

DIVISION 15 SPECIFICATIONS

PART I - GENERAL

1.01 SCOPE

- A. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY FOR COORDINATION.
- B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.
- C. SYSTEM LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY STRUCTURAL CONDITIONS, COORDINATION WITH OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM. TEN FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN OUTSIDE AIR INTAKES AND EXHAUST FANS AND PLUMBING VENT TERMINALS.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM.
- E. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNERS REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS, DUCTWORK AND AIR DEVICES SHALL BE INSPECTED AND THOROUGHLY CLEANED, CLEARED OF DEBRIS, AND READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.
- F. CONTRACTOR SHALL PROVIDE TWO SETS OF 2" MERV 8 OR HIGHER THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO TEST AND BALANCE AND AGAIN PRIOR TO OPENING.

PART II - PRODUCTS

2.01 HEATING AND COOLING EQUIPMENT

- A. FURNISH AND INSTALL R-410A ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.
- B. ACCESSORIES SHALL INCLUDE LOW AND HIGH PRESSURE SAFETIES, CRANK CASE HEATER, OVERCURRENT AND OVERTEMPERATURE SAFETY, COMPRESSOR VIBRATION ISOLATORS, FILTER DRIERS, REFRIGERANT SERVICE VALVES, COIL HAIL GUARDS WHERE SCHEDULED, CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.
- C. COMPRESSORS SHALL BE HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.
- D. THE UNIT HEAT EXCHANGERS SHALL BE ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION/EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. HEAT EXCHANGERS SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.

2.02 DUCTWORK (C15735)

- A. ACCEPTABLE MANUFACTURERS OF INSULATION SHALL BE: JOHNS MANVILLE, OWENS CORNING OR KNAUF.
- B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).
- C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.
- D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT INCLUDING DUCT CONNECTION TO AIR DEVICE COLLAR SHALL BE SEALED PER SMACNA SEAL CLASS A WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.
- E. DUCT SHALL BE SUPPORTED AT BASE OF DUCT DROPS. CURB DUCT RAILS ARE NOT INTENDED TO AND SHALL NOT SUPPORT THE WEIGHT OF THE DUCT.
- F. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING.
- G. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.
- H. SUPPLY AND RETURN AIR DUCTWORK SERVING ALL AREAS SHALL BE EXTERNALLY INSULATED.
- I. ALL AIR CONVEYANCE COMPONENTS SUCH AS, BUT NOT LIMITED TO DUCT, DUCT PLENUMS, GRILLES/DIFFUSERS, BACK PANS, AND BOOTS SHALL BE INSULATED. INSULATION TYPE IS COVERED ELSEWHERE IN THIS SPECIFICATION.
- J. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED WITH 1" THICK, 1-1/2 PCF INSULATION. RESTROOM ROUND EXHAUST DUCT SHALL BE EXTERNALLY INSULATED PER SECTION 2.02F.
- K. DUCT DROPS SHALL BE ISOLATED FROM UNIT VIBRATION WITH THE USE OF NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS INSTALLED AT THE TOP OF BOTH SUPPLY AND RETURN DROPS.
- L. INSULATED FLEXIBLE DUCT MAY BE UTILIZED FOR RUNOUTS TO GRILLES AND DIFFUSERS ONLY IN THE HORIZONTAL POSITION AND IN MAXIMUM LENGTHS OF 4'-0", NO EXCEPTIONS.
- M. CONSTRUCTION OF FLEXIBLE DUCTWORK SHALL INCLUDE SPIRAL METAL HELIX BONDED TO A POLYESTER CORE, FIBERGLASS INSULATION WITH POLYETHYLENE OR MYLAR VAPOR BARRIER. ALL COMPONENTS SHALL HAVE APPROPRIATE U.L. APPROVAL AND SHALL BE EQUIVALENT TO THERMAFLEX MKE. FLEX DUCT SHALL HAVE A MINIMUM R-VALUE OF 6.
- N. FLEXIBLE DUCT SHALL BE INSTALLED PER THE "ADC FLEXIBLE DUCT PERFORMANCE AND INSTALLATION STANDARDS, 4TH ED" USING FOIL TAPE AND DRAWBAND ON THE INNER CORE AND TAPE OR DRAWBAND ON THE OUTER JACKET.
- O. DUCT TAPE SHALL BE EQUAL TO FASSON 181-B FX, 2-1/2" WIDE.
- P. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED IN SUPPLY DUCT AT ALL 90 DEGREE ELBOWS WHERE THE CENTERLINE RADIUS (R) IS LESS THAN THE WIDTH OF THE DUCT AND ANY ONE DIMENSION IS GREATER THAN 12".
- Q. EXTERNAL INSULATION ON BOTTOM OF DUCTS 24" OR WIDER SHALL BE SUPPORTED WITH STICK PINS ON 18" CENTERS. STICK PIN WASHERS SHALL BE COVERED WITH DUCT TAPE OR MASTIC.

2.03 CONTROLS

- A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 977-544-6679). THE PANEL IS PROVIDED AND MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR WHERE PERMITTED BY AHJ.
- B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.
- C. A FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.
- D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE AND TURNED OVER TO THE MECHANICAL CONTRACTOR FOR INSTALLATION.
- E. THE REMOTE TEST/RESET ANNUCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. ANNUCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.
- F. THE RESTROOM FAN SHALL BE INTERLOCKED TO THE LIGHTS SERVING THE MEN AND WOMEN'S RESTROOMS. THE HOOD FANS SHALL BE CONTROLLED VIA THE SUNCOAST CFA-500 CONTROL PANEL. WIRING AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.
- G. THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENT CONTROLS. SUNCOAST WILL PROVIDE A NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. REMOTE TEMPERATURE SENSOR(S) FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR(S) AND THE ROOFTOP UNIT.
- H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. NO SPLICING OF WIRING WILL BE ACCEPTED. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

2.04 PIPING

- A. ALL ABOVE GRADE NATURAL GAS PIPING SHALL BE SCHEDULE 40 STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.
- B. ALL BELOW GRADE NATURAL GAS PIPING SHALL BE MEDIUM DENSITY POLYETHYLENE (PE) MEETING ASTM D2513 AS MANUFACTURED BY GASTITE WITH JOINING SYSTEM AS MANUFACTURED BY CON-STAB. TRANSITIONS FROM ABOVE GRADE RIGID PIPING TO PE BELOW GRADE PIPING SHALL BE MADE WITH ANODE-LESS RISER ASSEMBLY AS MANUFACTURED BY CON-STAB.

- C. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND ABOVE UNIFORMITY SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.
- D. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING.
- E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

PART III - EXECUTION

3.01 SCOPE

- A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.
- B. CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT THROUGH DEMONSTRATION AND EXPLANATION OF OPERATING & MAINTENANCE MANUALS.
- C. CONTRACTOR SHALL PROVIDE A "SAMPLE MAINTENANCE PROPOSAL" TO THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.
- D. CONTRACTOR SHALL COMPLETE A/C EQUIPMENT STARTUP DOCUMENTATION PROVIDED BY OWNER AND/OR MANUFACTURER. THIS SHALL INCLUDE RE-TORQUE OF ALL FIELD AND FACTORY HIGH VOLTAGE CONNECTIONS.

3.02 LEED PROJECTS

- A. CONTRACTOR SHALL COMPLETE RECEIPT INSPECTION CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN WITHIN 5 DAYS OF RECEIVING EQUIPMENT ON SITE.
- B. CONTRACTOR SHALL COMPLETE PRE-FUNCTIONAL CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN. CHECKLISTS SHALL BE RETURNED AT LEAST 5 DAYS PRIOR TO SCHEDULING FUNCTIONAL PERFORMANCE TESTING.
- C. CONTRACTOR SHALL PROVIDE A TECHNICIAN TO ASSIST THE THIRD PARTY COMMISSIONING AUTHORITY WITH FUNCTIONAL TESTING. FUNCTIONAL TESTING SHALL OCCUR AFTER ALL CONTROLS HAVE BEEN INSTALLED AND VERIFIED AND AFTER TEST AND BALANCE IS COMPLETE. THE FUNCTIONAL PERFORMANCE TEST PROCEDURES CAN BE FOUND IN THE COMMISSIONING PLAN.

- D. IF THE TOTAL TIME REQUIRED TO CORRECT PROBLEMS DURING TESTING IS GREATER THAN FORTY-FIVE (45) MINUTES (UNLESS EXTENUATING CIRCUMSTANCES EXIST), THE TEST SHALL BE CONSIDERED FAILED AND MUST BE REPEATED IN ITS ENTIRETY.
- E. RE-TESTING: DURING THE COURSE OF THE RETEST, IF AT ANY POINT A MAJOR DEFICIENCY IS DISCOVERED, THE TEST WILL BE STOPPED. REPEAT TESTS UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. IF MORE THAN TWO FUNCTIONAL PERFORMANCE TESTS (ONE INITIAL TEST AND ONE RETEST) FOR ANY TYPE OF EQUIPMENT DUE TO ISSUES THAT THE CONTRACTOR HAD DIRECT OR INDIRECT CONTROL OVER ARE REQUIRED, THE COSTS FOR THE CFA TO WITNESS RETESTING OF SIMILAR TYPES OF EQUIPMENT UNTIL SATISFACTORY RESULTS ARE OBTAINED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3.03 TEST & BALANCE

- A. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH NEBB, NBC OR AABC STANDARDS TO ASSURE CONFORMANCE WITH DESIGN. G.C. WILL MAKE MECHANICAL CONTRACTOR AVAILABLE DURING TEST AND BALANCE TO ASSIST TESTING AGENCY AND TO MAKE CORRECTIONS IMMEDIATELY NECESSARY. CONTRACTOR SHALL CORRECT ITEMS ON WRITTEN TEST AND BALANCE REPORT.
- B. ALL EQUIPMENT TO BE BALANCED MUST HAVE GONE THRU SUCCESSFUL START-UP PROCEDURE BY THE MECHANICAL CONTRACTOR (MC) PRIOR TO TAB VISIT.
- C. THE FLOOR OF THE RESTAURANT SHALL BE CLEARED OF DEBRIS, STAGED CONSTRUCTION MATERIALS, EQUIPMENT, ETC. WHICH MAY, IN THE OPINION OF THE TAB TECHNICIAN, OBSTRUCT ACCESS TO AIR DISTRIBUTION COMPONENTS IN AND ABOVE THE CEILING.
- D. EQUIPMENT ACCESS PANELS, DUCT AIR DEVICES SUCH AS BALANCING DAMPERS AND ACTUATORS SHALL BE ACCESSIBLE AND CLEAR OF PIPING, CONDUIT, FRAMING, SUPPORTS ETC..
- E. PROVIDE AN 8 FT PORTABLE A-FRAME STYLE LADDER DEDICATED FOR THE TAB TECHNICIAN'S USE DURING THE ENTIRE TAB EFFORT DURATION.

KITCHEN HOOD SYSTEMS NOTES

1. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
2. THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET CHEMICAL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
3. THE FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED INSTALLER SELECTED AND HIRED BY HALTON. COST FOR INSTALLATION INCLUDED IN PRICE OF HOODS TO CFA.
4. HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
5. TURNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R=3W/2, UNLESS OTHERWISE NOTED. NO MITERED FITTINGS ALLOWED.
6. ALL STAINLESS STEEL CLOSURE PANELS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE MECHANICAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
8. WRAP NEW GREASE DUCT WITH UNIFRAX FYREWREAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWREAP PRODUCT USED SHALL MEET LOCAL CODE REQUIREMENTS.
9. SUPPORT ALL HOODS WITH THREADED ROD AT EACH FACTORY SUPPORT POINT. EACH SUPPORT POINT MUST SUPPORT THE HOOD WEIGHT EQUALLY. ATTACH TO STRUCTURE AS DETAILED ON STRUCTURAL DRAWINGS. ATTACH HOOD TO WALL AT 16" INTERVALS ALONG FULL LENGTH OF HOOD ON TOP AND BOTTOM. ATTACHMENT TO WALL REQUIRES FIELD DRILLING OF SUPPORT ANGLE AT BACK OF HOODS. EACH WALL ATTACHMENT POINT MUST OCCUR AT A WALL STUD. ATTACHMENT HARDWARE TO BE #12-24 HEX HEAD SHEET METAL SCREW EQUAL TO TEXTRON SDS EDT265, LENGTH AS REQUIRED TO FULLY PENETRATE THE STUD.

GENERAL NOTES

1. DUCT SIZES SERVING DIFFUSERS AND GRILLES ARE SAME SIZE AS DIFFUSER OR GRILLE NECK UNLESS NOTED OTHERWISE.
2. FLEXIBLE DUCT AND INSULATION NOT SHOWN FOR CLARITY.
3. FOR ALL ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. WITH A SELF ADHESIVE BACKING.
4. UNLESS NOTED OTHERWISE, MC TO ADJUST ALL DIFFUSER AIR PATTERN DEFLECTORS TO THROW HORIZONTALLY ALONG THE CEILING.
5. ALL EXHAUST DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLIAMS PRO INDUSTRIAL DTM ACRYLIC COATING, SEMI-GLOSS, WHITE. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS PRO INDUSTRIAL PRO-CRYLACRYLIC UNIVERSAL PRIMER, WHITE, PRIOR TO PAINTING.
6. MAINTAIN 18" CLEARANCE FROM GREASE EXHAUST DUCTWORK ABOVE ROOF TO ANY COMBUSTIBLE CONSTRUCTION INCLUDING PARAPET WALLS.

CANOPY GENERAL NOTES

1. COORDINATE WORK WITH CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY CONDITIONS PRIOR TO START OF WORK.
2. COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
3. EXPOSED GAS PIPING SHALL BE COVERED WITH A RUST INHIBITING PAINT SUCH AS RUST-OLEUM 5200. PAINT COLOR SHALL MATCH STRUCTURE. ROOF MOUNTED GAS PIPING COLOR SHALL BE YELLOW.
4. CONTROL WIRING FOR HEATERS BY EC. COORDINATE REQUIRED WIRE GAUGE WITH EC. SEE CONTROLS PLAN AND ELECTRICAL DRAWINGS. (TYP.).

LEGEND

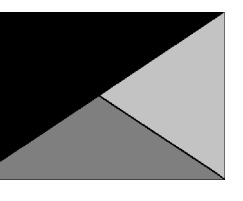
A-12-400	TYPE - NECK SIZE - CFM	EF#1	EXHAUST FAN #1 (TYP.)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	AC#1	AIR CONDITIONING UNIT #1 (TYP.)
	SPIN-IN HARD FLEXIBLE DIFFUSER		RETURN/EXHAUST (TYP.)
	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SQ FACE (TYP.)
	HUMIDITY SENSOR		PLAN NOTE REFERENCE
	SMOKE DETECTOR		MANUAL VOLUME DAMPER
12x18	DUCT SIZE (reverse for elevation views) 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION		DIRECTION OF THROW ON DIFFUSER
			CLOSED AIR PATTERN DEFLECTOR
	AIR DOOR SWITCH		GAS INFRARED HEATER (TYP.)
	ELECTRIC INFRARED HEATER	B/G	BELOW GRADE
	PULL STATION	T	THERMOSTAT

ABBREVIATIONS

EC	ELECTRICAL CONTRACTOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
O.C.	ON CENTER
IRH	INFRARED HEATER
CF	CIRCULATING FAN
TF	TRANSFER FAN
EF	EXHAUST FAN



Chick-fil-A
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Atlanta, Georgia
30349-2998



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Nashville, Tennessee 37214
Telephone: (615) 255-5203



4/4/25

CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
4904 E 10TH ST
SIOUX FALLS, SD 57110

FSR#05880

BUILDING TYPE / SIZE: P14 LE BASE
RELEASE: 24.11
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NO.	DATE	DESCRIPTION

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CONSULTANT PROJECT # 25006.CD.S
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GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS
SHEET NUMBER

M-001



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CHICK-FIL-A
EAST SIOUX FALLS (SD)
 FSU
 4904 E 10TH ST
 SIOUX FALLS, SD 57110

FSR#05880
 BUILDING TYPE / SIZE: P14 LE BASE
 RELEASE: 24-11
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REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	04/04/25	REVIEW COMMENTS / ISSUE FOR CONSTRUCTION

ISSUE FOR CONSTRUCTION

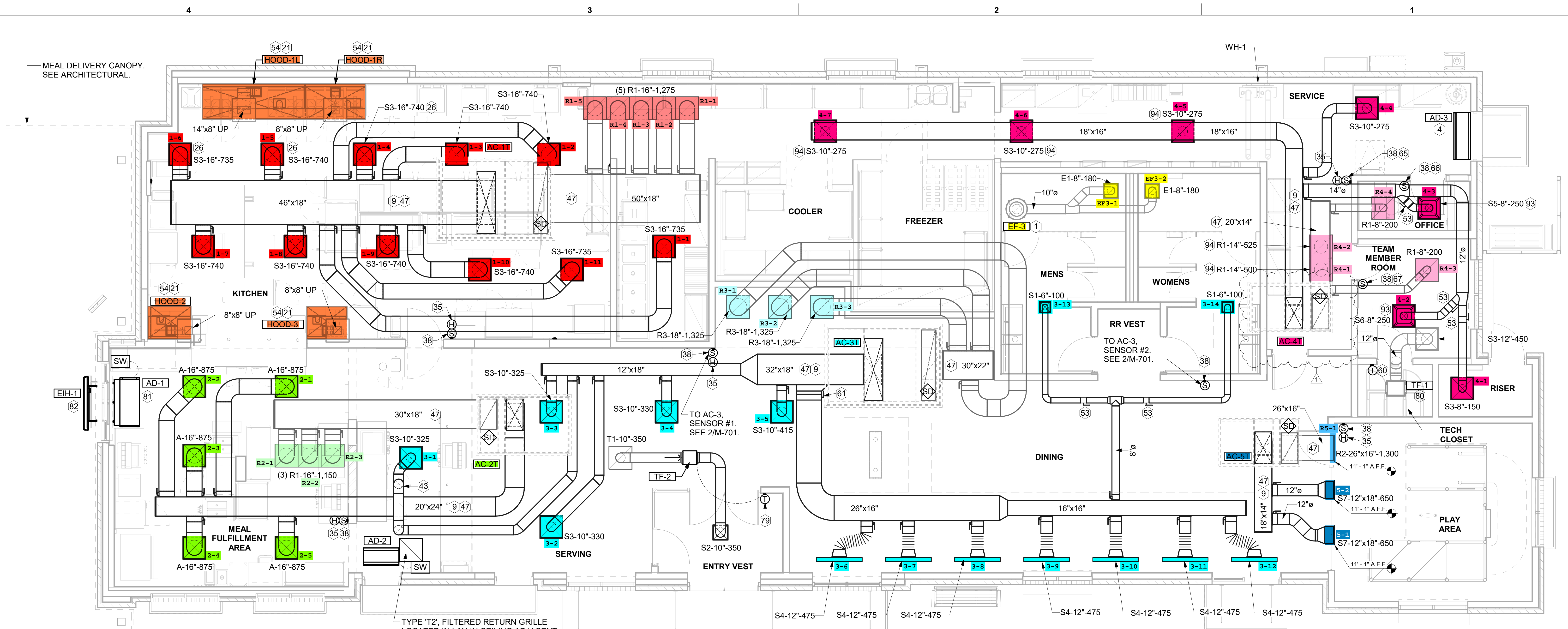
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EQUIPMENT AND DUCTWORK PLAN - TRANE

SHEET NUMBER

M-101T



1 EQUIPMENT AND DUCTWORK PLAN
 1/4" = 1'-0"

KEY NOTES

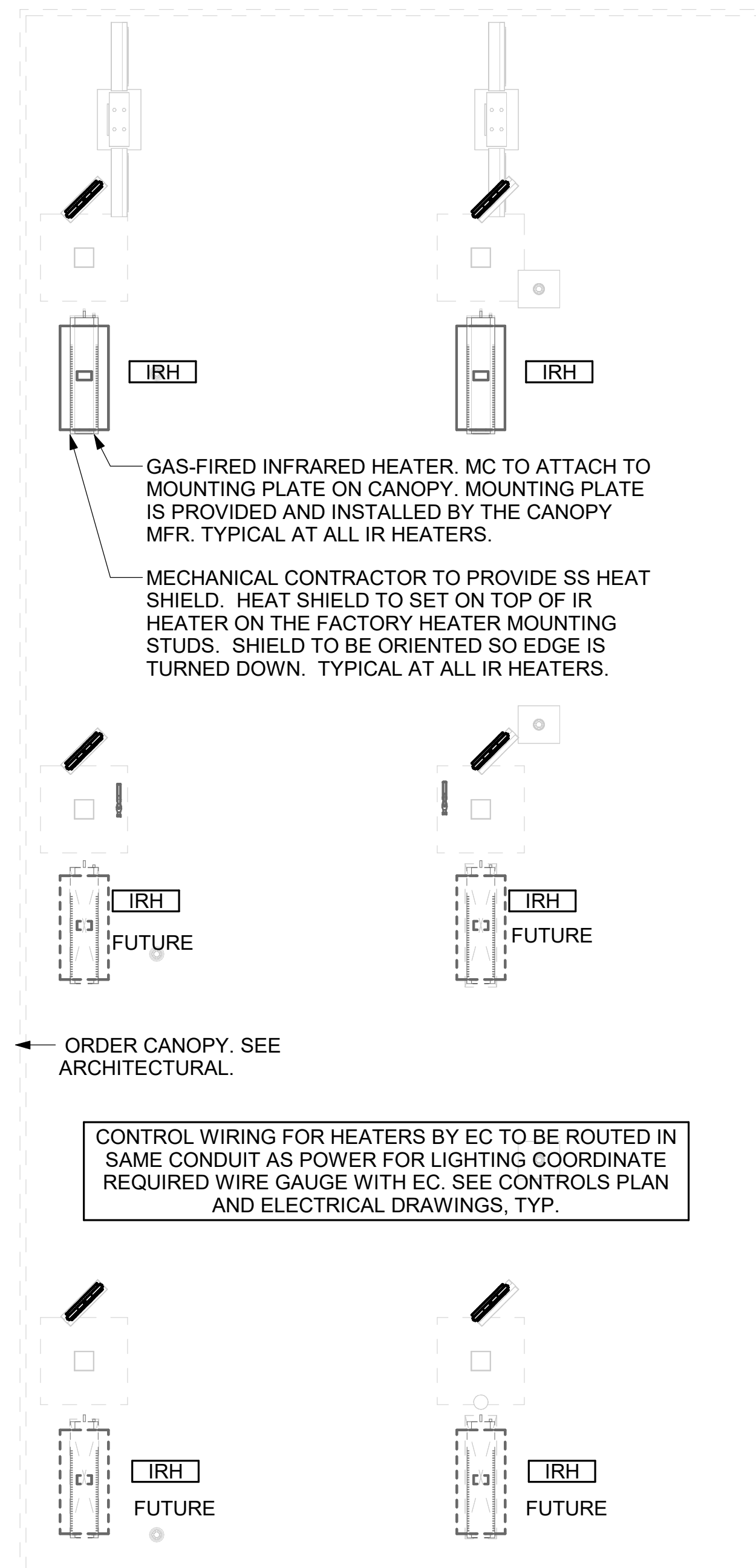
- 10" DIA. DUCT UP THRU ROOF.
- AIR CURTAIN MOUNTED OVER DOOR HEADER AT 7'-2" AFF TO BOTTOM OF UNIT. PROVIDE BLOCKING IN WALL BEHIND AIR CURTAIN. USE FACTORY PRE-PUNCHED MOUNTING HOLES ON BACK SIDE OF AIR CURTAIN ONLY. ATTACH AIR CURTAIN TO WALL USING 3/8" LAG BOLTS. LENGTH AS REQUIRED TO FULLY PENETRATE BLOCKING. LOCATE MAGNETIC CONTACT TYPE MICROSWITCH IN DOOR FRAME ON STRIKE SIDE.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
- MECHANICAL CONTRACTOR TO ADJUST PATTERN DEFLECTORS TO THROW STRAIGHT DOWN.
- MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.
- ROUTE DUCT WITHIN STRUCTURE.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE SUPPLY DUCT, PROVIDE ELBOWS WITH TURNING VANES. WHERE RETURN DUCT, NO TURNING VANES IN ELBOWS. HORIZONTAL DUCT MINIMUM 10" ABOVE CEILING TO BOTTOM OF DUCT.
- RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
- SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- MOUNT THERMOSTAT FOR TRANSFER FAN AT 4'-0" AFF.
- PROVIDE RUSKIN CD35 MANUAL BALANCING DAMPER WITH 6" MAXIMUM BLADE WIDTH. OPPOSED BLADE ACTION. LOCKING QUADRANT HANDLE WITH 2" STANDOFF AND 16 GA GALVANIZED BLADE AND FRAME CONSTRUCTION.
- TO AC#4, SENSOR #1. SEE 2/M-701.
- TO AC#4, SENSOR #2. SEE 2/M-701.
- TO AC#4, SENSOR #3. SEE 2/M-701.
- PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT, OCCUPIED/UNOCCUPIED TERMINALS. MOUNT THERMOSTAT ON WALL AT 4'-0" AFF. OCCUPIED SETPOINTS: 75 DEG. F COOLING, 69 DEG. F HEATING; UNOCCUPIED SETPOINTS: 85 DEG. F COOLING, 56 DEG. F HEATING.
- CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN.
- MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MAFIA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.
- ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.
- TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.

AIR BALANCE SCHEDULE CFA - TRANE

Mark	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC-1T	8,125	8,125	1,750	0	
AC-2T	4,375	3,450	925	0	
AC-3T	5,250	3,975	1,275	0	
AC-4T	1,750	1,425	325	0	
AC-5T	1,300	1,150	150	0	
EF-1	0	0	0	1,913	
EF-2	0	0	0	1,402	
EF-3	0	0	0	360	
	20,800	18,125	4,425	3,675	750

H.E.S. SYSTEM
 MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

A BALANCE REPORT SHALL BE SUBMITTED BEFORE FINAL OCCUPANCY IS GIVEN. THE BALANCE REPORT SHALL LIST NAME BRAND OF EQUIPMENT, MODEL AND SERIAL NUMBER, AND A TOTAL CFM OF EACH PIECE OF EQUIPMENT PLUS THE TOTAL OUTSIDE AIR CFM BY EACH PIECE OF EQUIPMENT THAT IS CAPABLE OF SUPPLYING OUTSIDE AIR. THE REPORT SHALL COVER ALL AIR-HANDLING UNITS, MAKEUP AIR UNITS, AND EXHAUST SYSTEMS. THE REPORT SHALL ALSO LIST THE VELOCITY READING IN THE TYPE I HOOD EXHAUST DUCTS. THE KITCHEN AREA SHALL BE OPERATED IN A NEGATIVE PRESSURE IN RELATION TO THE SURROUNDING AREAS.



2 MECHANICAL FLOOR PLAN - ORDER CANOPY
 1/4" = 1'-0"

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 30-LE-05880-M-101T-EQUIPMENT AND DUCTWORK PLAN - TRANE

ROOFTOP UNIT SCHEDULE - TRANE

MARK	MANUFACTURER	MODEL	EER/IEER	SEER	TOTAL WEIGHT	SUPPLY (CFM)	OA (CFM)	HP	ESP (in-wg)	TOTAL COOLING MBH	SENSIBLE COOLING MBH	HEATING INPUT MBH	HEATING OUTPUT MBH	VOLTAGE (V)	PHASE	MCA (A)	MOCP (A)	REMARKS
AC-1T	TRANE	YSK300A3	9.8/13.0		2731.00 lb	8,125	1,750	3	0.8	274.9	195.3	400	324	208	3	124	150	1,3-16
AC-2T	TRANE	YSK150A3	10.8/14		1559.00 lb	4,375	925	4.6	0.8	148.3	98.9	250	202.5	208	3	73	100	1,3-16
AC-3T	TRANE	YSK180A3	10.8/14		2471.00 lb	5,250	1,275	3	0.8	189.4	117.8	400	324	208	3	85	110	1,3-16
AC-4T	TRANE	YHK060A3	13.0	17.1	1186.00 lb	1,750	325	3	0.8	62.6	39.9	150	121.5	208	3	34	45	2-16
AC-5T	TRANE	YHK048A3	13.0	17.1	1228.00 lb	1,300	150	3	0.8	47.3	32	130	105.3	208	3	38	50	1,3-16

NOTES

- MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS. NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS

- DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST.
- DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST.
- 18" HIGH ROOF CURB.
- SEE DETAIL 2/M-702T FOR SETTING OF CONTROL PARAMETERS BY MC.
- FACTORY INSTALLED 115V GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
- FACTORY INSTALLED RETURN AIR SMOKE DETECTOR.
- FACTORY INSTALLED NON-FUSED DISCONNECT.
- 2" MERV 8 THROW AWAY FILTERS.
- HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
- FACTORY COIL HAIL GUARD, FIELD INSTALLED.
- HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
- FACTORY HIGH FAULT SCOR (95K)
- FACTORY CONFIGURED PHASE LOSS PROTECTION.
- FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
- FACTORY PROVIDED, FIELD INSTALLED FRESH AIR TEMPERING KIT.
- FACTORY STAINLESS STEEL HEAT EXHANGER.

HOOD SCHEDULE

MARK	MANUFACTURER	MODEL	EXHAUST CFM	SP @ TAB PORT (in-wg)	CAPTURE JET CFM & S.P.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	REMARKS
HOOD-1L	HALTON	KVL-2 IC	1,204	0.13	80 @ 0.30"	BACKSHELF	14"x8"	107"	37"	38"	1
HOOD-1R	HALTON	KVL-2 IC	709	0.13	47 @ 0.30"	BACKSHELF	8"x8"	63"	37"	38"	1
HOOD-2	HALTON	KVL-C IC	701	0.3	30 @ 0.29"	BACKSHELF	8"x8"	45"	34"	38"	1
HOOD-3	HALTON	KVL-C IC	701	0.3	30 @ 0.29"	BACKSHELF	8"x8"	42"	34"	38"	1

NOTES

DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS). NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS

- REFER TO HOOD SHOP DRAWINGS FOR HOOD CONSTRUCTION AND OPTIONS. HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-1.1, MH-1.2, AND MH-1.3.

HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	HEATING INPUT		FRAME LENGTH	FRAME WIDTH	FRAME DEPTH	MOUNTING TYPE	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	REMARKS
			ELECTRIC (KW)	GAS (MBH)									
EIH-1	BROMIC	BH0420035	6.00	0.0	56"	8.5"	3.5"	WALL BRACKET	208	1	28.9	40	1, 2, 3, 4
IRH	SPACE-RAY	WB50	0.00	50.0	48"	13.4"	13.4"	BRACKET	120	1	0.4	20	1, 5, 6, 7

NOTES

- NATIONAL ACCOUNT NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.
- CONFIRM HEATER QUANTITY WITH CANOPY SHOP DRAWINGS.

REMARKS

- STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING.
- PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND.
- PROVIDE BLACK HEATER WITH HIGH TEMPERATURE COATING, AND MANUFACTURER MOUNTING BRACKETS.
- PROVIDE BROMIC WALL MOUNTED ELECTRIC HEATER MODEL: BH0420033 FOR 220-240V SITES.
- STEEL BURNER WITH CERAMIC BURNER TILES.
- PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO CANOPY DECK, FACING FORWARD, 12" Laterally FROM THE LONG SIDE OF THE HEATER.
- STAINLESS STEEL HEAT SHIELDS.

FAN SCHEDULE

MARK	AREA SERVED	MANUFACTURER	MODEL	TOTAL WEIGHT	FAN CFM	ESP (in-wg)	HP	MOTOR RPM	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	REMARKS
CF-1	OUTDOOR CANOPY	TPI	U-18-TE-HD	20.00 lb	1,900	0.010	0.100	1,625	120	1	1.1	20	20,21,22
EF-1	HOOD#1	HALTON	KEFB-14-CFA	393.00 lb	1,913	0.750	0.750	1,620	115	1	13.8	25	1,2,3,4,5,6,7,8,9,10,11
EF-2	HOOD#2 & HOOD#3	HALTON	KEFB-14-CFA	393.00 lb	1,402	0.950	0.750	1,410	115	1	13.8	25	1,2,3,4,5,6,7,8,9,10,11
EF-3	RESTROOMS	ACCUREX	XRED-095-VG	49.00 lb	360	0.375	0.167	1,725	115	1	2.2	20	1,3,11,12,13,14,15,16
TF-1	TECH CLOSET	GREENHECK	SP-A510-VG	33.00 lb	450	0.300	0.127	1,144	120	1	2.5	20	1,17, 18, 19
TF-2	VESTIBULE	ACCUREX	XID-7-VG	41.00 lb	350	0.300	0.167	1,725	115	1	1.3	20	1,17,20

NOTES

- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED.

REMARKS

- FANS SUPPLIED BY HALTON. PURCHASED BY OWNER. WIRING DIAGRAMS PROVIDED BY HALTON.
- U.L. 705 LISTED AND LABELED FOR RESTAURANT APPLICATIONS.
- FACTORY INSTALLED PREWIRED DISCONNECT SWITCH.
- 22" HIGH ROOF CURB.
- INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
- FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
- FACTORY DRAIN CONNECTION.
- FACTORY BOLTED ACCESS DOOR ON SCROLL.
- FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE, SPARE BELT, AND BELT TENSIONER.
- FACTORY INSTALLED OUTLET WITH QUICK RELEASE, HINGED ACCESS, AND GRAVITY BACKDRAFT DAMPER.
- INTEGRAL THERMAL OVERLOAD.
- BIRDSCREEN.
- BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 5/M-501.
- STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
- 12" HIGH CURB.
- FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
- PROVIDE NEMA 1 PREWIRED DISCONNECT.
- INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
- PROVIDE THERMOSTAT THERMOSTAT / TEMPERATURE CONTROLLER. SET TO 76°F.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE WITH ON/OFF SWITCH.
- FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR SOUTHWEST REGION.

AIR DOOR SCHEDULE

MARK	AREA SERVED	MANUFACTURER	MODEL	CFM	VELOCITY (FPM)	HEATING (KW)	MOTOR HP	MCA (A)	MOCP (A)	VOLTAGE (V)	PHASE	REMARKS
AD-1	DRIVE THRU	POWERED AIRE	CHA-1-48E	1,543	2,338	10	0.75	31.4	40	208	3	1,2,3,5
AD-2	SERVING	POWERED AIRE	ETA-1-36E	1,197	2,443	10	0.75	31.4	40	208	3	1,2,3,4,6
AD-3	REAR DOOR	POWERED AIRE	RBT-1-48	3,867	4,218	0	0.75	8	20	120	1	4

NOTES

- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS

- FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER ABOVE CEILING.
- FACTORY WIRED DISCONNECT.
- FACTORY PROVIDED, FIELD INSTALLED BY MC. REMOTE WALL SWITCHES FOR HEATING ON/OFF AND FAN ON/AUTO SWITCH. SEE DETAILS ON M-702.
- FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET.
- PROVIDE WITH A DIVERTER BOX. PROVIDE WITH MOUNTING BRACKETS PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE WITH NOZZLE EXTENSION, SEE DETAIL 3/M-301.

AIR DEVICE SCHEDULE

MARK	LOCATION	DESCRIPTION	NECK SIZE	FACE SIZE	FRAME TYPE	REMARKS
E1	RESTROOMS	PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE.	12"x12"	16"x16"	LAY-IN	1,3,4,9
R1	KITCHEN / MFA / BOH	PRICE MODEL 80 EGGGRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	VARIES	24"x24"	LAY-IN	1,5,6
R2	PLAY	PRICE MODEL 21 ALUMINUM SIDEWALL RETURN GRILLE, FRONT BLADE PARALLEL TO LONG SIDE.	24"x14"	26"x16"	SURFACE	1
R3	DINING	PRICE MODEL 80 EGGGRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	18"	24"x24"	LAY-IN	1,5,6,10
S1	RESTROOMS	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	6"	12"x12"	LAY-IN	1,2,4,6,10
S2	VESTIBULE	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	VARIES	16"x16"	LAY-IN	1,2,4,6,10
S3	DINING / KITCHEN / MFA/BOH/PLAY	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	VARIES	24"x24"	LAY-IN	1,2,6
S4	DINING	PRICE MODEL TBDI2150 T-BAR SUPPLY DIFFUSERS	12"	48"x5"	LAY-IN	1,8
S5	OFFICE	PRICE MODEL VARITHERM PLAQUE DIFFUSER	8"	24"x24"	LAY-IN	1,6,7
S6	TEAM MEMBERS	PRICE MODEL VARITHERM PLAQUE DIFFUSER	8"	24"x24"	LAY-IN	1,6,7
S7	PLAY	PRICE MODEL 22 DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY GRILLE, FRONT BLADE PARALLEL TO LONG SIDE.	16"x10"	18"x12"	SURFACE	1
T1	VESTIBULE	PRICE MODEL 80 EGGGRATE TRANSFER AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	10"	24"x24"	LAY-IN	1,5,6
T2	SERVING	PRICE MODEL 80FF STEEL FILTER RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	18"	24"x24"	LAY-IN	1,5,6

NOTES

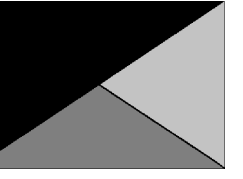
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS

- STANDARD OFF WHITE FINISH.
- PROVIDE 4-WAY BLOW UNLESS OTHERWISE NOTED. REFER TO M-101(L/T) FOR THROW.
- PROVIDE MODEL VCR7 NECK DAMPER ON GRILLES IN RESTROOMS SERVING EXHAUST FAN.
- PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
- PROVIDE SQUARE TO ROUND ADAPTOR.
- FACTORY INSULATED R-6 BACKPAN.
- PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.
- PROVIDE 2 SLOTS. CENTER NOTCH, AND ONE WAY DISCHARGE.
- FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 1/M-501.
- PROVIDE ALUMINUM PLASTER FRAME.



