

**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 C 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 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: 877-544-6679). 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 ANNUNCIATOR 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 ANNUNCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS 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. ANNUNCIATOR 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, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.
- G. THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENTAL 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 AROUND EQUIPMENT 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 CXA 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
	DUCT SIZE (reverse for elevation views) 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION		DIRECTION OF THROW ON DIFFUSER
	AIR DOOR SWITCH		CLOSED AIR PATTERN DEFLECTOR
	ELECTRIC INFRARED HEATER	[GIH]	GAS INFRARED HEATER (TYP.)
		B/G	BELOW GRADE
		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**  
5200 Buffington Road  
Atlanta, Georgia  
30349-2998



12/13/24

**CHICK-FIL-A**  
HALL RD & ROMEO  
PLANK  
1800 HALL RD,  
CLINTON TOWNSHIP, MI 48038

**FSR#05834**

BUILDING TYPE / SIZE: P14 LSR BS  
RELEASE: 24.05  
PRINTED FOR:  
ISSUED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2024223.16  
DATE 12/11/24  
DRAWN BY MJA

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SHEET GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS  
SHEET NUMBER

**M-001**



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



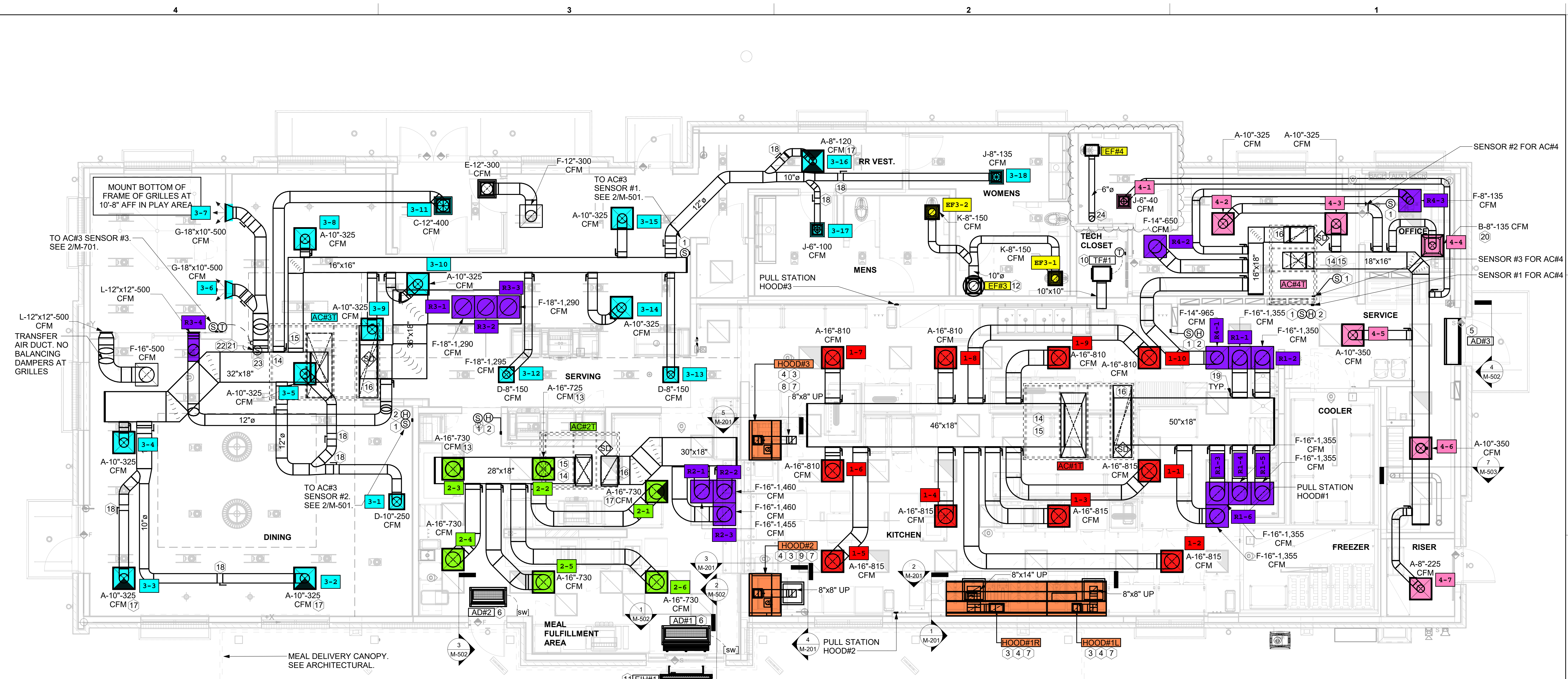
12/13/24

**CHICK-FIL-A**  
 HALL RD & ROMEO  
 PLANK  
 18800 HALL RD,  
 CLINTON TOWNSHIP, MI 48038

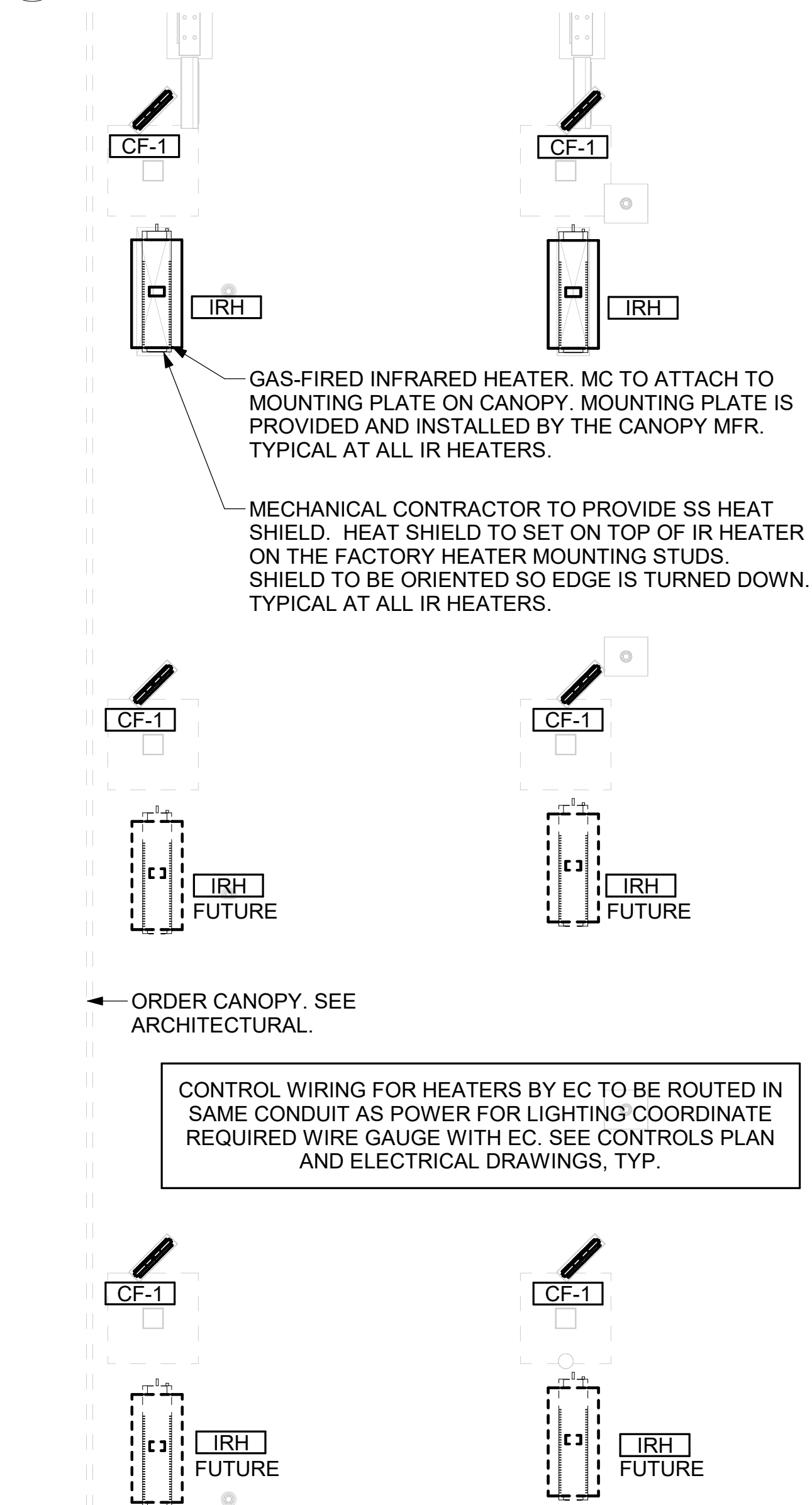
**FSR#05834**  
 BUILDING TYPE / SIZE: P14 LSR BS  
 RELEASE: 24.05  
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 REVISION SCHEDULE

CONSULTANT PROJECT # 2024223.16  
 DATE 12/11/24  
 DRAWN BY MJA  
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 SHEET EQUIPMENT AND DUCTWORK PLAN - TRANE  
 SHEET NUMBER

**M-101T**



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



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

**AIR BALANCE SCHEDULE TRANE**

Mark	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC#1T	8,125 CFM	6,375 CFM	1,750 CFM	0 CFM	
AC#2T	4,375 CFM	4,375 CFM	1,075 CFM	0 CFM	
AC#3T	5,250 CFM	3,975 CFM	1,275 CFM	0 CFM	
AC#4T	1,750 CFM	1,325 CFM	425 CFM	0 CFM	
EF#1	0 CFM	0 CFM	0 CFM	1,913 CFM	
EF#2	0 CFM	0 CFM	0 CFM	1,402 CFM	
EF#3	0 CFM	0 CFM	0 CFM	300 CFM	
EF#4	0 CFM	0 CFM	0 CFM	75 CFM	
	19,500 CFM	16,050 CFM	4,525 CFM	3,690 CFM	835 CFM

**KEY NOTES**

- 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.
- MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
- 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.
- MOUNT AIR DOOR IN CEILING, CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.
- PULL STATION FOR KITCHEN EXHAUST HOOD MOUNTED 42" TO 48" A.F.F. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. JUNCTION BOX AND CONDUIT PROVIDED BY ELECTRICAL CONTRACTOR. PROVIDE PLASTIC ENGRAVED LABEL - RED WITH 1" HIGH WHITE LETTERING. LABELS SHALL BE AS FOLLOWS: HOOD #1 - "MAIN COOKLINE", HOOD #2 - "PASS THRU - RIGHT", HOOD #3 - "PASS THRU - LEFT".
- INSTALL RIGHT SIDE OF HOOD WITH FINISHED EDGE OF PASS-THRU OPENING.
- INSTALL LEFT SIDE OF HOOD FLUSH WITH FINISHED EDGE OF PASS-THRU OPENING.
- CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE ABOVE CEILING.
- ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- 10" UP THRU ROOF.
- TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITH TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 6/M-501 FOR REQUIRED TRANSITION GEOMETRY. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITHOUT TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
- MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
- RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
- DAMPER HANDLES SHOULD BE INSTALLED SUCH THAT THE DAMPERS ROTATION AXIS IS PERPENDICULAR TO THE FLOOR WITH THE HANDLE FULLY ACCESSIBLE UNDERNEATH THE DUCT IT CONTROLS. (TYPICAL OF ALL DAMPERS AT THE SAME PLENUM.)
- MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.
- YOUNG REGULATOR FIELD INSTALLED CHANGE OVER SENSOR.
- YOUNG REGULATOR 14" MODEL 4075-LMB24-IF ROUND ZONE DAMPER WITH MODEL T-720A AUTOMATIC CHANGEOVER THERMOSTAT. MOUNT T'STAT AT 4'-0" AFF. POWER OPEN/CLOSE/MODULATING. ADJUST MECHANICAL LIMIT FOR 50 CFM MINIMUM AIRFLOW. ADJUST MAXIMUM LIMIT TO FULLY OPEN POSITION. INITIAL BALANCE TO BE DONE WITH VAV AT THE FULL OPEN POSITION. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARRROW COMPANY FOR THE ZONE DAMPER. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE ZONE DAMPER DIRECTLY FROM TOM BARRROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010. FOR PRICING AND AVAILABILITY. ZONE DAMPERS NOT PURCHASED THRU TOM BARRROW COMPANY WILL NOT BE ACCEPTED.
- PROVIDE 120V/24V 50 VA TRANSFORMER TO SERVE YOUNG REGULATOR ZONE DAMPER ACTUATOR AND THERMOSTAT. POWER TRANSFORMER FROM 120V POWER CIRCUIT THAT REMAINS LIVE 24/7. PROVIDE ALL NECESSARY WIRING AND COMPONENTS TO MAKE CONTROL AND POWER CONNECTIONS TO TRANSFORMER, ZONE DAMPER, AND THERMOSTAT PER MANUFACTURER'S IOM. THERE IS NO INTERLOCKING OR MONITORING BY WAY OF THE S.E.C.
- PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.

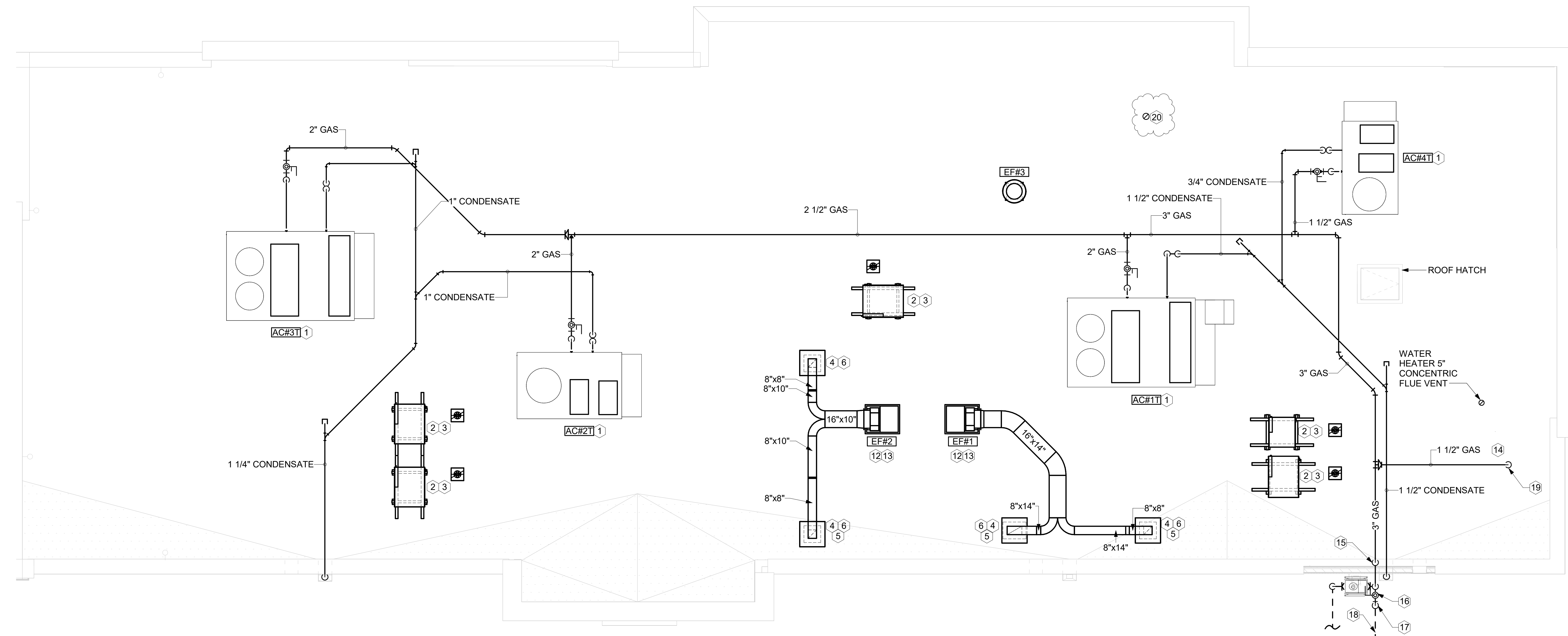
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 30-LSR-05834-M-101T-EQUIPMENT AND DUCTWORK PLAN - TRANE



