURING UNOCCUPIED TIMES. OUTSIDE AIR DAMPERS SHALL BE OPEN CONTINUOUSLY WHEN EITHER IN OCCUPIED MODE OR WHEN THE HOOD SYSTEM IS ON AND SHALL BE CLOSED DURING UNOCCUPIED PERIODS.
- THE THERMOSTATS SHALL DETERMINE OCCUPIED/UNOCCUPIED STATUS BASED ON THE SCHEDULE IN THE ENERGY MANAGEMENT SYSTEM.

AIR TERMINAL SCHEDULE

TAG	DESCRIPTION	FACE SIZE	MATERIAL	FINISH	MOUNTING	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		NOTES
								MANUFACTURER	MODEL	
CD1	PERFORATED CEILING DIFFUSER	24" X 24"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAIROL	4320A TYPE L	PROVIDE WITH INTEGRAL OBD
CD2	PERFORATED CEILING DIFFUSER	24" X 12"	ALUMINUM	WHITE	LAY-IN CEILING	GC	GC	NAIROL	4320A TYPE L	PROVIDE WITH INTEGRAL OBD, REMOVE 4-WAY DEFLECTORS
CD3	PERFORATED CEILING DIFFUSER	12" X 12"	ALUMINUM	WHITE	SURFACE MOUNT	GC	GC	NAIROL	4320A TYPE S	PROVIDE WITH INTEGRAL OBD
ER1	PERFORATED CEILING EXHAUST	12" X 12"	ALUMINUM	WHITE	SURFACE MOUNT	GC	GC	NAIROL	4330R TYPE S	PROVIDE INTEGRAL OBD
RG2	PERFORATED CEILING RETURN	48" X 24"	ALUMINUM	WHITE	SURFACE MOUNT	GC	GC	NAIROL	4330R TYPE S	
SR1	ADJUSTABLE TURBO NOZZLE	SEE NECK SIZE	ALUMINUM	WHITE	WALL	GC	GC	AIR CONCEPTS	ANR-10	PROVIDE WITH CONCEALED MOUNTING AND FACE-ACCESSIBLE OBD



STORE NO.: 04-5647
 SIR FRANCIS DRAKE,
 150 BON AIR CENTER,
 GREENBRAE, CA 94904

Issue Record:

02/24/25	PERMIT SET
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Revisions:

Drawn: PM: CC: Checked:

BH	AG	WN	WS
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Project No:
230654

Contents:
HVAC SCHEDULES