Chick-Fil-A
5200 Buffington Road
Atlanta, Georgia
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2705 Lebanon Pike - Suite One
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4/4/25

CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
4904 E 10TH ST
SIOUX FALLS, SD 57110

FSR#05880

BUILDING TYPE / SIZE: P14 LE BASE
RELEASE: 24.11
PRINTED FOR:
ISSUE FOR CONSTRUCTION
REVISION SCHEDULE

NO.	DATE	DESCRIPTION

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25006.CD.S
DATE 04/04/2025
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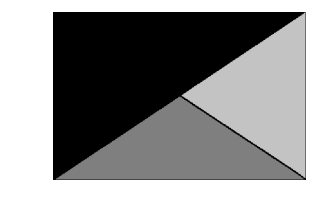
SHEET
EQUIPMENT SCHEDULES
- TRANE

SHEET NUMBER

M-601T



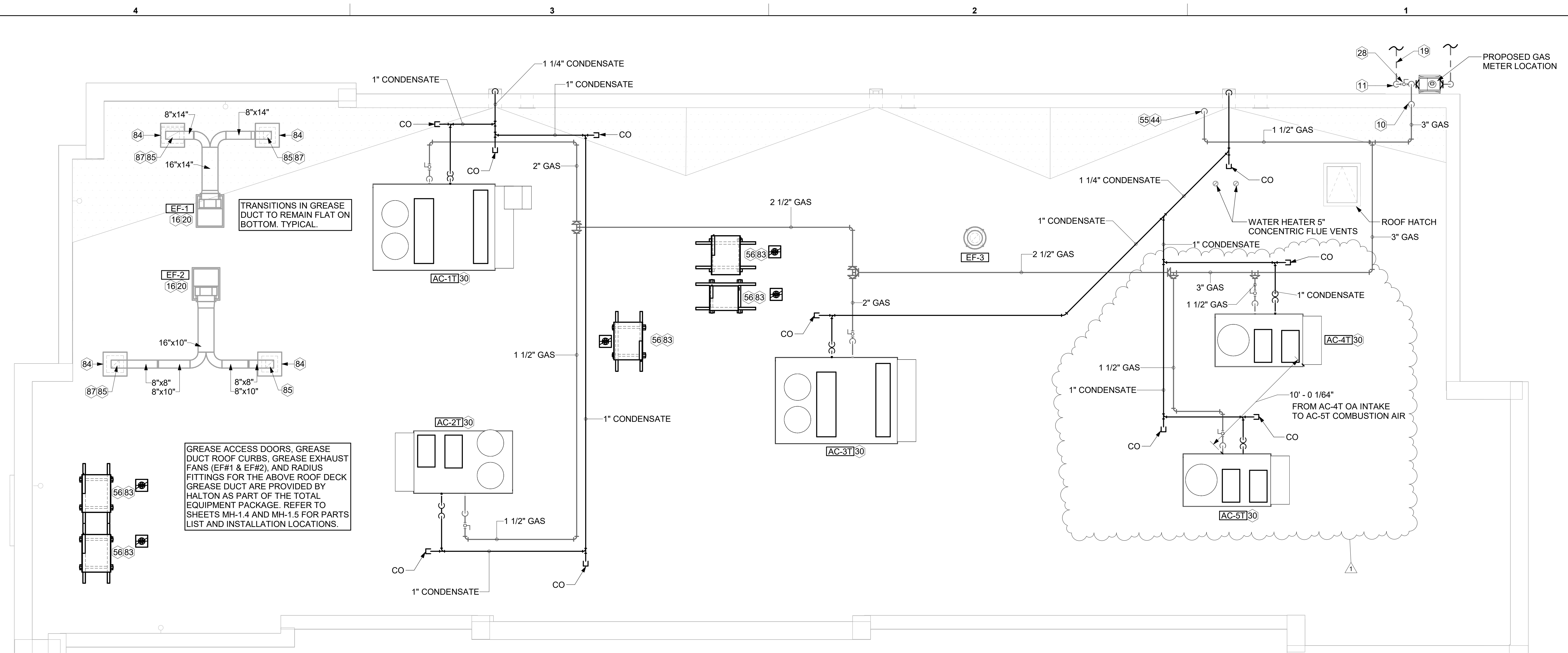
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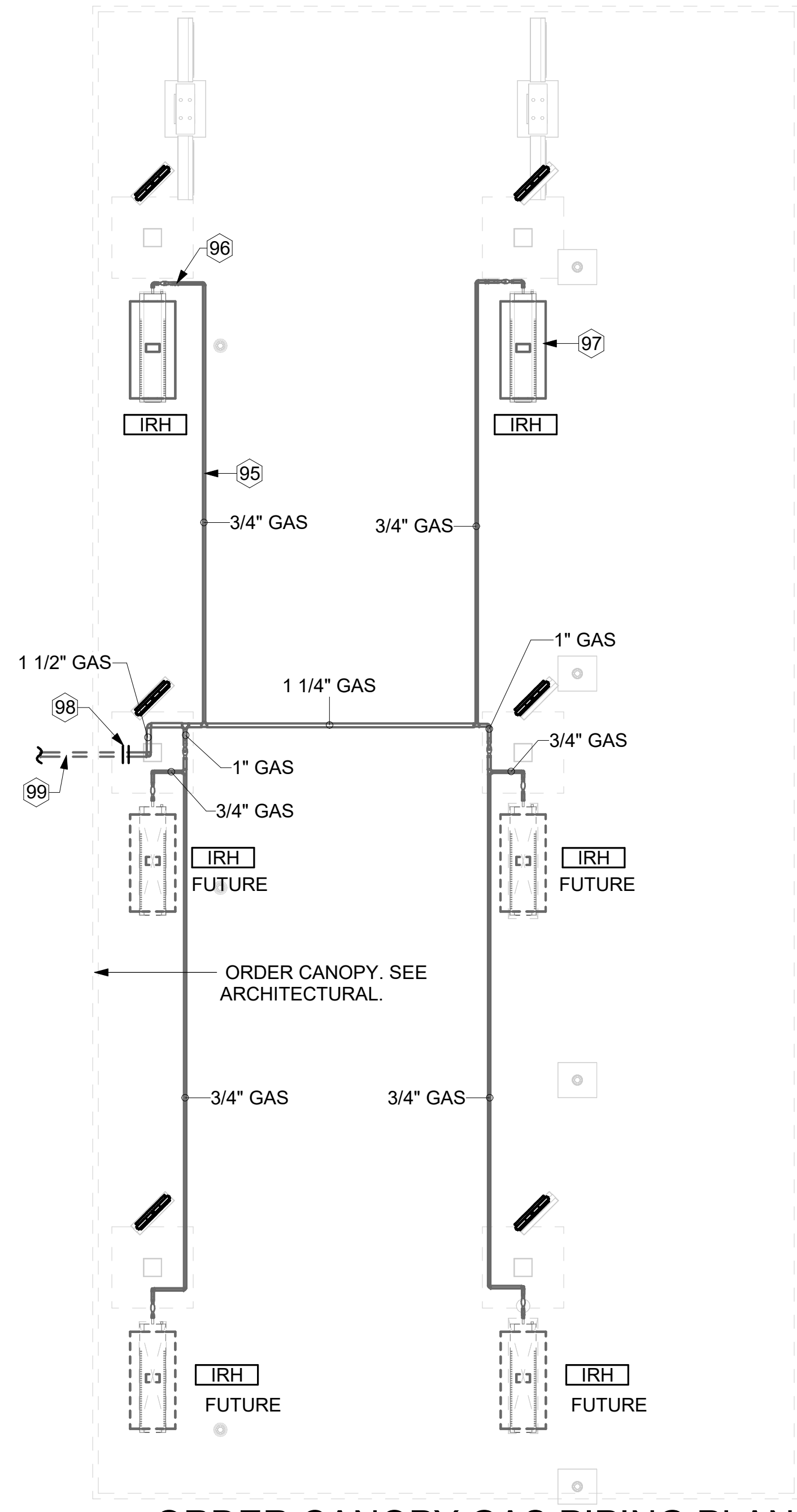


1 EQUIPMENT ROOF PLAN - TRANE
 1/4" = 1'-0"

KEY NOTES

- 10 TURN 3" GAS UP WITHIN WALL, THRU PARAPET AND ONTO ROOF.
- 11 ROUTE POLYETHYLENE GAS BELOW GRADE FROM THE METER. FOR TRANSITION FROM POLYETHYLENE PIPING BELOW GRADE TO STEEL AT THE METER, INSTALL ANODELESS RISER WITH INTEGRAL CONSTAB PE-TO-IPS TRANSITION FITTING BY CONTINENTAL INDUSTRIES OR EQUAL BY ELSTER.
- 16 VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. MINIMUM TERMINATION 40" ABOVE ROOF SURFACE. REFER TO MH-1.4 AND MH-1.5 FOR DETAILS.
- 19 1-1/2" GAS BELOW GRADE TO ORDER CANOPY, SEE DETAIL 2 SHEET M-102.
- 20 GREASE EXHAUST DUCT LOCATED ON ROOF SHALL SLOPE 1/4" PER FOOT TOWARDS THE HOOD, THE FAN, OR A COMBINATION OF THE TWO SUCH THAT NO PORTION OF THE RADIUS ELBOW AT THE CURB IS BELOW THE CURB CAP AND SUCH THAT THE FAN BASE SETS DIRECTLY ON THE CURB RAILS. THE BOTTOM OF THE RADIUS ELBOW MAY BE EVEN OR FLUSH WITH THE CURB CAP, BUT NOT BELOW THE CAP. THE DUCT AT THE FAN MUST BE CENTERED ON THE FAN INLET.
- 28 PROVIDE FULL PORT BALL VALVE EQUAL TO APOLLO 50GB SERIES WITH WINGS HANDLE OPTION ABOVE GRADE AT THE METER. PROVIDE BRASS VALVE TAG WITH JACK CHAIN AT VALVE MARKED "SERVICE SHUTOFF FOR CANOPY HEATERS."
- 30 MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED.
- 44 1-1/2" GAS DOWN THRU ROOF TO WATER HEATER. SEE DETAIL 2/M-502 FOR MORE INFORMATION ON CONSTRUCTION AND PENETRATION.
- 55 SEE ARCHITECTURAL DETAILS FOR ROOFTOP PIPE PENETRATIONS.
- 56 GC SHALL PROVIDE EQUIPMENT STANDS AS MANUFACTURED BY AVCOA OR EQUAL. STANDS SHALL BE INSTALLED PRIOR TO ROOF INSULATION SO THAT THE INSULATION IS CONTINUOUS UP TO THE PIPE POSTS. POSTS SHALL BE FLASHED IN ACCORDANCE WITH ROOFING MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE BLOCKING BELOW THE ROOF DECK AS REQUIRED.
- 83 DO NOT DISCHARGE OF CONDENSING UNITS INTO CONDENSER SECTION OF ROOFTOP UNITS, TYP.
- 84 ROOF CURB FOR DUCT PENETRATION. REFER TO MH-1.4 AND MH-1.5 FOR DETAILS.
- 85 TURN DOWN THRU ROOF. SEE M-101 FOR CONTINUATION.
- 87 DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.
- 95 GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.
- 96 GAS PIPING DOWN THROUGH DECK. WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-502, TYPICAL.
- 97 SEE DETAIL 1/M-502 FOR PIPING AT IRH, TYPICAL.
- 98 GAS TRANSITION FITTING TO GAS PIPE STUB-OUT. GAS PIPING INSIDE COLUMN AND STUB-OUTS BY CANOPY MFR. JOIN UNDERGROUND POLYETHYLENE GAS PIPING TO TRANSITION FITTING WITH ELSTER PERMASERT COUPLING. CANOPY MFR'S EXPOSED STEEL PIPING BELOW GRADE SHALL BE PROTECTED WITH TWO COATS ASPHALT TUM BASE PAINT AND POLY SLEEVE.
- 99 1-1/2" GAS B/G TO METER SEE 1/M-102.

3. GAS LOAD SCHEDULE	
EQUIPMENT	GAS LOAD
AC-1T	400,000 BTUS
AC-2T	250,000 BTUS
AC-3T	400,000 BTUS
AC-4T	150,000 BTUS
AC-5T	130,000 BTUS
IRH (2 @ 50,000 BTU EA.)	100,000 BTUS
IRH (FUTURE 4 @ 50,000 BTU EA.)	200,000 BTUS
WATER HEATER	398,000 BTUS
TOTAL FUTURE CONNECTED LOAD	2,028,000 BTUS
REMARKS:	1. EQUIVALENT TO 2,028.0 CFH 2. 7" W.C. DELIVERY PRESSURE 3. DEVELOPED LENGTH: 200 FT. (METER TO AC-2T) 4. GAS PIPING SIZED FOR FUTURE LOAD 5. SIZED PER TABLE 402.4(2) OF IFGC.



2 ORDER CANOPY GAS PIPING PLAN
 1/4" = 1'-0"

CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
 4904 E 10TH ST
 SIOUX FALLS, SD 57110

FSR#05880
 BUILDING TYPE / SIZE: P14 LE BASE
 RELEASE: 24.11
 PRINTED FOR: ISSUE FOR CONSTRUCTION
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	04/04/25	REVIEW COMMENTS / ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25006.CD.S
 DATE 04/04/2025
 DRAWN BY BLM

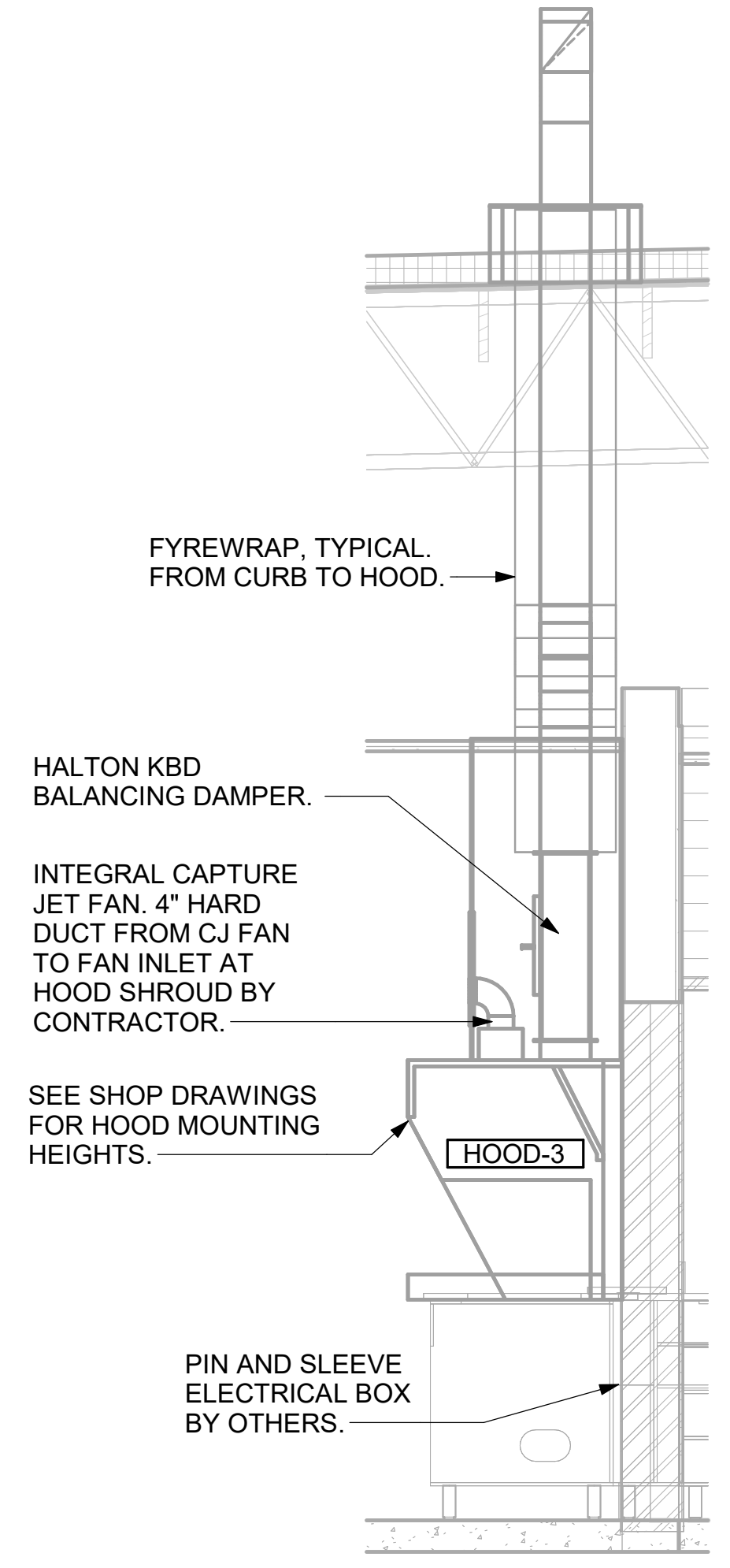
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SHEET EQUIPMENT ROOF PLAN - TRANE

SHEET NUMBER **M-102T**

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 4/2/2025 10:45:12 AM
 30-LE-05880-M-102T-EQUIPMENT ROOF PLAN - TRANE

CRITICAL: MOUNT RIGHT SIDE OF HOOD#3 FLUSH WITH FINISHED EDGE OF PASS THRU OPENING.

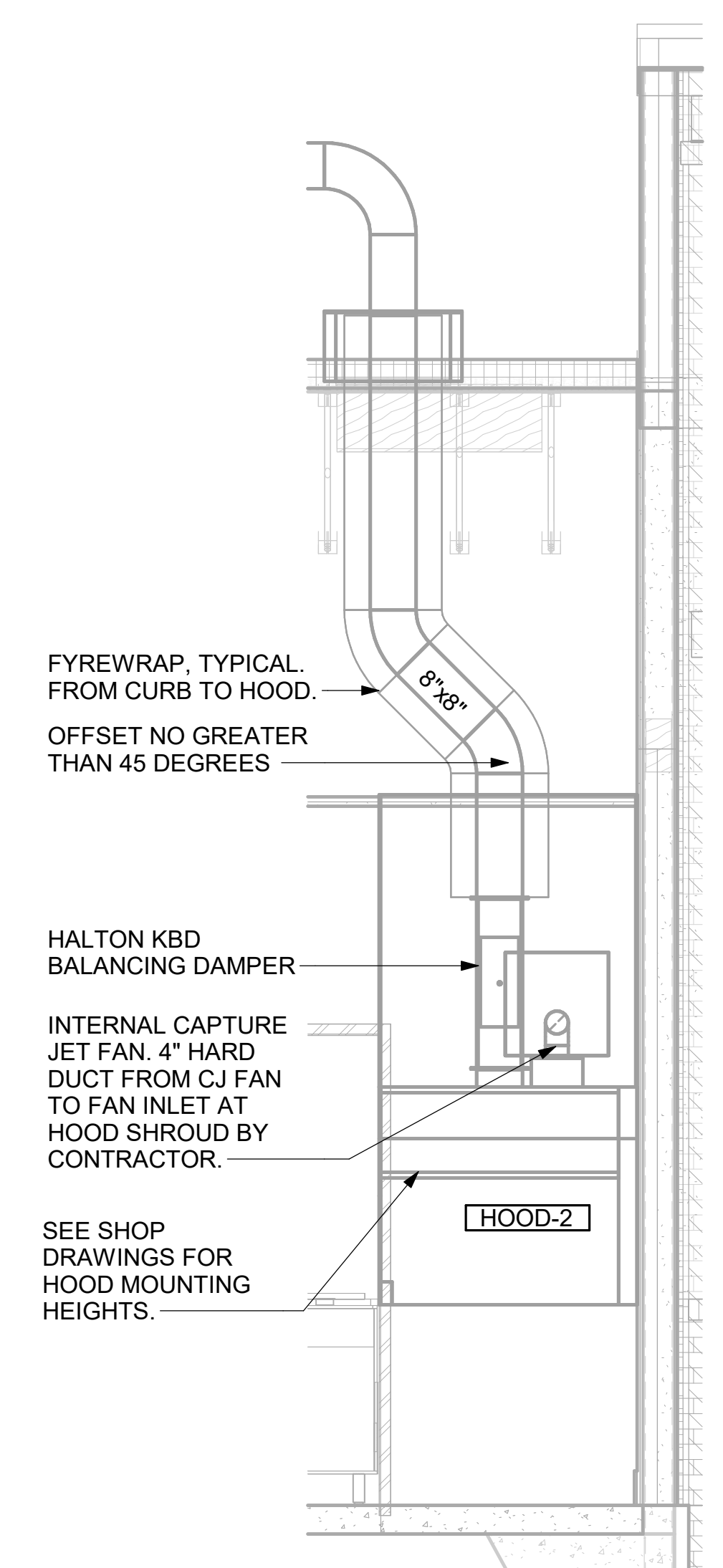


6 HOOD ELEVATION - HOOD#3
NOT TO SCALE

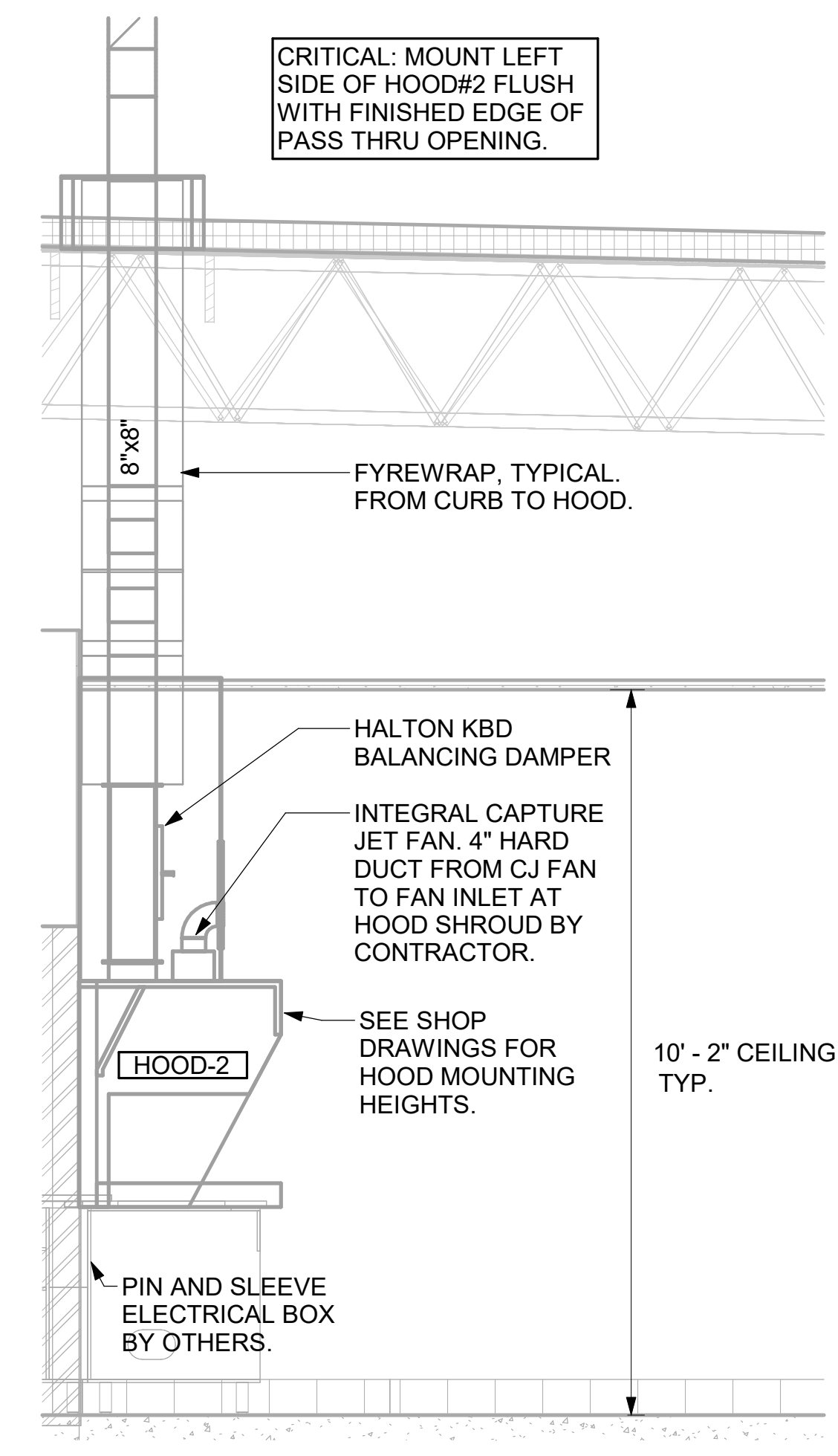
GREASE EXHAUST DUCT CLEARANCE NOTE:
CLEARANCES ABOVE CEILING ARE TIGHT. MECHANICAL CONTRACTOR TO FIELD VERIFY EXACT ROUTING AND CLEARANCES PRIOR TO FABRICATING GREASE EXHAUST DUCT.

CLEANOUT DOOR NOTE:
DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.

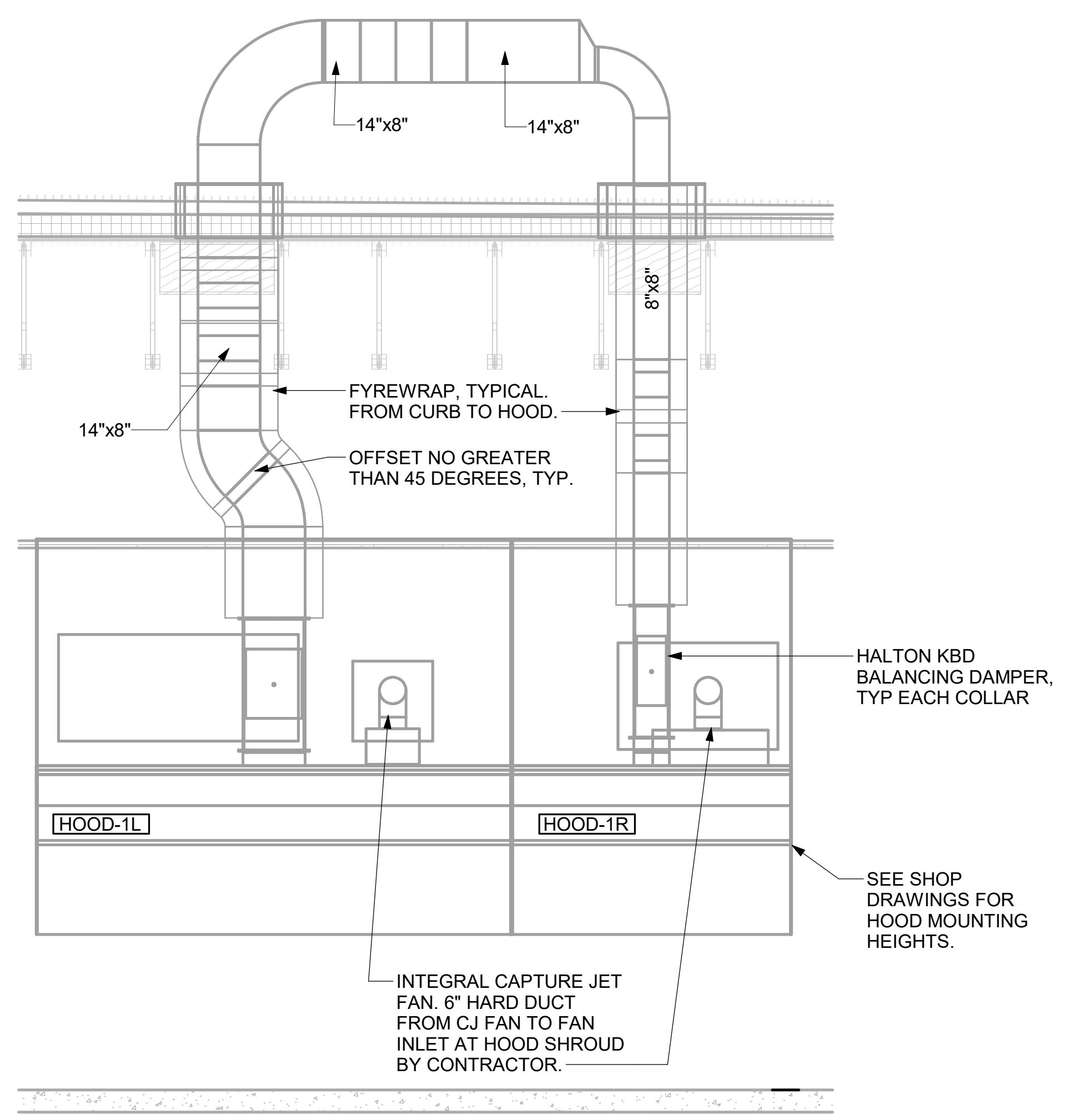
CRITICAL: MOUNT LEFT SIDE OF HOOD#2 FLUSH WITH FINISHED EDGE OF PASS THRU OPENING.



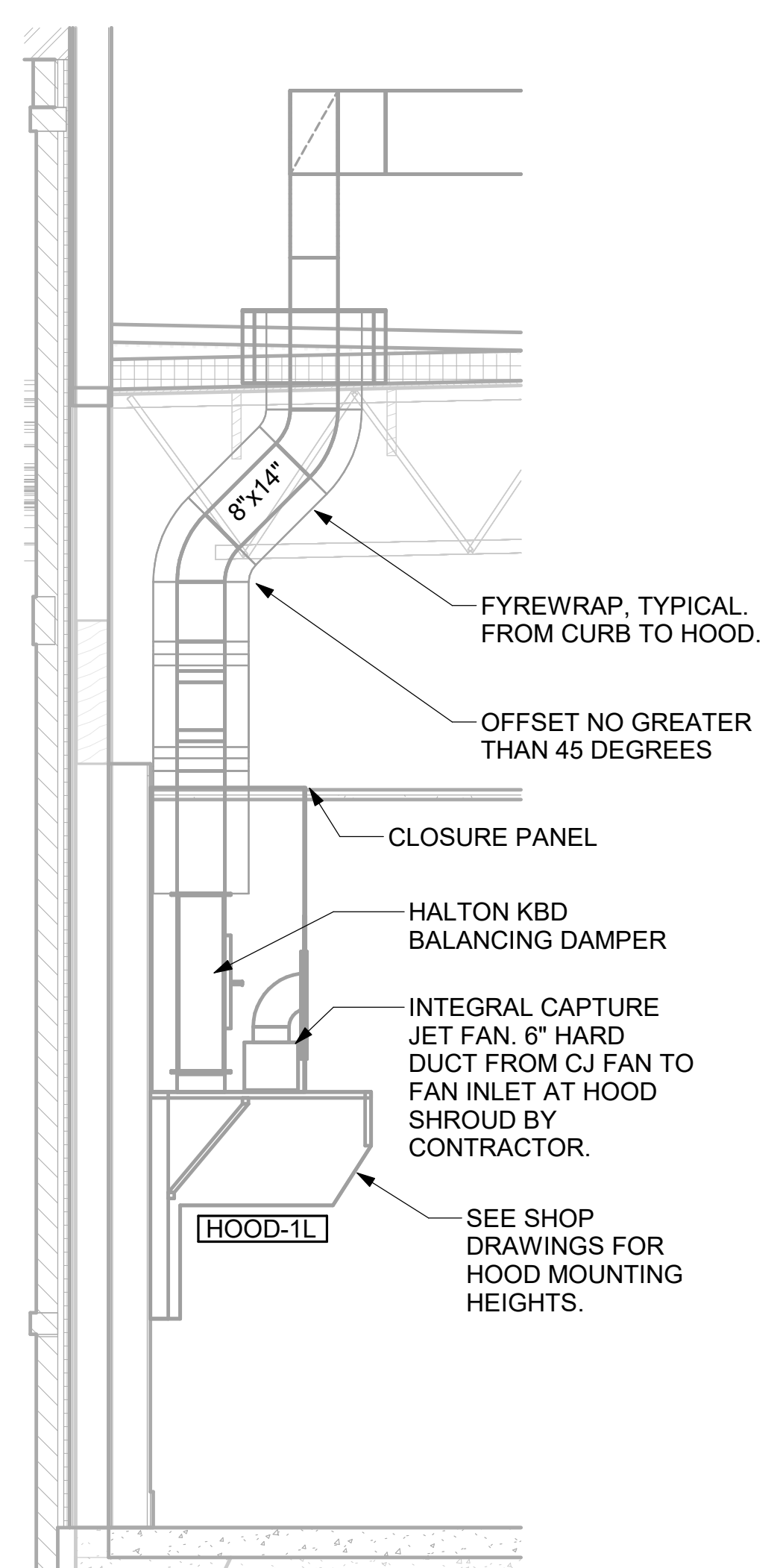
5 HOOD ELEVATION - HOOD#2 - FRONT
NOT TO SCALE



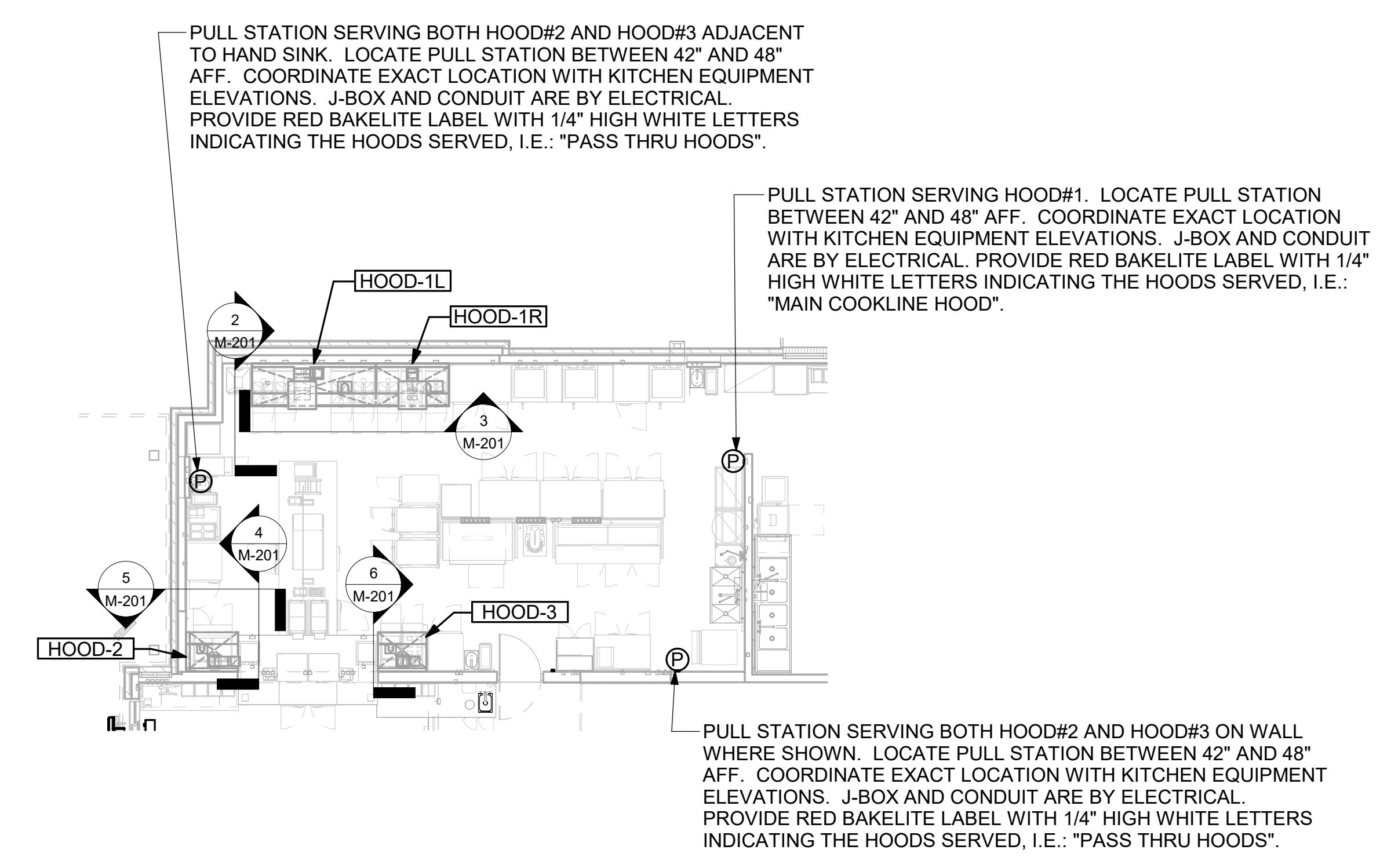
4 HOOD ELEVATION - HOOD#2 - SIDE
NOT TO SCALE