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



12/13/24

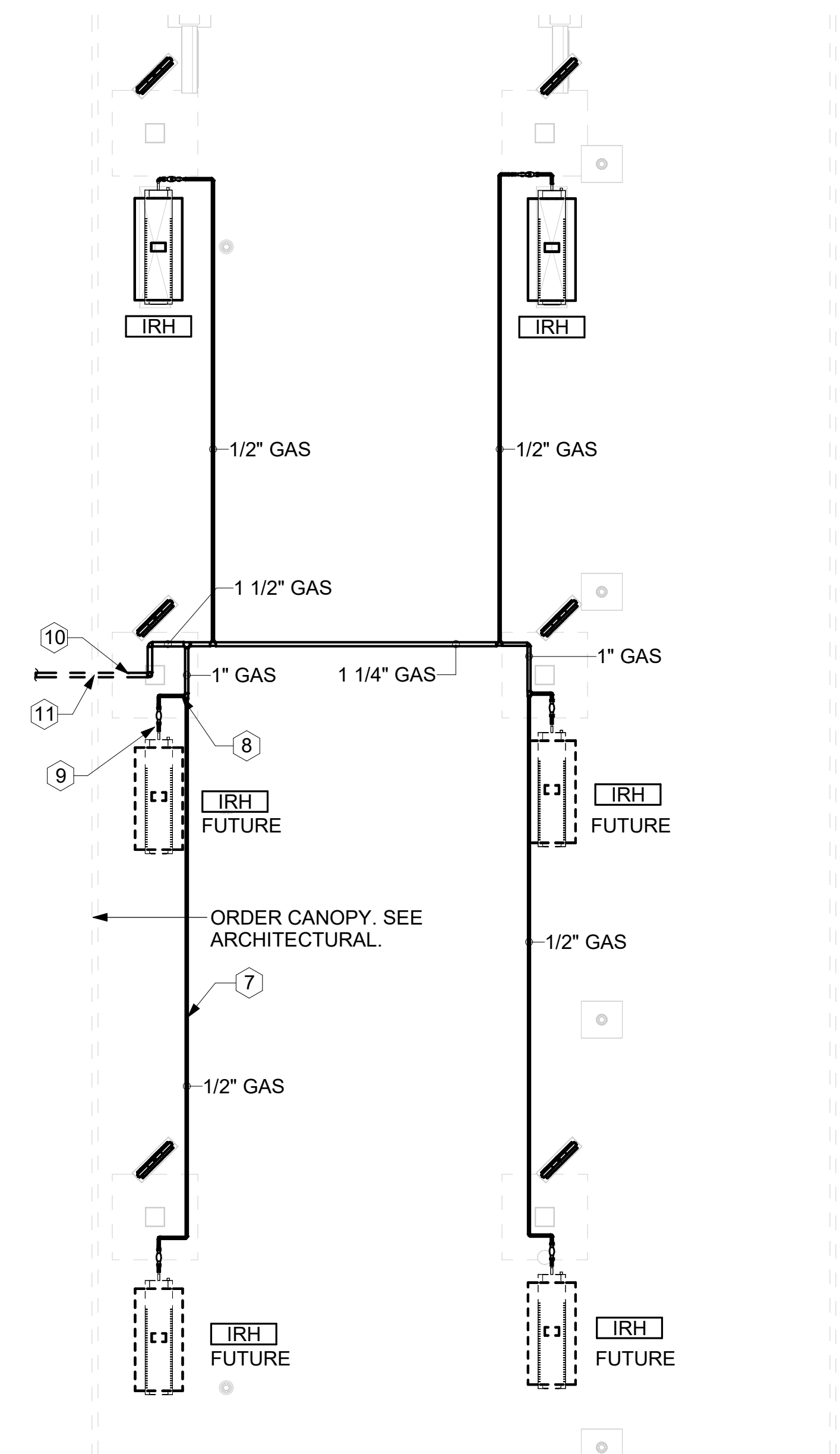


**1 EQUIPMENT ROOF PLAN - TRANE**  
 1/4" = 1'-0"

**KEY NOTES**

- 1 MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED.
- 2 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.
- 3 DO NOT DISCHARGE OF CONDENSING UNITS INTO CONDENSER SECTION OF ROOFTOP UNITS, TYP.
- 4 ROOF CURB FOR DUCT PENETRATION. REFER TO MH-1.3 AND MH-1.4 FOR DETAILS.
- 5 DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.
- 6 TURN DOWN THRU ROOF. SEE M-101L/M-101T FOR CONTINUATION.
- 7 GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.
- 8 GAS PIPING DOWN THROUGH DECK. WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-503, TYPICAL.
- 9 SEE DETAIL 1/M-503 FOR PIPING AT IRH, TYPICAL.
- 10 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.
- 11 1-1/2" GAS B/G TO METER SEE 1/M-102L OR 1/M-102T.
- 12 FABRICATE DISCHARGE AIR NOZZLE. VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. REFER TO MH-1.3 AND MH-1.4 FOR DETAILS.
- 13 GREASE EXHAUST DUCT LOCATED ON ROOF SHALL SLOPE 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.
- 14 SEE ARCHITECTURAL DETAILS FOR ROOFTOP PIPE PENETRATIONS.
- 15 TURN 3" GAS UP WITHIN WALL, THRU PARAPET AND ONTO ROOF.
- 16 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."
- 17 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.
- 18 1-1/2" GAS BELOW GRADE TO ORDER CANOPY. SEE DETAIL 2 THIS SHEET.
- 19 1-1/2" GAS DOWN THRU ROOF TO WATER HEATER. SEE DETAIL 3/P-502 FOR MORE INFORMATION ON CONSTRUCTION AND PENETRATION. WHEN CONTRACTOR OPTS TO PROVIDE ALTERNATIVE WATER HEATER, INCREASE PIPE SIZE AS NEEDED PER CODE.
- 20 PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.

3. GAS LOAD SCHEDULE	
EQUIPMENT	GAS LOAD
AC#1T	400,000 BTUS
AC#2T	240,000 BTUS
AC#3T	400,000 BTUS
AC#4T	130,000 BTUS
IRH (2 @ 50,000 BTU EA.)	100,000 BTUS
IRH (FUTURE 4 @ 50,000 BTU EA.)	200,000 BTUS
WATER HEATER	125,000 BTUS
TOTAL BASIS OF DESIGN LOAD	1,395,000 BTUS
TOTAL FUTURE CONNECTED LOAD	1,595,000 BTUS
REMARKS:	1. EQUIVALENT TO 1,595.0 CFH 2. 7" W.C. DELIVERY PRESSURE 3. DEVELOPED LENGTH: 200 FT. (METER TO AC#3) 4. GAS PIPING SIZED FOR FUTURE LOAD



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

**CHICK-FIL-A**  
**HALL RD & ROMEO**  
**PLANK**  
 1800 HALL RD,  
 CLINTON TOWNSHIP, MI 48038

**FSR#05834**

BUILDING TYPE / SIZE: P14 LSR BS  
 RELEASE: 24.05  
 PRINTED FOR:  
 ISSUED FOR CONSTRUCTION  
**REVISION SCHEDULE**

NO.	DATE	DESCRIPTION
B	10/18/24	HEALTH COMMENTS
C	12/11/24	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 2024223.16  
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 DRAWN BY MJA

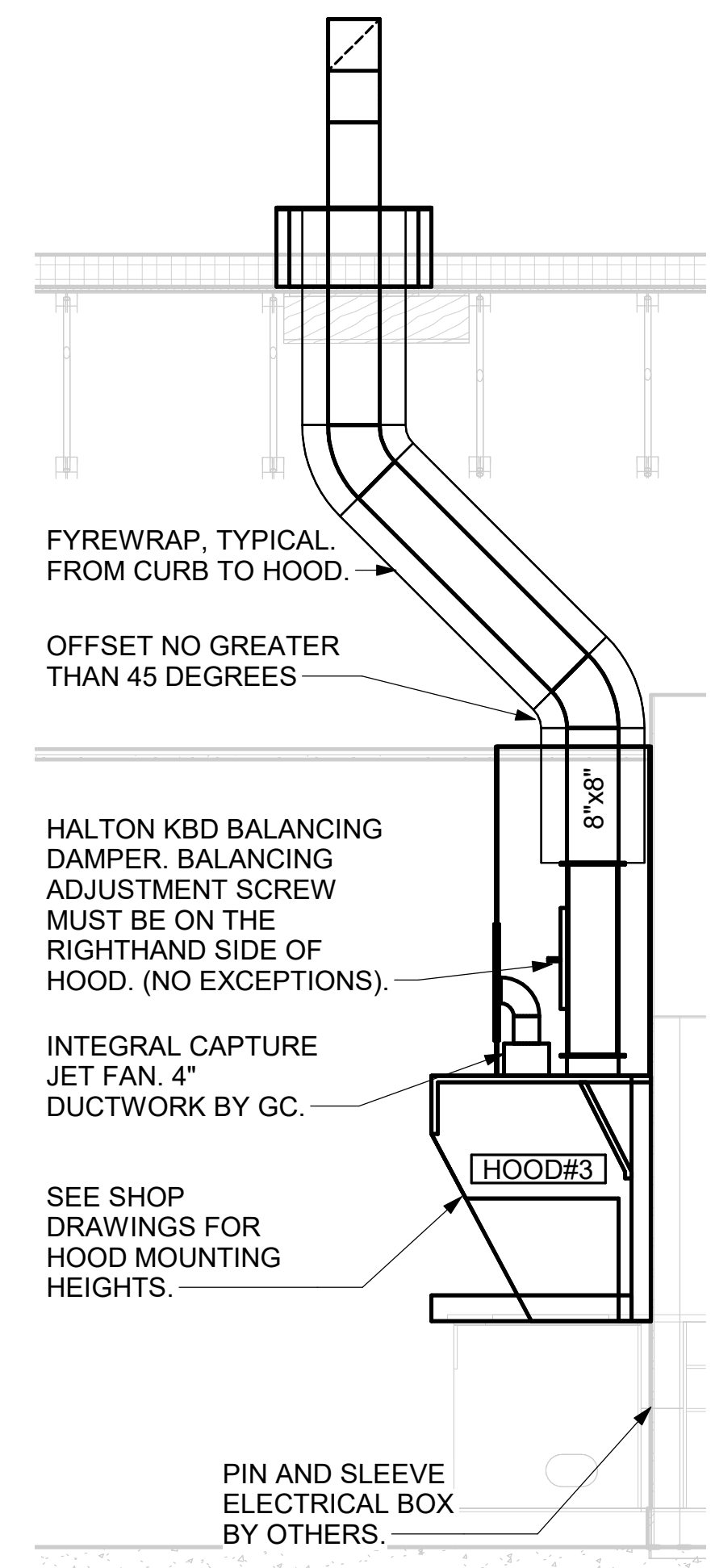
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SHEET  
**EQUIPMENT ROOF PLAN - TRANE**  
 SHEET NUMBER  
**M-102T**

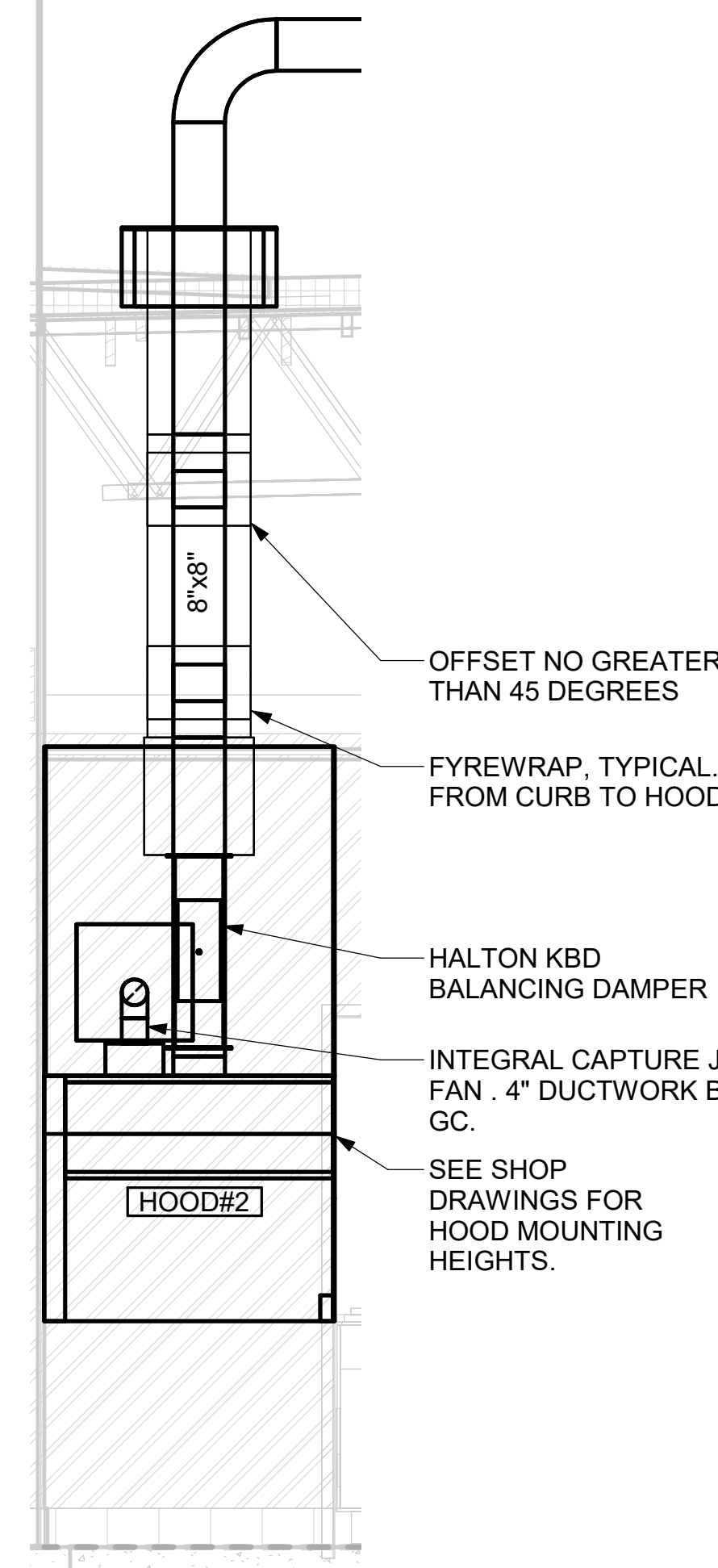
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 30-LSR-05834-M-201-EXHAUST HOOD ELEVATIONS

**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.

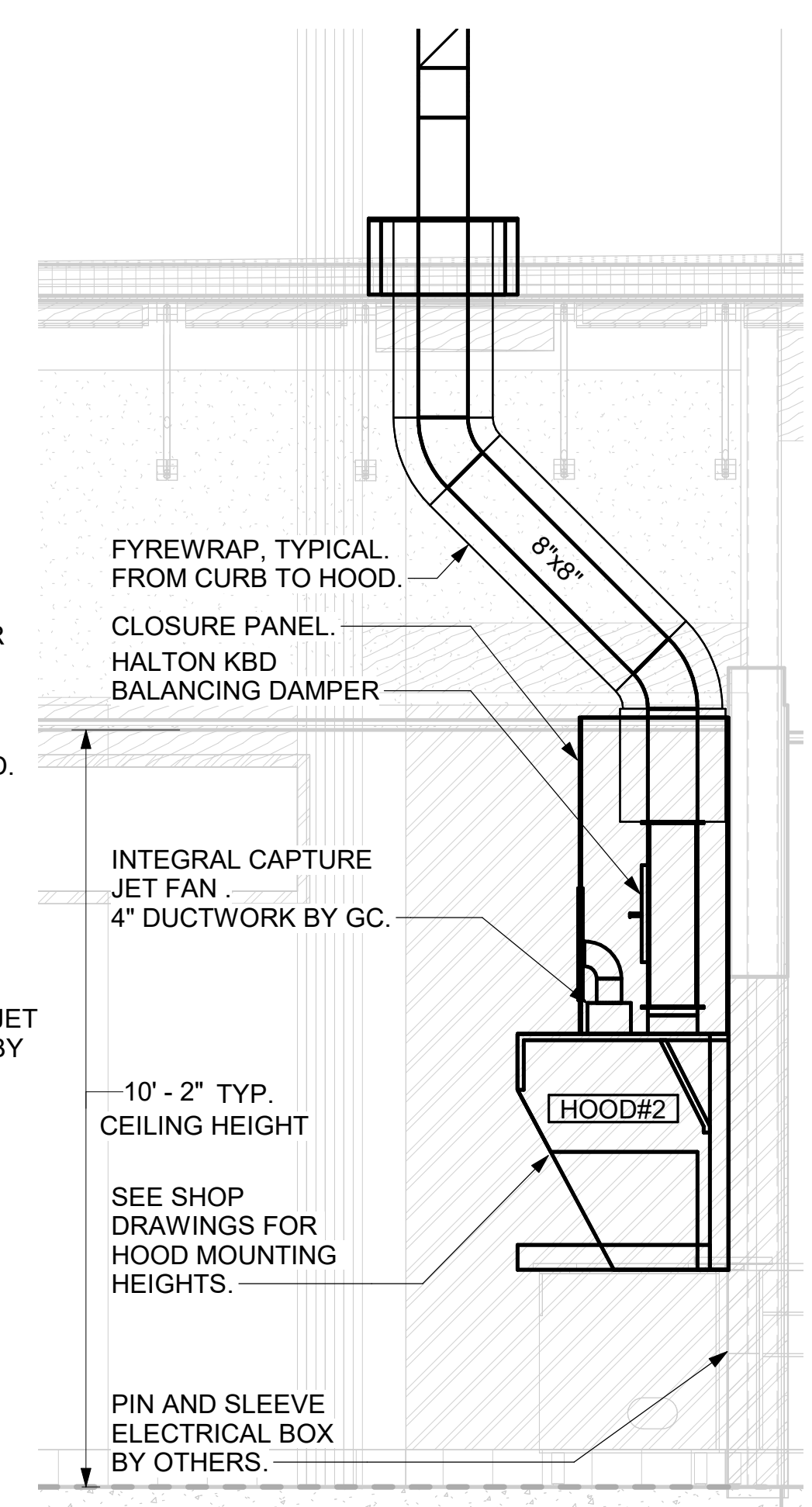
**CLEANOUT DOOR NOTE:**  
 DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS, NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.