3 HOOD ELEVATION - HOOD#1 - FRONT
NOT TO SCALE



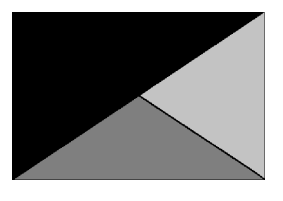
2 HOOD ELEVATION - HOOD#1 - SIDE
NOT TO SCALE



1 HOOD LAYOUT
1/8" = 1'-0"



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CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
4904 E 10TH ST
SIOUX FALLS, SD 57110

FSR#05880

BUILDING TYPE / SIZE: P14 LE BASE
RELEASE: 24.11
PRINTED FOR:
ISSUE FOR CONSTRUCTION

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 25006.CD.S
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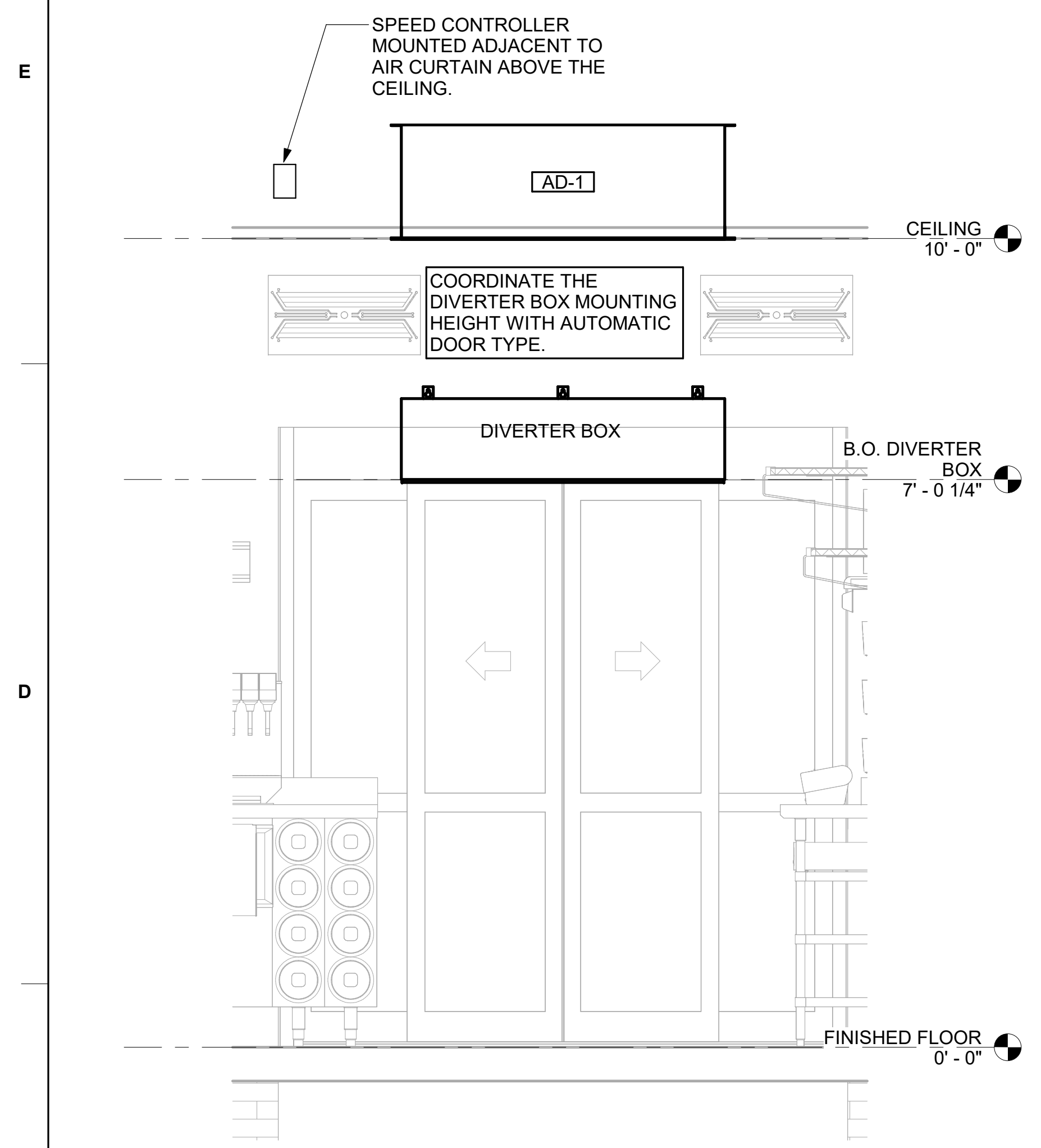
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SHEET EXHAUST HOOD ELEVATIONS
SHEET NUMBER

M-201

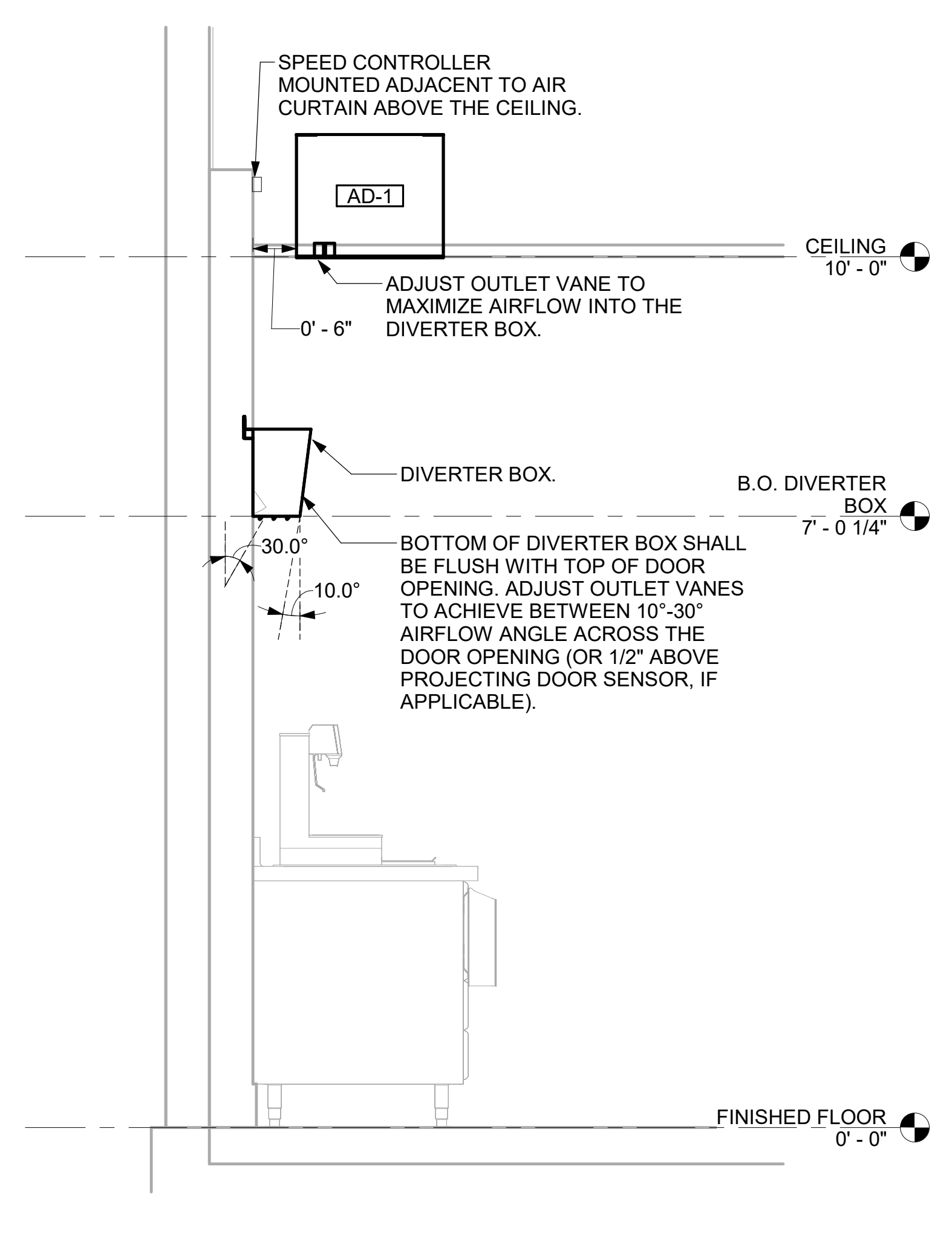
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ISSUE FOR CONSTRUCTION

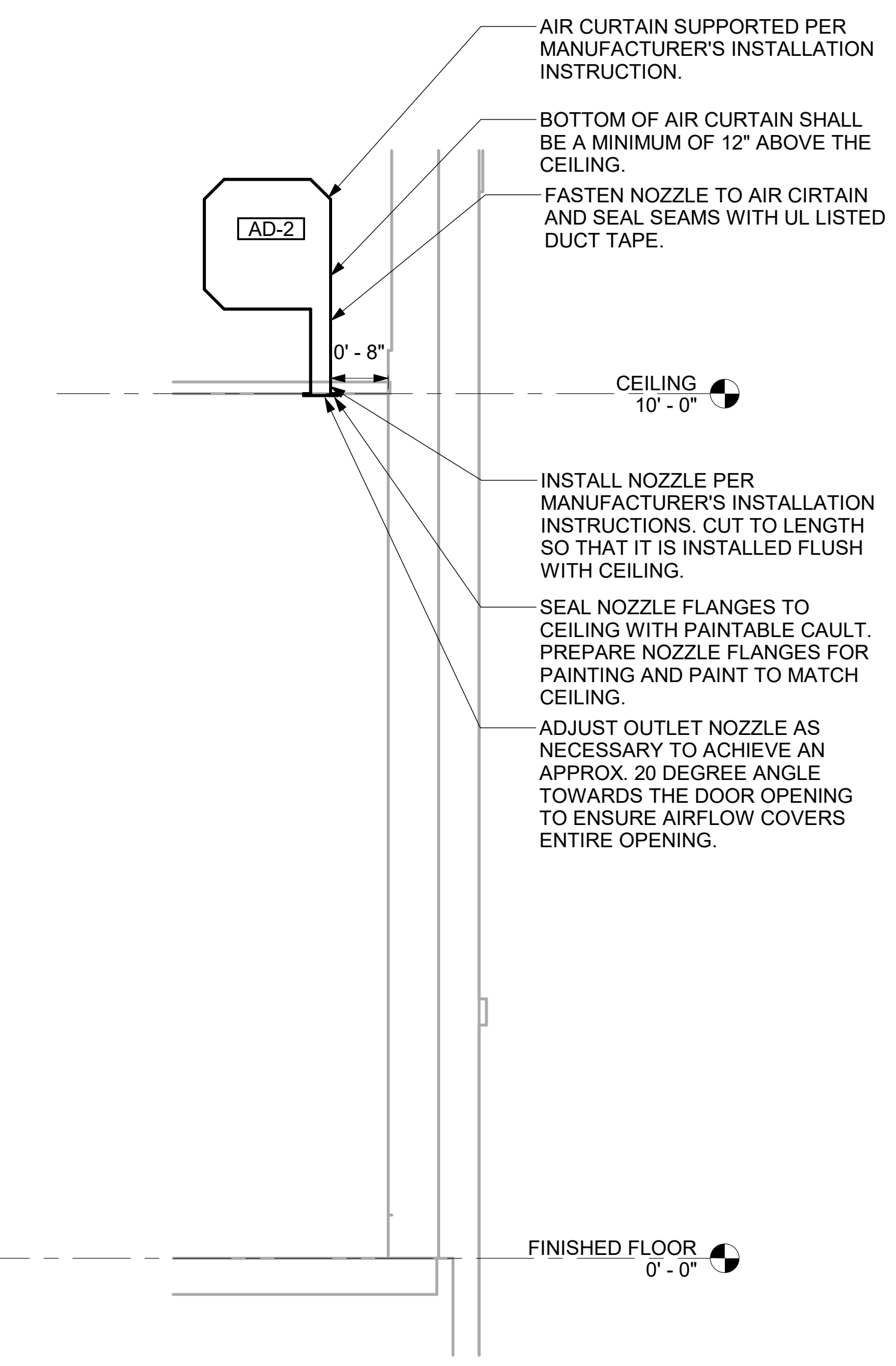
4 3 2 1



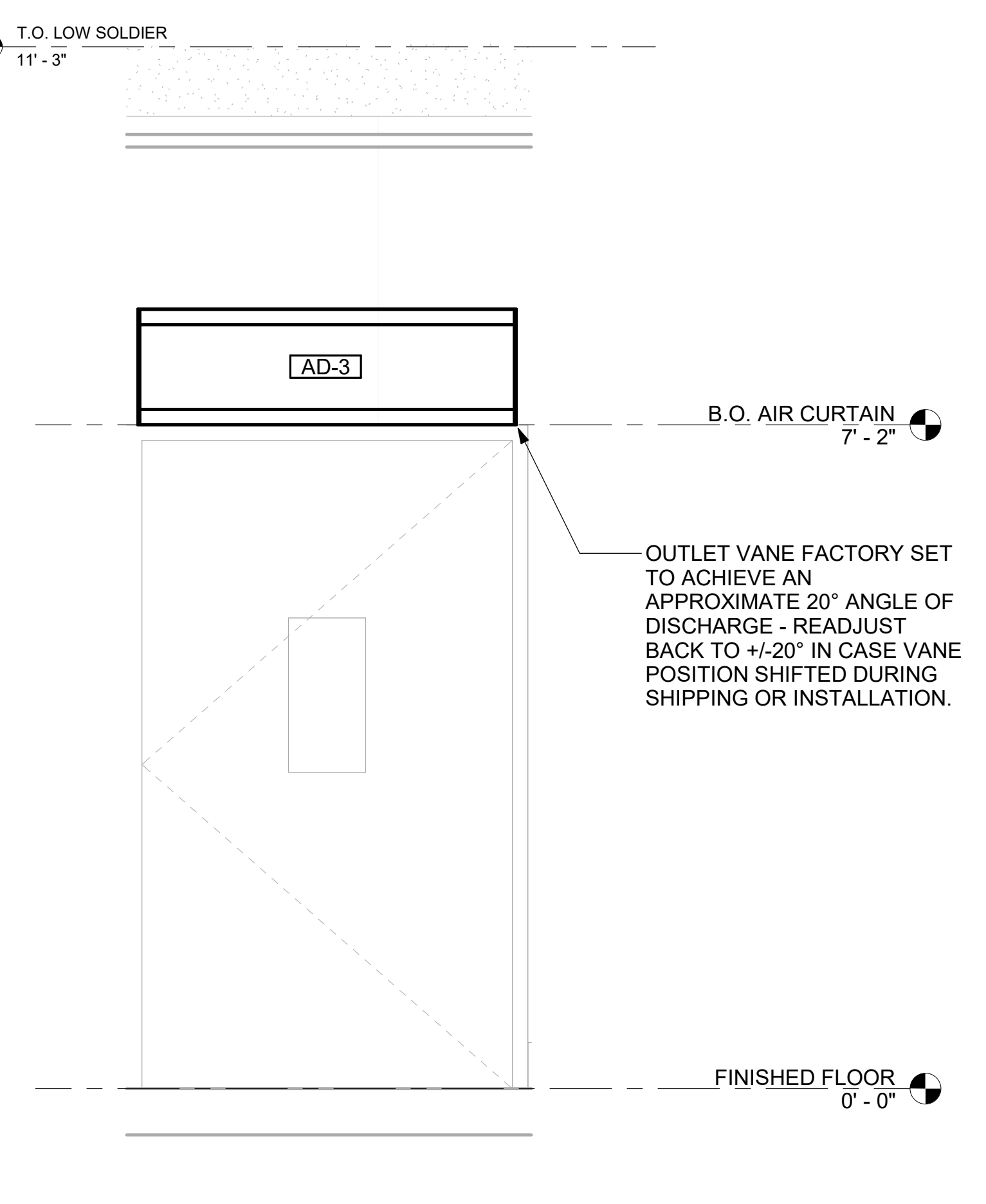
2 AD#1 FRONT VIEW
3/4" = 1'-0"



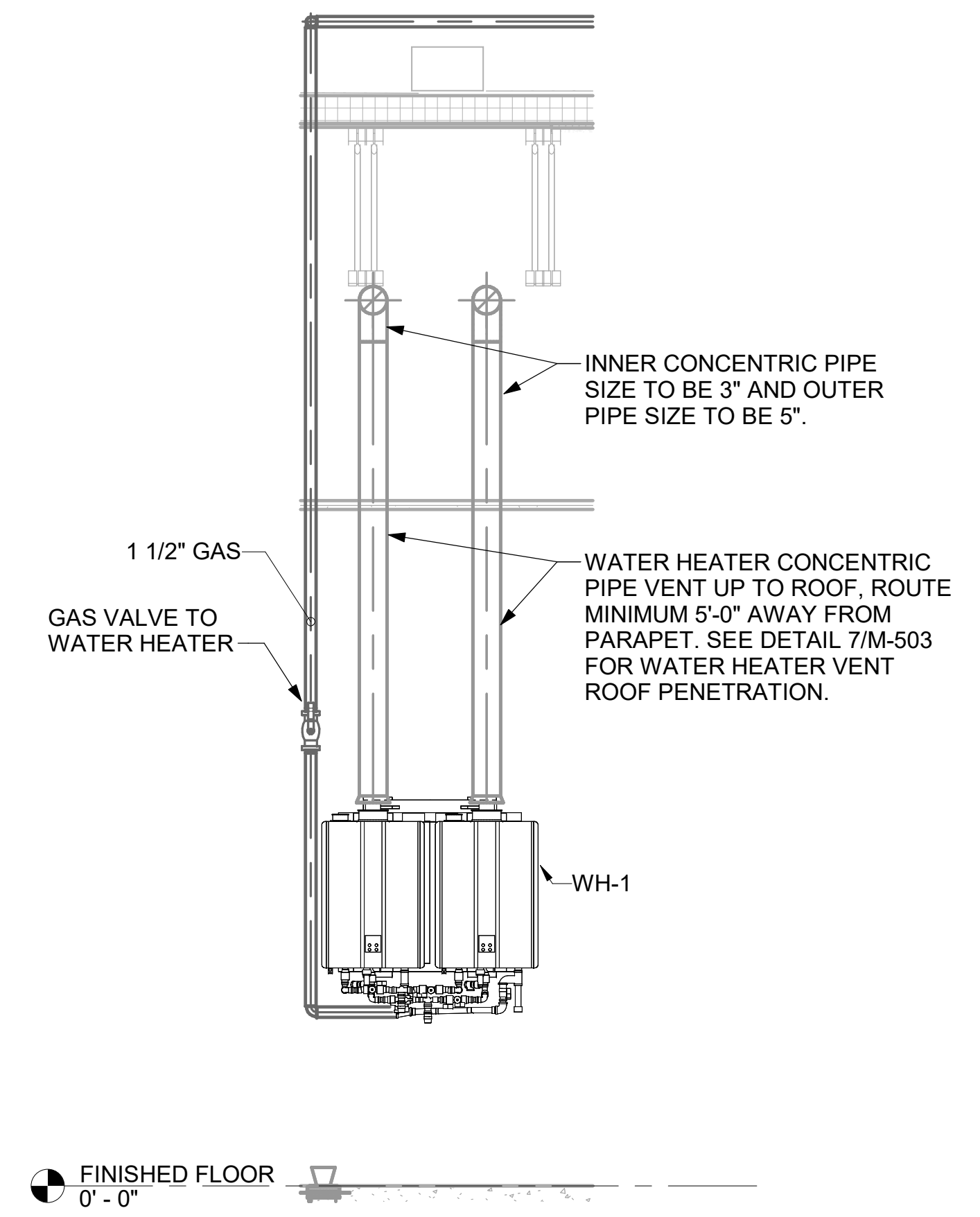
3 AD#1 SIDE VIEW
3/4" = 1'-0"



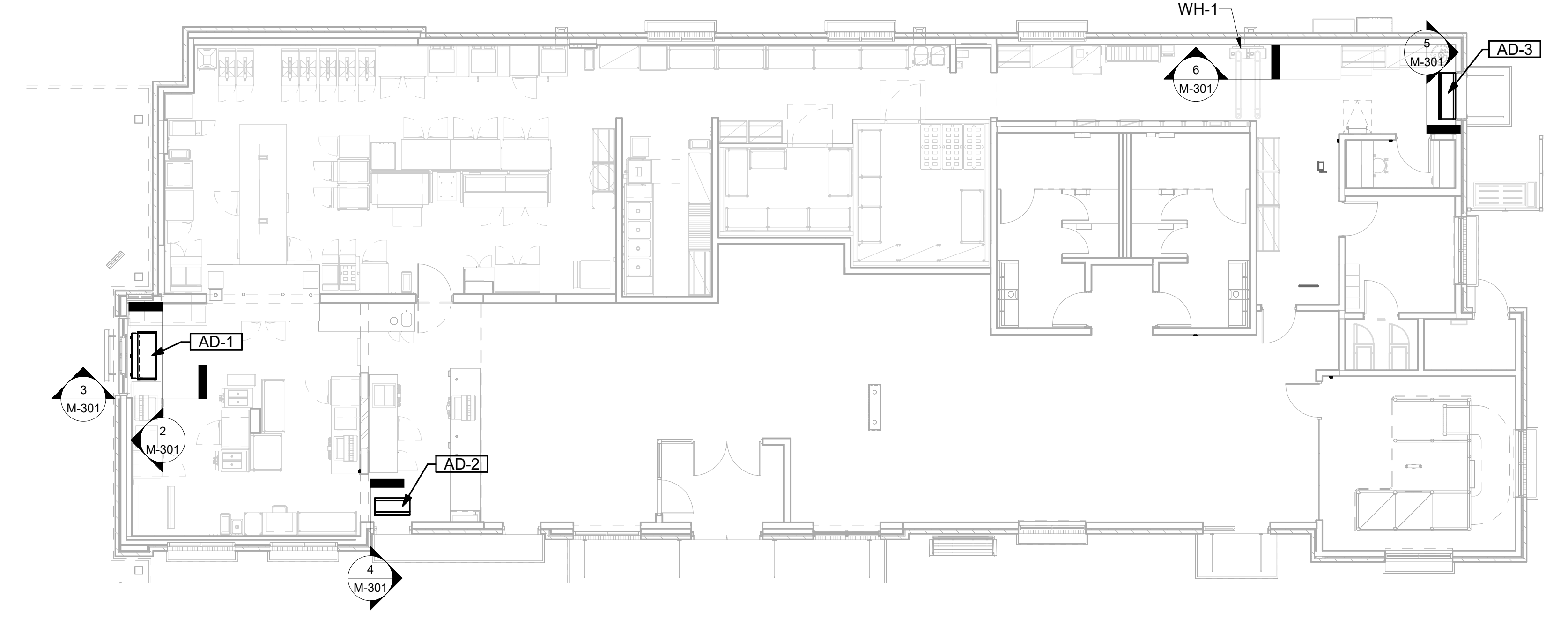
4 AD#2 SIDE VIEW
3/4" = 1'-0"



5 AD#3 FRONT VIEW
3/4" = 1'-0"



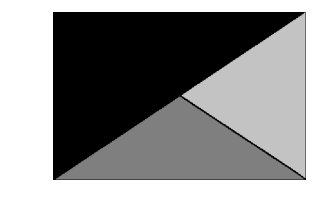
6 WATER HEATER GAS PIPING AND VENTING
NOT TO SCALE



1 VARIOUS SECTIONS
1/8" = 1'-0"



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CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
4904 E 10TH ST
SIOUX FALLS, SD 57110

FSR#05880

BUILDING TYPE / SIZE: P14 LE BASE
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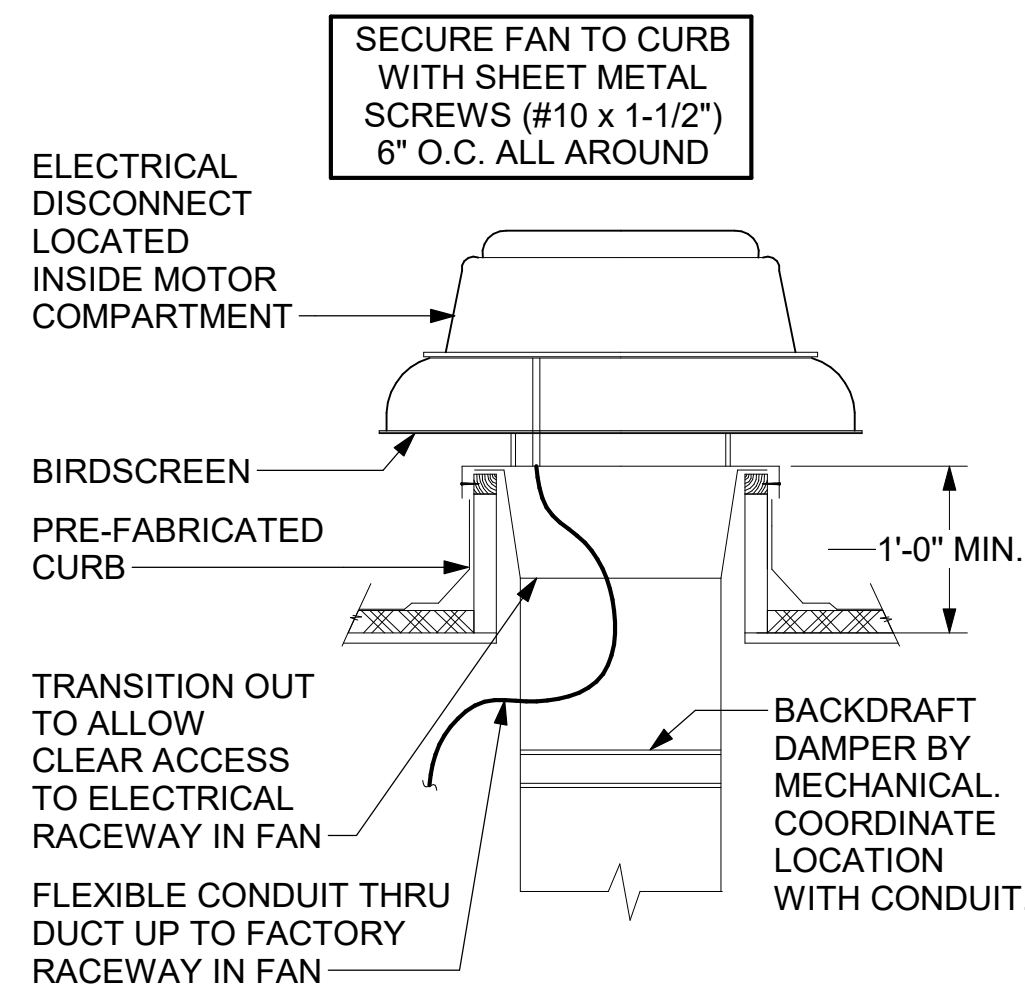
SHEET SECTIONS

SHEET NUMBER

M-301

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ISSUE FOR CONSTRUCTION

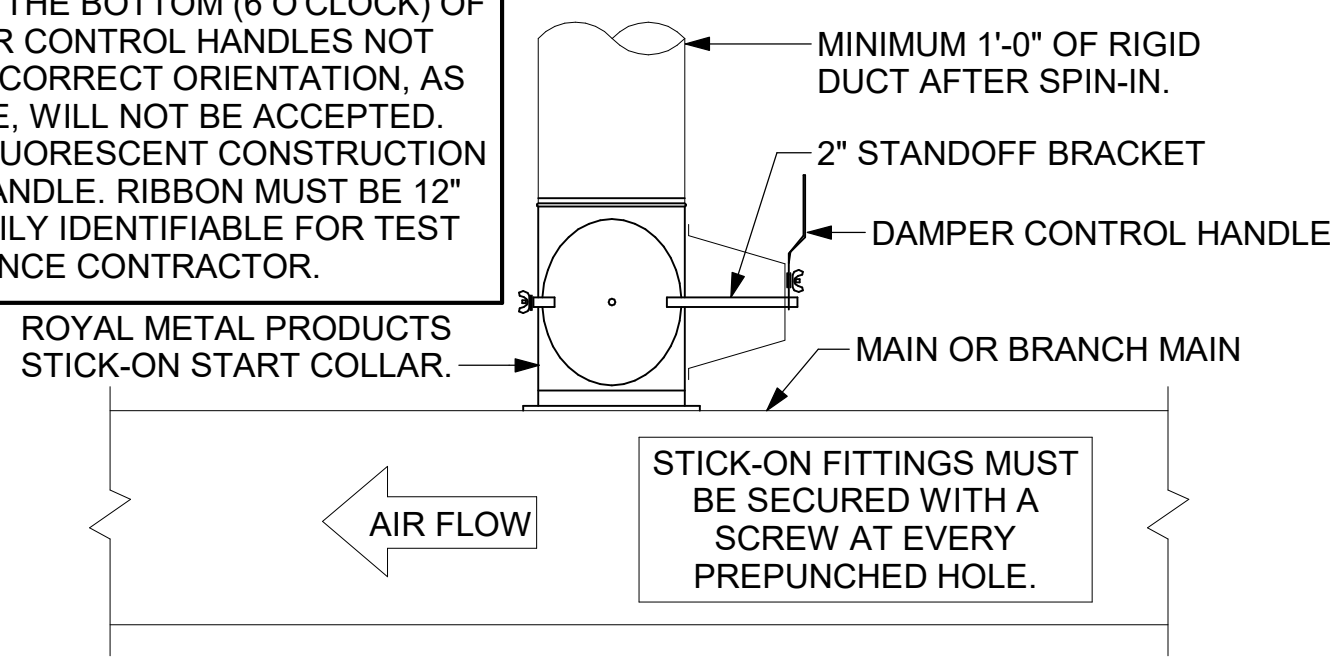


3 RESTROOM EXHAUST FAN
NTS

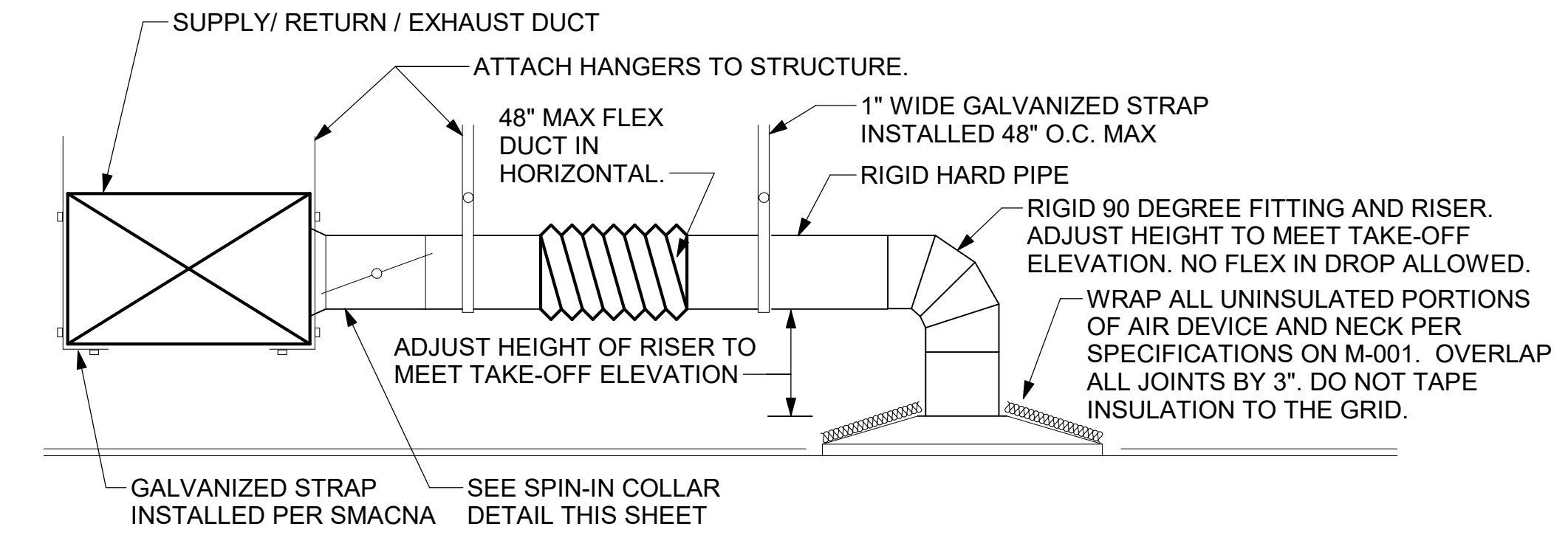
CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE ROYAL METAL PRODUCTS START COLLARS FOR BOTH WITH AND WITHOUT A MANUAL BALANCING DAMPER. THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE ROYAL METAL PRODUCTS START COLLARS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. ROYAL METAL PRODUCTS START COLLARS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

DAMPER CONTROL HANDLE MUST BE EXPOSED, AND DAMPER SHAFT MUST ALWAYS BE PARALLEL TO AIRFLOW IN DUCT MAIN. AS AN EXAMPLE, FOR HORIZONTAL TRUNK DUCT, HANDLE MUST BE LOCATED ON THE LEFT OR RIGHT (9 OR 3 O'CLOCK) OF COLLAR, AND FOR VERTICAL TRUNK DUCT, LOCATED ON THE BOTTOM (6 O'CLOCK) OF COLLAR. DAMPER CONTROL HANDLES NOT INSTALLED IN THE CORRECT ORIENTATION, AS SPECIFIED ABOVE, WILL NOT BE ACCEPTED. ATTACH YELLOW FLUORESCENT CONSTRUCTION RIBBON TO THE HANDLE. RIBBON MUST BE 12" LONG AND BE EASILY IDENTIFIABLE FOR TEST AND BALANCE CONTRACTOR.

DO NOT APPLY START COLLAR OVER DUCT WRAP

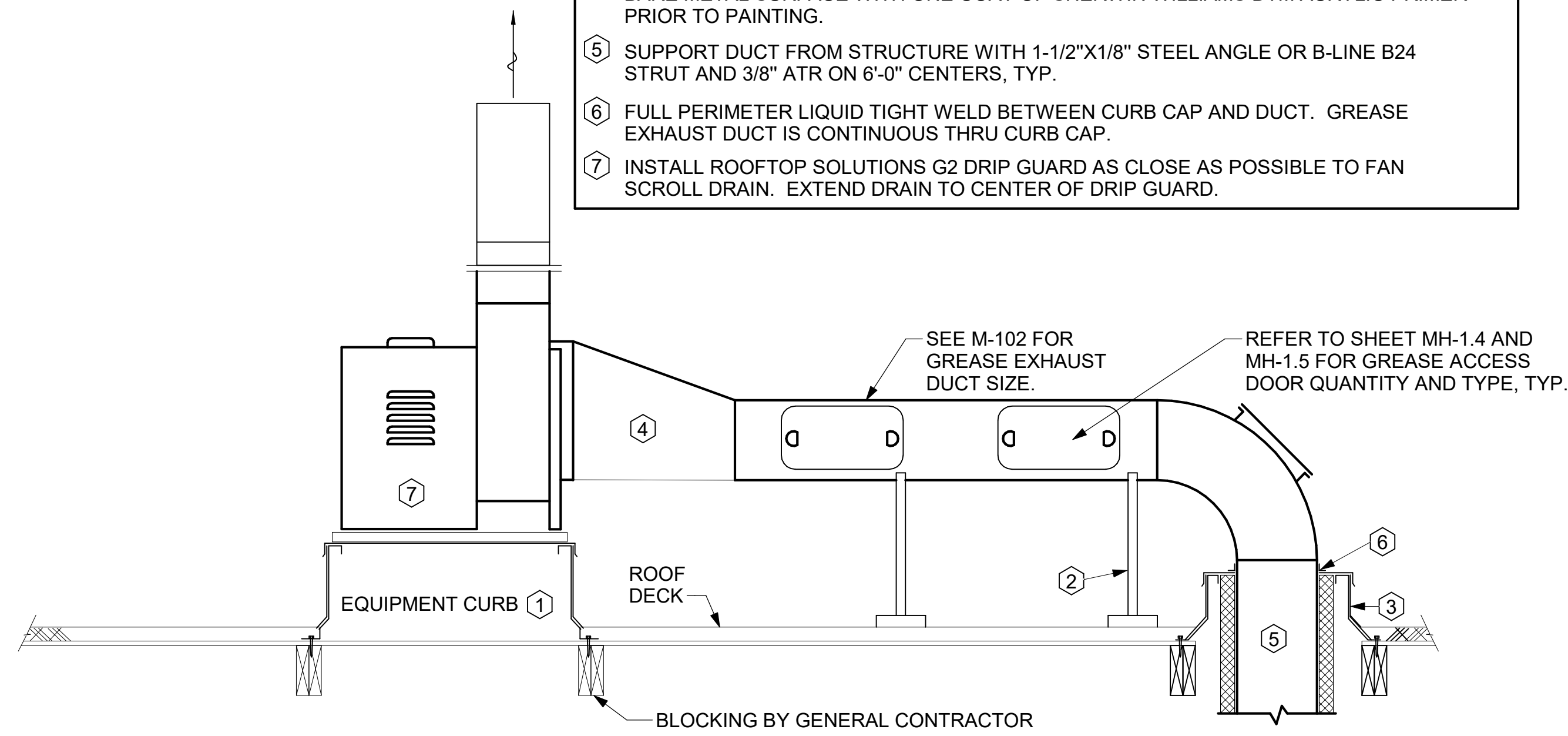


2 START COLLAR
NTS

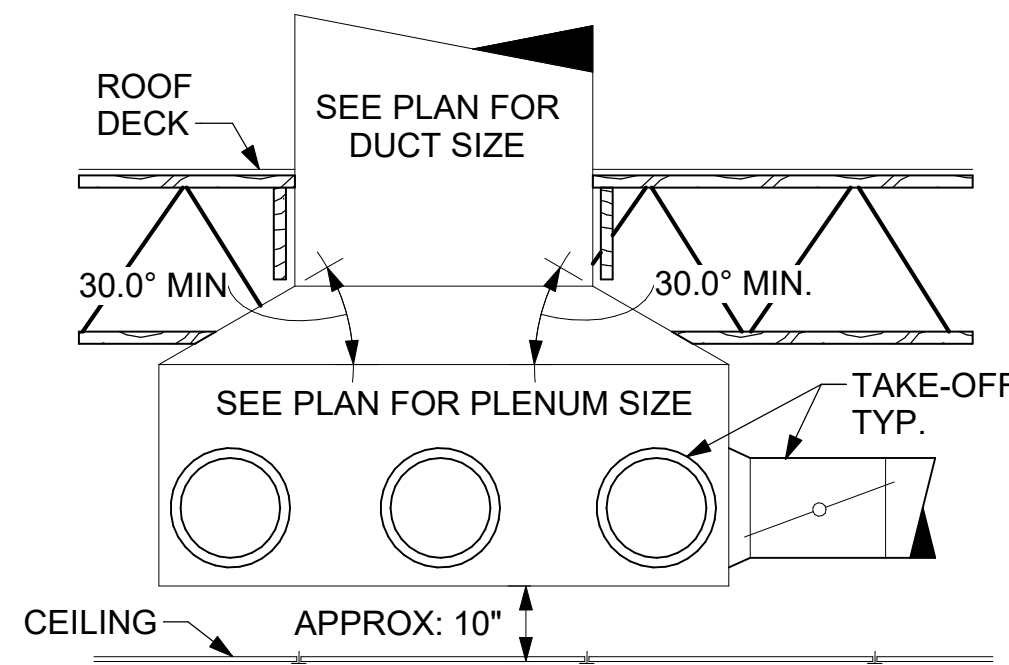


1 SAG/RAG/GRILLE TAKE-OFF
NTS

- KEYED NOTES:
- 22" EQUIPMENT CURB FURNISHED BY HALTON.
 - DUCT SUPPORT SHALL BE PROVIDED EVERY 8', AND WITHIN 12" OF ANY FITTING OR WELD SEAM. SUPPORTS SHALL BE SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY, WIND, AND SEISMIC LOADS PER CODE.
 - 12" HIGH INSULATED CURB FURNISHED BY HALTON. MECHANICAL CONTRACTOR TO PROVIDE MINIMUM 18 GA STAINLESS STEEL CURB CAP AND FLASHING.
 - ALL DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLIAMS B66-200 SERIES DTM WHITE ACRYLIC SEMI-GLOSS INDUSTRIAL MAINTENANCE COATING. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS DTM ACRYLIC PRIMER PRIOR TO PAINTING.
 - SUPPORT DUCT FROM STRUCTURE WITH 1-1/2"x1/8" STEEL ANGLE OR B-LINE B24 STRUT AND 3/8" ATR ON 6'-0" CENTERS, TYP.
 - FULL PERIMETER LIQUID TIGHT WELD BETWEEN CURB CAP AND DUCT. GREASE EXHAUST DUCT IS CONTINUOUS THRU CURB CAP.
 - INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD AS CLOSE AS POSSIBLE TO FAN SCROLL DRAIN. EXTEND DRAIN TO CENTER OF DRIP GUARD.



6 KITCHEN HOOD EXHAUST FAN - UTILITY SET
NTS

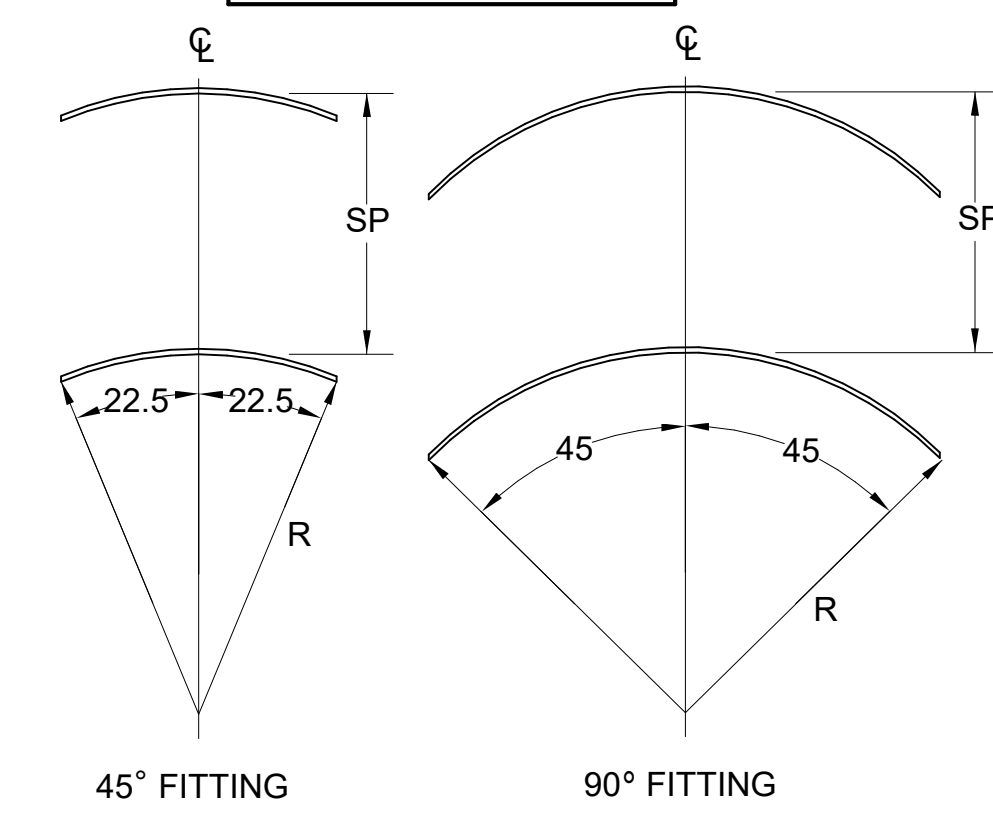


5 RETURN DROP GEOMETRY
NTS

TURNING VANE SCHEDULE

R	SP	GA
2"	1.5"	24

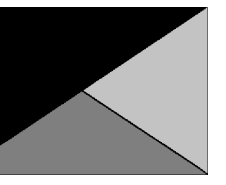
1. NO TRAILING EDGE.
2. SINGLE THICKNESS CONSTRUCTION.



4 TURNING VANES
NTS



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4/4/25

CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
4904 E 10TH ST
SIOUX FALLS, SD 57110

FSR#05880

BUILDING TYPE / SIZE: P14 LE BASE
RELEASE: 24.11
PRINTED FOR:
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REVISION SCHEDULE

NO.	DATE	DESCRIPTION
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ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25006.CD.S
DATE 04/04/2025
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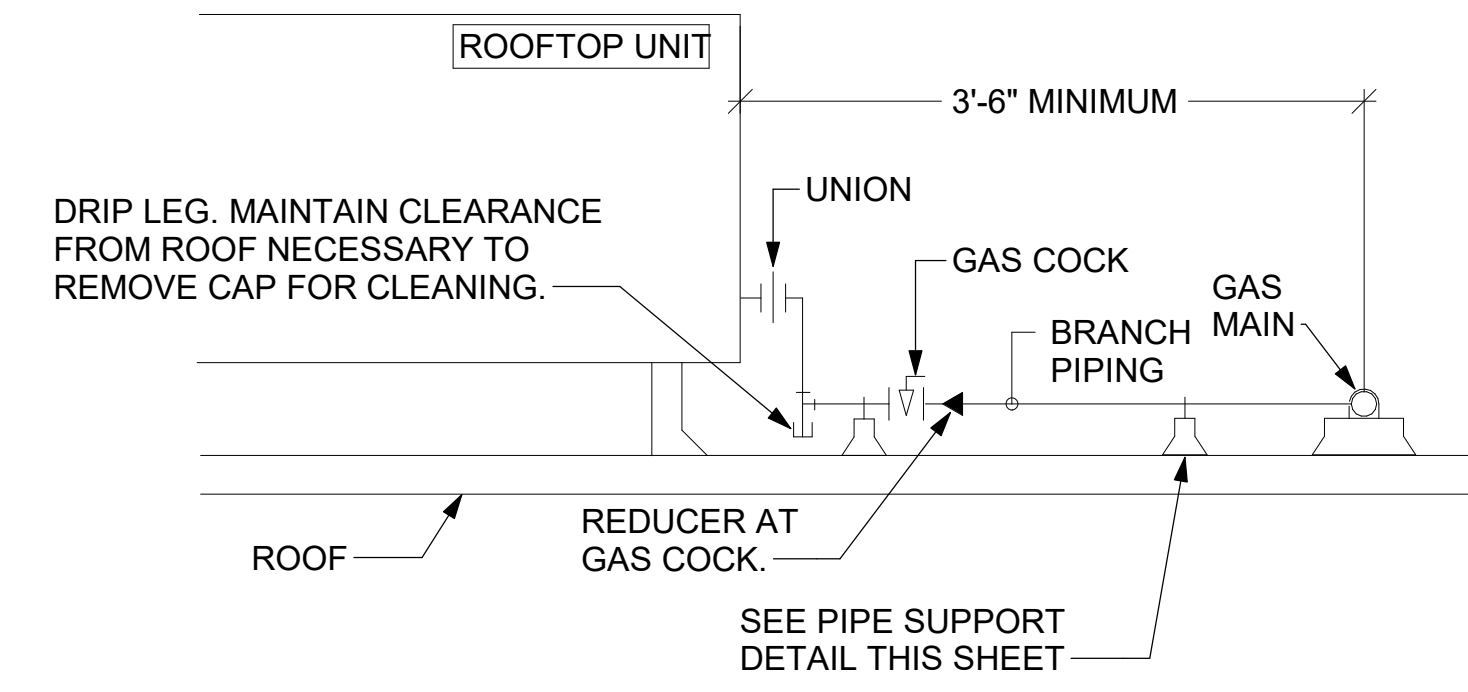
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SHEET DETAILS

SHEET NUMBER

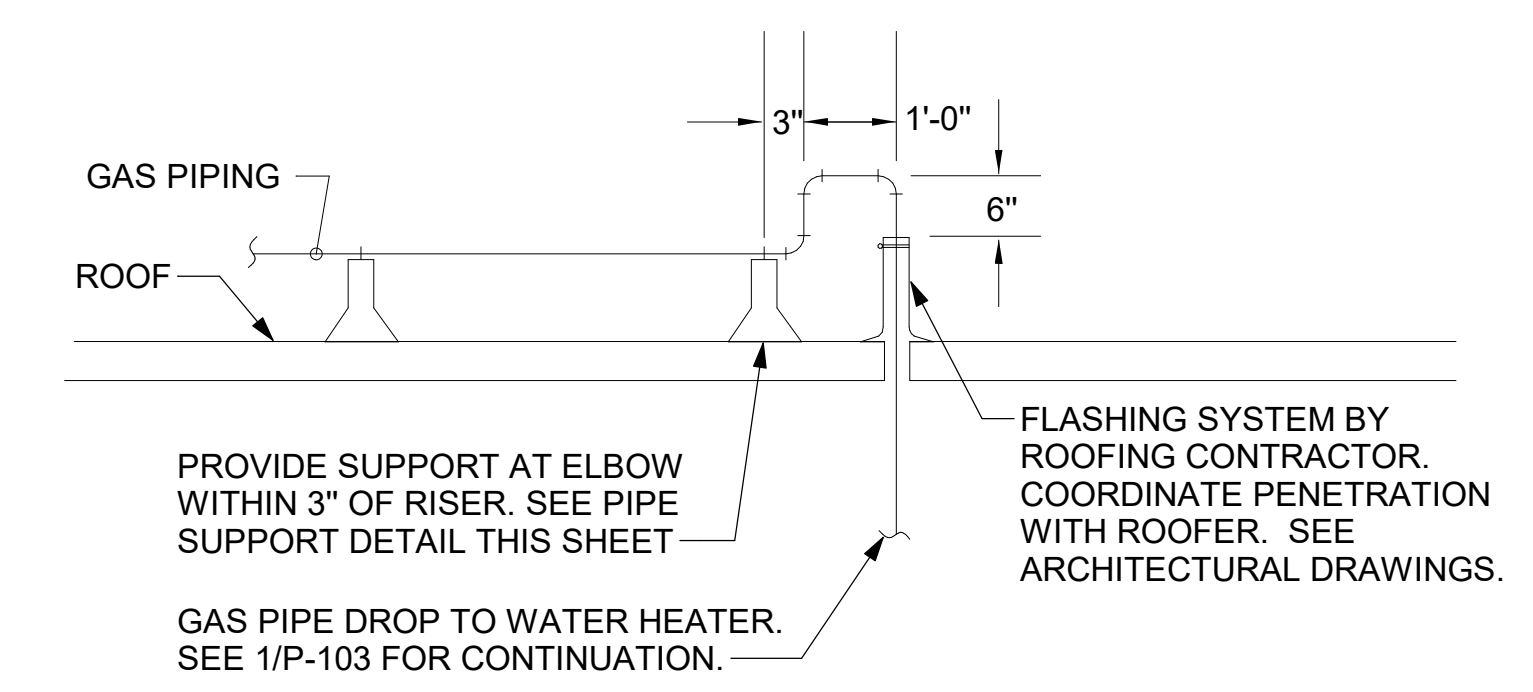
M-501

- NOTES:**
1. INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
 2. TO AVOID CONFLICT WITH AC UNIT ACCESS DOORS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
 3. ROUTE BRANCH TAKE-OFF DIRECTLY FROM MAIN TO ROOFTOP UNIT AS SHOWN ON PLAN AND DETAILS WITHOUT LATERAL OFFSETS WHICH MAY OBSTRUCT UNIT ACCESS DOORS.

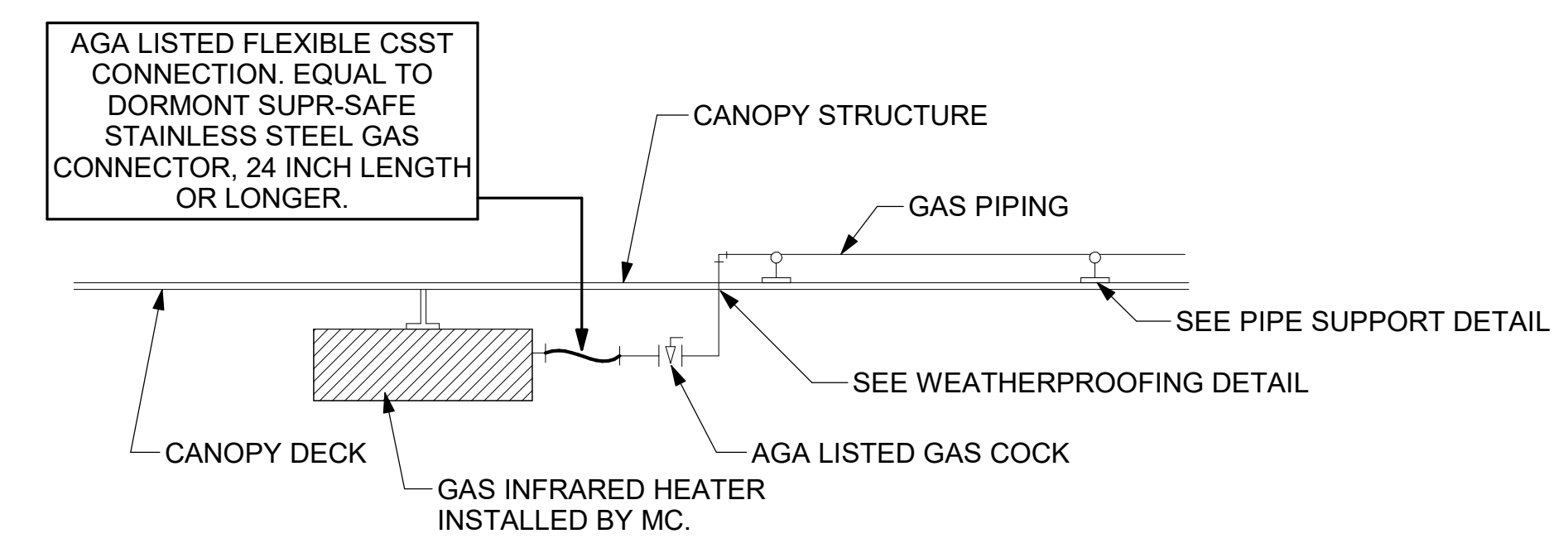


3 GAS PIPING AT RTU
NTS

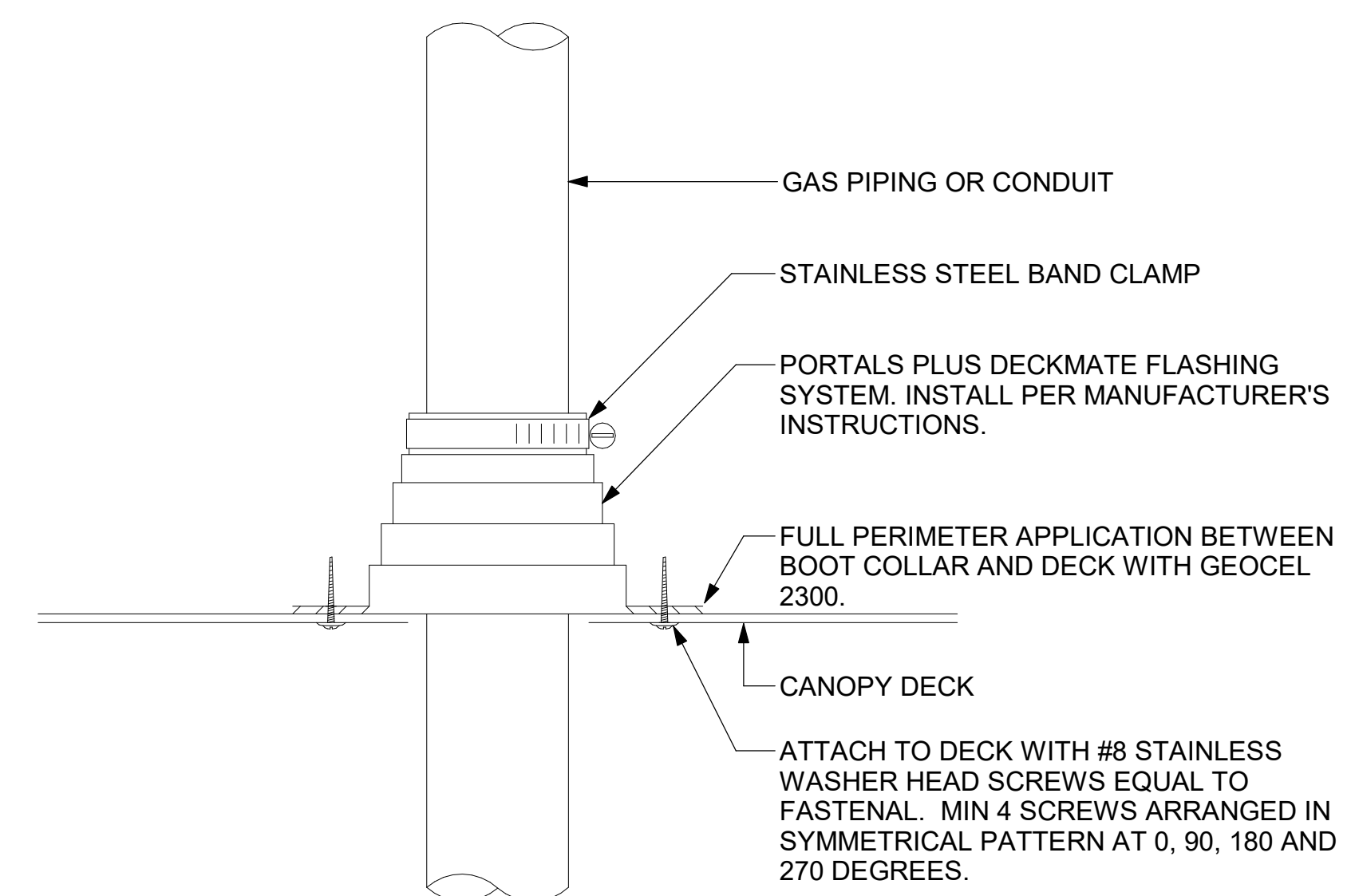
OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



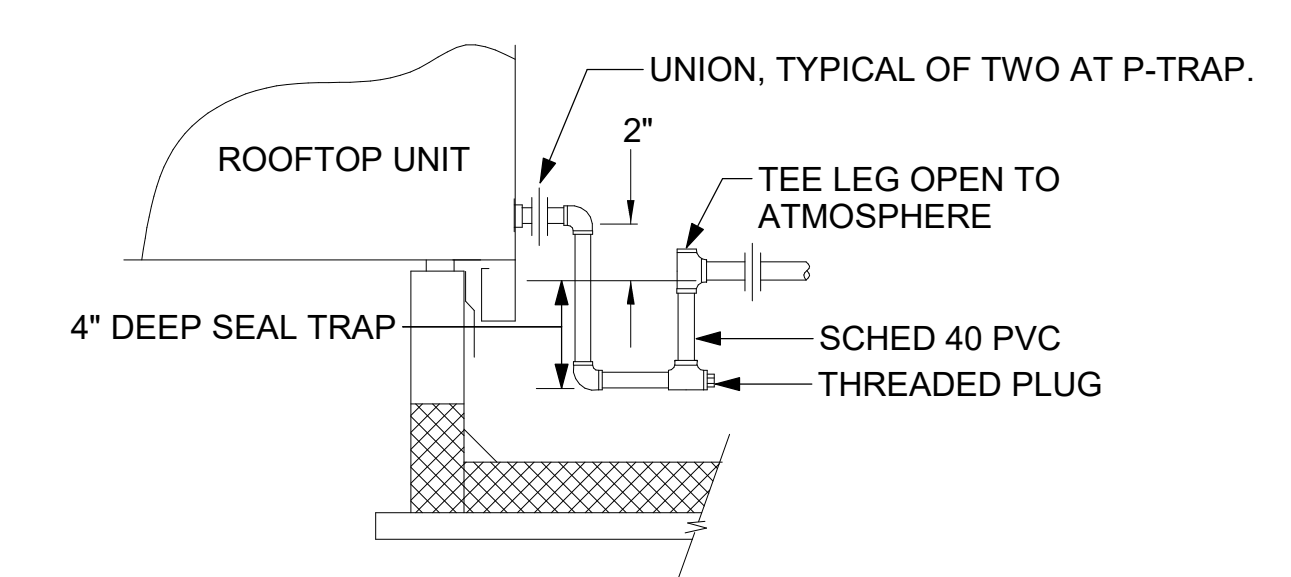
2 GAS PIPE DROP TO WATER HEATER
NTS



1 GAS CONNECTION AT APPLIANCE
NTS

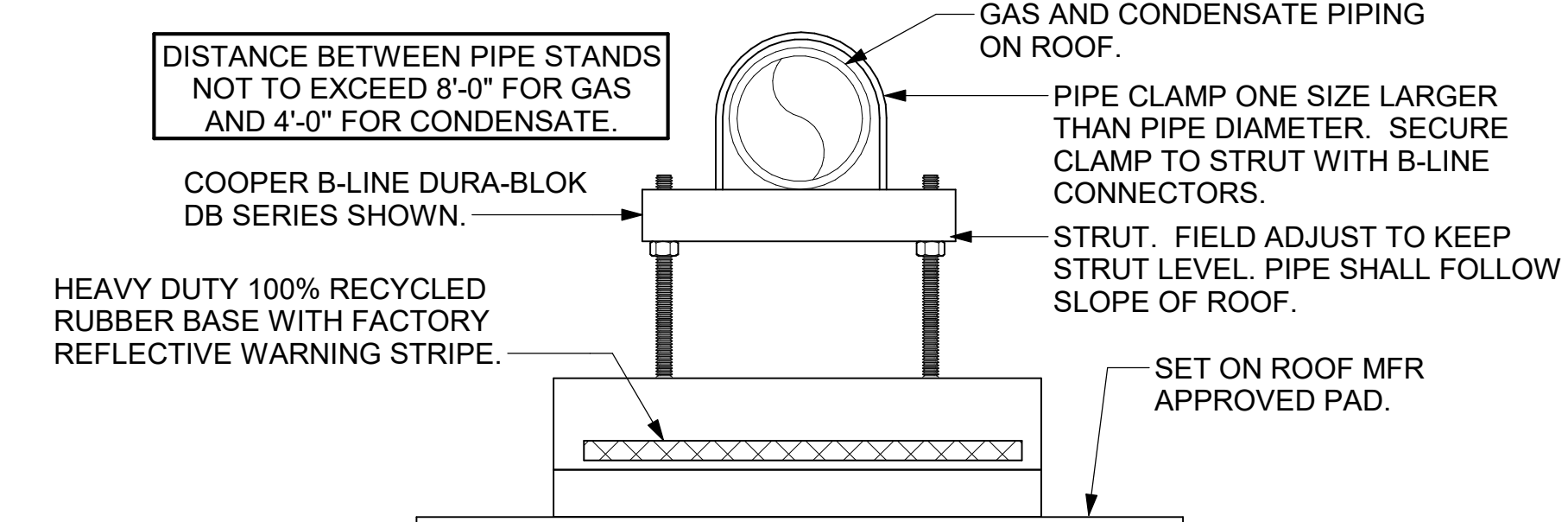


6 WEATHERPROOFING AT CANOPY PENETRATION
NTS

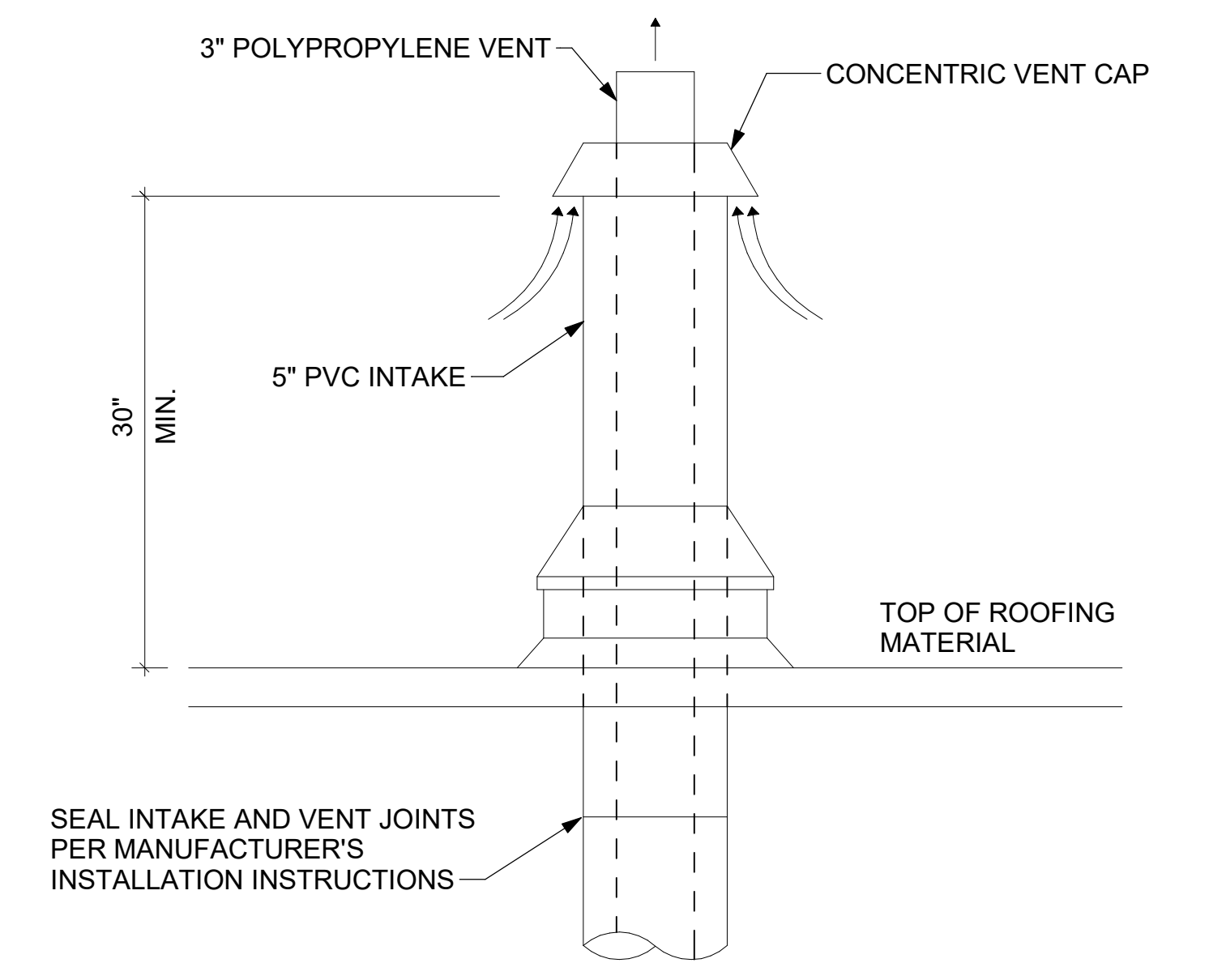


5 CONDENSATE DRAIN PIPING
NTS

- NOTES:**
1. NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
 2. PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
 3. ENSURE GAS AND CONDENSATE PIPING DO NOT OBSTRUCT ROOFTOP EQUIPMENT ACCESS OPENINGS. RE-PIPING OF SYSTEMS DUE TO CONFLICTS WITH EQUIPMENT ACCESS OPENINGS SHALL BE DONE AT PLUMBING CONTRACTOR'S EXPENSE.



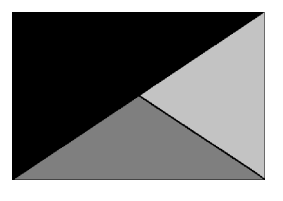
4 PIPING SUPPORT ON ROOF
NTS



7 WATER HEATER VENT ROOF PENETRATION
NTS



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CHICK-FIL-A
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FSU
 4904 E 10TH ST
 SIOUX FALLS, SD 57110

FSR#05880
 BUILDING TYPE / SIZE: P14 LE BASE
 RELEASE: 24.11
 PRINTED FOR:
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REVISION	SCHEDULE	NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 25006.CD.S
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 SHEET
 DETAILS

SHEET NUMBER
M-502

ISSUE FOR CONSTRUCTION

VENTILATION SCHEDULE

General			Ventilation											Exhaust										
Room #	Room Name	Area Az ft2	People			Area					Breathing Zone Outdoor Airflow CFM	Zone Air Distribution Effectiveness	Zone Outdoor Airflow CFM	Primary Zone Airflow CFM	Primary Outdoor Air Fraction	Actual Outdoor Airflow CFM	Area		Toilet			Served by		
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/Ra	Outdoor Airflow CFM Az x Ra	Outdoor Airflow CFM Vbz	Required Exhaust Rate CFM/Rt2							Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust	
1	Kitchen	876	20	18	7.5	135	0.12	105	240	0.8	301	7,390	0.04	1,578	0.70	614	-	-	-	-	-	-	AC-1L / AC-1T	EF-1 / EF-2
2	Kitchen (Dish Washing)	126	15	2	7.5	15	0.18	23	38	0.8	48	735	0.07	172	-	-	-	-	-	-	-	-	AC-1L / AC-1T	-
Total Area 1,002						Total Vbz 278					Total Supply Airflow 8,125		1,750		Actual Outdoor Airflow									
						Diversity (D) 1.00					Maximum Zp 0.07													
						Uncorrected Outdoor Air Intake (Vou) 278					System Ventilation Efficiency (Ev) 1.00													
						Required Outdoor Air Intake (CFM) 278																		

VENTILATION SCHEDULE

General			Ventilation											Exhaust										
Room #	Room Name	Area Az ft2	People			Area					Breathing Zone Outdoor Airflow CFM	Zone Air Distribution Effectiveness	Zone Outdoor Airflow CFM	Primary Zone Airflow CFM	Primary Outdoor Air Fraction	Actual Outdoor Airflow CFM	Area		Toilet			Served by		
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/Ra	Outdoor Airflow CFM Az x Ra	Outdoor Airflow CFM Vbz	Required Exhaust Rate CFM/Rt2							Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust	
1	Meal Fulfillment Area	430	15	7	7.5	52.5	0.12	52	105	0.8	131	4,375	0.03	925	-	-	-	-	-	-	-	-	AC-2L / AC-2T	-
Total Area 430						Total Vbz 105					Total Supply Airflow 4,375		925		Actual Outdoor Airflow									
						Diversity (D) 1.00					Maximum Zp 0.03													
						Uncorrected Outdoor Air Intake (Vou) 105					System Ventilation Efficiency (Ev) 1.00													
						Required Outdoor Air Intake (CFM) 129																		

VENTILATION SCHEDULE

General			Ventilation											Exhaust										
Room #	Room Name	Area Az ft2	People			Area					Breathing Zone Outdoor Airflow CFM	Zone Air Distribution Effectiveness	Zone Outdoor Airflow CFM	Primary Zone Airflow CFM	Primary Outdoor Air Fraction	Actual Outdoor Airflow CFM	Area		Toilet			Served by		
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/Ra	Outdoor Airflow CFM Az x Ra	Outdoor Airflow CFM Vbz	Required Exhaust Rate CFM/Rt2							Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust	
1	Dining	1,084	100	108	7.5	810	0.18	195	1,005	0.8	1,256	4,020	0.31	976	-	-	-	-	-	-	-	-	AC-3L / AC-3T	-
2	Serving	515	15	8	7.5	60	0.12	62	122	0.8	153	980	0.16	239	-	-	-	-	-	-	-	-	AC-3L / AC-3T	-
3	Men's RR	162	-	-	-	-	-	-	-	0.8	-	100	-	24	-	-	Continuous	50	150	180	-	-	AC-3L / AC-3T	EF-3
4	Women's RR	172	-	-	-	-	-	-	-	0.8	-	100	-	24	-	-	Continuous	50	150	180	-	-	AC-3L / AC-3T	EF-3
5	RR Vestibule	32	-	-	-	-	0.06	2	2	0.8	3	50	0.05	12	-	-	-	-	-	-	-	-	AC-3L / AC-3T	-
Total Area 1,964						Total Vbz 1,129					Total Supply Airflow 5,250		1,275		Actual Outdoor Airflow									
						Diversity (D) 0.83					Maximum Zp 0.31													
						Uncorrected Outdoor Air Intake (Vou) 991					System Ventilation Efficiency (Ev) 0.80													
						Required Outdoor Air Intake (CFM) 1,239																		

VENTILATION SCHEDULE

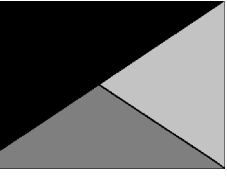
General			Ventilation											Exhaust										
Room #	Room Name	Area Az ft2	People			Area					Breathing Zone Outdoor Airflow CFM	Zone Air Distribution Effectiveness	Zone Outdoor Airflow CFM	Primary Zone Airflow CFM	Primary Outdoor Air Fraction	Actual Outdoor Airflow CFM	Area		Toilet			Served by		
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/Ra	Outdoor Airflow CFM Az x Ra	Outdoor Airflow CFM Vbz	Required Exhaust Rate CFM/Rt2							Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust	
1	Team Member Room	106	50	6	5	30	0.06	6	36	0.8	46	250	0.19	46	-	-	-	-	-	-	-	-	AC-4L / AC-4T	-
2	Service	880	-	-	-	-	0.12	106	106	0.8	132	1,100	0.12	205	-	-	-	-	-	-	-	-	AC-4L / AC-4T	-
3	Riser	37	-	-	-	-	0.12	4	4	0.8	6	150	0.04	28	-	-	-	-	-	-	-	-	AC-4L / AC-4T	-
4	Office	41	5	1	5	5	0.06	2	7	0.8	10	250	0.04	46	-	-	-	-	-	-	-	-	AC-4L / AC-4T	-
Total Area 1,064						Total Vbz 154					Total Supply Airflow 1,750		325		Actual Outdoor Airflow									
						Diversity (D) 1.00					Maximum Zp 0.19													
						Uncorrected Outdoor Air Intake (Vou) 154					System Ventilation Efficiency (Ev) 0.90													
						Required Outdoor Air Intake (CFM) 170																		