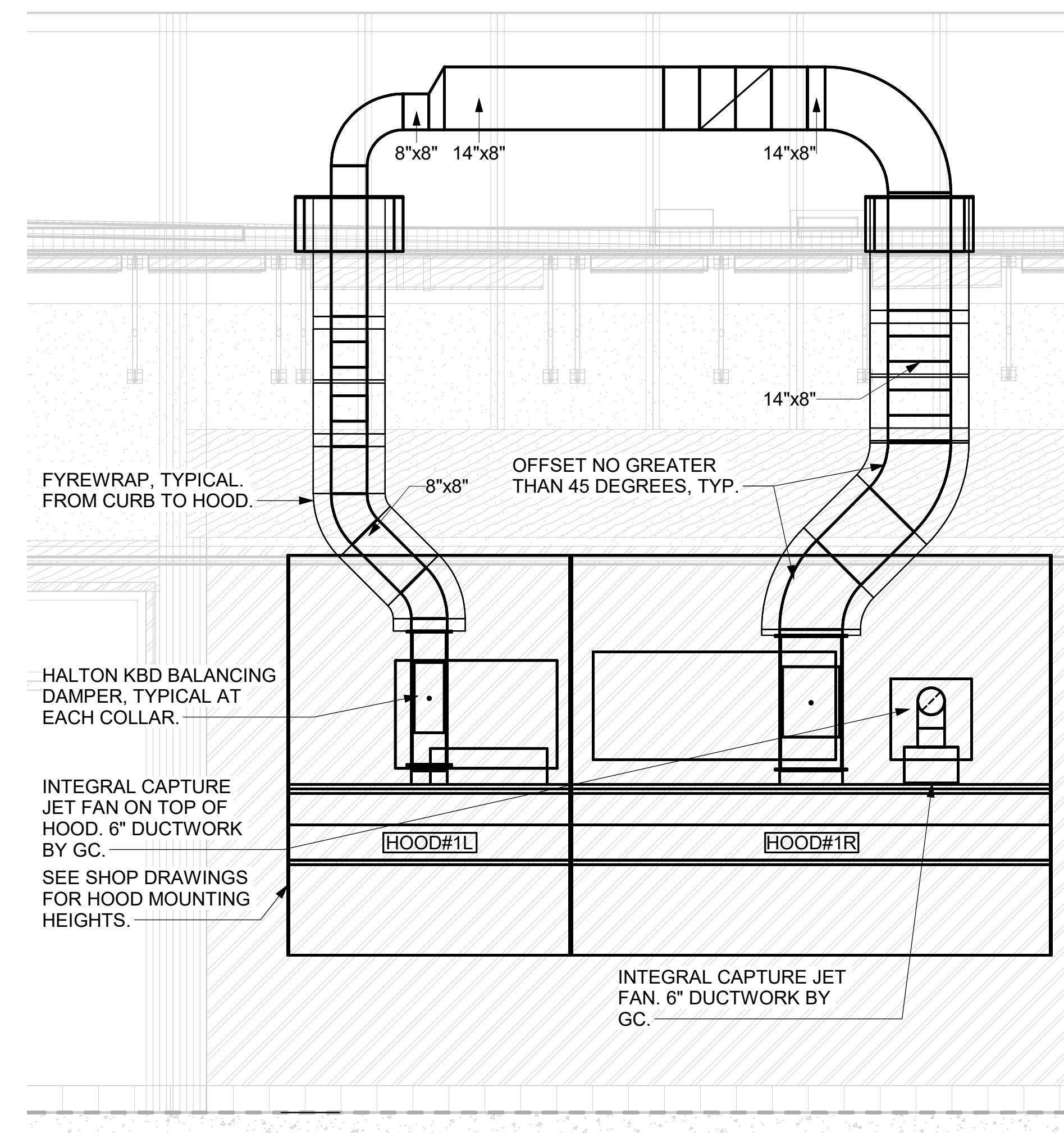
5 HOOD ELEVATION - HOOD#3  
 NOT TO SCALE



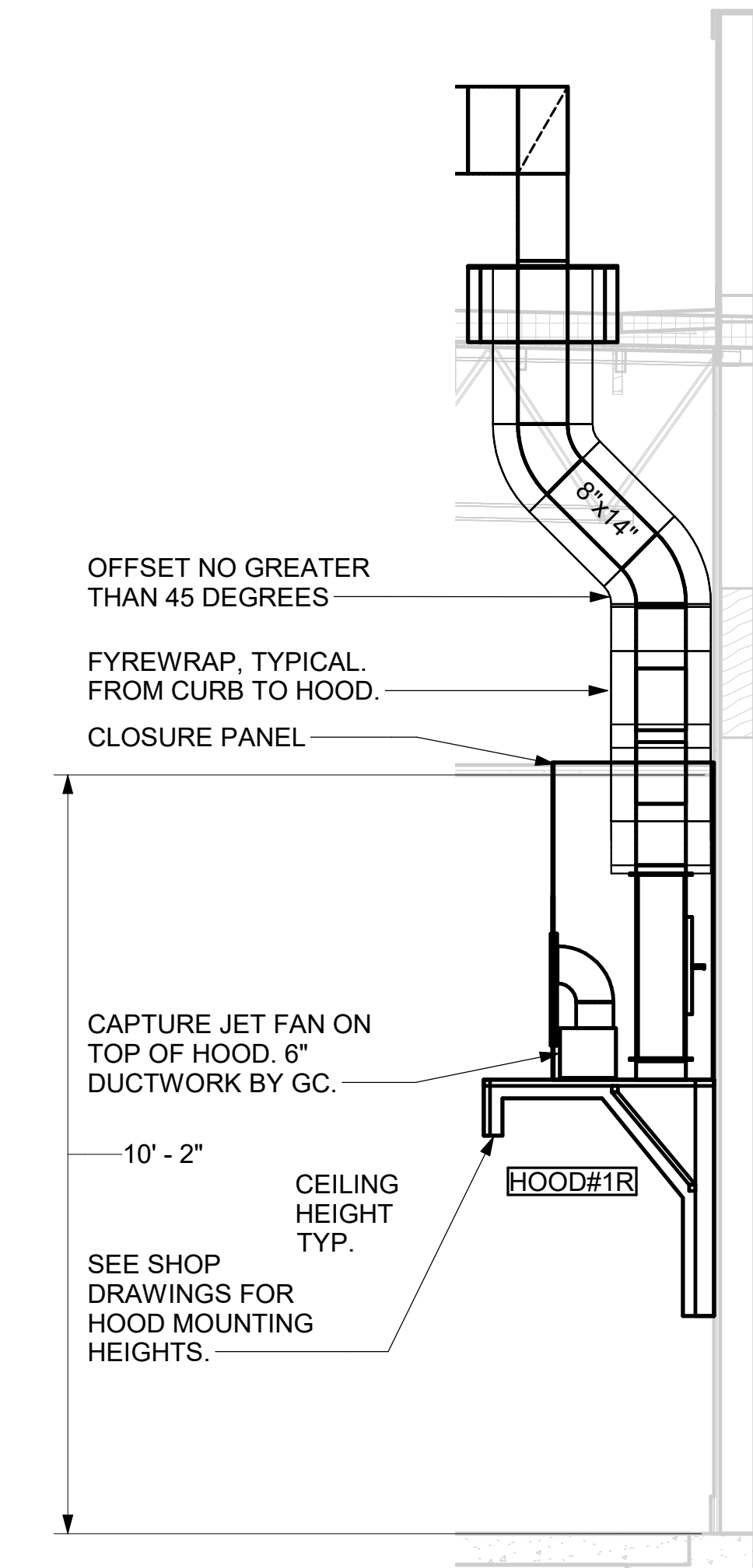
4 HOOD ELEVATION - HOOD#2 - FRONT  
 NOT TO SCALE



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



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



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



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



**CHICK-FIL-A**  
 HALL RD & ROMEO PLANK  
 18800 HALL RD,  
 CLINTON TOWNSHIP, MI 48038

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 SHEET  
 EXHAUST HOOD ELEVATIONS

SHEET NUMBER  
**M-201**

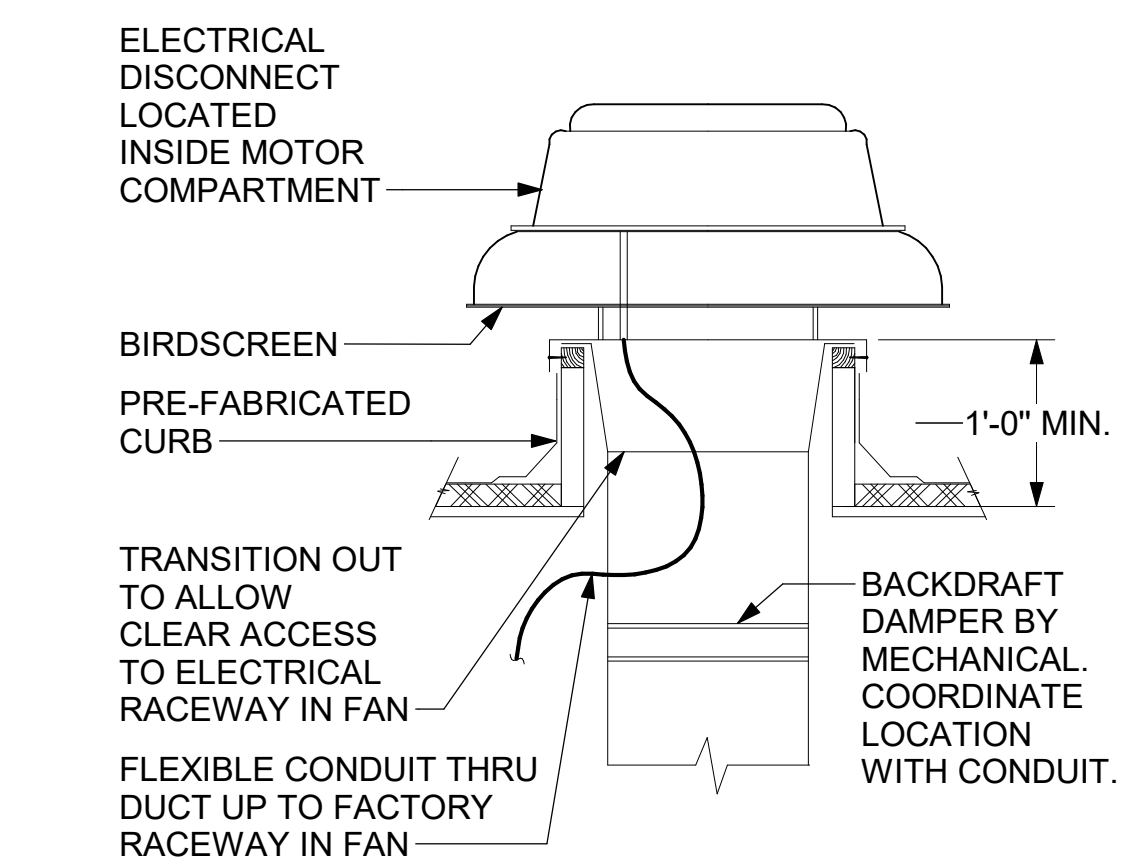
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D

C

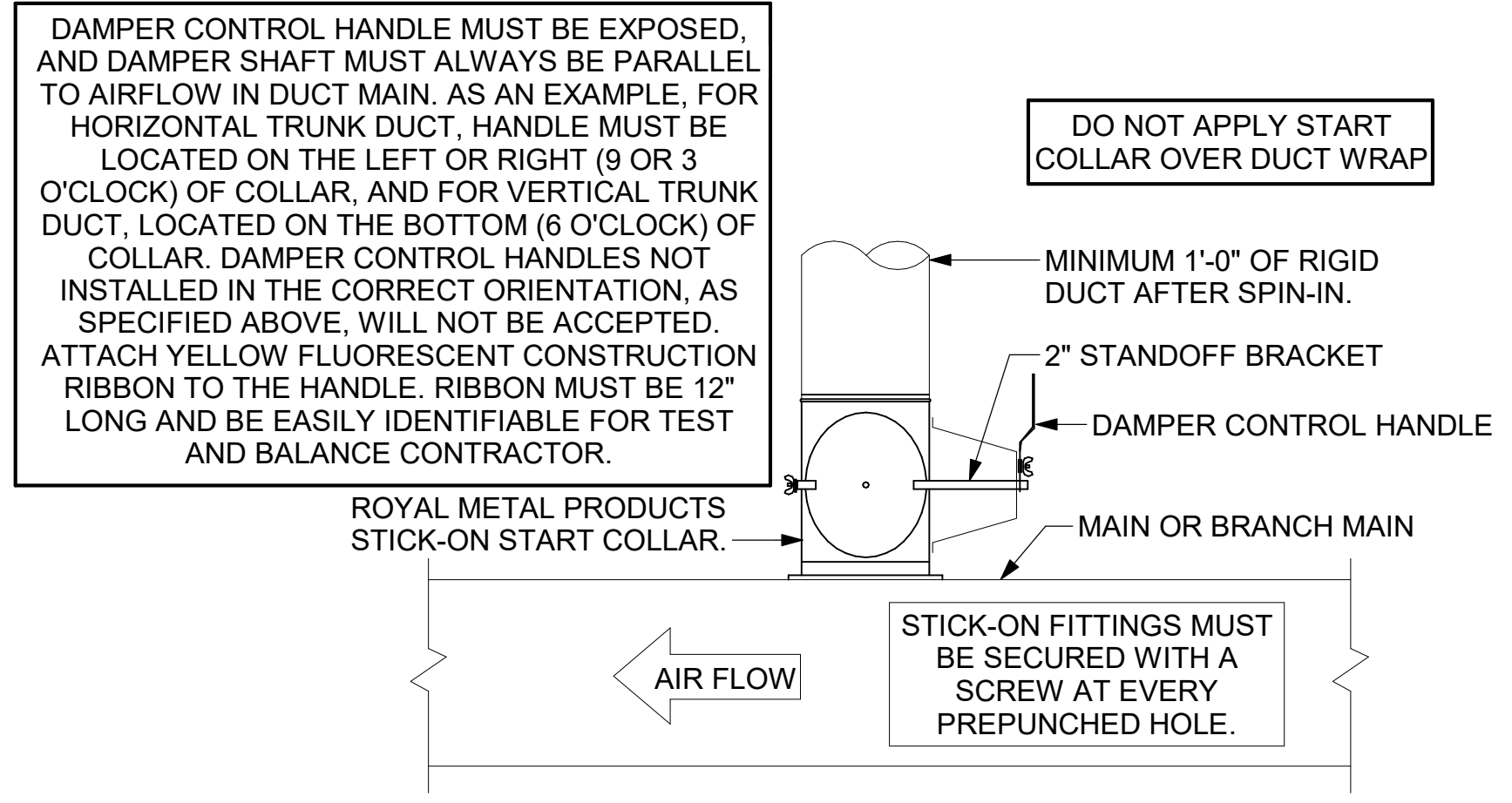
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A

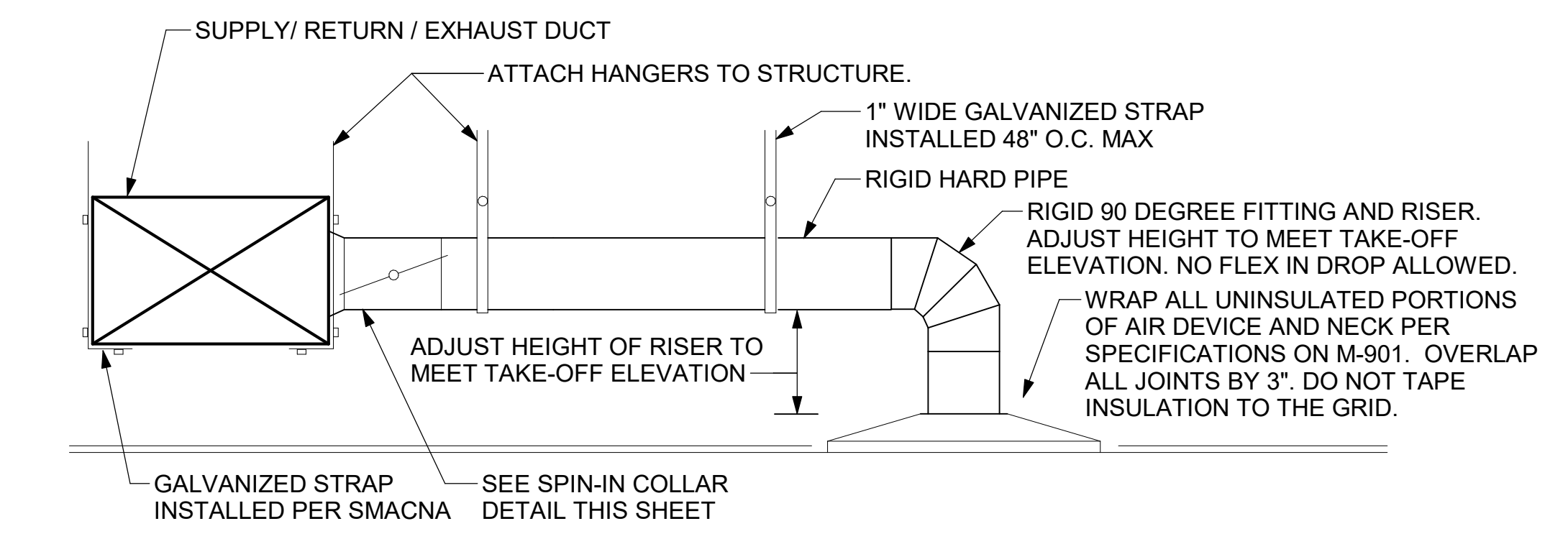


3 RESTROOM EXHAUST FAN  
NOT TO SCALE

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.



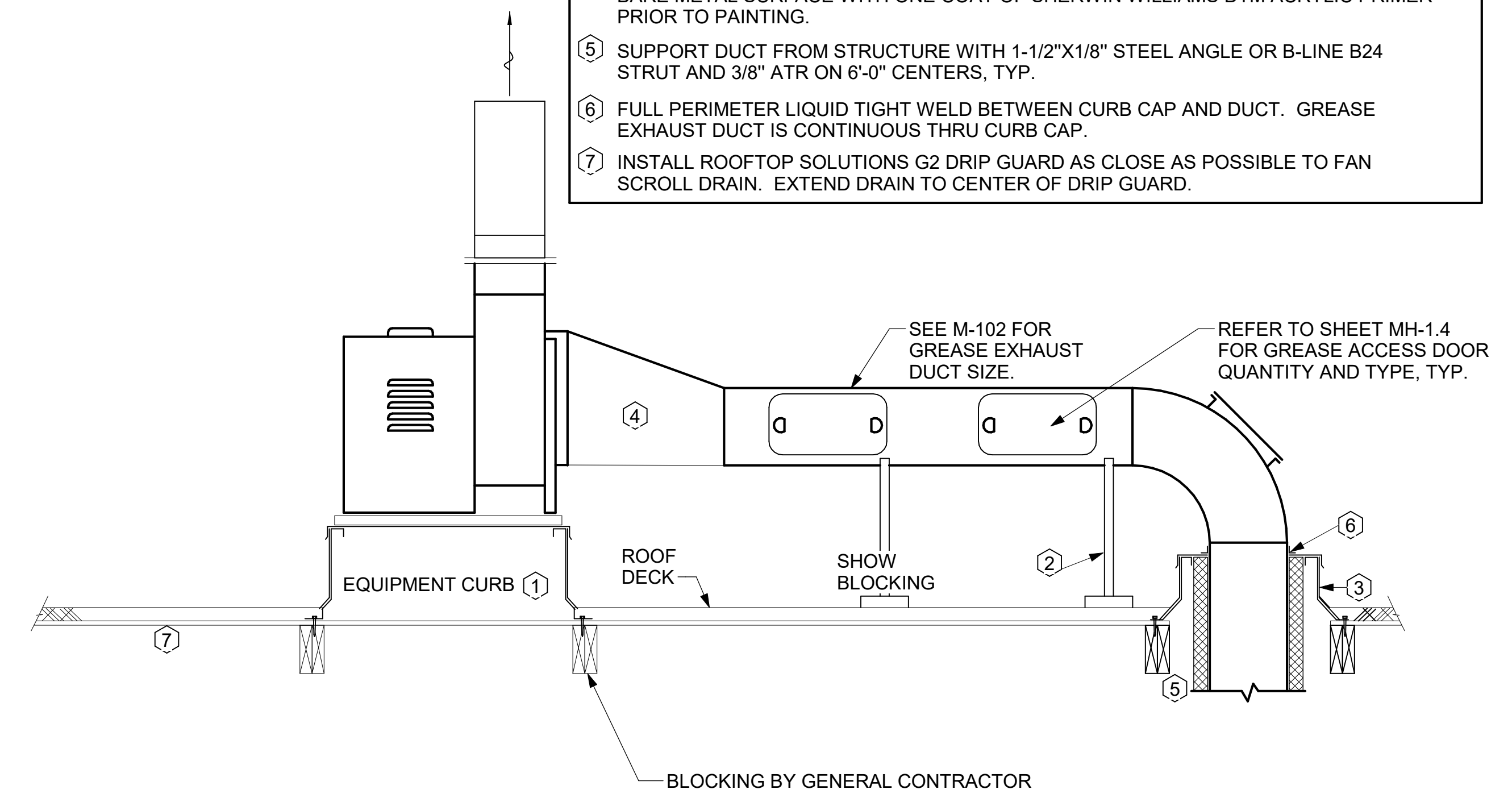
2 START COLLAR  
NOT TO SCALE



1 SAG/RAG/GRILLE TAKE-OFF  
NOT TO SCALE

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.

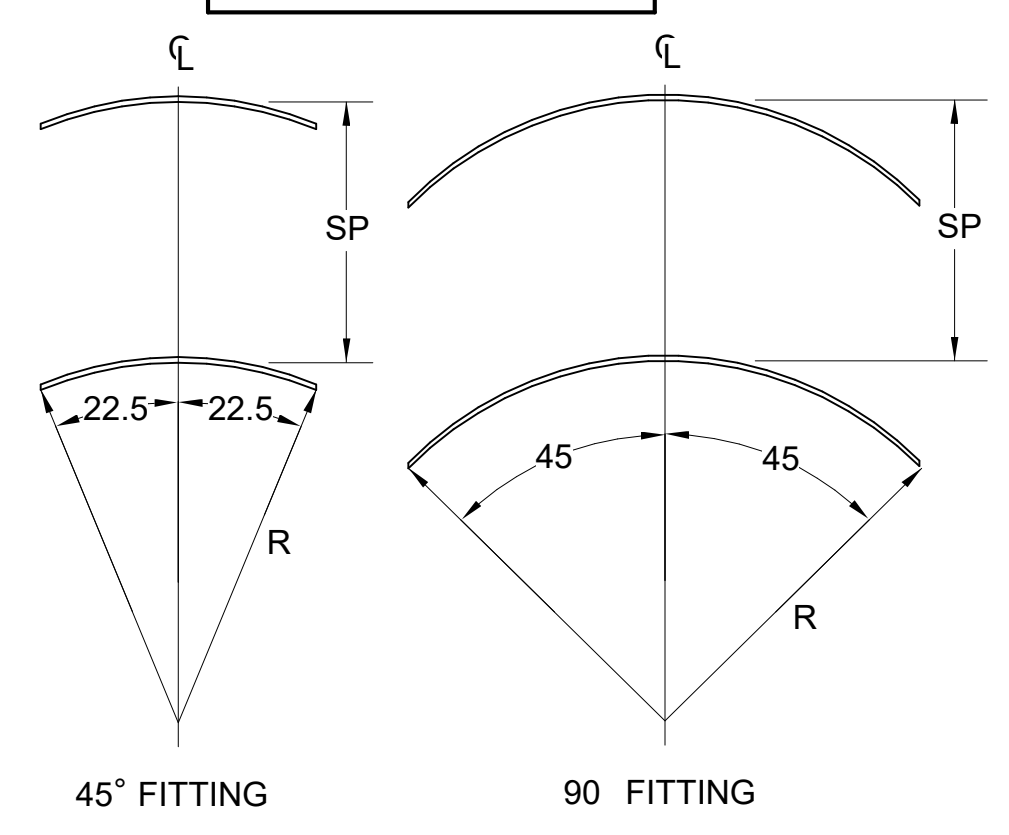


6 KITCHEN HOOD EXHAUST FAN  
NOT TO SCALE

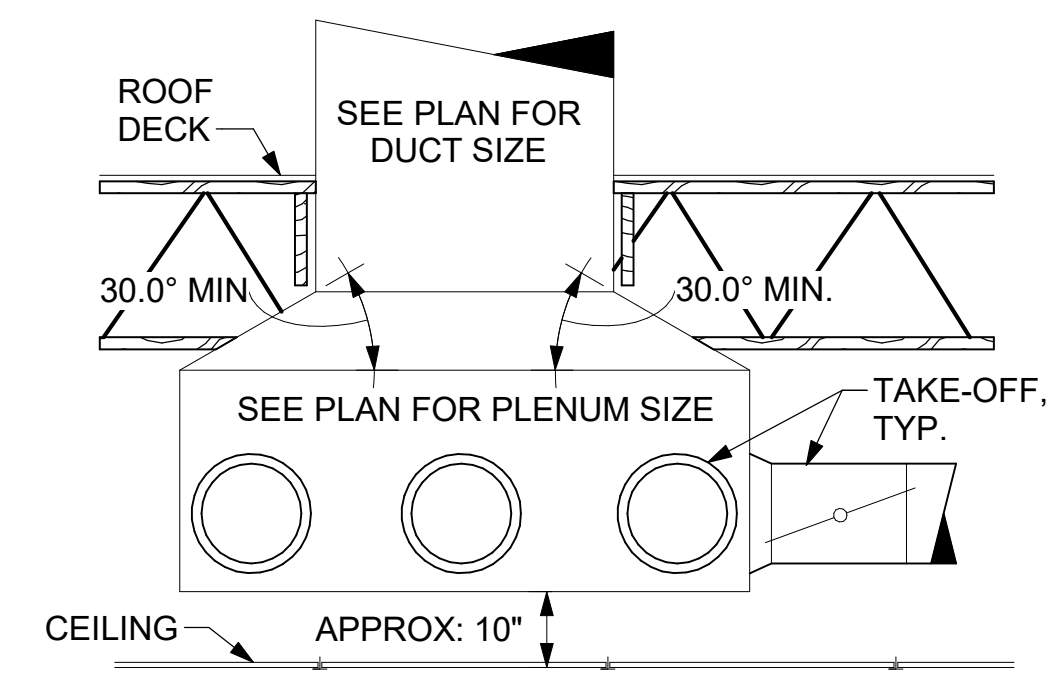
TURNING VANE SCHEDULE

R	SP	GA
2"	1.5"	24

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



4 TURNING VANES  
NOT TO SCALE



5 RETURN DROP GEOMETRY  
NOT TO SCALE



Chick-fil-A

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



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**CHICK-FIL-A**  
HALL RD & ROMEO  
PLANK  
18800 HALL RD,  
CLINTON TOWNSHIP, MI 48038

**FSR#05834**

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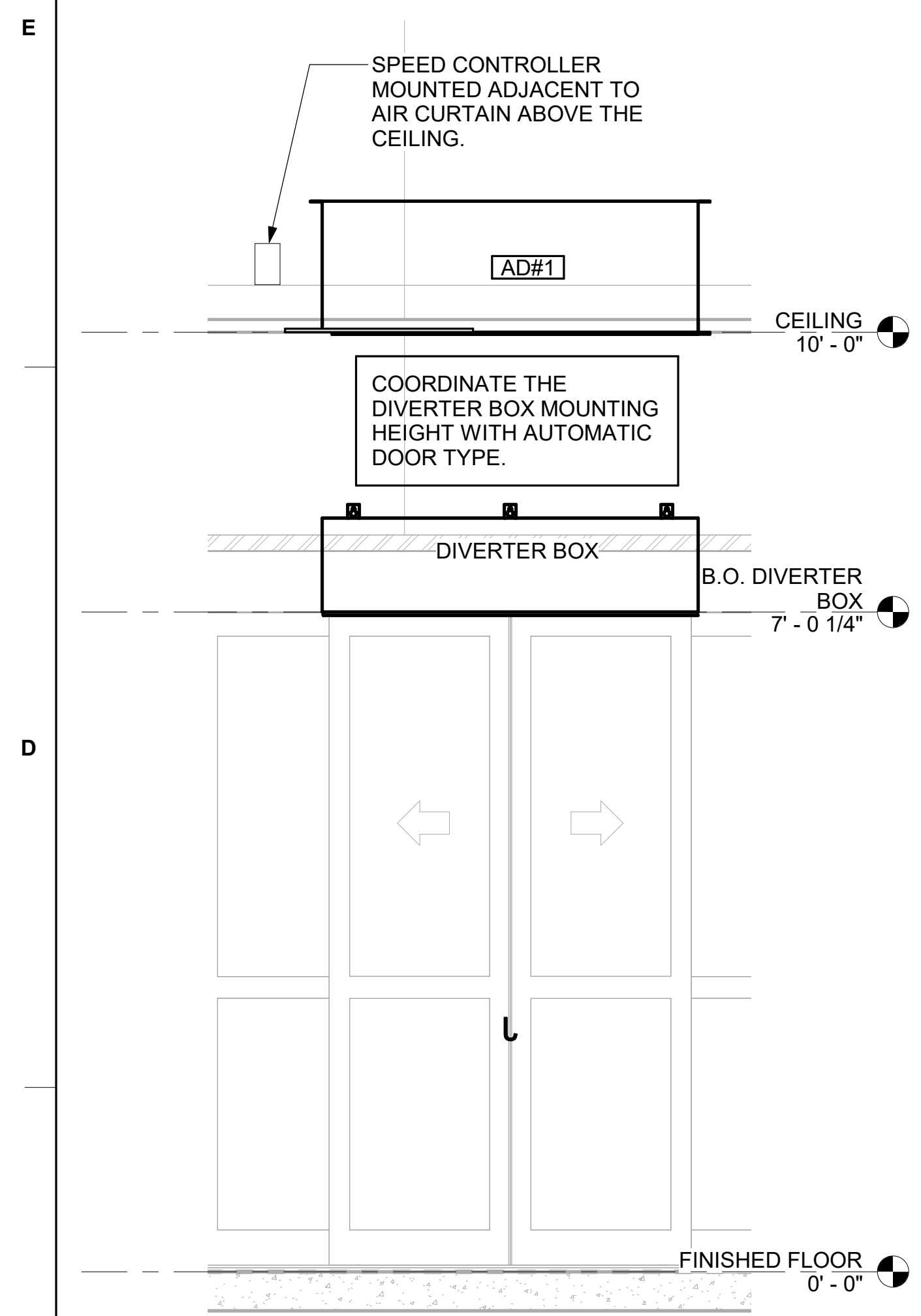
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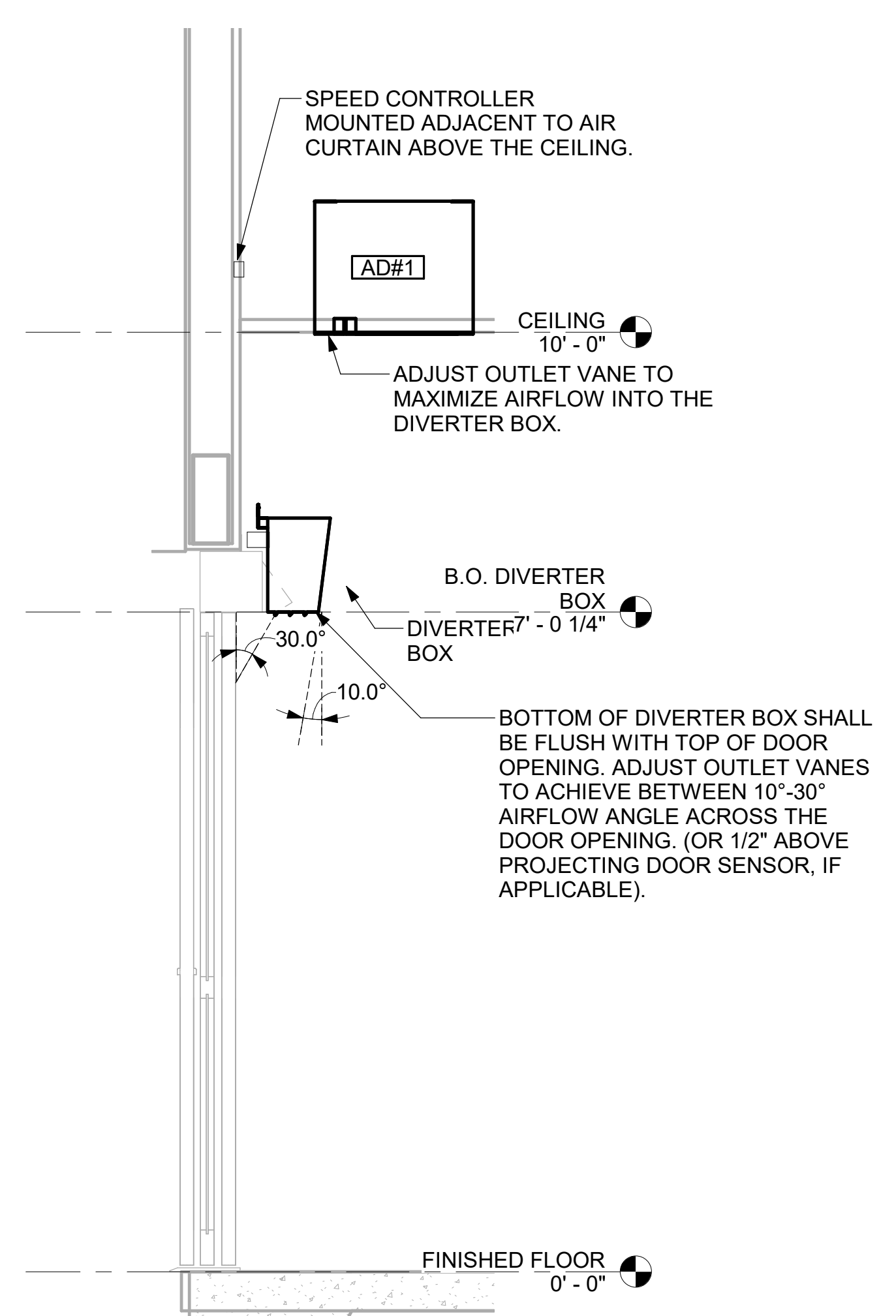
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**M-501**