VENTILATION SCHEDULE

General			Ventilation											Exhaust										
Room #	Room Name	Area Az ft2	People			Area					Breathing Zone Outdoor Airflow CFM	Zone Air Distribution Effectiveness	Zone Outdoor Airflow CFM	Primary Zone Airflow CFM	Primary Outdoor Air Fraction	Actual Outdoor Airflow CFM	Area		Toilet			Served by		
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/Ra	Outdoor Airflow CFM Az x Ra	Outdoor Airflow CFM Vbz	Required Exhaust Rate CFM/Rt2							Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust	
1	Play	254	7	2	20	40	0.18	46	86	0.8	108	1,300	0.08	150	-	-	-	-	-	-	-	-	AC-5L / AC-5T	-
Total Area 254						Total Vbz 86					Total Supply Airflow 1,300		150		Actual Outdoor Airflow									
						Diversity (D) 1.00					Maximum Zp 0.08													
						Uncorrected Outdoor Air Intake (Vou) 86					System Ventilation Efficiency (Ev) 1.00													
						Required Outdoor Air Intake (CFM) 85																		



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4/4/25

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DATE 04/04/2025
DRAWN BY BLM

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SHEET VENTILATION SCHEDULES

SHEET NUMBER

M-602

E

D

C

B

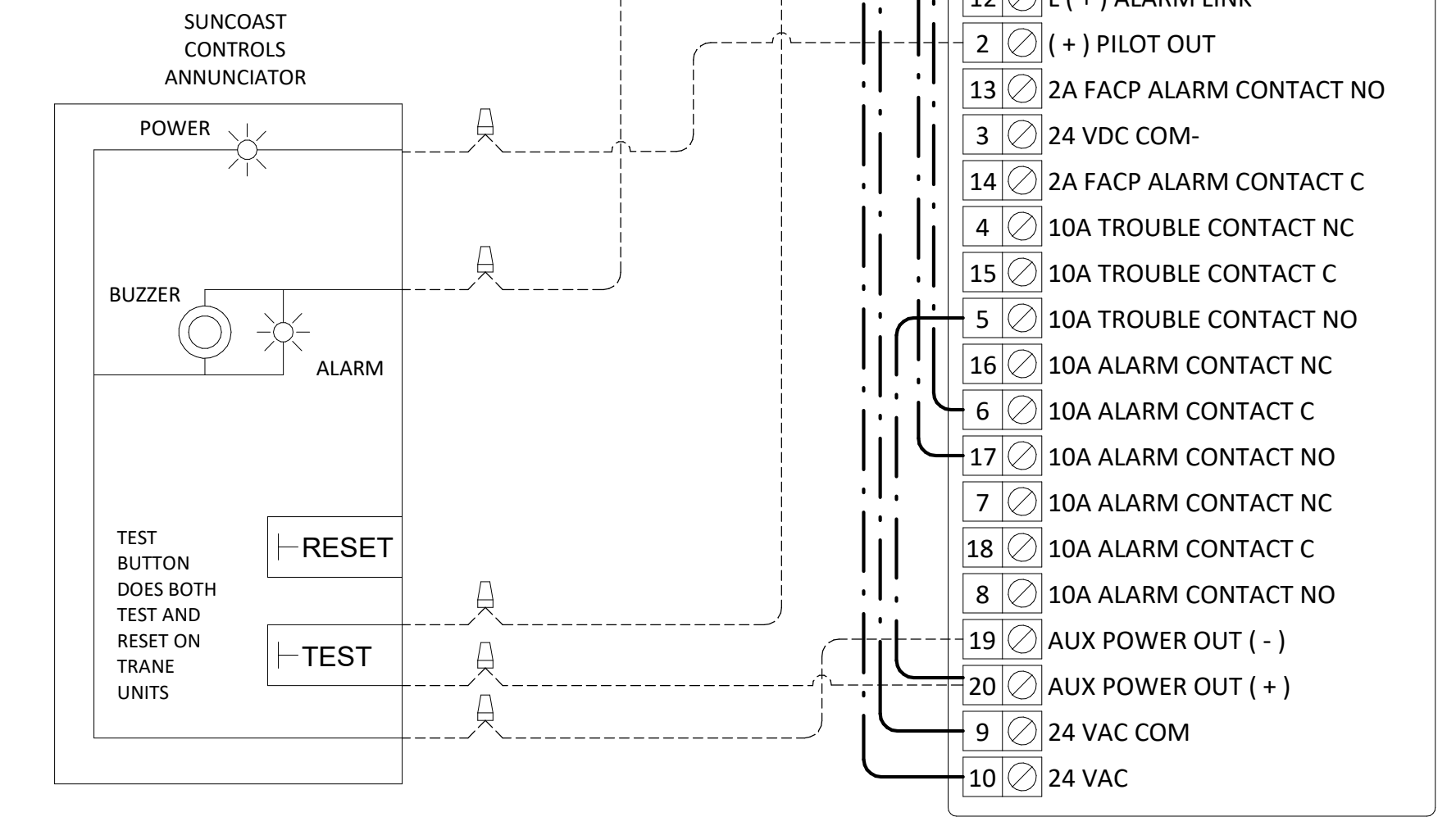
A

LEGEND

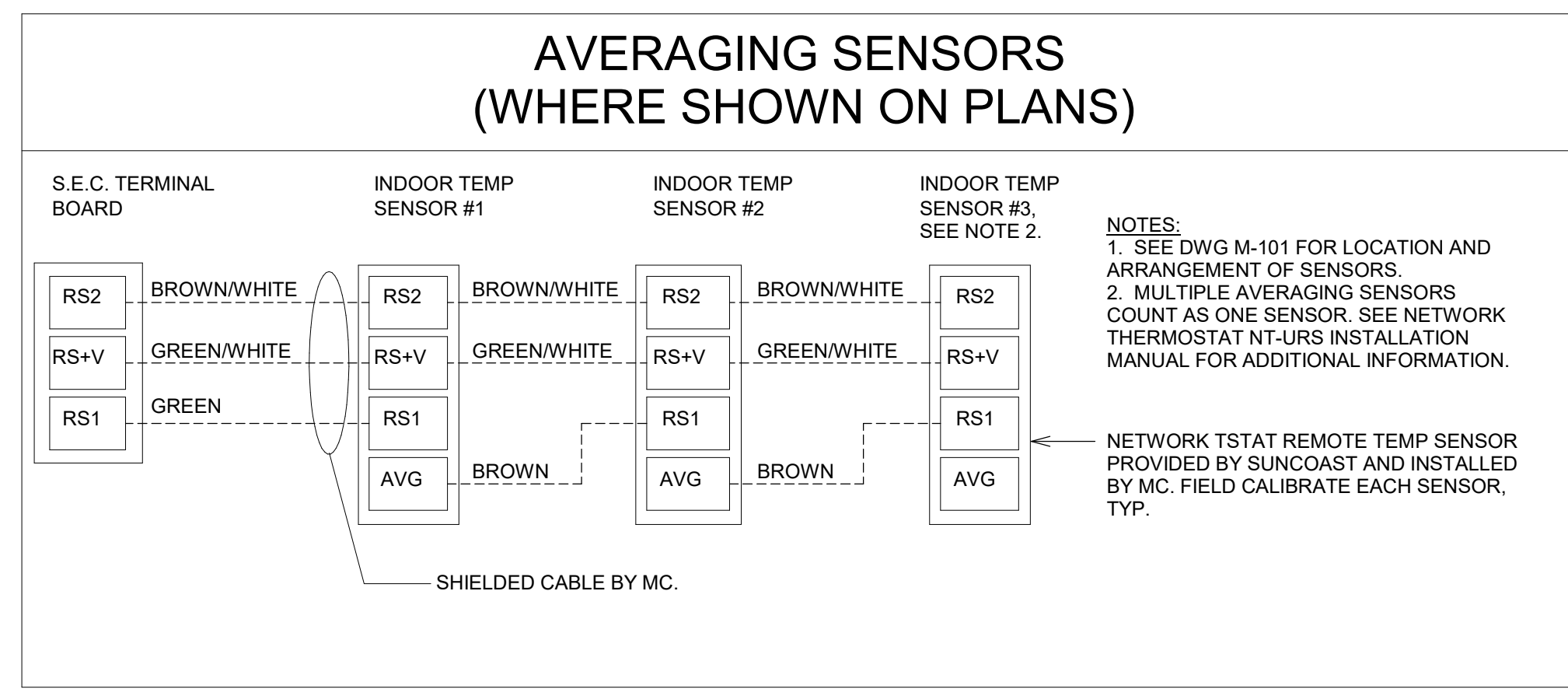
---	18 AWG MIN WIRING BY MECH CONTRACTOR
---	FACTORY ANNUNCIATOR DETECTOR WIRING
---	FACTORY TRANE WIRING

FIELD INSTALLED WIRING:
WITHIN THE ROOFTOP UNITS, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIREWAYS ONLY. WIRING ROUTED OVER THE BLOWER HOUSING OR BY WAY OF OTHER ROUTES DETRIMENTAL TO WIRING LIFE WILL NOT BE ACCEPTED.

LABELING:
PROVIDE ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON BLACK BACKGROUND IDENTIFYING UNIT SERVED.



1 SMOKE DETECTOR AND ANNUNCIATOR WIRING - TRANE
NTS



NOTES:
1. SEE DWG M-101 FOR LOCATION AND ARRANGEMENT OF SENSORS.
2. MULTIPLE AVERAGING SENSORS COUNT AS ONE SENSOR. SEE NETWORK THERMOSTAT NT-URS INSTALLATION MANUAL FOR ADDITIONAL INFORMATION.
3. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY M.C. FIELD CALIBRATE EACH SENSOR, TYP.

KEYED NOTES:
1. LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
2. WIRING TO HUMIDITY SENSOR TO BE MADE WITH SINGLE 18/2 SENSOR CABLE. BELDEN 8760 OR EQUAL.
3. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY M.C. FIELD CALIBRATE EACH SENSOR. SEAL CABLE PENETRATION AT ALL WALL LOCATIONS.
4. FACTORY WIRING IN SUNCOAST T-500 PANEL NOT SHOWN FOR CLARITY. SEE SUNCOAST WIRING DIAGRAM FOR ADDITIONAL INFORMATION.
5. SY700 INTERFACE TO SET RELATIVE HUMIDITY. SET TO 60%.
6. CAT 5/6E CABLE BY M.C. NO SUBSTITUTIONS.

NOTES:
1. PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #68824, TELEPHONE NUMBER 800-243-8624. FOR MOUNTING THE DETAIL. ATTACH THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.
2. SEE DETAILS IN THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
3. SET ALL THERMOSTATS TO AUTO CHANGEOVER.
4. PROVIDE PLASTIC ENGRAVABLE AT ALL SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND (E.G., "AC#2 HUMIDITY SENSOR" OR "AC#2 TEMP SENSOR"). PLACE LABELS ON WALL DIRECTLY ABOVE OR BELOW THE SENSOR. DO NOT APPLY LABEL DIRECTLY TO DEVICE.

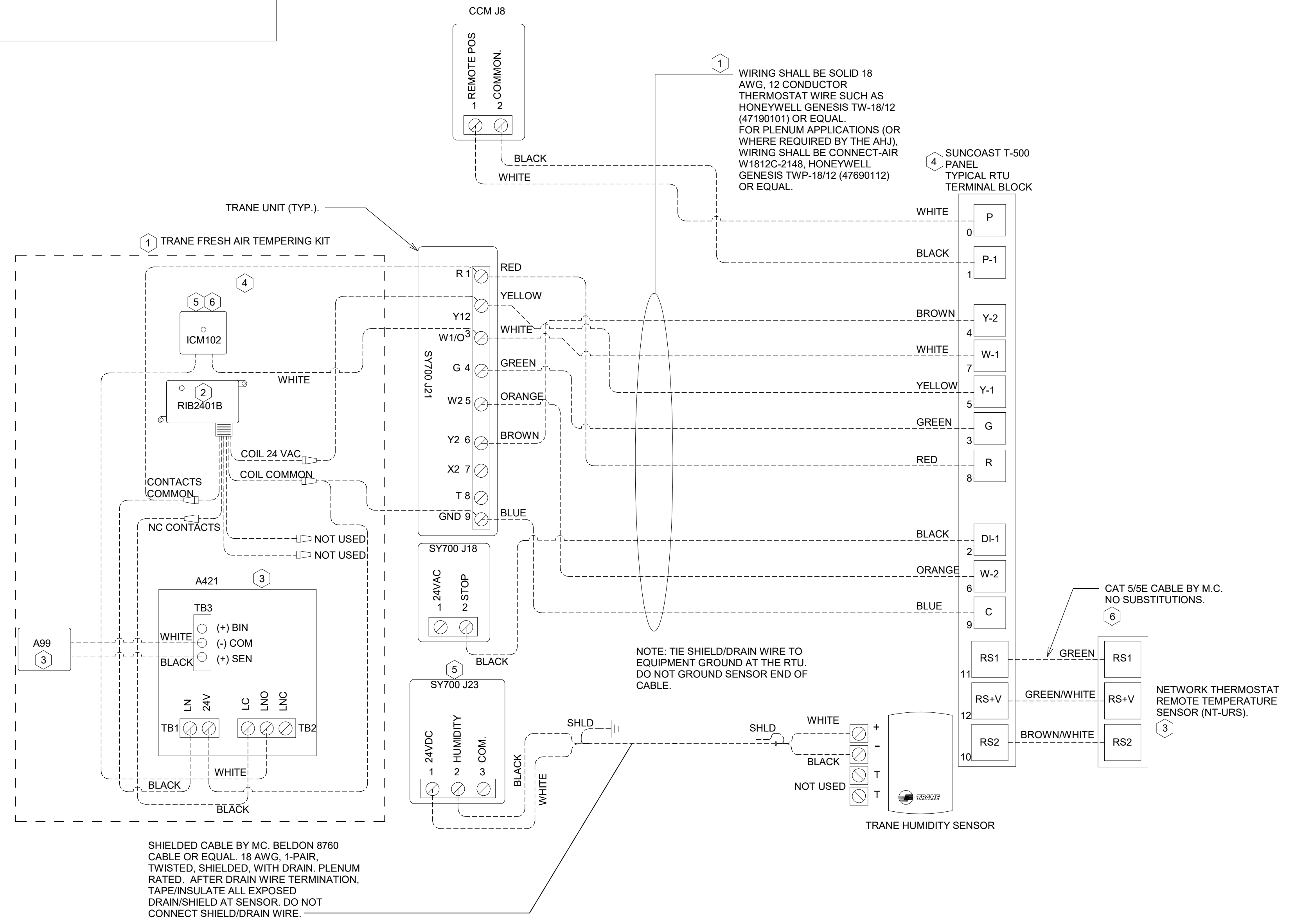


4/1/25

LEGEND

S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF TEMP/FAN CONTROL PANEL) LOCATED IN KITCHEN
1	KEY NOTE REFERENCE
MC	MECHANICAL CONTRACTOR
AC	SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL. ENERGIZED BY PUTTIN STORE SWITCH IN 'STORE OCCUPIED' POSITION
AN	SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL. DEENERGIZED WHEN ANSUL FIR SUPPRESSION SYSTEM IS ACTIVATED AS NOTED
---	ALL LOW VOLTAGE CABLING BY M.C. ONLY USE CABLE SPECIFIED. NO SUBSTITUTIONS
---	LOW VOLTAGE WIRING BY S.E.C.
---	LINE VOLTAGE BY ELECTRICIAN OR S.E.C.

FRESH AIR TEMPERING KEYED NOTES:
1. INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.
2. RIB2401B SPDT RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
3. JCI A421 TEMPERATURE CONTROLLER FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN RTU CONTROL CABINET. CONTRACTOR SHALL INSTALL TRANE FURNISHED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TB5001-1 SENSOR DUCT MOUNTING PLATE FURNISHED BY TRANE. DO NOT RUN WIRING INSIDE DUCTWORK. SET A421 CONTROLLER PARAMETERS TO THE FOLLOWING:
• RELAY ON TEMPERATURE: 58°F
• RELAY OFF TEMPERATURE: 80°F
4. 18 AWG MIN. LOW VOLTAGE WIRING BY M.C.
5. ICM104 TIME DELAY RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF ROOFTOP UNIT.
6. SET TIME DELAY RELAY (ICM104) TO 15 MINUTES.



1 WIRING SHALL BE SOLID 18 AWG, 12 CONDUCTOR THERMOSTAT WIRE SUCH AS HONEYWELL GENESIS TW-18/12 (47190101) OR EQUAL. FOR PLENUM APPLICATIONS (OR WHERE REQUIRED BY THE AHU), WIRING SHALL BE CONNECT-AIR W/1120-2148, HONEYWELL GENESIS TWP-18/12 (47690112) OR EQUAL.

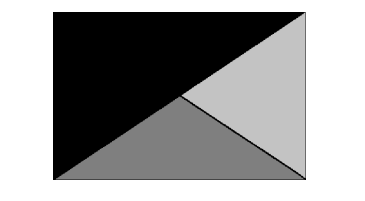
NOTE: TIE SHIELD/DRAIN WIRE TO EQUIPMENT GROUND AT THE RTU. DO NOT GROUND SENSOR END OF CABLE.

SHIELDED CABLE BY M.C. BELDEN 8760 CABLE OR EQUAL. 18 AWG, 1-PAIR, TWISTED, SHIELDED, WITH DRAIN, PLENUM RATED. AFTER DRAIN WIRE TERMINATION, TAPE/INSULATE ALL EXPOSED DRAIN/SHIELD AT SENSOR. DO NOT CONNECT SHIELD/DRAIN WIRE.

2 ROOFTOP UNIT CONTROL WIRING - TRANE
NTS



Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998



Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
4904 E 10TH ST
SIOUX FALLS, SD 57110

FSR#05880

BUILDING TYPE / SIZE: P14 LE BASE
RELEASE: 24.11
PRINTED FOR:
ISSUE FOR CONSTRUCTION

REVISION SCHEDULE

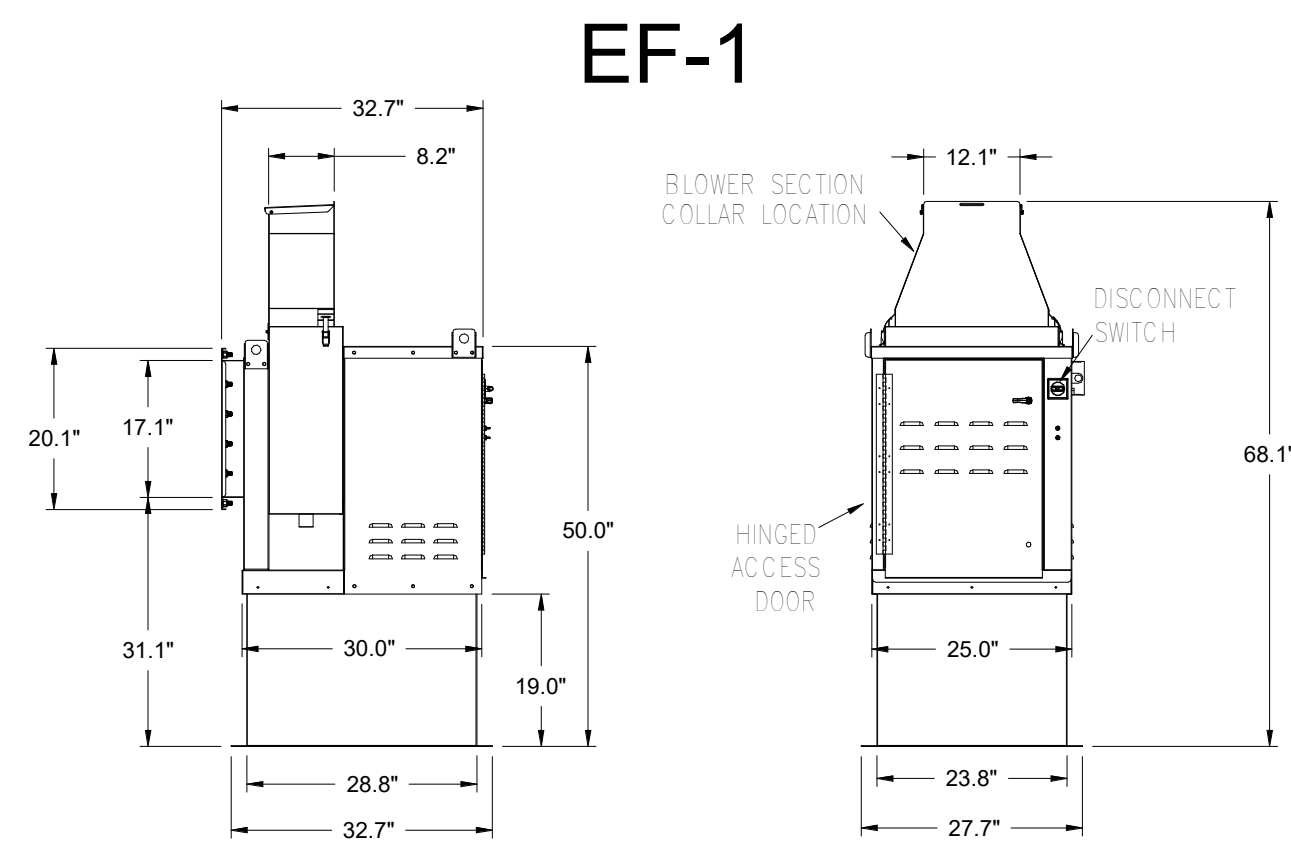
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 25006.CD.S
DATE 04/04/2025
DRAWN BY BLM

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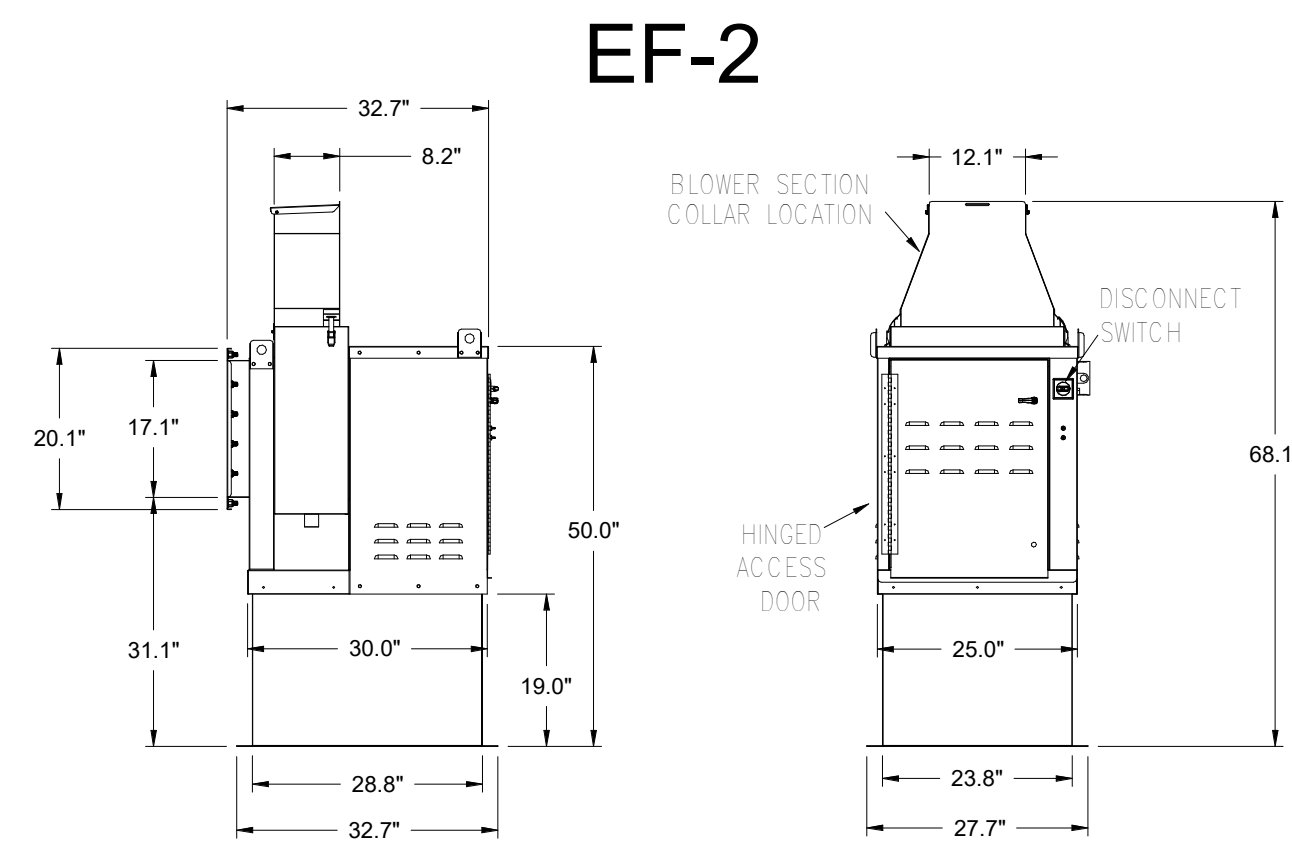
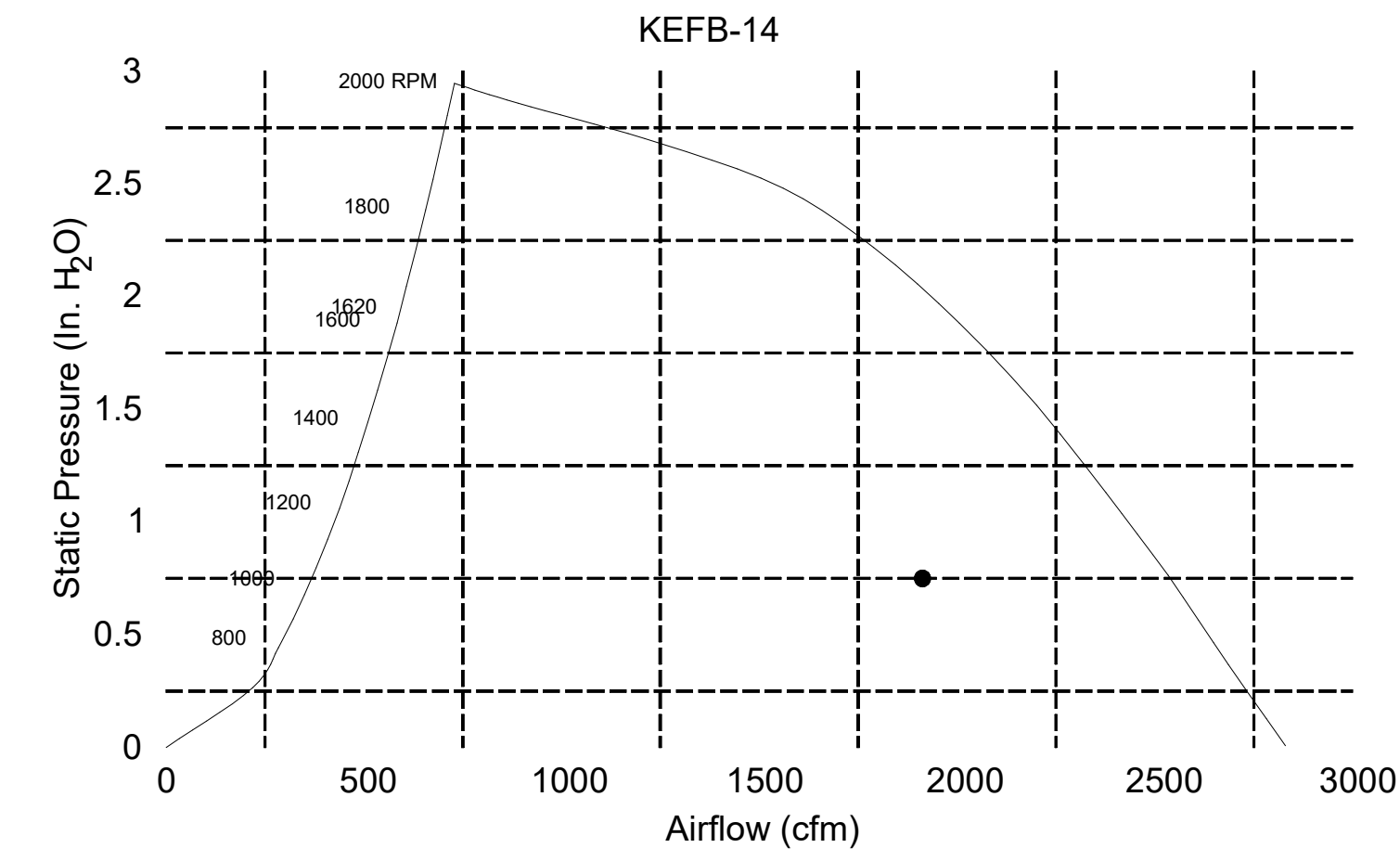
CONTROL WIRING DIAGRAMS - TRANE

M-701T



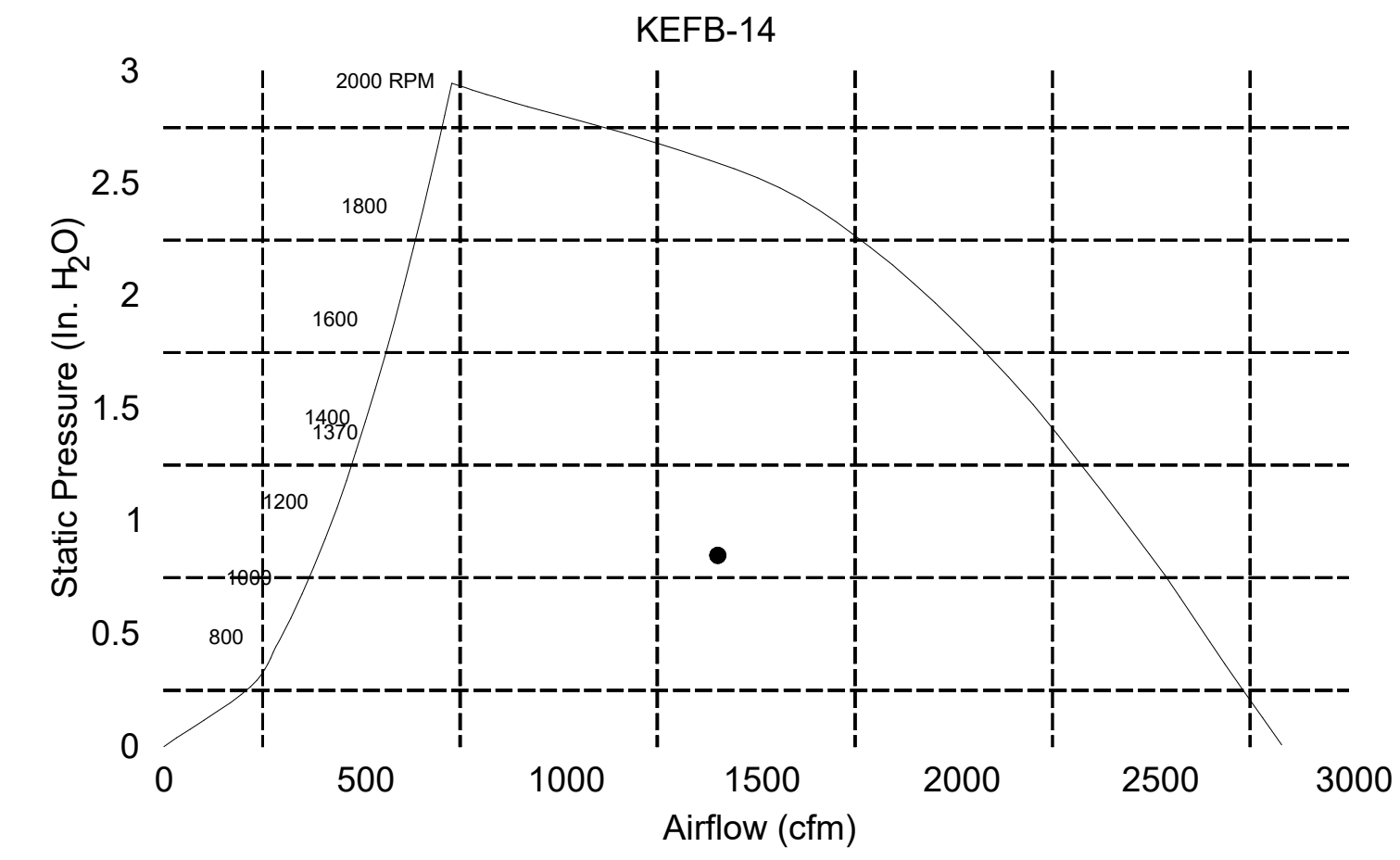
Halton KEFB Exhaust Fan

Job Name	Chick-fil-A	Item No	Qty	Fan RPM	Volts/Ph/Amps
Location	EF-1	KEFB-14	1,620	0.55	115/1/60
Date	1/26/2023	1.312	Fan BHP	0.55	Motor HP
Model		0.75	dB	85.3	TAB Port, in WC
Airflow, cfm					4.8
Static Pressure, in WC					



Halton KEFB Exhaust Fan

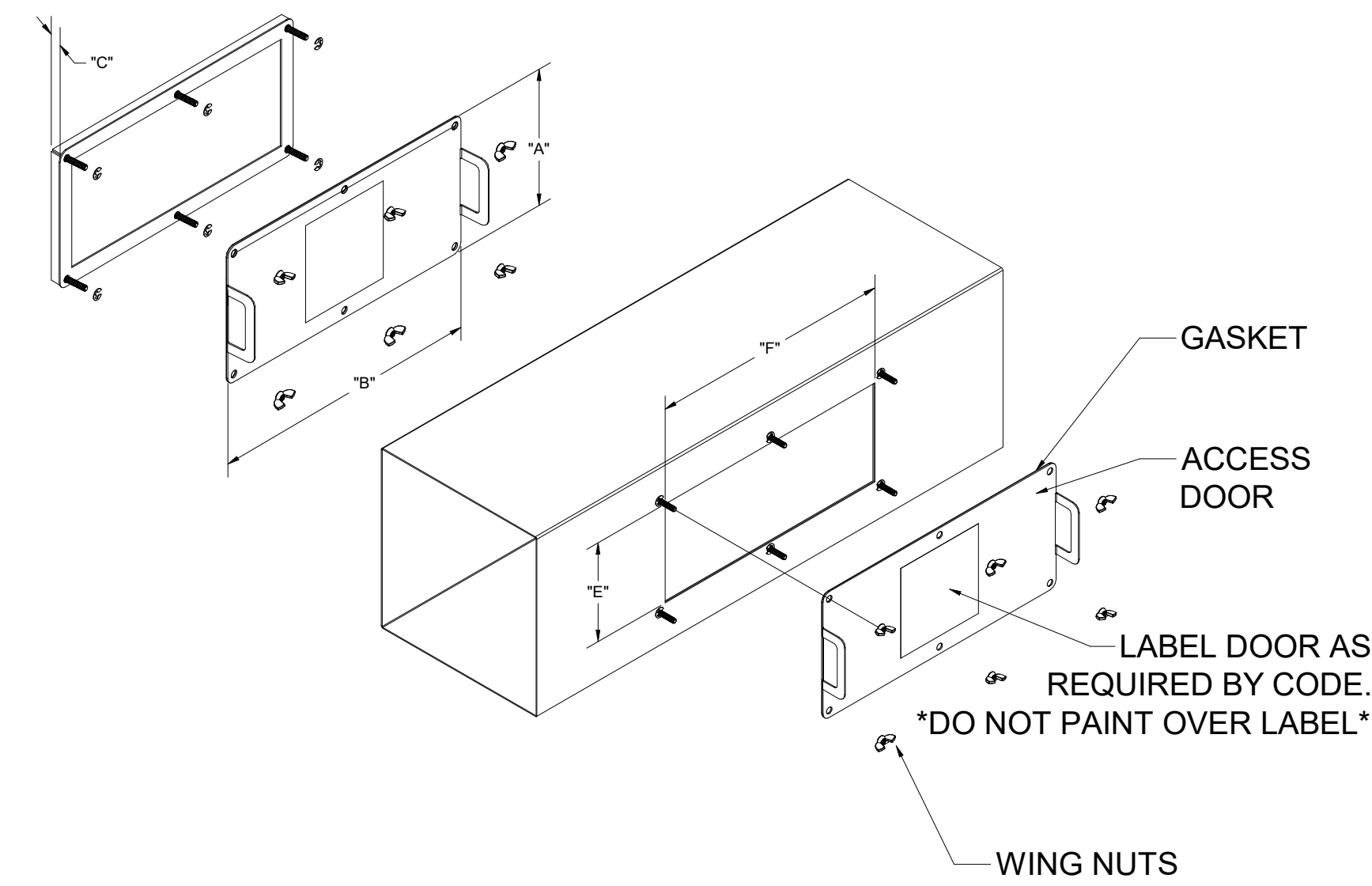
Job Name	Chick-fil-A	Item No	Qty	Fan RPM	Volts/Ph/Amps
Location	EF-2	KEFB-14	1,410	0.38	115/1/60
Date	1/26/2023	1.402	Fan BHP	0.38	Motor HP
Model		0.85	dB	81	TAB Port, in WC
Airflow, cfm					2.1
Static Pressure, in WC					



FOR REFERENCE ONLY

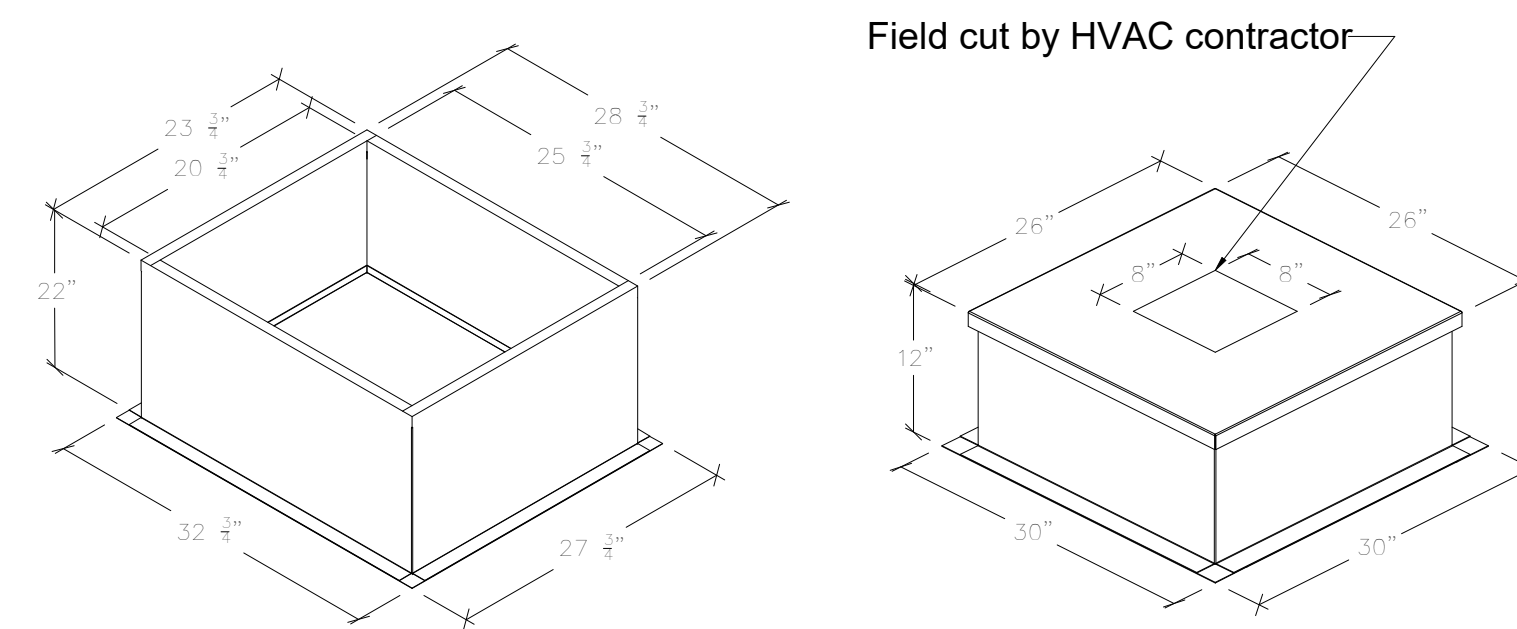
MODEL	DOOR SCHEDULE			OPENING SIZE	
	"A"	"B"	OPTIONAL FLANGE "C"	"E"	"F"
KAP0715	7	15	FLAT	5.5	13.5
KAP1015	10	15	1/2	7	12

ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOOR SHALL BE SEALED WITH A MINIMUM 1500 DEGREE GASKET MATERIAL.



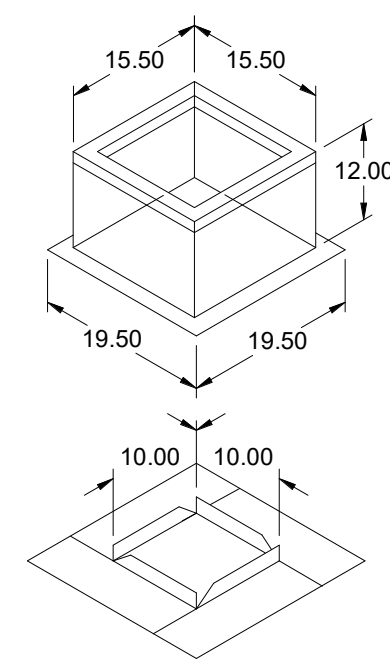
INSTALL PER MANUFACTURER'S INSTRUCTIONS

Halton Kitchen Exhaust Fan Curb Insulated Duct Curb



Kitchen Exhaust Fan Roof Curb
Standard Construction Features:
- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of 18 ga aluminumized steel - Straight Sided without a cant - 2 in. mounting flange - Height is 22 in.

Insulated Duct Curb
Standard Construction Features:
- Duct Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of 18 ga aluminumized steel - Straight Sided without a cant - 2 in. mounting flange - Height is 12 in. - 16 ga. cap



Model: GPI
For Model: XRED-090-G
Curb & Damper Tray

Accessories				
Material	Security Bars	Liner	Insulation (in.)	Insulation R Value
Galvanized	No	No	1	R4.3

General						
Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb)	Shipped Assembled
EF-3	1	GPI-17	Nominal	1.5	14	Yes

Dimensions										
Curb Height (in.)	Nominal Width (in.)	Nominal Length (in.)	Actual Outside Width (in.)	Actual Outside Length (in.)	Actual Inside Width (in.)	Actual Inside Length (in.)	Flange Width (in.)	Flange Length (in.)	Hinge Base Length (in.)	Hinge Base Width (in.)
12	17	17	15.5	15.5	12	12	19.5	16		

*May not be applicable

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

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

NOTE TO APPROVER:
ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

APPROVED FOR FABRICATION WITH NO CHANGES WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

WEBSITE: www.halton.com	HALTON CO. (USA) 101 INDUSTRIAL DRIVE SCOTTSDALE, AZ 85257-5800
REVISION DESCRIPTION	DATE
BY SKK	06.27.23
BY SKK	08.28.23
BY SKK	02.02.24
BY SKK	05.16.24
BY SKK	07.26.24

PROJECT: CHICK-FIL-A P14 NAME

LOCATION: -- DATE: 05.23.24

DRAWN BY: SKK

SCALE: NOT TO SCALE

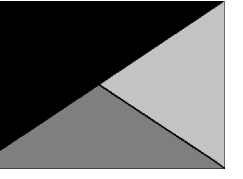
DRAWING No.: U24-672

SHEET NO.: MH-1.4

Halton



Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998



Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203



4/4/25

CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
4904 E 10TH ST
SIOUX FALLS, SD 57110

FSR#05880

BUILDING TYPE / SIZE: P14 LE BASE
RELEASE: 24.11
PRINTED FOR:
ISSUE FOR CONSTRUCTION

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

ISSUE FOR CONSTRUCTION

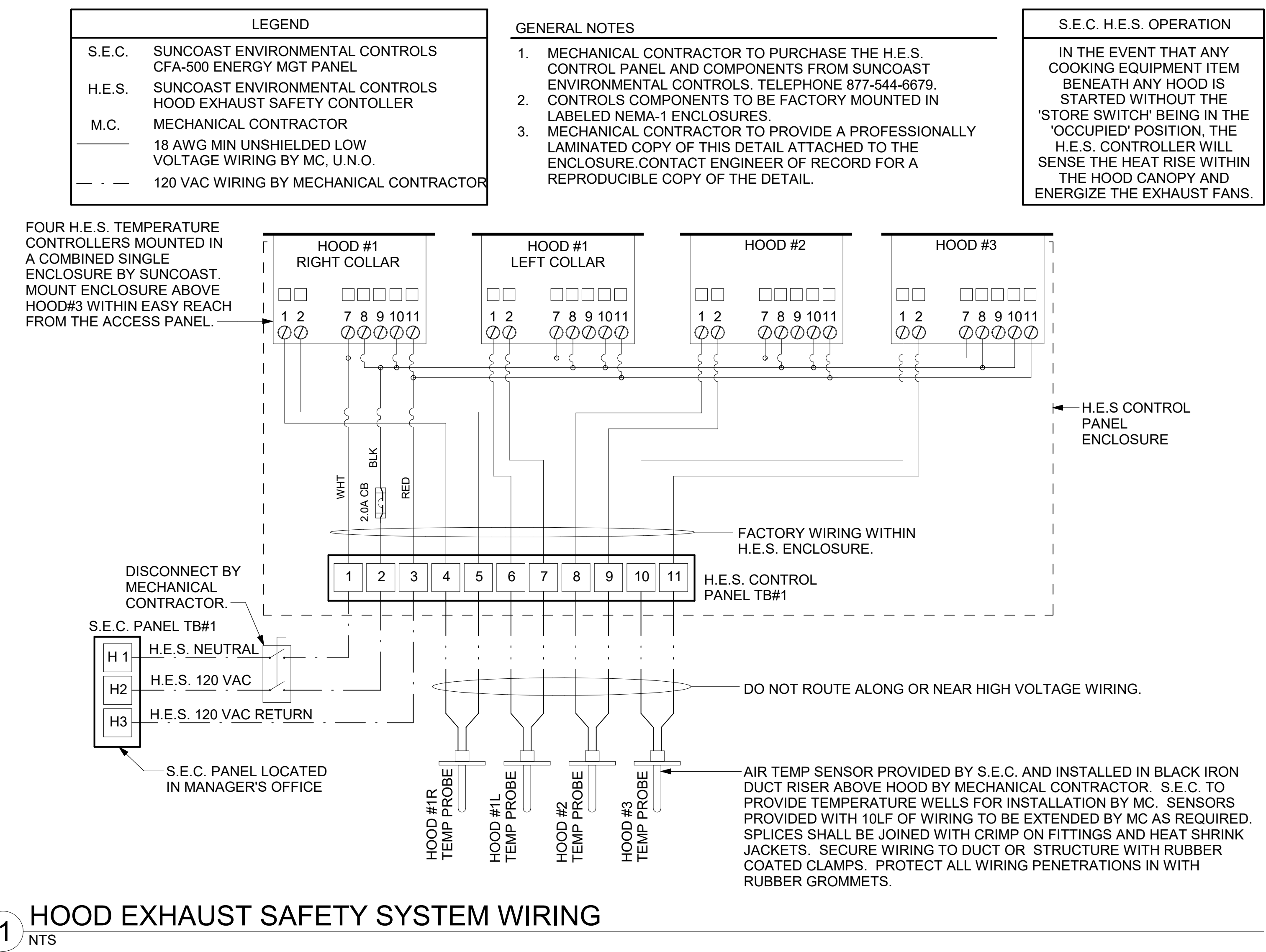
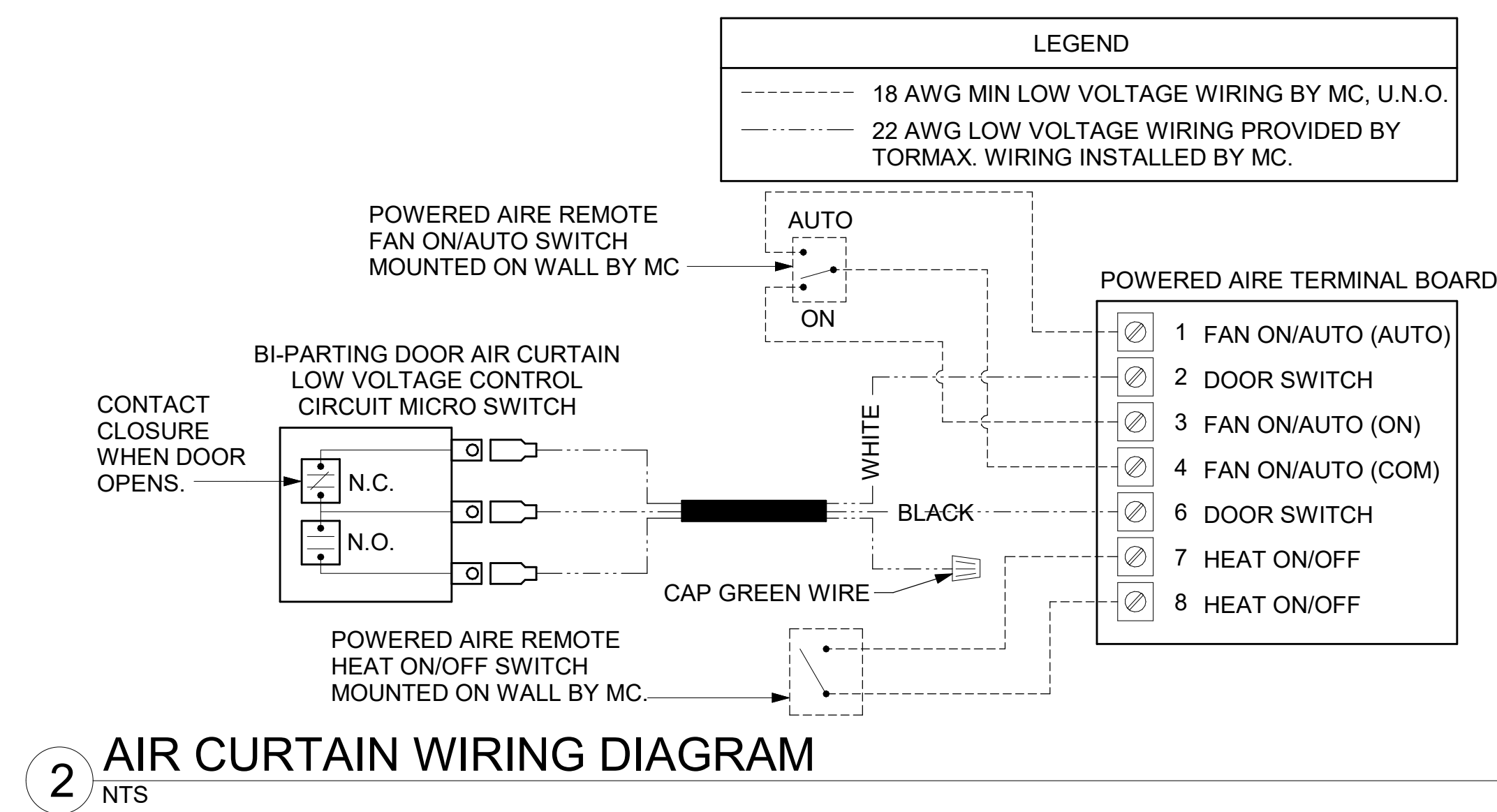
CONSULTANT PROJECT # 25006.CD.S
DATE 04/04/2025
DRAWN BY BLM

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SHEET CONTROL WIRING DIAGRAMS

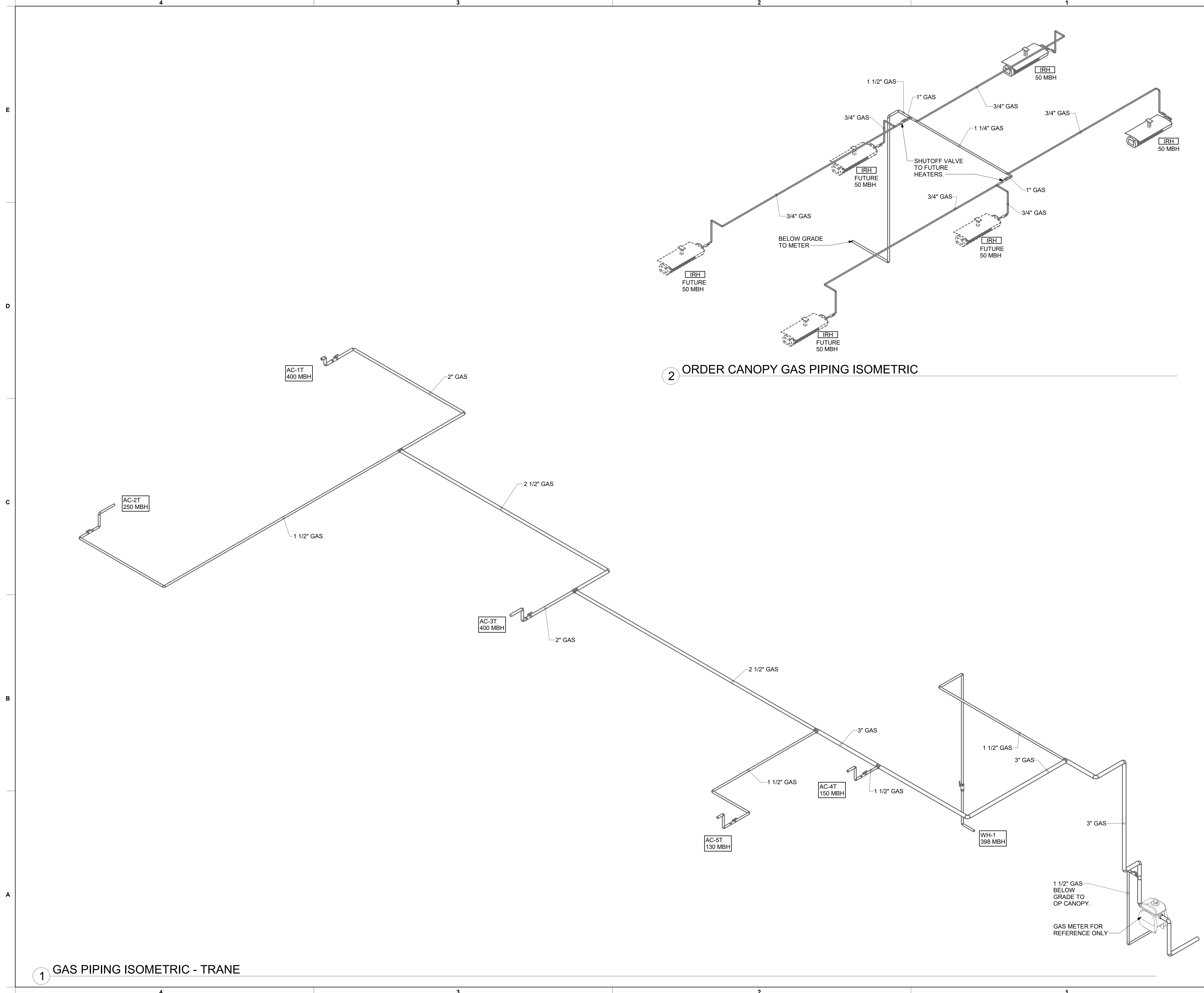
SHEET NUMBER

M-702



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4/2/2025 10:45:38 AM
30-LE-05880-M-702-CONTROL WIRING DIAGRAMS

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4/2/2025 10:45:40 AM
30-LE-05880-M-901T-GAS PIPING ISOMETRICS - TRANE



1 GAS PIPING ISOMETRIC - TRANE

2 ORDER CANOPY GAS PIPING ISOMETRIC



Chick-fil-A
Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
 2705 Lebanon Pike - Suite One
 Nashville, Tennessee 37214
 Telephone: (615) 255-5203



CHICK-FIL-A
EAST SIOUX FALLS (SD)
FSU
4904 E 10TH ST
SIOUX FALLS, SD 57110

FSR#05880
 BUILDING TYPE / SIZE: P14 LE BASE
 RELEASE: 24.11
 PRINTED FOR:
 ISSUE FOR CONSTRUCTION

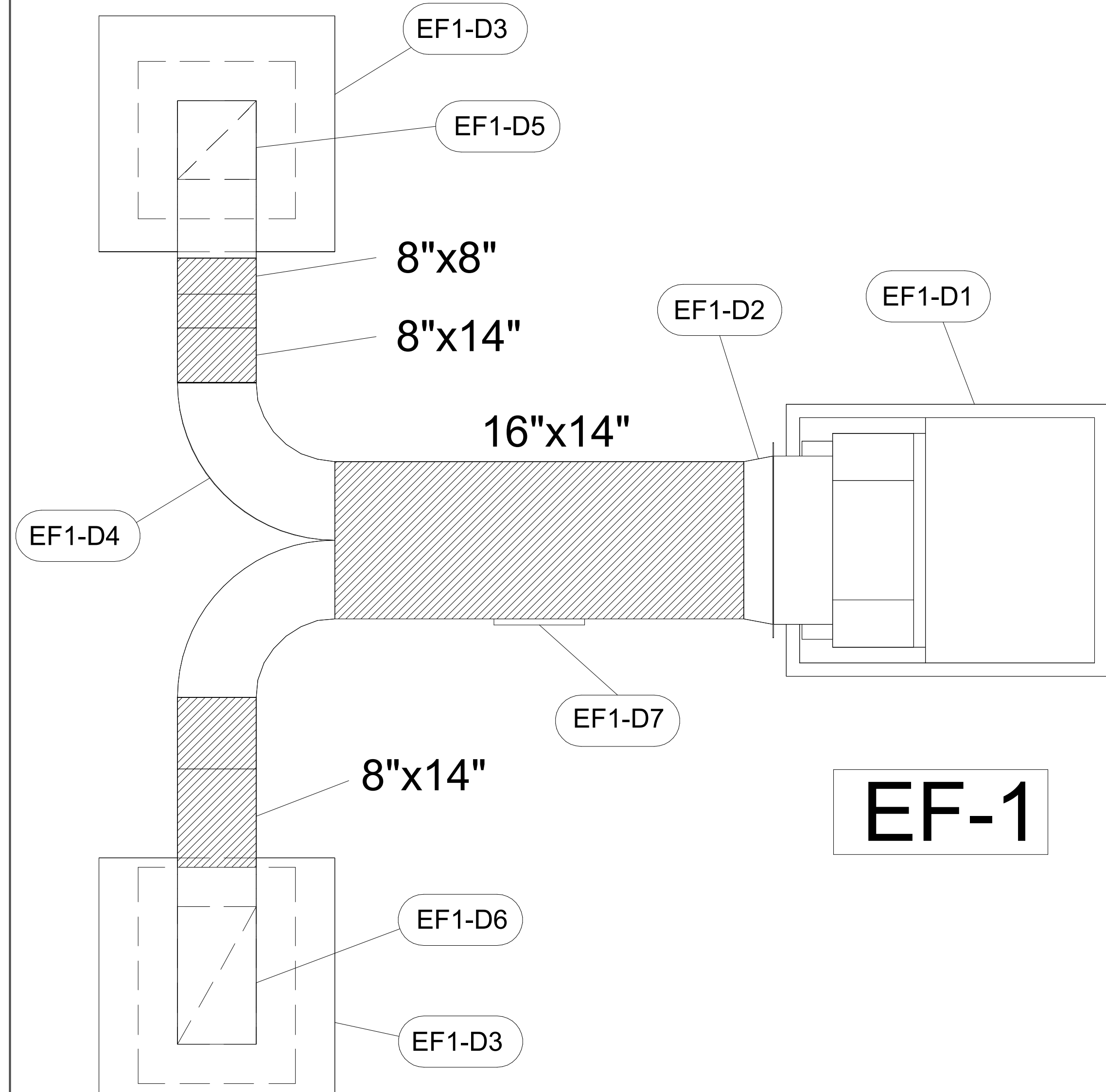
REVISION SCHEDULE

NO.	DATE	DESCRIPTION

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT #	25006.CD.S
DATE	04/04/2025
DRAWN BY	BLM

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 SHEET: GAS PIPING ISOMETRICS - TRANE
 SHEET NUMBER: **M-901T**



EF-1

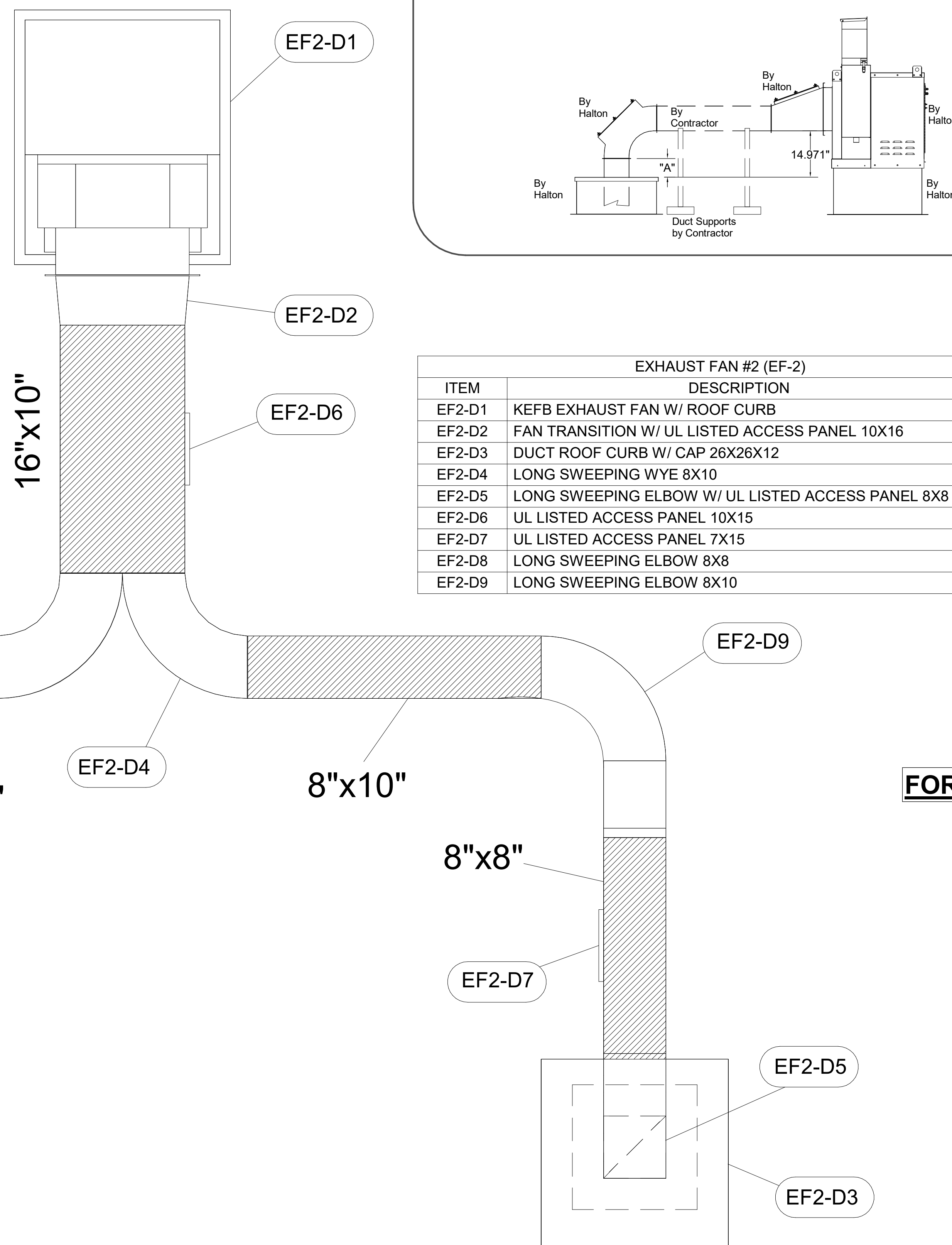
EXHAUST FAN #1 (EF-1)		
ITEM	DESCRIPTION	QTY
EF1-D1	KEFB EXHAUST FAN W/ ROOF CURB	1
EF1-D2	FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X16	1
EF1-D3	DUCT ROOF CURB W/ CAP 26X26X12	2
EF1-D4	LONG SWEEPING STRAIGHT WYE 14X8	1
EF1-D5	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 8X8	1
EF1-D6	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8	1
EF1-D7	UL LISTED ACCESS PANEL 10X15	1

ALL DUCTS AND FITTINGS DEPICTED BY HATCH AREAS ARE BY HVAC CONTRACTOR.

-CONTACT HALTON CUSTOMER SERVICE FOR HALTON PROVIDED ITEMS. ONLY DUCT SECTIONS SPECIFIED BY NUMBERS AND SHOWN IN THE ABOVE CHART ARE PROVIDED BY HALTON

-ALL OTHER DUCTS AND FITTINGS BY HVAC CONTRACTOR. DUCT SECTIONS PROVIDED BY HVAC CONTRACTOR ARE SHOWN IN ORDER TO DEPICT TOTAL SYSTEM DESIGN. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.

EF-2



EXHAUST FAN #2 (EF-2)		
ITEM	DESCRIPTION	QTY
EF2-D1	KEFB EXHAUST FAN W/ ROOF CURB	1
EF2-D2	FAN TRANSITION W/ UL LISTED ACCESS PANEL 10X16	1
EF2-D3	DUCT ROOF CURB W/ CAP 26X26X12	2
EF2-D4	LONG SWEEPING WYE 8X10	1
EF2-D5	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 8X8	2
EF2-D6	UL LISTED ACCESS PANEL 10X15	1
EF2-D7	UL LISTED ACCESS PANEL 7X15	2
EF2-D8	LONG SWEEPING ELBOW 8X8	1
EF2-D9	LONG SWEEPING ELBOW 8X10	1

TRANSITION		"H"	"W"	"L"
EF-1	⑤	14	16	17
EF-2	⑥	10	16	17

QTY	"H"	"W"	"A"	Ro	Rc	Ri
EF-1	1	14	8	29	28	21
EF-1	1	8	8	17	16	12
EF-2	2	8	8	17	16	12

"W"	"H"	Wo	Ro	Rc	Ri	"A"	"B"
EF-1	8	14	16	16	12	8	34
EF-2	8	10	16	16	12	8	34

"H"	"W"	"A"	Ro	Rc	Ri
EF-2	8	8	17	16	12
EF-2	8	10	17	16	12

"H"	"W"	"A"	Ro	Rc	Ri
EF-1	14X8	8			
EF-2	8X8	10			

"A" DISTANCE AVAILABLE FOR DUCT SLOPE

CONTRACTOR TO TRIM AS NEEDED TO ACCOMMODATE DUCT SLOPE. ALL ELBOWS WITH ACCESS PANELS. BOTH EF-1 AND EF-2

FOR REFERENCE ONLY

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

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

NOTE TO APPROVER:
 ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

REVISE AND RESUBMIT
 APPROVED FOR FABRICATION
 WITH NO CHANGES
 WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____



REV.	DESCRIPTION	DATE
1	CREATED HOOD BLOCKS	06.27.23
2	SHEET LAYOUT	08.28.23
3	NO CHANGE	02.02.24
4	ADDED GREASE CUPS	05.16.24
5	ADDED 1.5 GAL TANK TO ANSUL SYSTEM	07.26.24

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (CANADA) 1021 BREVIK PLACE MISSISSAUGA, ON L4W 3R7 1-800-624-0301	WEBSITE: www.halton.com HALTON CO. (USA) 101 INDUSTRIAL DRIVE SCOTTSDALE, AZ 85257-1604 1-270-237-5800
--	---

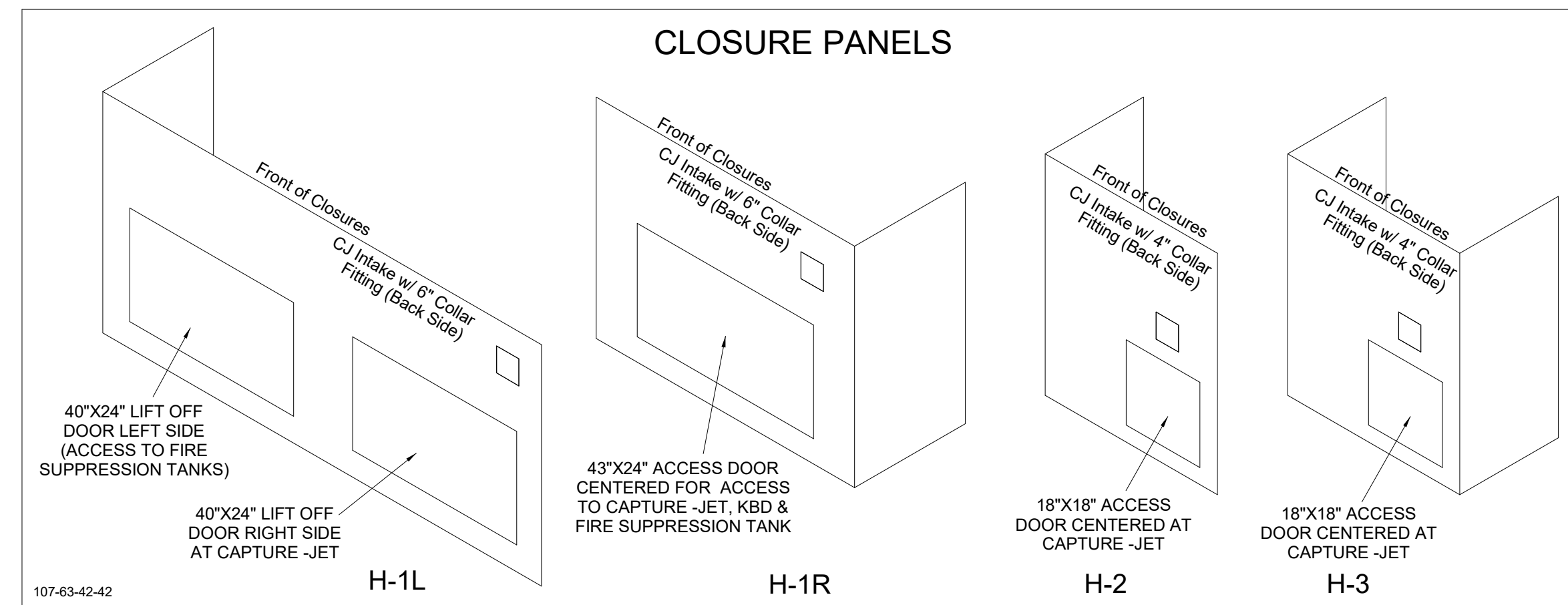
PROJECT: CHICK-FIL-A P14
 NAME

LOCATION: -- DATE: 05.23.24
 DRAWN BY: SKK
 SCALE: NOT TO SCALE

DRAWING No.: **U24-672**
 SHEET No.: **MH-1.5**

HOOD MODEL	HOOD NUMBER	EXHAUST COLLAR			EXHAUST AIR INFORMATION			CAPTURE AIR INFORMATION		S.S. KSA FILTERS		LED LIGHTS	QTY	CEILING CLOSURES		KBD DAMPER	K FACTOR (CFM = K FACTOR * √DP)	MATERIAL
		QTY	LENGTH	WIDTH	CFM	TAB	SP	CFM	SP	FULL	HALF			CLOSURE HEIGHT	CEILING HEIGHT			
KVL-2-IC	H-1L	1	14"	8"	1204	0.13"	0.22"	80	0.30"	5	-	3	2	51"	122"	*	3369	ALL 18 GA 430 S.S.
KVL-2-IC	H-1R	1	8"	8"	709	0.13"	0.23"	47	0.30"	3	-	2	2					
KVL-C-IC	H-2	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1	2					
KVL-C-IC	H-3	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1	3					