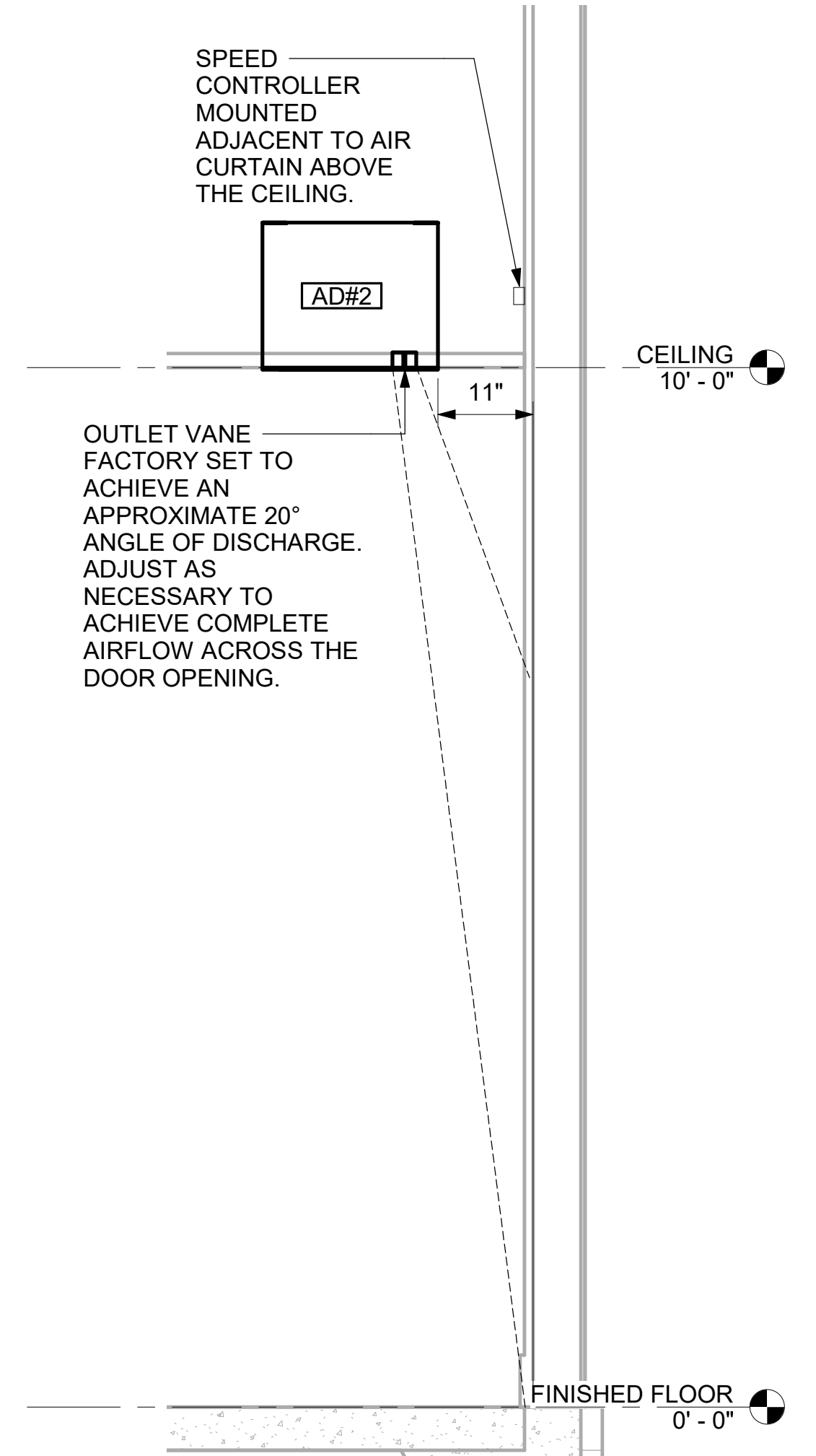
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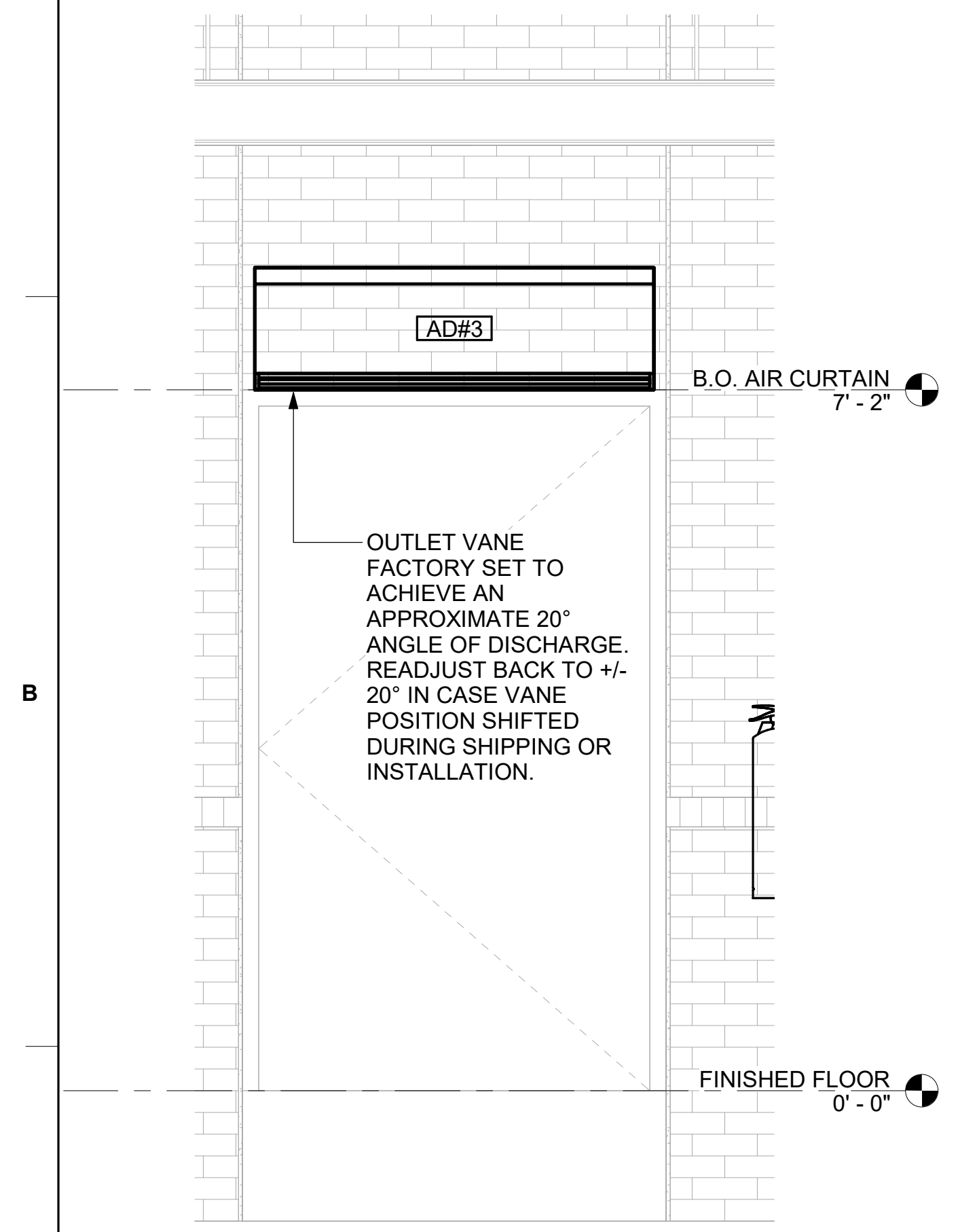
1 AD#1 FRONT VIEW  
3/4" = 1'-0"



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



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



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



**Chick-fil-A**  
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**CHICK-FIL-A**  
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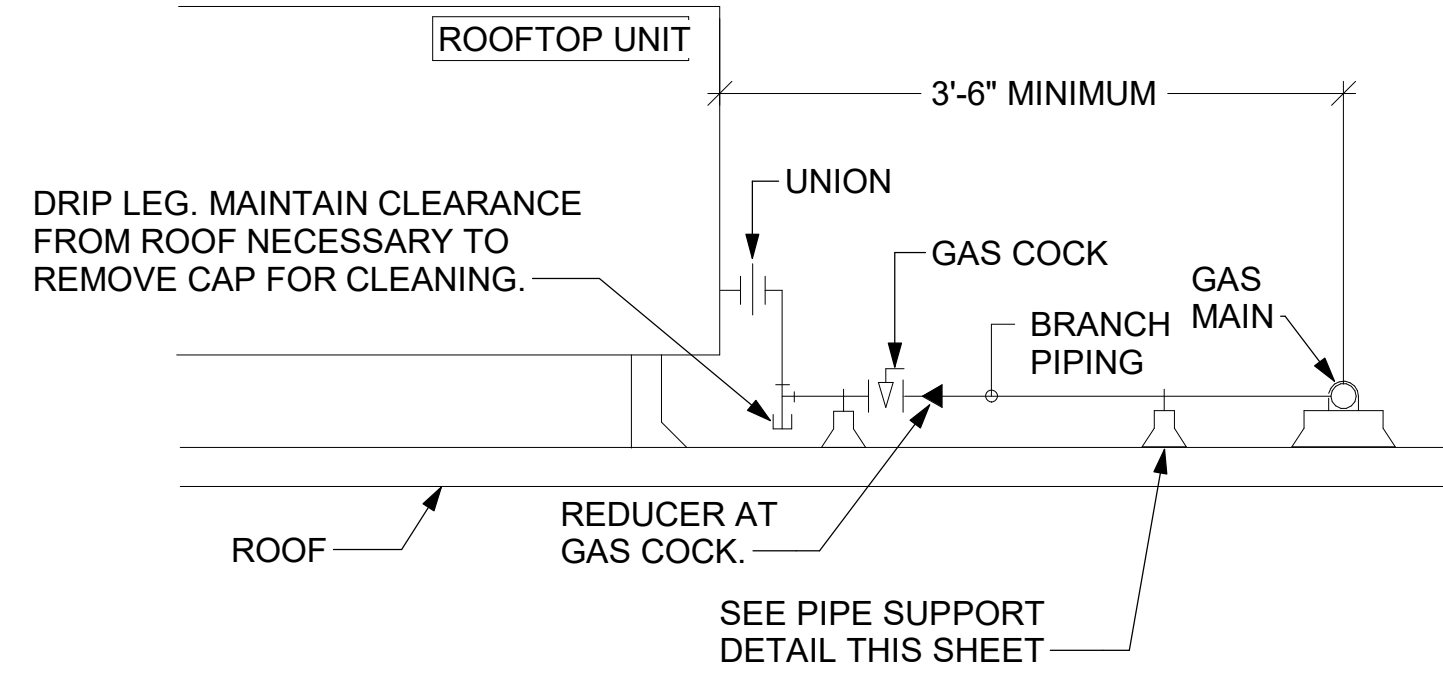
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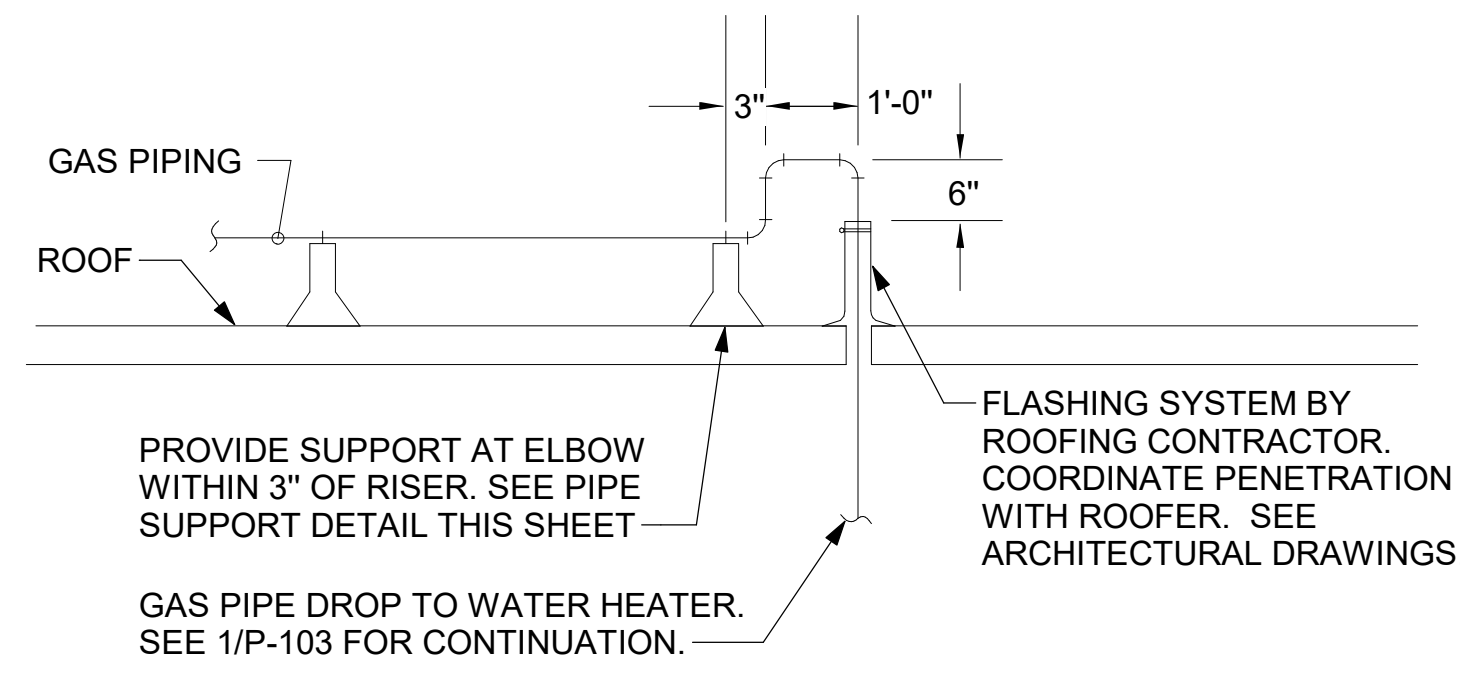
SHEET NUMBER  
**M-502**

- 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.