FOR REFERENCE ONLY

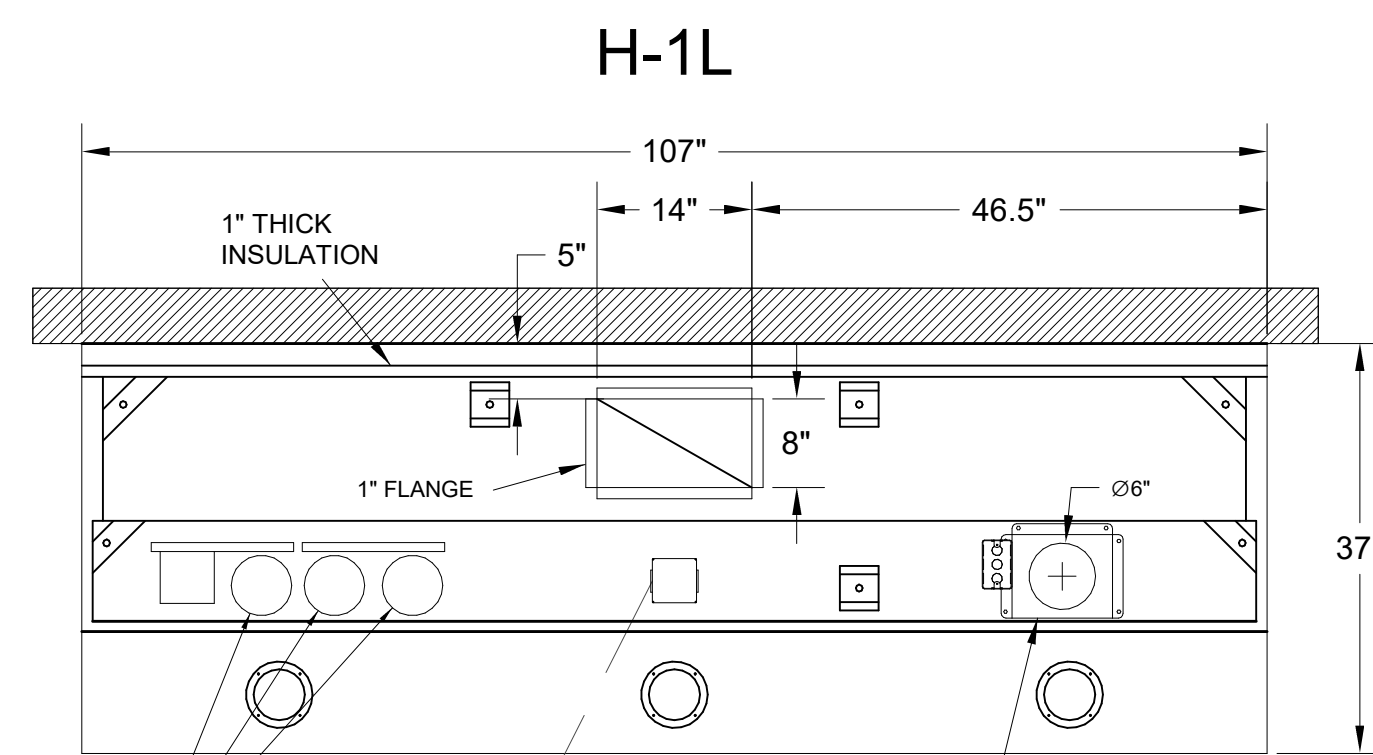
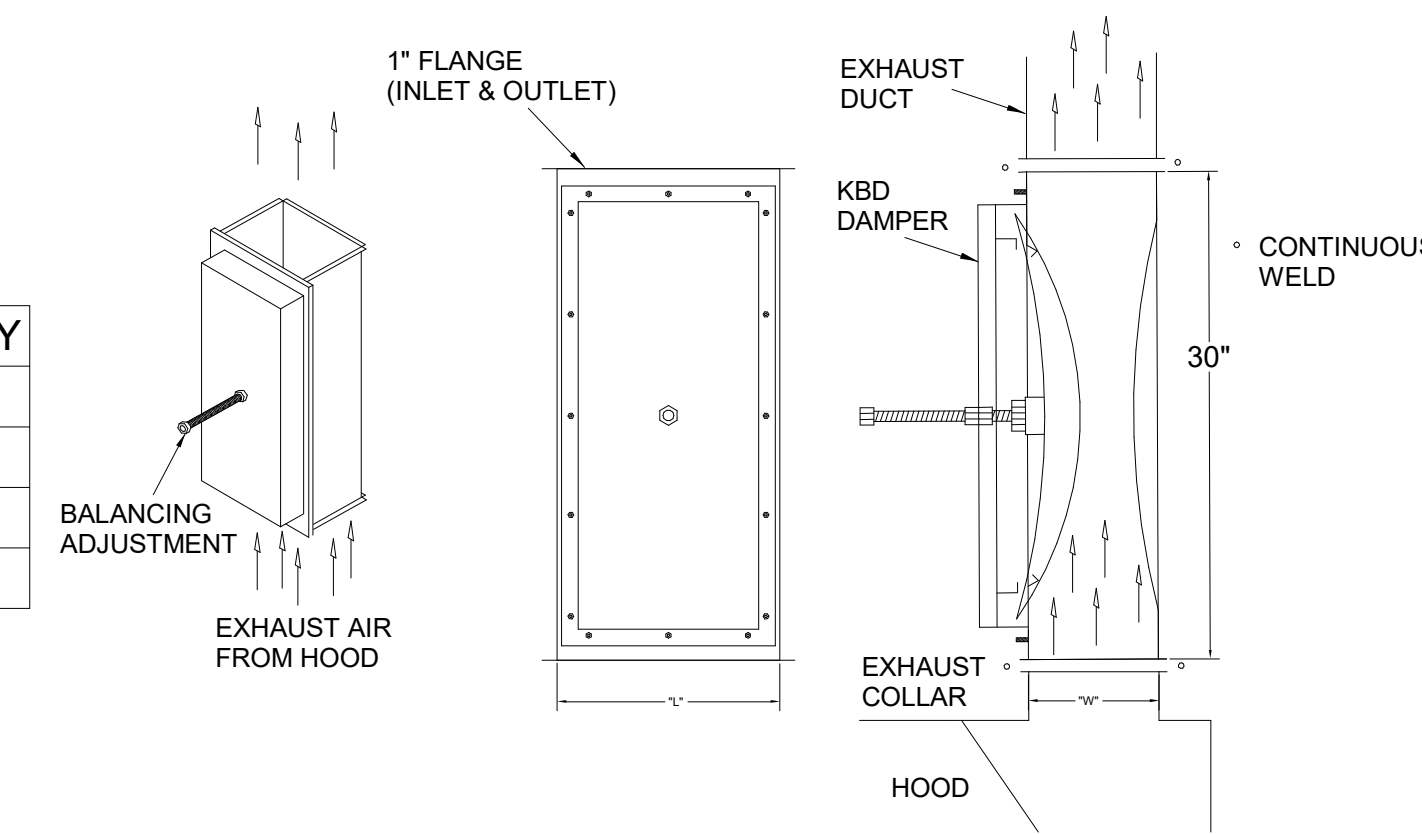


**MODEL:KBD
CALIBRATED KBDs
KITCHEN BALANCING DAMPER**

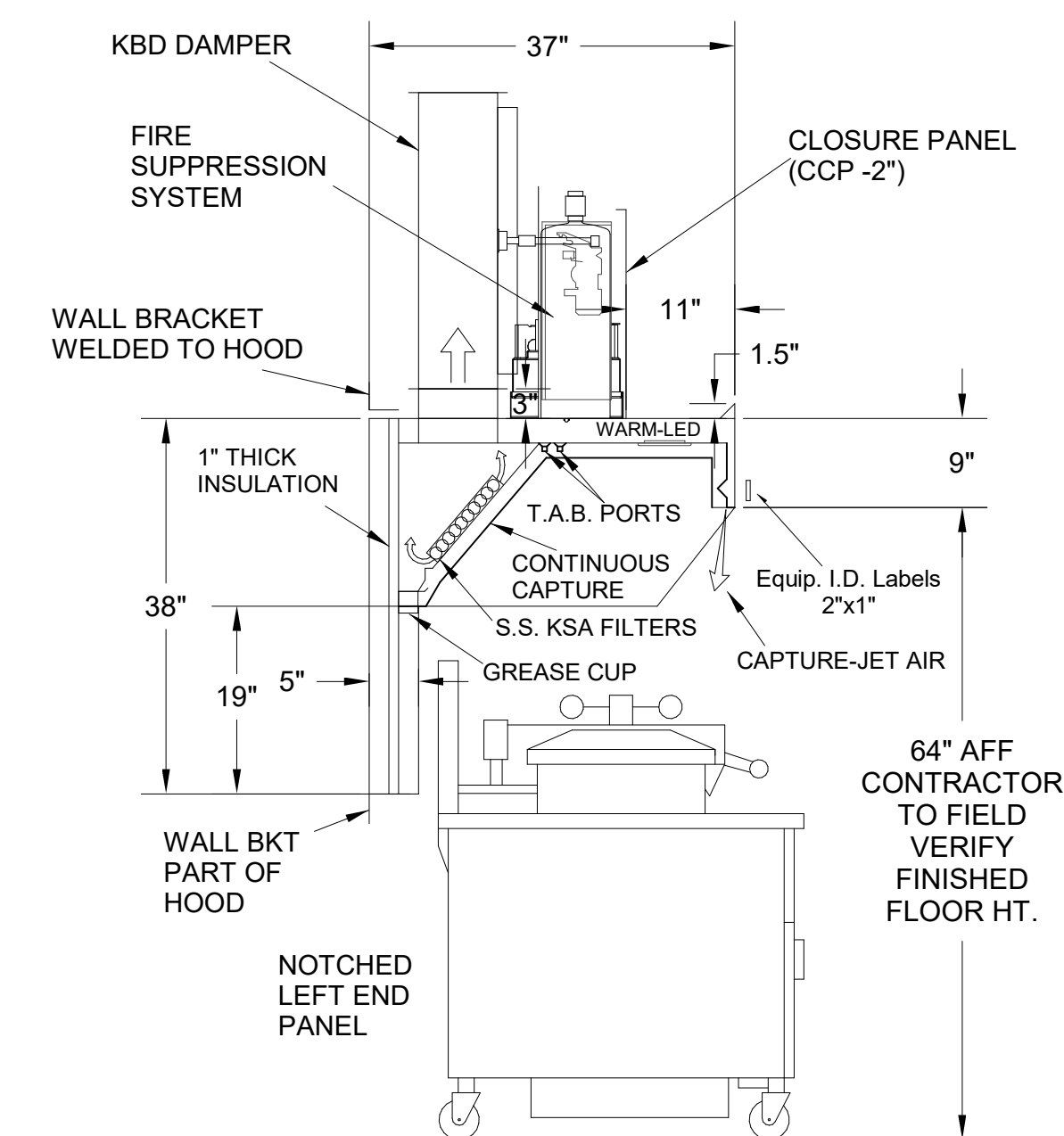
EXHAUST VOLUME DAMPER

TAG	"L"	"W"	QUANTITY
H-1L	14"	8"	1
H-1R	8"	8"	1
H-2	8"	8"	1
H-3	8"	8"	1

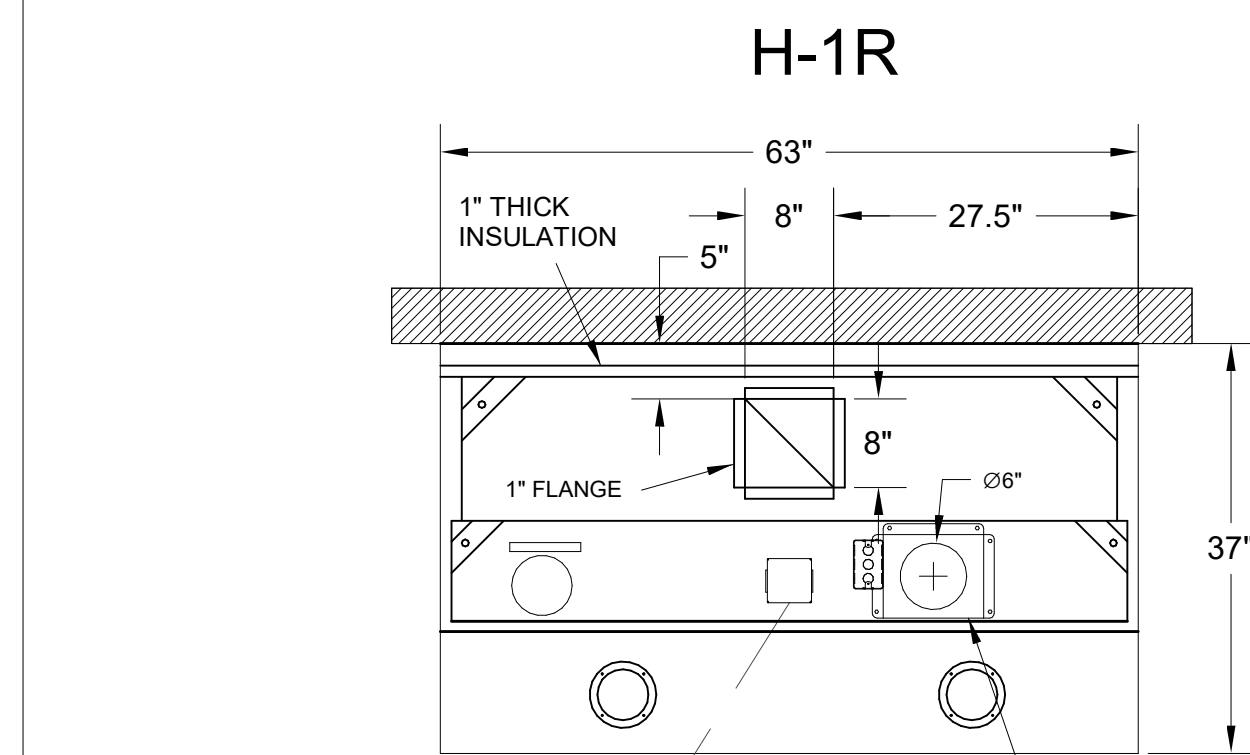
MATERIAL: FRAME - 16GA CONT.
GALV. ADJUSTABLE PANEL 18GA S.S.



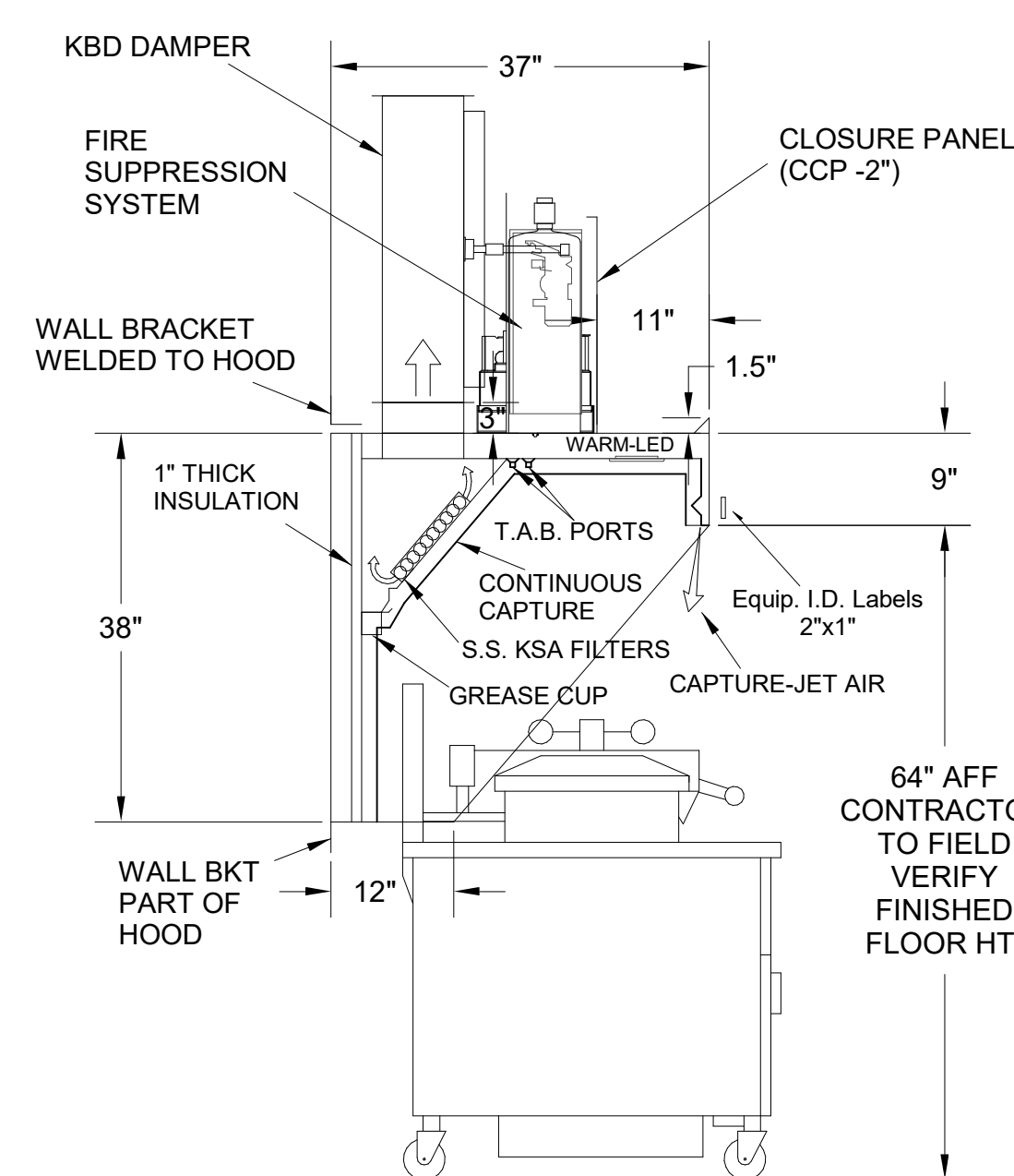
PLAN VIEW



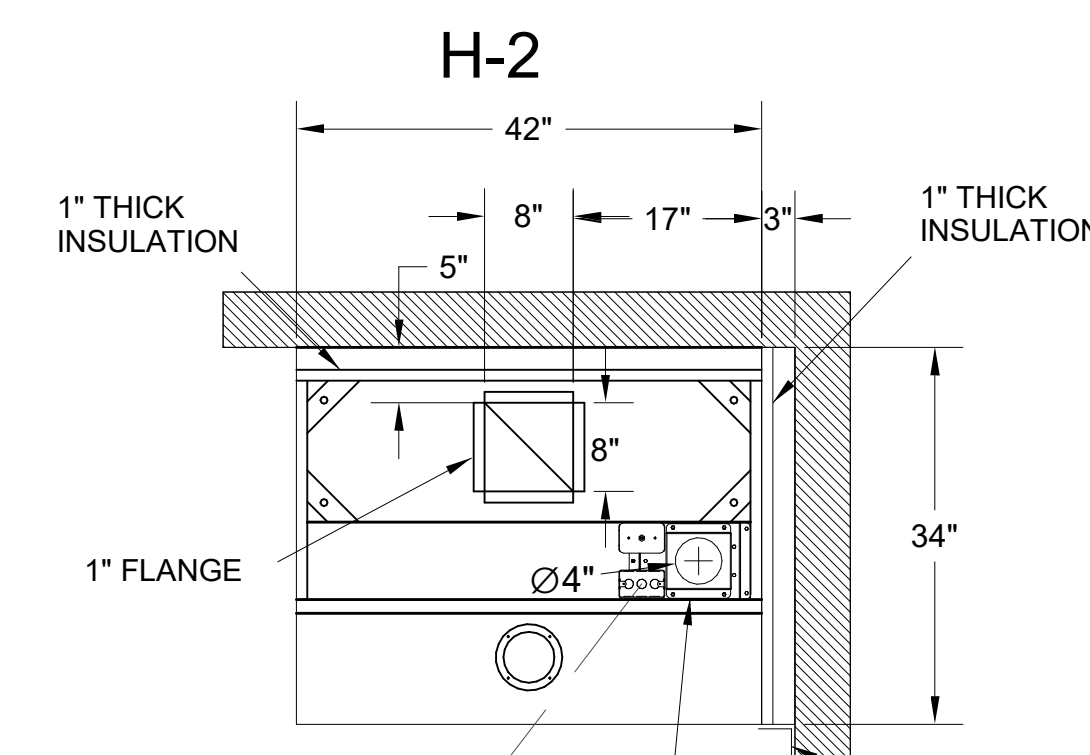
H-1L SECTION VIEW



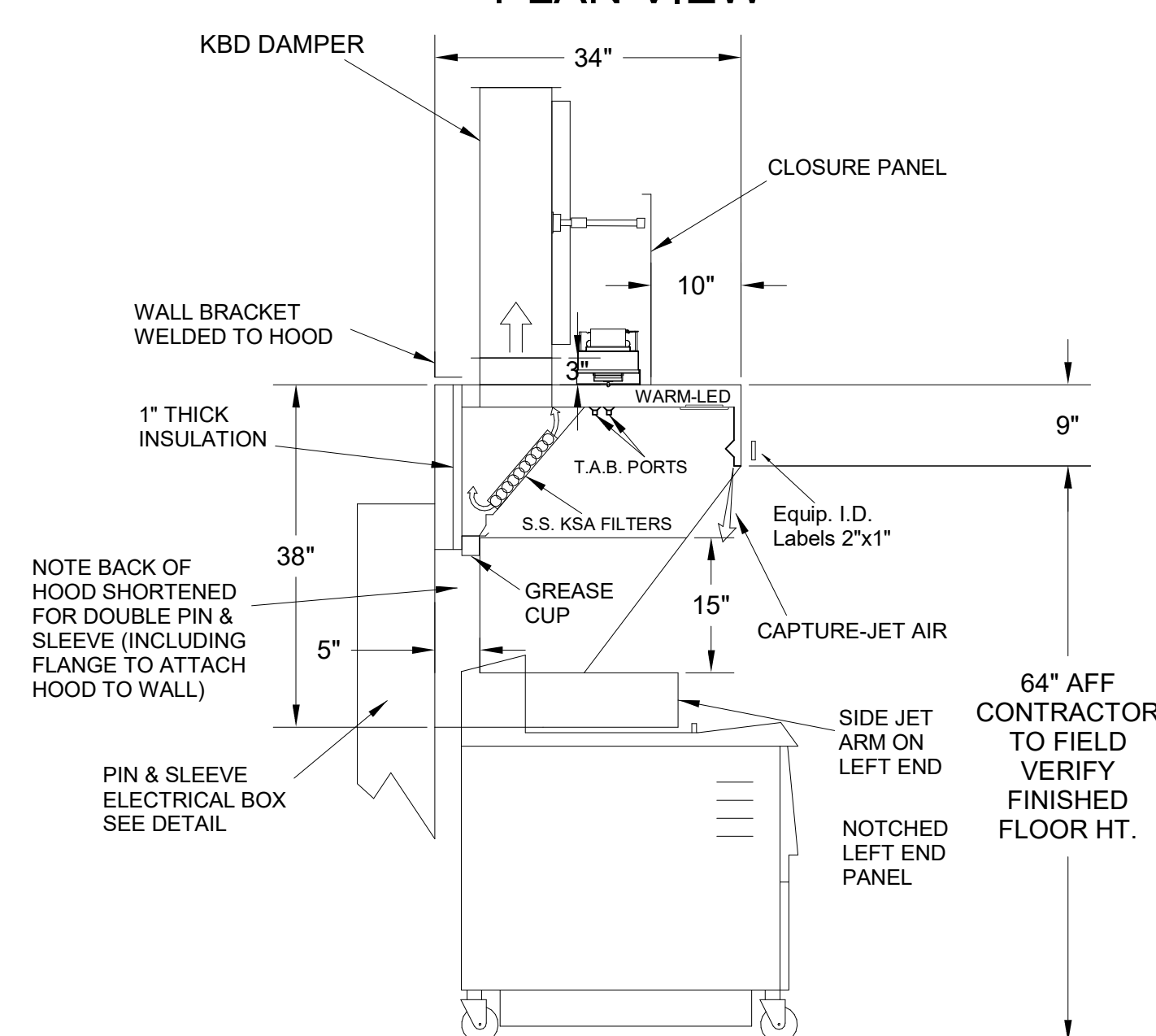
PLAN VIEW



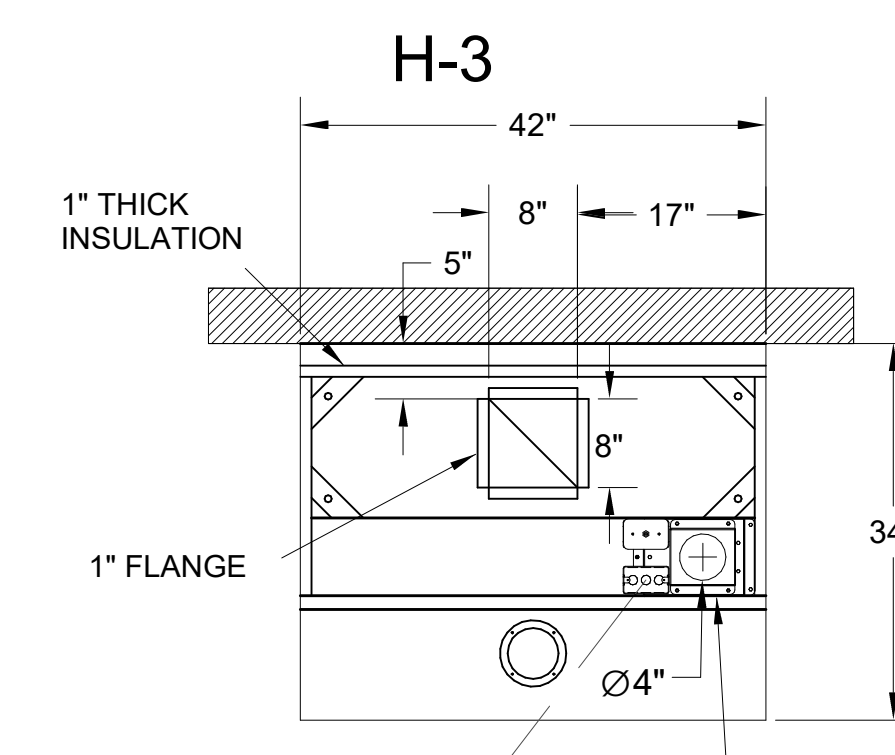
H-1R SECTION VIEW



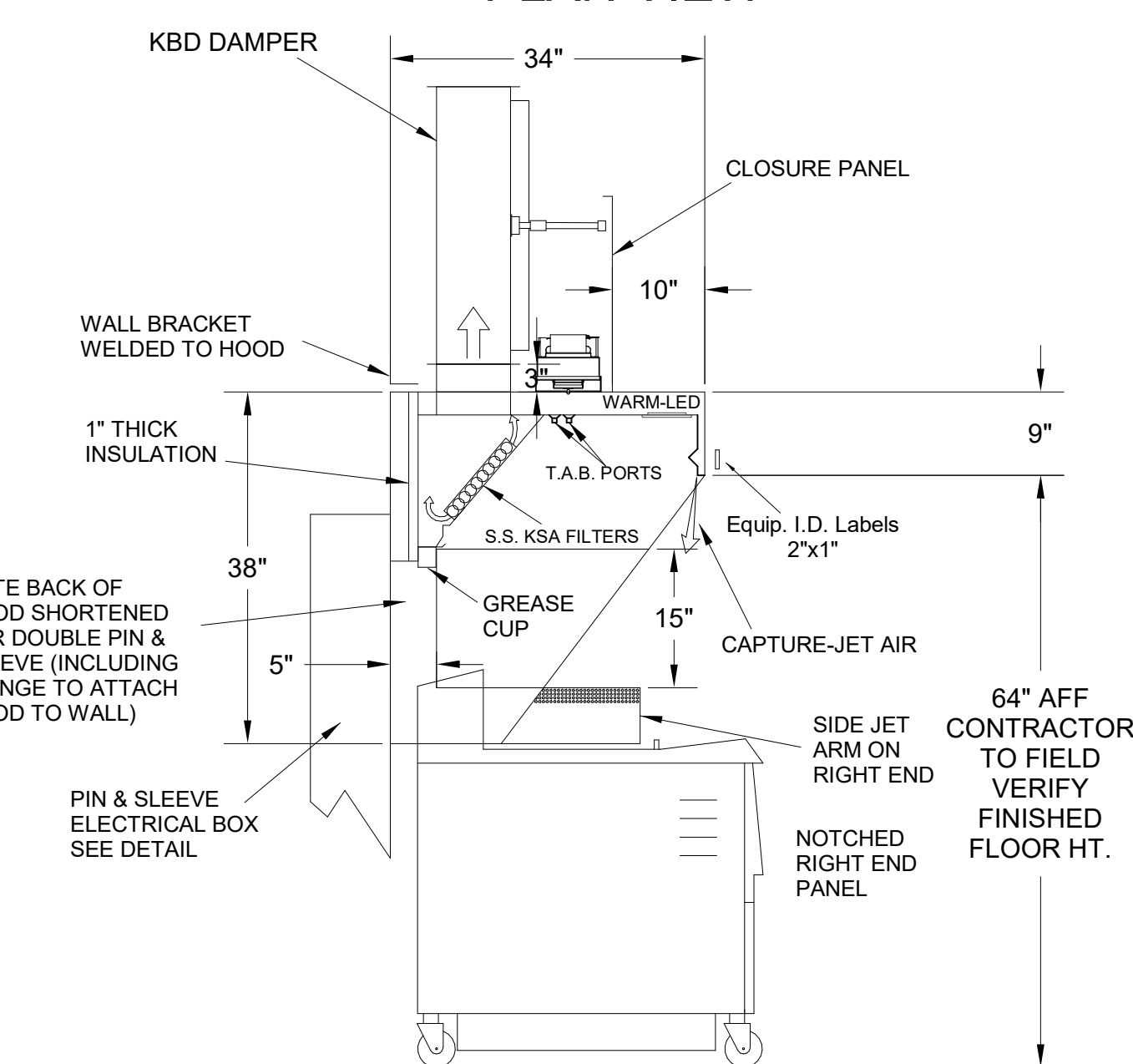
PLAN VIEW



H-2 SECTION VIEW

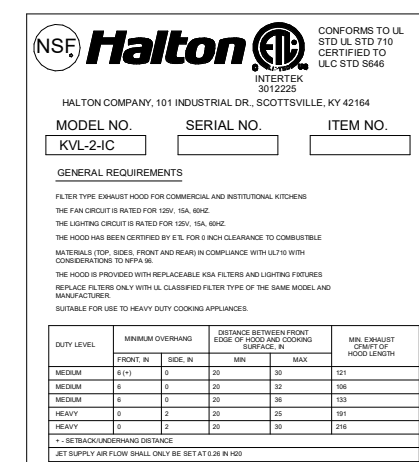


PLAN VIEW

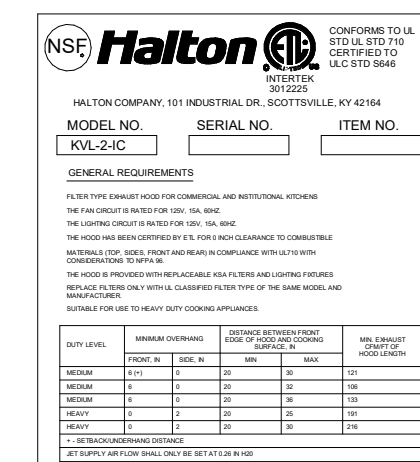


H-3 SECTION VIEW

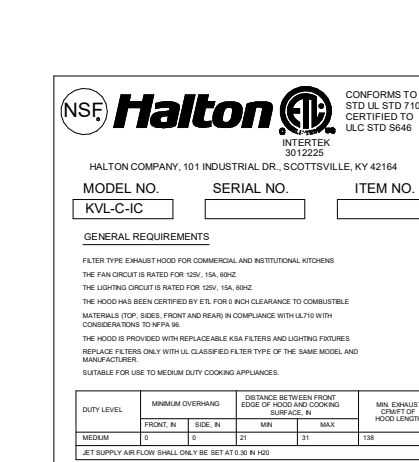
- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 40"x24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION)
- 40"x24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET WITH FRONT CJ INTAKE
- CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- NOTCHED LEFT END PANEL
- GREASE CUP RIGHT END
- ANSUL WEIGHT = 328 LBS
- AMEREX WEIGHT = 264 LBS



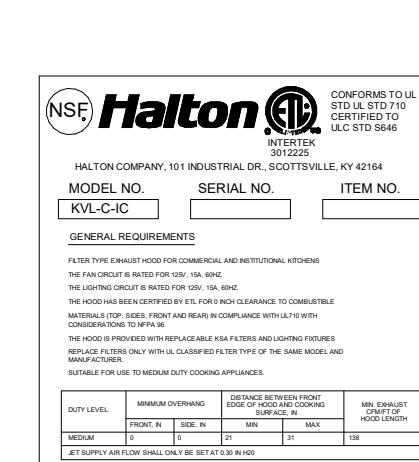
- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 43"x24" ACCESS DOOR FOR ACCESS TO CAPTURE-JET AND FIRE SUPPRESSION
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- GREASE CUP RIGHT END



- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED LEFT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3"x3" TRIM STRIP FOR STANDOFF ON RIGHT END
- 3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION
- GREASE CUP RIGHT END



- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED RIGHT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- GREASE CUP RIGHT END



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

1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS
2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER:
ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

REVISION AND RESUBMIT

APPROVED FOR FABRICATION

WITH NO CHANGES

WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____



REV.	DESCRIPTION	DATE	BY
1	CREATED HOOD BLOCKS	06.27.23	SKK
2	SHEET LAYOUT	08.28.23	SKK
3	NO CHANGE	02.02.24	SKK
4	ADDED GREASE CUPS	05.16.24	SKK
5	ADDED 1.5 GAL TANK TO ANSUL SYSTEM	07.26.24	SKK