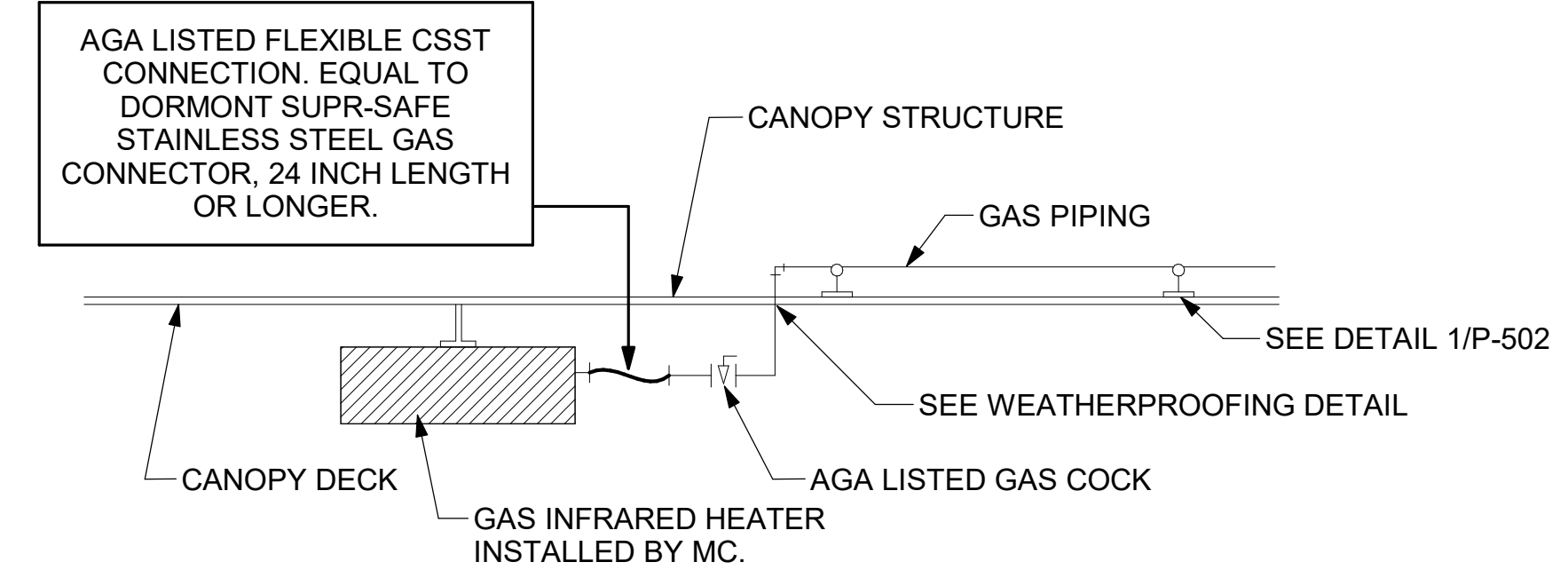


**3 GAS PIPING AT RTU**  
NOT TO SCALE

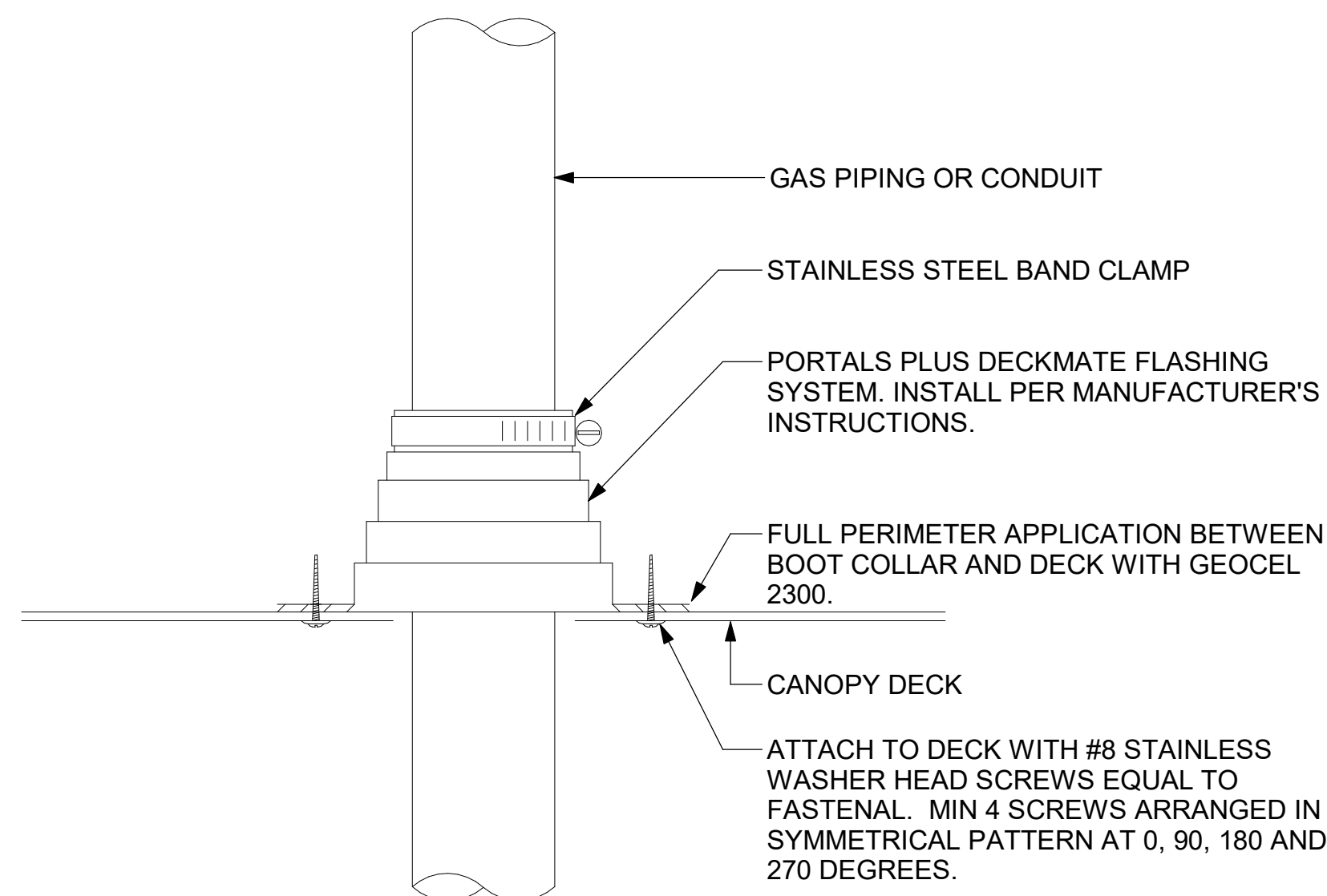
OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



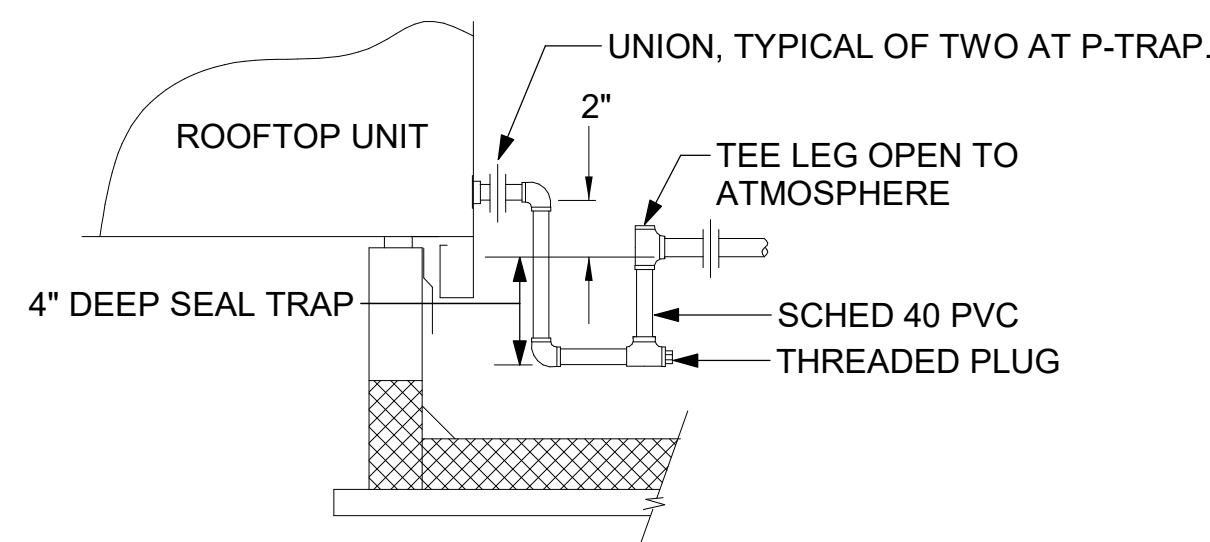
**2 GAS PIPE DROP TO WATER HEATER**  
NOT TO SCALE



**1 GAS CONNECTION AT APPLIANCE**  
NOT TO SCALE

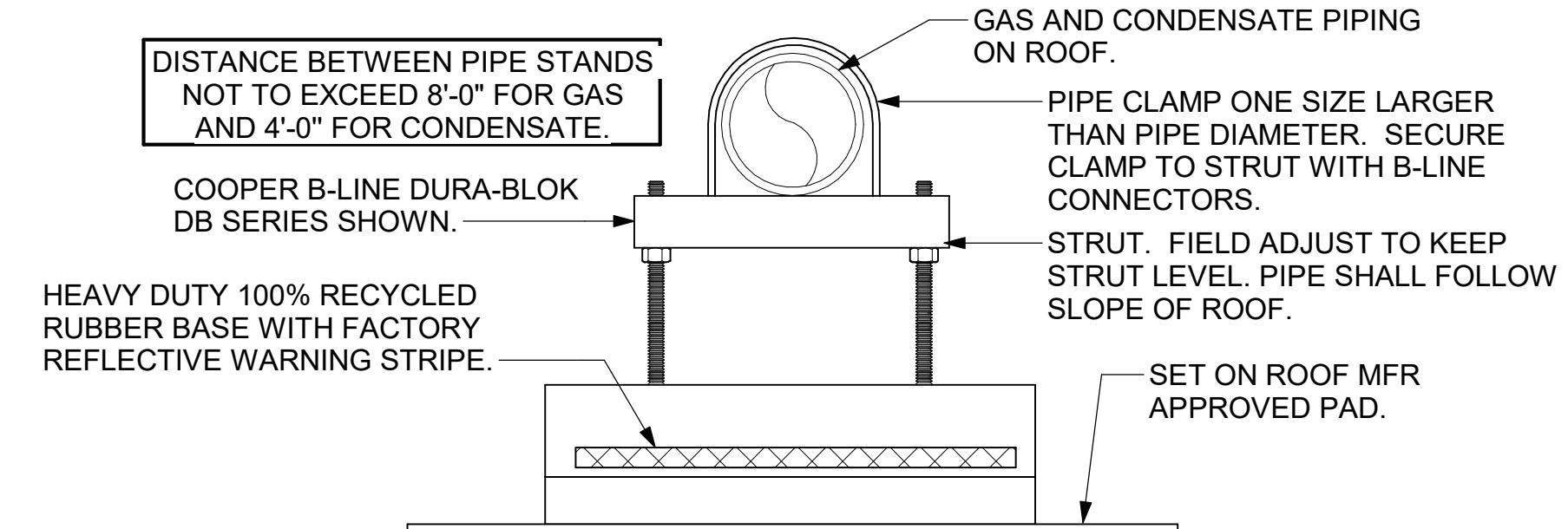


**6 WEATHERPROOFING AT CANOPY PENETRATION**  
NOT TO SCALE

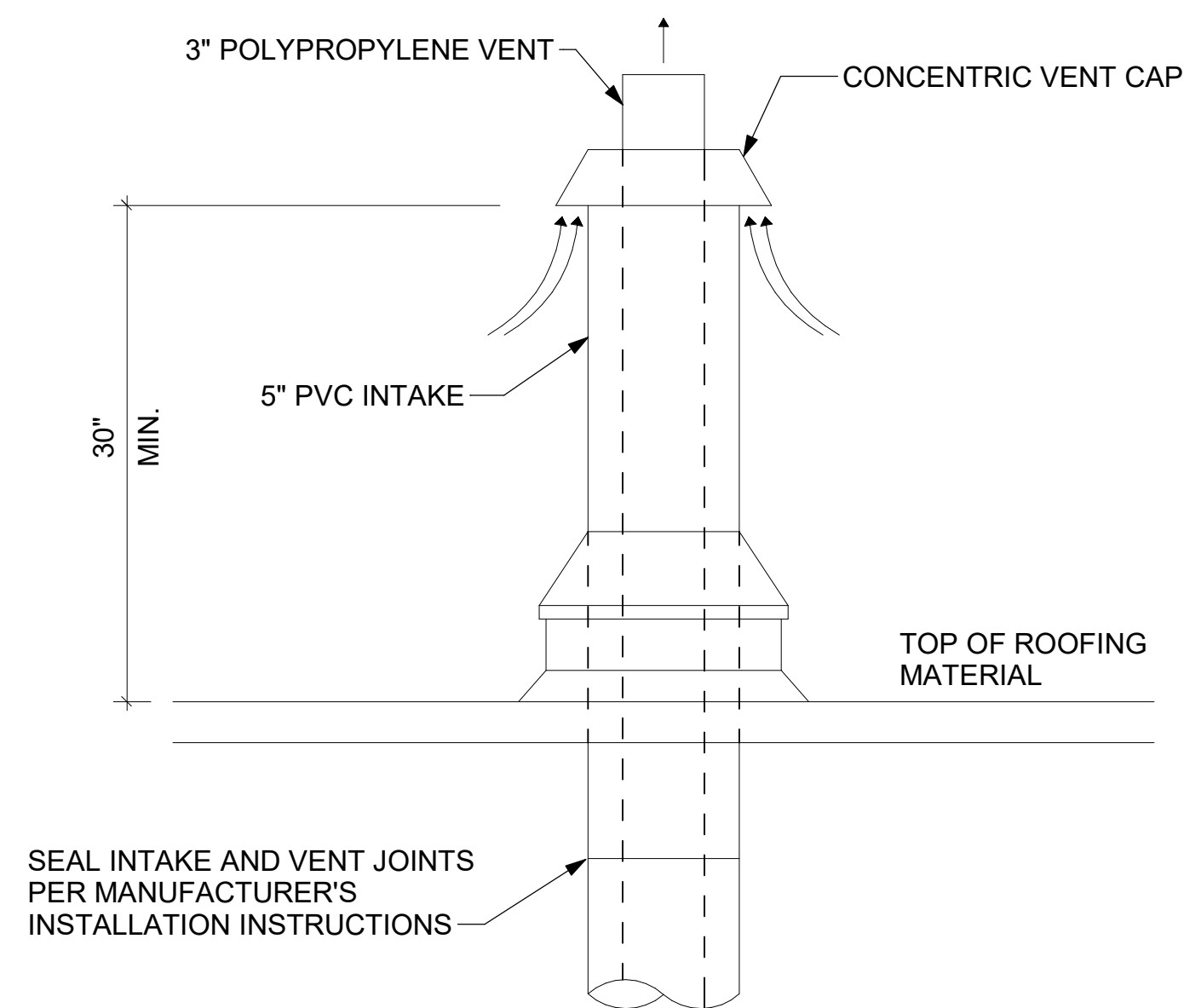


**5 CONDENSATE DRAIN PIPING**  
NOT TO SCALE

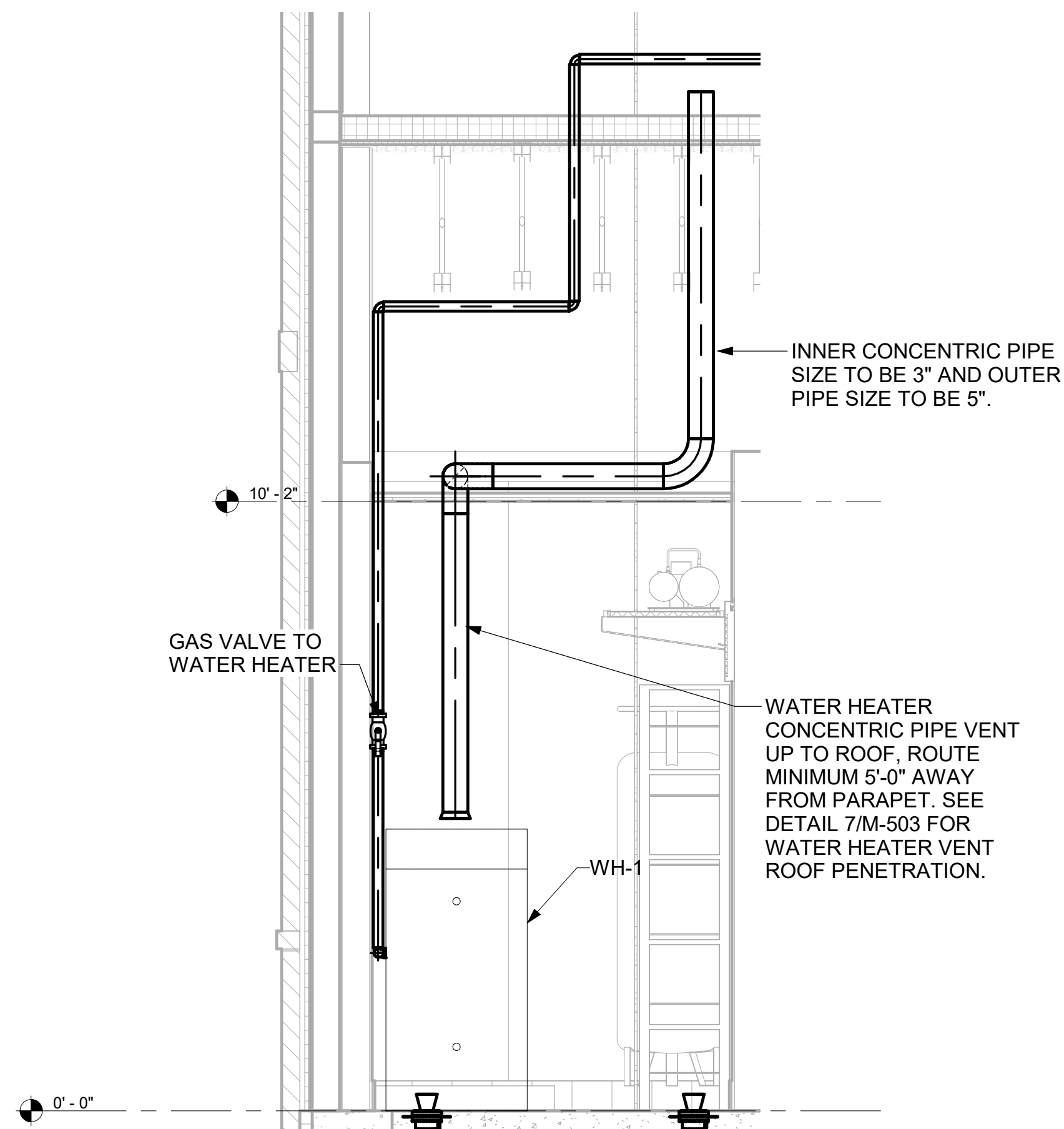
- NOTES:**
1. NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
  2. PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
  3. ENSURE 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**  
NOT TO SCALE



**8 WATER HEATER VENT ROOF PENETRATION**  
NOT TO SCALE



**7 WATER HEATER GAS PIPING AND VENTING**  
NOT TO SCALE

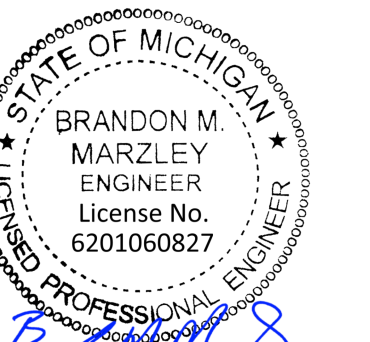


**Chick-fil-A**

**Chick-fil-A**  
5200 Buffington Road  
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**GPD GROUP**  
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330.512.2100 Fax 330.512.2101



12/13/24

**CHICK-FIL-A**  
**HALL RD & ROMEO**  
**PLANK**  
18800 HALL RD,  
CLINTON TOWNSHIP, MI 48038

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SHEET  
DETAILS

SHEET NUMBER

**M-503**

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	YSJ300A3S	9.8	13	2731.00 lb	8,125	1,750	3	0.8	271.1	202.4	400	324	208	3	125	150	1,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17
AC#2T	TRANE	YSJ150B3S	11	14.6	1559.00 lb	4,375	1,075	4.6	0.8	150.9	114.9	240	194.4	208	3	73	100	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17
AC#3T	TRANE	YSJ180A3S	10.8	14	2471.00 lb	5,250	1,275	3	0.8	184.3	140.4	400	324	208	3	78	100	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17
AC#4T	TRANE	YHC067E3R	13	17	999.00 lb	1,750	425	1	0.8	58.1	44.2	130	104	208	3	33	45	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17

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.
- 14" 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.
- FRESH AIR TEMPERING KIT.
- HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
- NOT USED.
- FACTORY CONFIGURED PHASE LOSS PROTECTION.
- FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
- FACTORY STAINLESS STEEL HEAT EXCHANGER.
- 100K SCCR RATING.

FAN SCHEDULE

MARK	FAN CFM	ESP (in-wg)	MOTOR RPM	HP	AREA SERVED	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	MODEL	MANUFACTURER	REMARKS
CF-1	1,900 CFM	0.01	1,625	0.1	OUTDOOR CANOPY	120	1	1.1	20	U-18-TE-HD	TPI	
EF#1	1,913 CFM	0.75	1,331	0.75	HOOD#1	120	1	0	25	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#2	1,402 CFM	0.95	1,199	0.75	HOOD#2 & HOOD#3	115	1	0	25	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#3	300 CFM	0.375	1,550	0.125	RESTROOMS	120	1	2.2	20	XRED-095-VG	ACCUREX	1,3,11,12,13,14,15,16
EF#4	75 CFM	0.26	900	0.02	RESTROOMS	120	1	0.2	0	SP-A90	GREENHECK	1,2,23
TF#1	450 CFM	0.3	1,144	0.127	TECH CLOSET	120	1	2.5	0	SP-A510-VG	GREENHECK	1, 17, 18, 19

NOTES

- GREASE EXHAUST FAN RPM BASED ON 80 DEGREE F AIR AT 1000 FEET ABOVE SEA LEVEL.

REMARKS

- FANS SUPPLIED BY HALTON.
- U.L. 705 LISTED AND LABELED FOR RESTUARANT APPLICATIONS.
- FACTORY INSTALLED PREWIRED DISCONNECT.
- 19" 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/ TEMPERATURE CONTROLLER, SET TO 76°F.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE WITH ON/OFF SWITCH.
- NOT USED.
- NOT USED.
- FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR THE SOUTHWEST REGION.

HOOD SCHEDULE

MARK	EXHAUST CFM	SP @ TAB PORT (in-wg)	CAPTURE JET CFM & S.P.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MANUFACTURER	MODEL	REMARKS
HOOD#1L	709	0.13	47 @ 0.30"	BACKSHELF	8"X8"	63"	37"	38"	HALTON	KVL-2 IC	1, 2, 3, 5, 7, 8, 9, 20, 21, 22
HOOD#1R	1,204	0.13	80 @ 0.30"	BACKSHELF	14"X8"	107"	37"	38"	HALTON	KVL-2 IC	1, 2, 3, 4, 5, 7, 8, 9, 12, 16, 21, 23
HOOD#2	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	42"	34"	38"	HALTON	KVL-C-IC	1, 2, 3, 6, 7, 8, 9, 13, 15, 16, 18, 21
HOOD#3	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	42"	34"	38"	HALTON	KVL-C-IC	1, 2, 3, 4, 6, 7, 8, 9, 13, 17, 21

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

- STAINLESS STEEL CONSTRUCTION.
- PROVIDE FULL HEIGHT SS CLOSURE PANEL WITH ACCESS PANEL IN FRONT LARGE ENOUGH TO REMOVE CAPTURE JET FAN, FIRE SUPPRESSION COMPONENTS, AND/OR TO ACCESS KBD EQUALIZER JACK SCREW.
- PRE-PIPED FIRE SUPPRESSION SYSTEM.
- FIRE SUPPRESSION CABINET AND COMPONENTS ABOVE HOOD ON LEFT SIDE.
- 3" ZERO CLEARANCE TO COMBUSTIBLE BACK SPACER.
- 3" ZERO CLEARANCE TO COMBUSTIBLE CUSTOM BACK SPACER TO ACCOMMODATE PIN AND SLEEVE ELECTRICAL BOX.
- EQUIPMENT I.D. LABELS LOCATED ON FRONT LEADING EDGE OF HOOD.
- FACTORY WALL MOUNTING ANGLE AT TOP OF HOOD.
- INTEGRAL CAPTURE JET FAN.
- NOT USED.
- NOT USED.
- NOT USED.
- PIN AND SLEEVE ELECTRICAL BOX (DOUBLE CONNECTION). SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- NOT USED.
- 3" ZERO CLEARANCE TO COMBUSTIBLE RIGHT SIDE SPACER.
- NOTCHED LEFT END SIDE PANEL.
- NOTCHED RIGHT END SIDE PANEL.
- 3"x3" HORIZONTAL AND VERTICAL TRIM ANGLE FOR RIGHT SIDE OF HOOD TO FINISH OFF GAP AT WALL.
- FULL LEFT END SIDE PANEL.
- FULL RIGHT END SIDE PANEL.
- HALTON KBD EQUALIZER.
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT.
- CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT.

AIR DOOR SCHEDULE

MARK	CFM	VELOCITY (FPM)	HEATING (KW)	MOTOR HP	MCA (A)	MOCP (A)	VOLTAGE (V)	PHASE	AREA SERVED	MODEL	MANUFACTURER	REMARKS
AD#1	1,543	2,338	10	0.75	31.4	40	208	3	DRIVE THRU	CHA-1-48E	POWERED AIRE	1,2,3,5
AD#2	1,197	2,443	10	0.75	31.4	40	208	3	SERVING	CHA-1-36E	POWERED AIRE	1,2,3
AD#3	3,867	4,218	0	0.75	3.6	20	208	1	REAR DOOR	RBT-1-48	POWERED AIRE	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 M502.
- 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.

AIR DEVICE SCHEDULE

Mark	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	FRAME TYPE	REMARKS
JJJ						
A	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING/ KITCHEN	VARIES	24"x24"	LAY-IN	1,7
B	VARITHERM PLAQUE DIFFUSER	OFFICE	8"	24"x24"	LAY-IN	1,7,8
C	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	ENTRY	14"x14"	19"x19"	BEVELLED	1,3,5,6
D	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING	VARIES	16"x16"	SURFACE	1,3,5,6
E	PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE.	ENTRY	14"x14"	16"x16"	SURFACE	1,7
F	PRICE MODEL 80 EGGCRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	KITCHEN / DINING / OFFICE	VARIES	24"x24"	LAY-IN	1,7
G	PRICE MODEL 22 DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY PATTERN CONTROLLERS.	PLAY AREA	18"x10"	20"x12"	SURFACE	1
J	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS	10"x10"	15"x15"	BEVELLED	1,2,3,5,6
K	PRICE MODEL APDDR ALUMINUM PERFORATED FACE EXHAUST AIR GRILLE.	RESTROOMS	14"x14"	16"x16"	SURFACE	1,4,5,6
L	PRICE MODEL 21 ALUMINUM SIDEWALL RETURN GRILLE, FRONT BLADE PARALLEL TO LONG SIDE.	PLAY AREA	12"x12"	14"x14"	SURFACE	1

NOTES

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

REMARKS

- STANDARD OFF WHITE FINISH.
- PROVIDE MODEL VCS3 NECK DAMPER.
- SEE DRAWING M-101 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.
- FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 3/M-501.
- FACTORY INSULATED R-6 BACKPAN.
- PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.

HEATER SCHEDULE

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



**Chick-Fil-A**  
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 30349-2998



12/13/24

**CHICK-FIL-A**  
 HALL RD & ROMEO  
 PLANK  
 18800 HALL RD,  
 CLINTON TOWNSHIP, MI 48038

**FSR#05834**  
 BUILDING TYPE / SIZE: P14 LSR BS  
 RELEASE: 24.05  
 PRINTED FOR  
 ISSUED FOR CONSTRUCTION  
**REVISION SCHEDULE**  
 NO. DATE DESCRIPTION  
 C 12/11/24 ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 2024223.16  
 DATE 12/11/24  
 DRAWN BY MJA

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SHEET HVAC EQUIPMENT SCHEDULES - TRANE

SHEET NUMBER

**M-601T**

Autodesk Docs://MI\_05834\_Hall Rd and Romeo Plank MI FSU\_2024\_3\_FSR/05834\_Hall Rd and Romeo Plank MI FSU\_MEC.rvt  
 12/13/2024 9:16:50 AM  
 30-LSR-05834-M-601T-HVAC EQUIPMENT SCHEDULES - TRANE

### VENTILATION SCHEDULE

General			Ventilation													Exhaust					Served by	
Room #	Room Name	Area Az ft2	People			Area						Actual Outdoor Airflow CFM	Area		Toilet			Supply	Exhaust			
			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	Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz		Primary Zone Airflow CFM Vpz	Primary Outdoor Air Fraction Zp	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation			Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM
1	Kitchen	1,245	20	25	7.5	187.5	0.12	149	337	0.8	422	7,700	0.05	1,658	1	872	-	-	-	3,315	AC#1L / AC#1T	EF-1 / EF-2
2	Scullery	126	15	2	7.5	15	0.18	23	38	0.8	48	425	0.11	92	-	-	-	-	-	-	AC#1L / AC#1T	-
<b>Total Area 1,371</b>			<b>Total Vbz 375</b>						<b>Total Supply Airflow 8,125</b>			<b>1,750</b>		<b>Actual Outdoor Airflow</b>								
			<b>Diversity (D) 0.74</b>			<b>Maximum Zp 0.11</b>																
			<b>Uncorrected Outdoor Air Intake (Vou) 330</b>			<b>System Ventilation Efficiency (Ev) 1.00</b>																
			<b>Required Outdoor Air Intake (CFM) 329</b>																			

### VENTILATION SCHEDULE

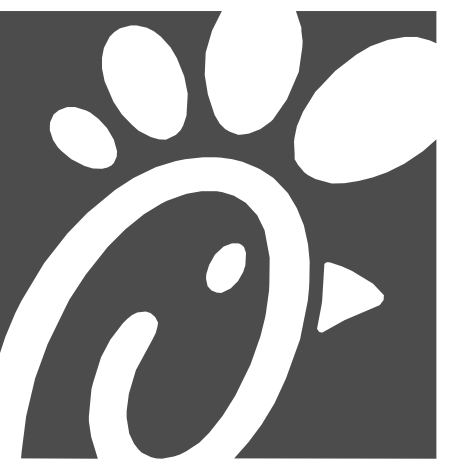
General			Ventilation													Exhaust					Served by	
Room #	Room Name	Area Az ft2	People			Area						Actual Outdoor Airflow CFM	Area		Toilet			Supply	Exhaust			
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/Ra	Outdoor Airflow CFM Az x Ra	Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz		Primary Zone Airflow CFM Vpz	Primary Outdoor Air Fraction Zp	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation			Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM
5	Meal Fulfillment Area	543	15	9	7.5	67.5	0.18	98	165	0.8	207	4,375	0.05	1,075	-	-	-	-	-	-	AC#2L / AC#2T	-
<b>Total Area 543</b>			<b>Total Vbz 165</b>						<b>Total Supply Airflow 4,375</b>			<b>1,075</b>		<b>Actual Outdoor Airflow</b>								
			<b>Diversity (D) 0.89</b>			<b>Maximum Zp 0.04</b>																
			<b>Uncorrected Outdoor Air Intake (Vou) 154</b>			<b>System Ventilation Efficiency (Ev) 1.00</b>																
			<b>Required Outdoor Air Intake (CFM) 154</b>																			