WEBSITE: www.halton.com

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSDALE, AZ 85254

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7

PROJECT: CHICK-FIL-A P14 NAME

LOCATION: -- DATE: 05.23.24

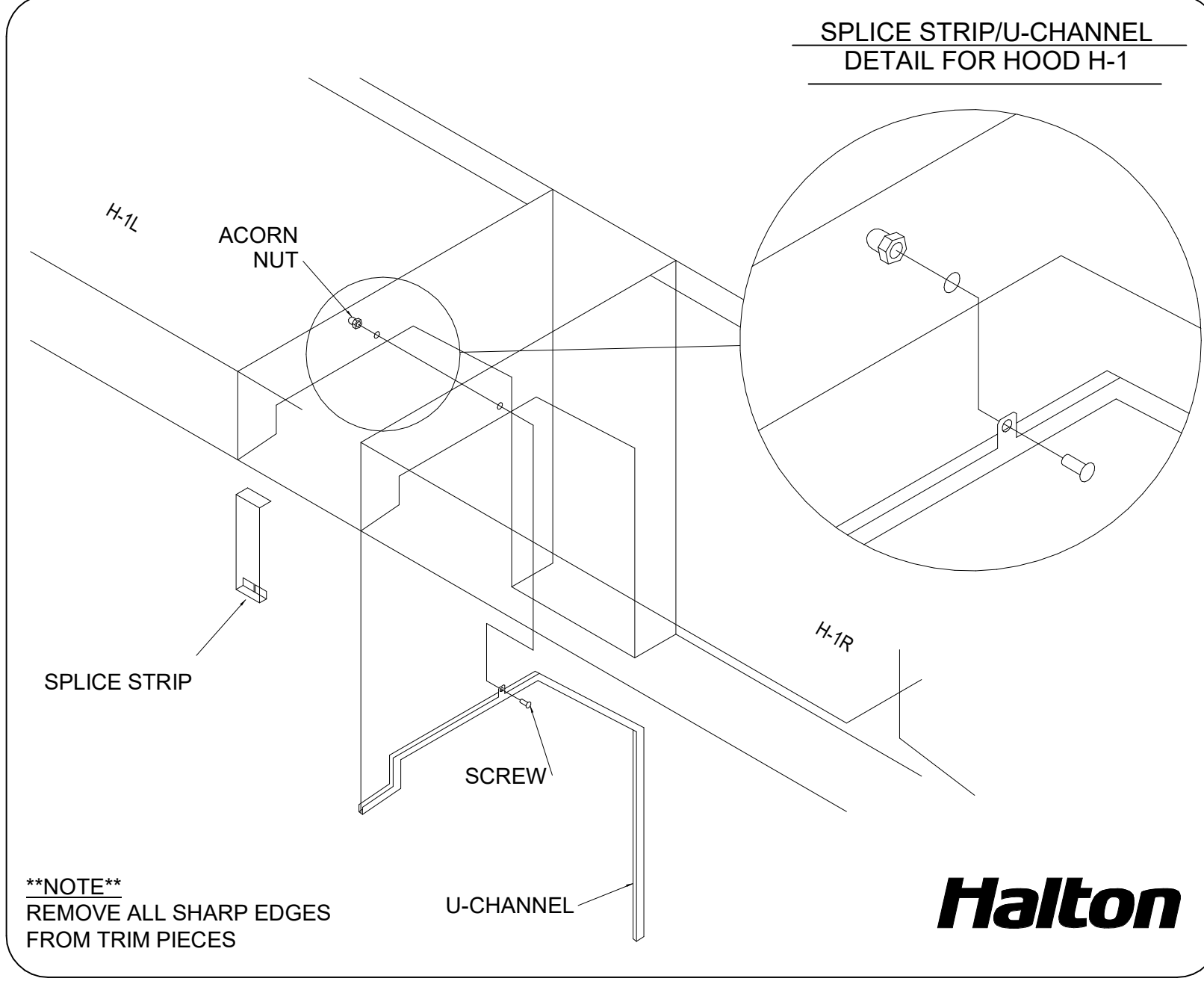
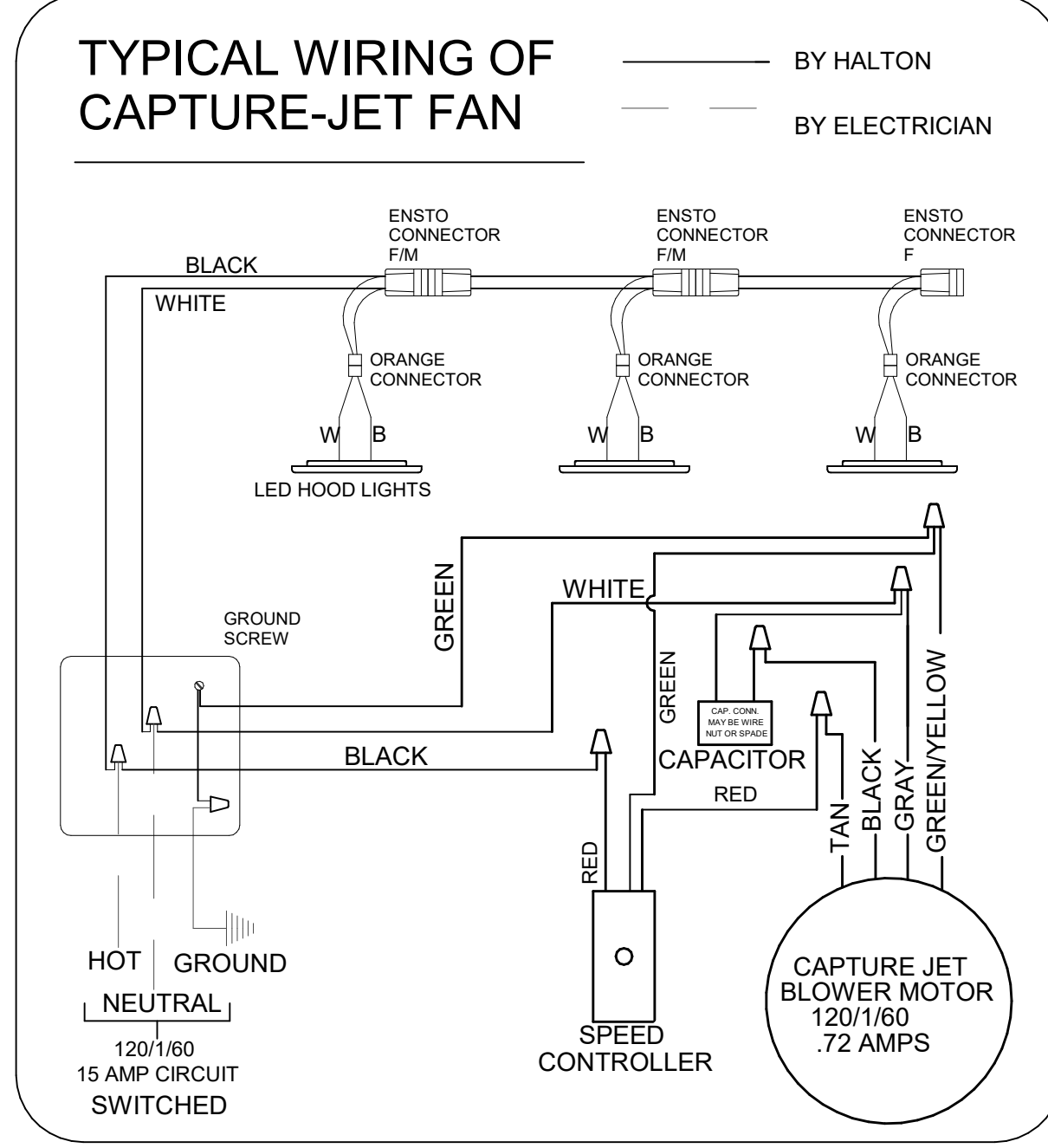
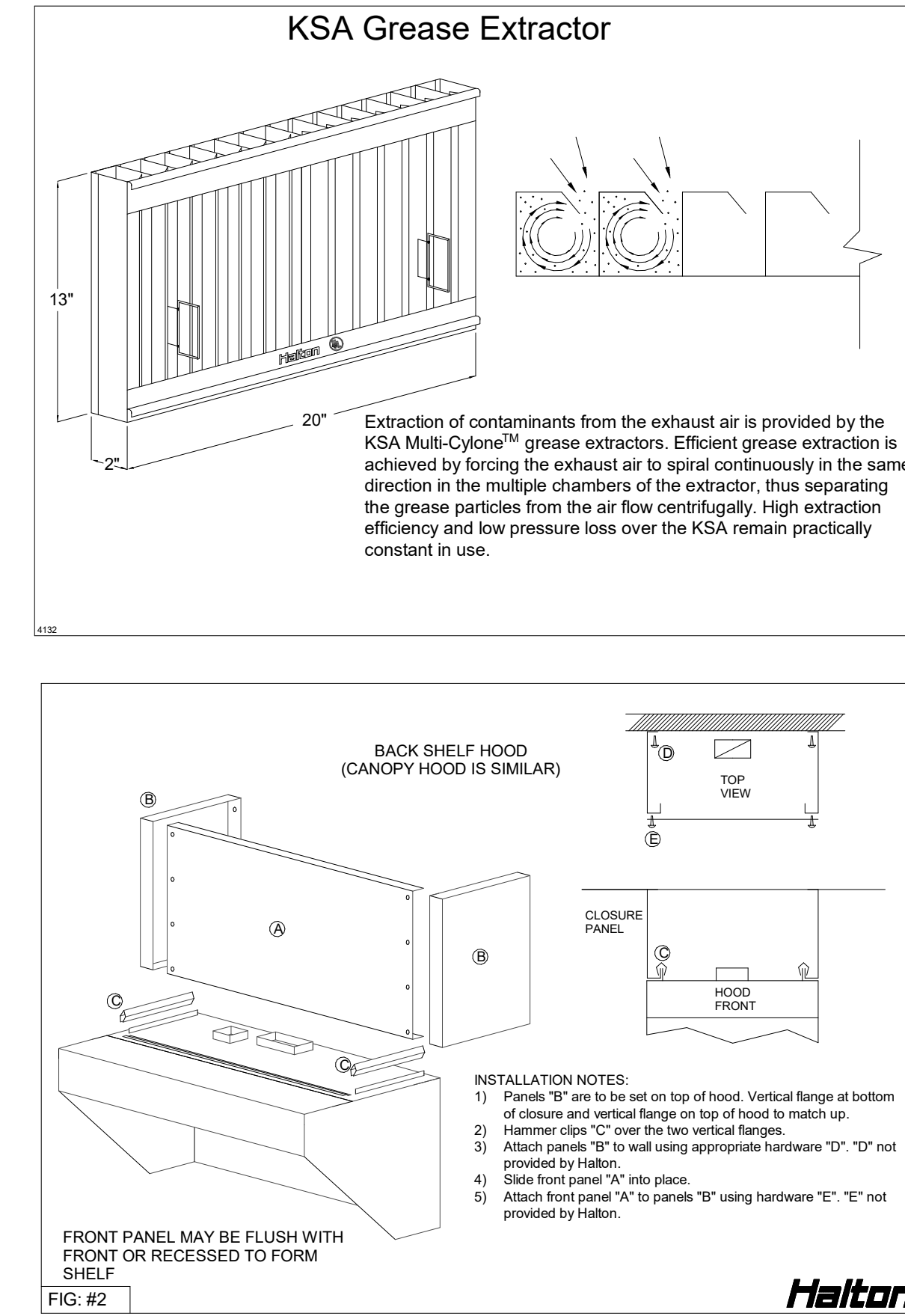
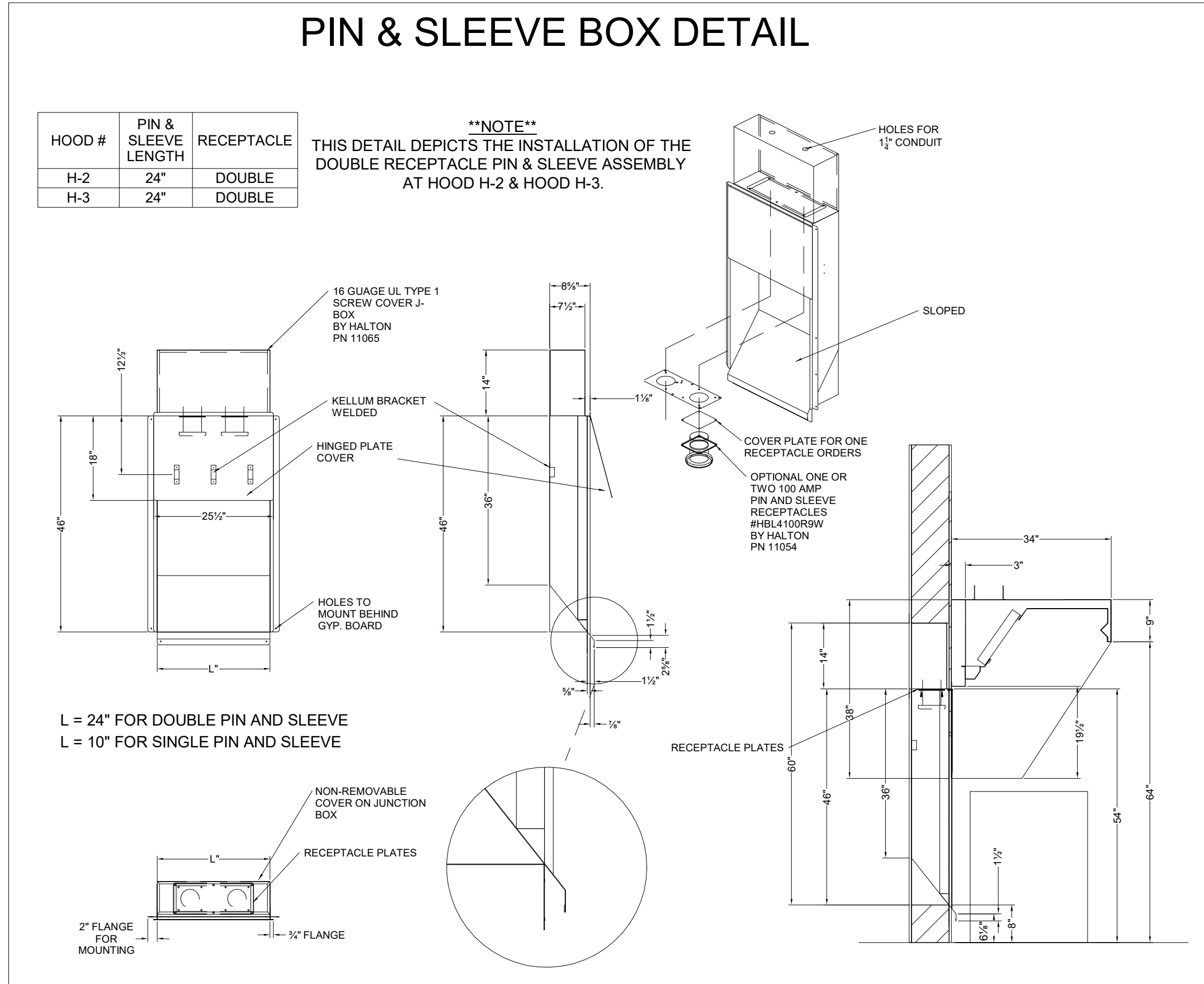
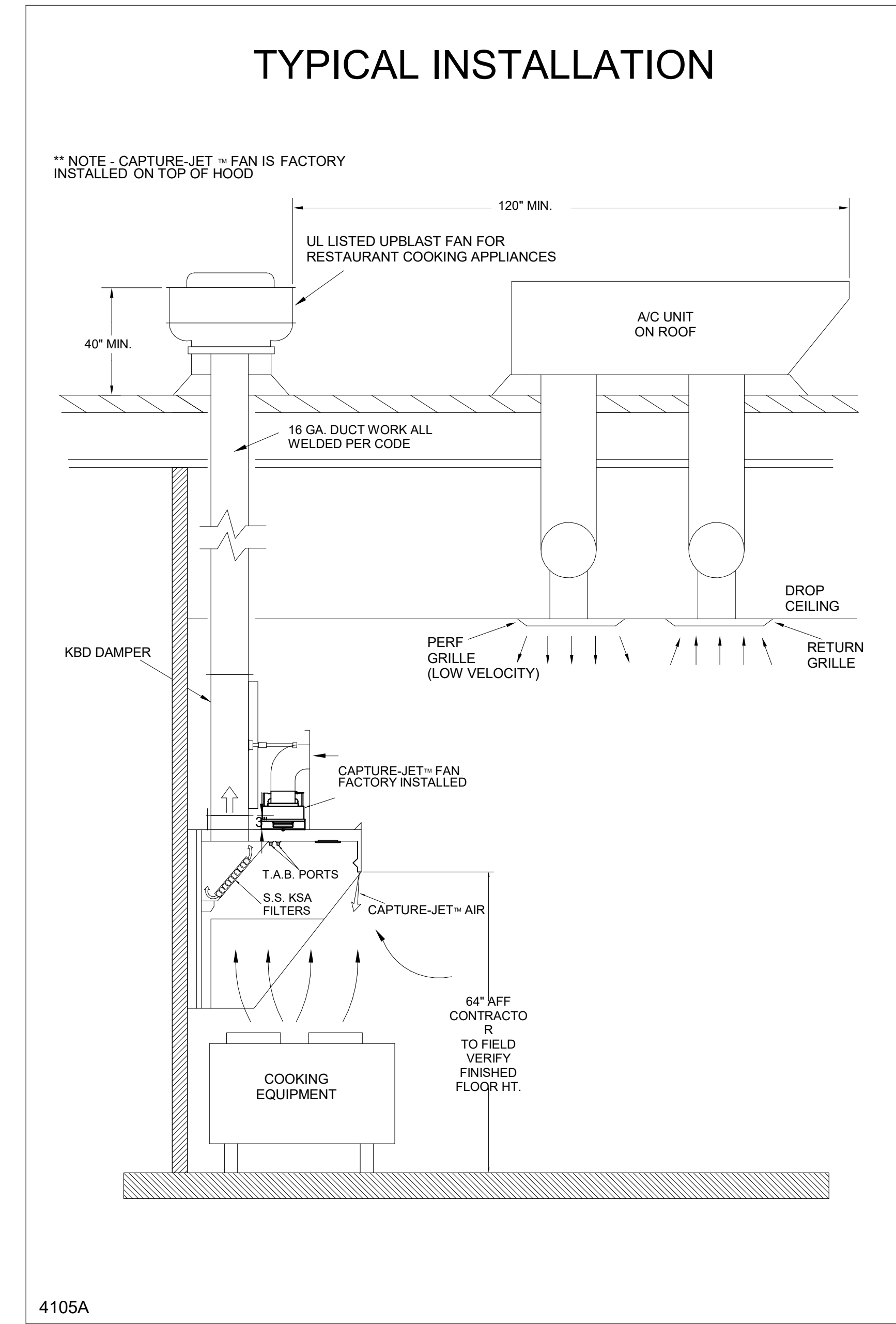
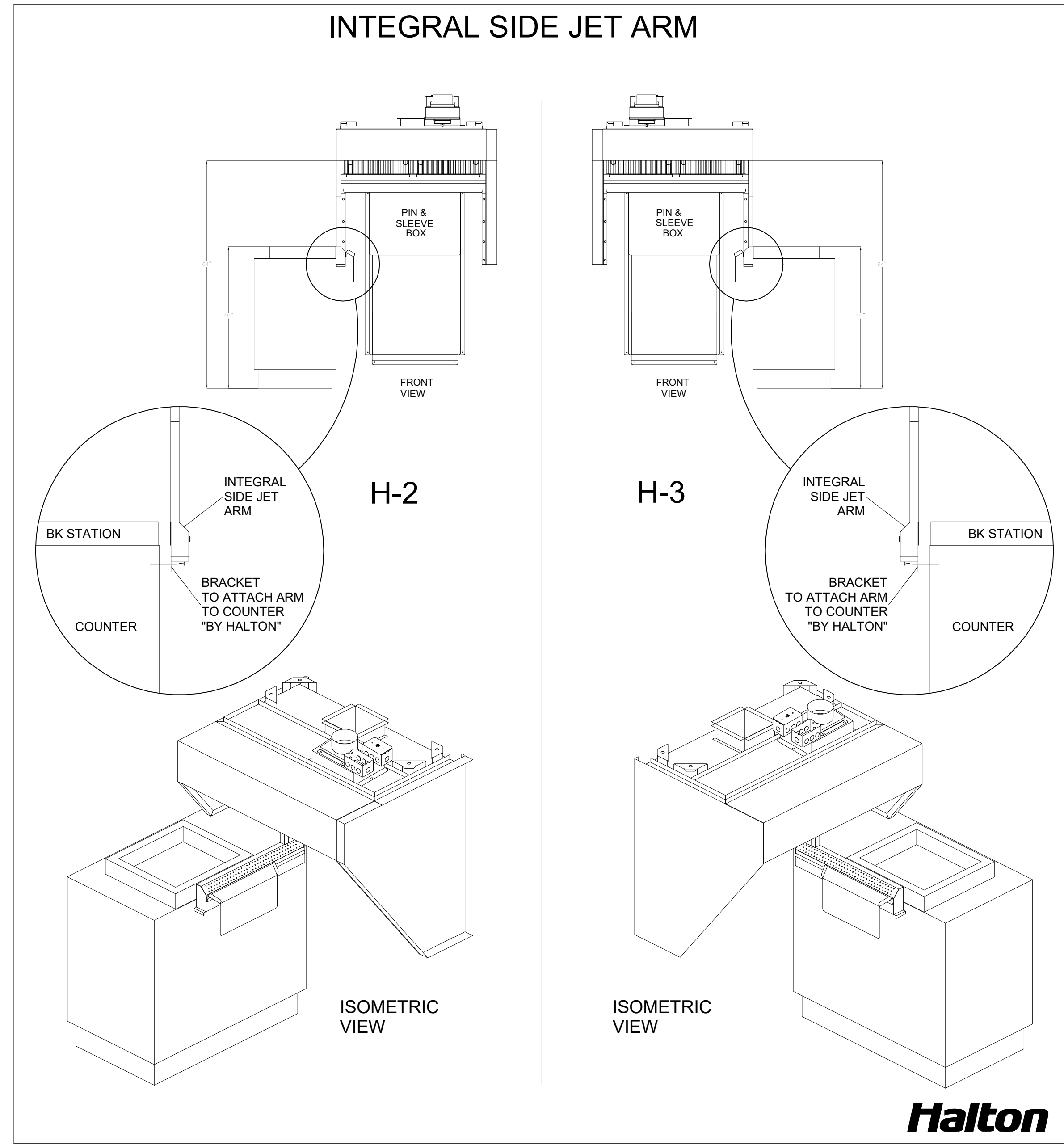
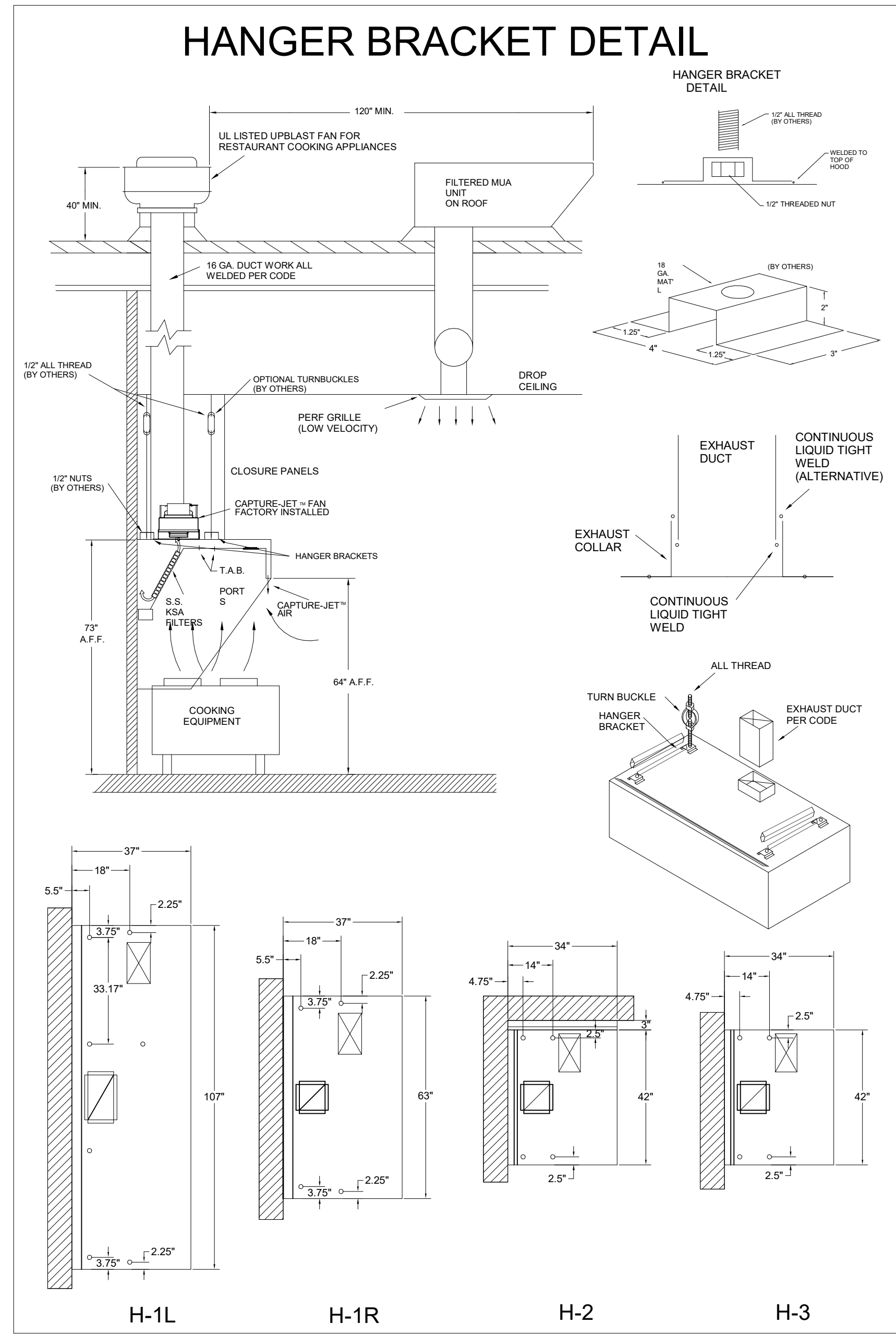
DRAWN BY: SKK

SCALE: NOT TO SCALE

DRAWING No.: U22-606-01

SHEET No.: MH-1.1

Halton



HALTON HOODS
- ETL LISTED PER LATEST 710 STANDARD
- BUILT PER NFPA 96
- NSF LISTED

NSF Halton

CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD 5846

INTERTEK 3012225

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO.	SERIAL NO.	ITEM NO.
KVL-C-IC		

GENERAL REQUIREMENTS

THE FAN TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS
THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE HOOD HAS BEEN CERTIFIED BY ETL FOR 6" BACH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATION TO NFPA 96.
REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.
SUITABLE FOR USE TO MEDIUM DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN.		MIN. EXHAUST DUCT HOOD LENGTH
	FRONT, IN.	SIDE, IN.	MIN.	MAX.	
MEDIUM	6"	0"	20"	30"	121"
MEDIUM	6"	0"	20"	30"	106"
MEDIUM	6"	0"	20"	30"	120"
HEAVY	9"	2"	20"	25"	101"
HEAVY	9"	2"	20"	30"	216"

†† SETBACK/DIMENSIONAL TOLERANCE
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 1.30 IN HOOD

NSF Halton

CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD 5846

INTERTEK 3012225

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO.	SERIAL NO.	ITEM NO.
KVL-2-IC		

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS
THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE HOOD HAS BEEN CERTIFIED BY ETL FOR 6" BACH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATION TO NFPA 96.
REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.
SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN.		MIN. EXHAUST DUCT HOOD LENGTH
	FRONT, IN.	SIDE, IN.	MIN.	MAX.	
MEDIUM	6"	0"	20"	30"	121"
MEDIUM	6"	0"	20"	30"	106"
MEDIUM	6"	0"	20"	30"	120"
HEAVY	9"	2"	20"	25"	101"
HEAVY	9"	2"	20"	30"	216"

†† SETBACK/DIMENSIONAL TOLERANCE
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 1.26 IN HOOD

FOR REFERENCE ONLY

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

NOTE TO APPROVER
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REVISION AND RESUBMIT
WITH NO CHANGES
WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____

WEBSITE: www.halton.com

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5800

DATE: 06.27.23
SKK

DATE: 08.28.23
SKK

DATE: 02.02.24
SKK

DATE: 05.16.24
SKK

DATE: 07.26.24
SKK

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0301

REVISION DESCRIPTION

CREATED HOOD BLOCKS

SHEET LAYOUT

NO CHANGE

ADDED GREASE CUPS

ADDED 1.5 GAL TANK TO ANSUL SYSTEM

PROJECT: CHICK-FIL-A P14 NAME

LOCATION: --

DRAWN BY: SKK

DATE: 05.23.24

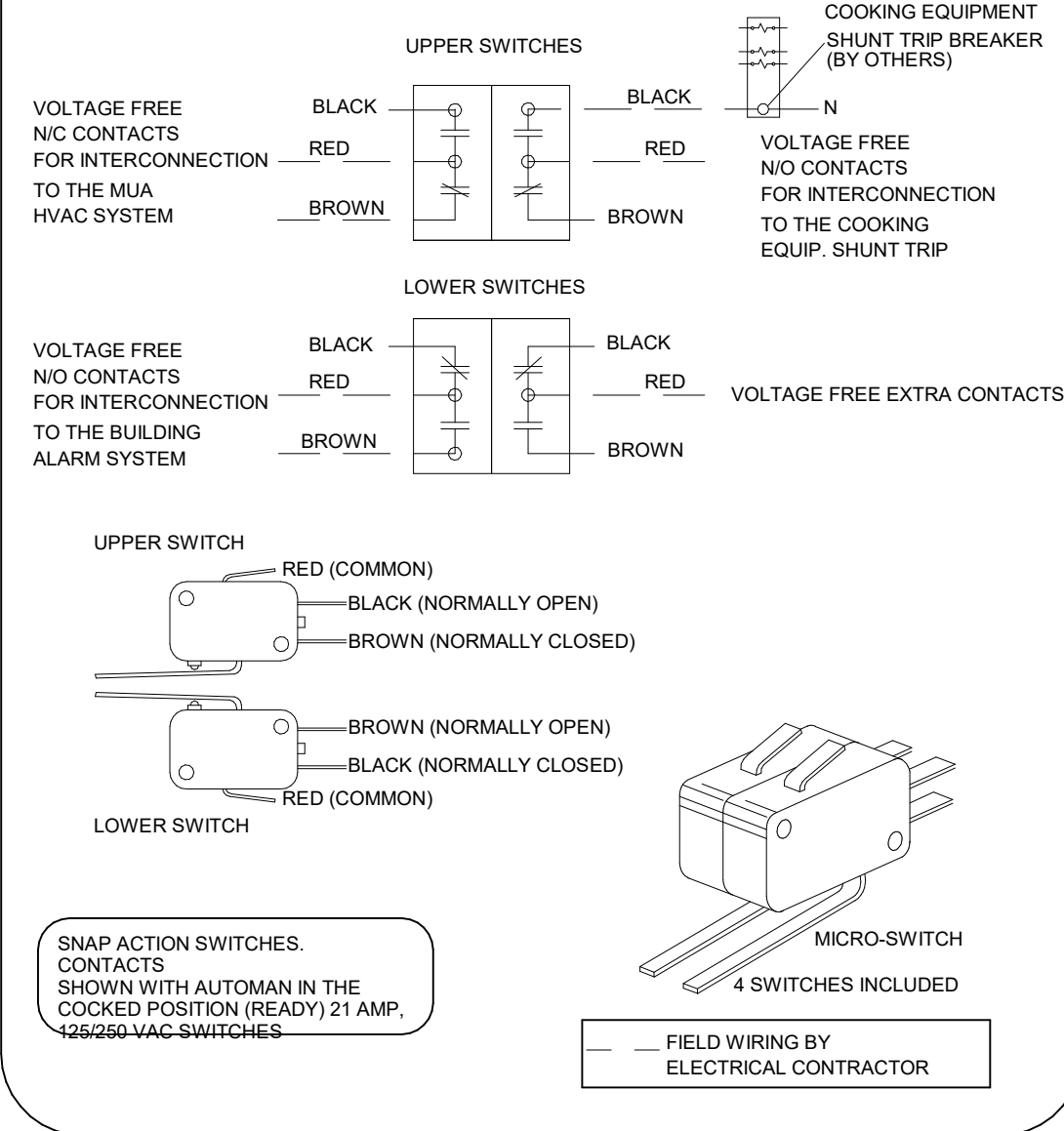
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DRAWING NO.: U22-606-02

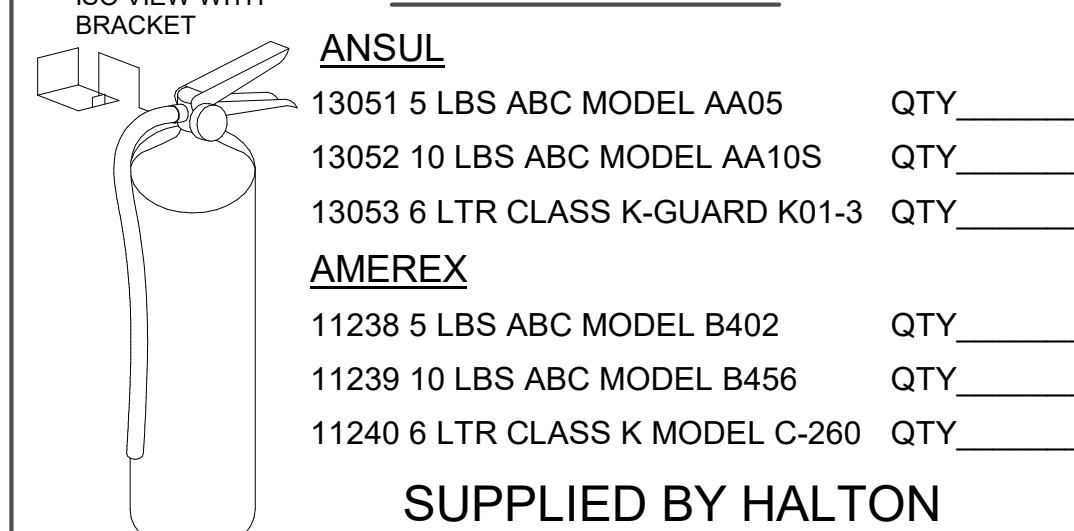
SHEET NO.: MH-1.2

Halton

ANSUL MICROSWITCH DETAIL



FIRE EXTINGUISHER



NOTE:
FIRE SYSTEM TYPE TO BE DETERMINED AT TIME OF ORDER RELEASE.

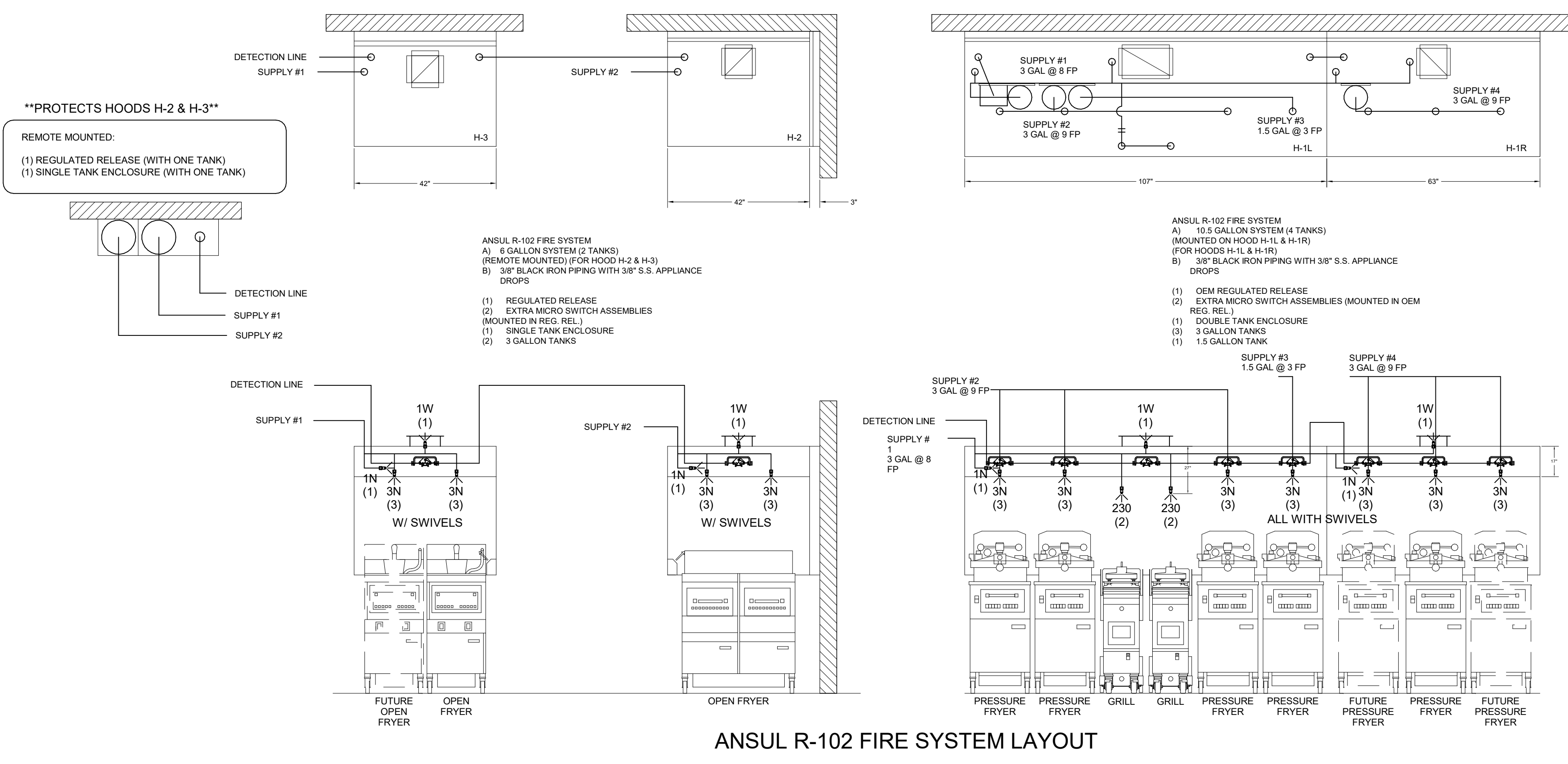
ANSUL

FUSIBLE LINK RATINGS
ITEM TEMP
OPEN FRYERS 450°
2 BURNER / FLAT TOP 450°
PRESSURE FRYERS 450°
GRILL 450°
EXHAUST COLLARS 450°
ANSUL R-102 FIRE SYSTEM NOTES
FOUR TANK SYSTEM MOUNTED ON TOP OF H-1L/H-1R
MAXIMUM FLOW POINTS = 38
ANSUL R-102 FIRE SYSTEM NOTES
TWO TANK SYSTEM REMOTE MOUNTED
MAXIMUM FLOW POINTS = 22

ITEM	PART #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
1W	10023	4	DUCT NOZZLES	4
1N	10022	4	PLENUM NOZZLES	4
230	10025	2	APPLIANCE NOZZLES	4
3N	10021	11	APPLIANCE NOZZLES	33
TOTAL FLOW POINTS				45
QTY		DESCRIPTION		
10035	10	DETECTORS W/ FUSIBLE LINKS		
10046	1	OEM REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH		
10033	1	REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH		
10333	5	3 GALLON TANKS		
10682	1	1.5 GALLON TANK		
10047	1	DOUBLE TANK ENCLOSURE		
10044	1	SINGLE TANK ENCLOSURE		
10040	2	REMOTE PULL STATION		
10065	4	DOUBLE TANK NITROGEN CARTRIDGE		
11128	5	3 GALLON ANSULEX CONTAINER		
13459	1	1.5 GALLON ANSULEX CONTAINER		

ANSUL R-102 FIRE SYSTEM
UL LISTED PER STD LATEST STD 300
1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES
2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY ANSUL INSTALLER
3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

FOR REFERENCE ONLY



1/2" BLACK IRON SUPPLY LINE REQ'D FROM TANK TO FIRST BRANCH LINE FOR 475 TANKS ONLY!

AMEREX

FUSIBLE LINK RATINGS
ITEM TEMP
OPEN FRYERS 450°
2 BURNER / FLAT TOP 450°
PRESSURE FRYERS 450°
GRILL 450°
EXHAUST COLLARS 450°
AMEREX FIRE SYSTEM NOTES
(2) KP375 & (1) KP250 TANK SYSTEM MOUNTED ON TOP OF (H-1L)
MAXIMUM FLOW POINTS = 29
AMEREX FIRE SYSTEM NOTES
(1) KP475 TANK SYSTEM REMOTE MOUNTED
MAXIMUM FLOW POINTS = 14