### VENTILATION SCHEDULE

General			Ventilation													Exhaust					Served by	
Room #	Room Name	Area Az ft2	People			Area						Actual Outdoor Airflow CFM	Area		Toilet			Supply	Exhaust			
			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	Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz		Primary Zone Airflow CFM Vpz	Primary Outdoor Air Fraction Zp	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation			Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM
1	Dining	1,393	70	98	7.5	735	0.18	251	986	0.8	1,233	4,000	0.308	971	-	-	-	-	-	-	AC#3L / AC#3T	-
2	Serving	191	15	3	7.5	23	0.18	34	57	0.8	72	500	0.14	121	-	-	-	-	-	-	AC#3L / AC#3T	-
3	Men's RR	151	-	-	-	-	-	-	-	0.8	-	100	-	24	-	-	Continuous	50	100	150	AC#3L / AC#3T	EF-3
4	Women's RR	167	-	-	-	-	-	-	-	0.8	-	135	-	33	-	-	Continuous	50	100	150	AC#3L / AC#3T	EF-3
5	RR Vestibule	117	-	-	-	-	0.06	7	7	0.8	9	115	0.08	28	-	-	-	-	-	-	AC#3L / AC#3T	-
6	Entry Vestibule	83	-	-	-	-	0.06	4	4	0.8	5	400	0.01	97	-	-	-	-	-	-	AC#3L / AC#3T	-
<b>Total Area 2,082</b>			<b>Total Vbz 1,053</b>						<b>Total Supply Airflow 5,250</b>			<b>1,275</b>		<b>Actual Outdoor Airflow</b>								
			<b>Diversity (D) 0.77</b>			<b>Maximum Zp 0.308</b>																
			<b>Uncorrected Outdoor Air Intake (Vou) 986</b>			<b>System Ventilation Efficiency (Ev) 0.80</b>																
			<b>Required Outdoor Air Intake (CFM) 1,232</b>																			

### VENTILATION SCHEDULE

General			Ventilation													Exhaust					Served by	
Room #	Room Name	Area Az ft2	People			Area						Actual Outdoor Airflow CFM	Area		Toilet			Supply	Exhaust			
			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	Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz		Primary Zone Airflow CFM Vpz	Primary Outdoor Air Fraction Zp	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation			Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM
1	Team Member Room	172	50	9	5	45	0.06	10	55	0.8	70	650	0.11	158	-	-	-	-	-	-	AC#4L / AC#4T	-
2	Riser Room	41	-	-	-	-	0.12	5	5	0.8	7	225	0.03	55	-	-	-	-	-	-	AC#4L / AC#4T	-
3	Service / Beverage	141	-	-	-	-	0.12	17	17	0.8	22	700	0.03	170	-	-	-	-	-	-	AC#4L / AC#4T	-
4	Office	88	5	1	5	5	0.06	4	9	0.8	12	135	0.08	33	-	-	-	-	-	-	AC#4L / AC#4T	-
5	Employee RR	88	-	-	-	-	-	-	-	0.8	-	40	-	10	-	-	Intermittent	70	70	75	AC#4L / AC#4T	EF-4
<b>Total Area 490</b>			<b>Total Vbz 86</b>						<b>Total Supply Airflow 1,750</b>			<b>425</b>		<b>Actual Outdoor Airflow</b>								
			<b>Diversity (D) 0.80</b>			<b>Maximum Zp 0.11</b>																
			<b>Uncorrected Outdoor Air Intake (Vou) 79</b>			<b>System Ventilation Efficiency (Ev) 1.00</b>																
			<b>Required Outdoor Air Intake (CFM) 78</b>																			



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12/13/24

**CHICK-FIL-A**  
**HALL RD & ROMEO**  
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18800 HALL RD,  
CLINTON TOWNSHIP, MI 48038

**FSR#05834**

BUILDING TYPE / SIZE: P14 LSR BS  
RELEASE: 24.05  
PRINTED FOR:  
ISSUED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2024223.16  
DATE 12/11/24  
DRAWN BY MJJA

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SHEET HVAC VENTILATION SCHEDULES

SHEET NUMBER **M-602**

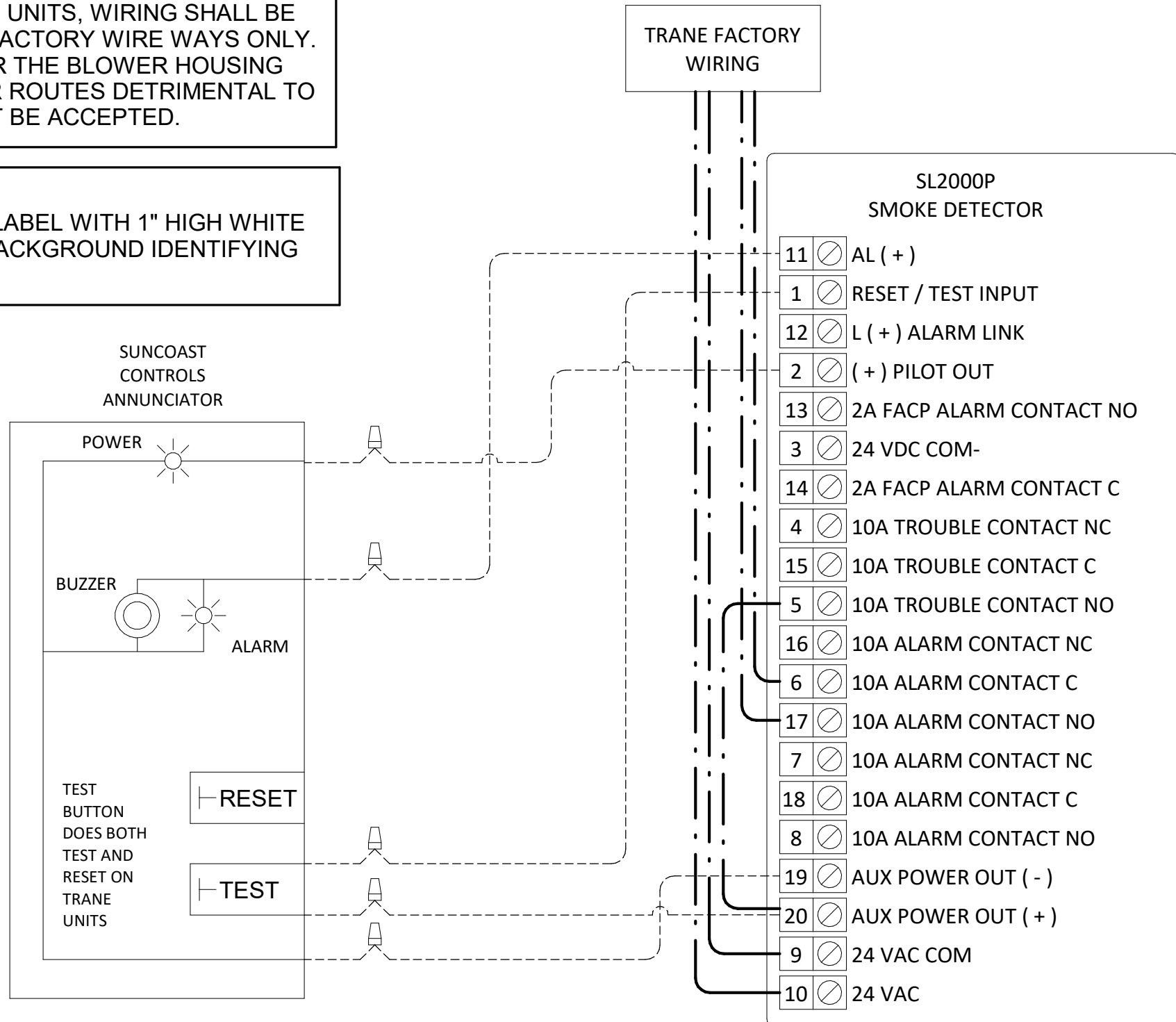
SUPPLY SIDE DETECTORS:  
IF SUPPLY SIDE SMOKE DETECTORS ARE SHOWN ON DWG M-101, AND CALLED FOR ON RTU SCHEDULE, THE CONTRACTOR IS TO RELOCATE FACTORY INSTALLED SUPPLY SMOKE DETECTOR FROM BLOWER SECTION TO DUCTWORK. SEE NOTES ON DWG M-101.

FIELD INSTALLED WIRING:  
WITHIN THE ROOFTOP UNITS, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIRE WAYS 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.

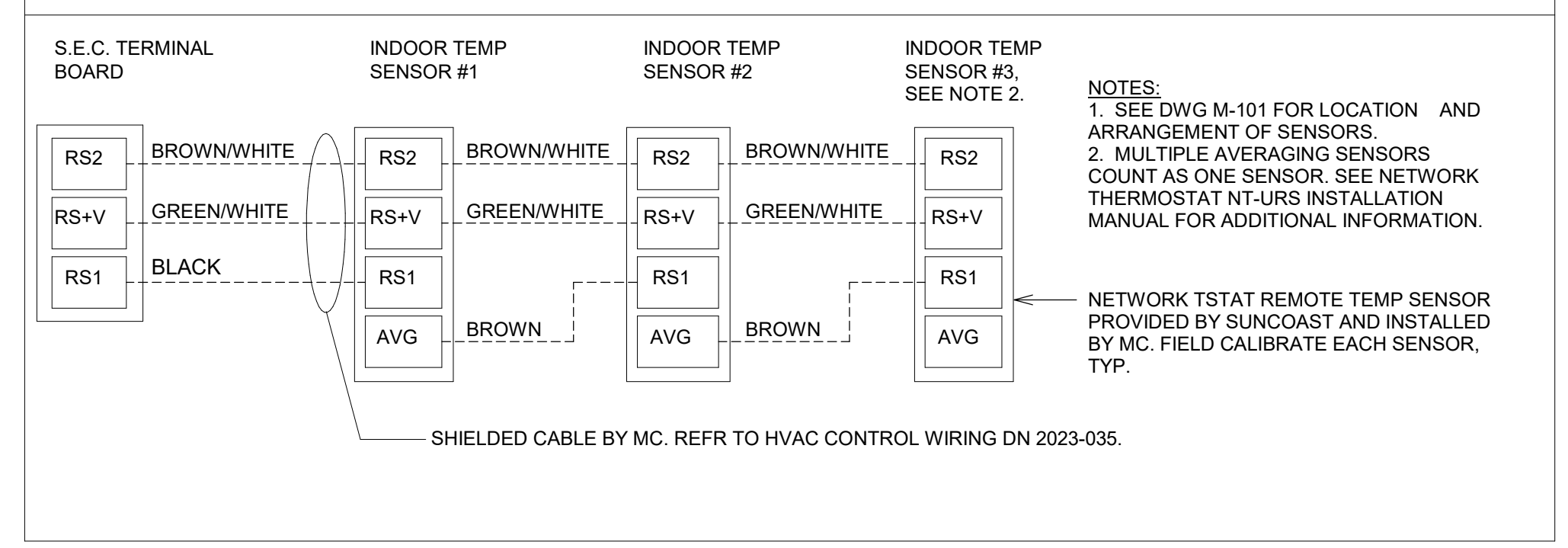
LEGEND

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



1 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM - TRANE  
NOT TO SCALE

AVERAGING SENSORS  
(WHERE SHOWN ON PLANS)



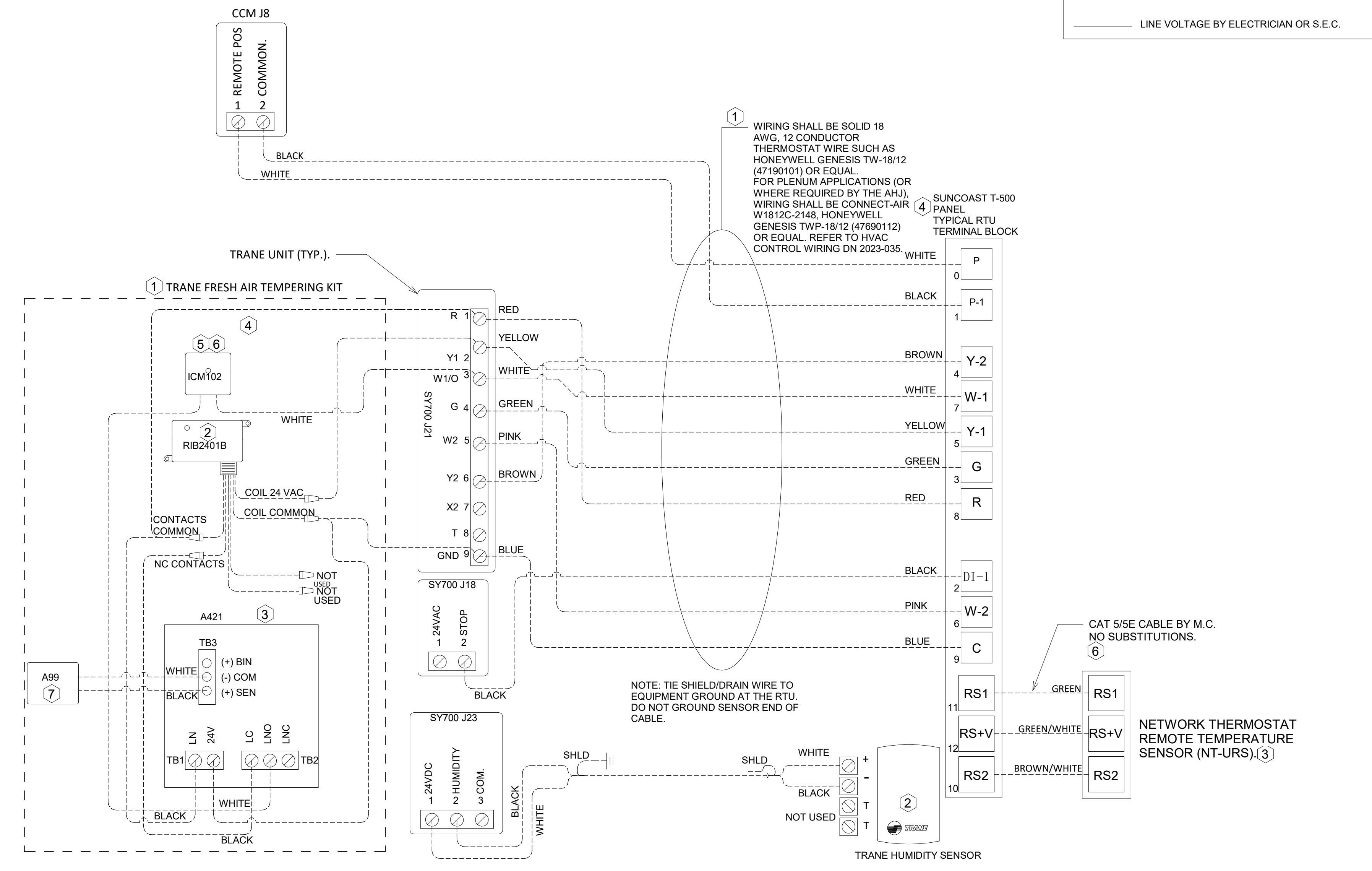
- KEYED NOTES:
1. LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
  2. WIRING TO HUMIDITY SENSOR TO BE MADE WITH SINGLE 18/2 SENSOR CABLE W221P-2003NT ONLY.
  3. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. SENSOR IS INTENDED TO BE SURFACE MOUNTED AND DOES NOT REQUIRE A SINGLE GANG BOX OR CONDUIT. 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/SE CABLE BY M.C. NO SUBSTITUTIONS. REFER TO HVAC CONTROL WIRING DN 2023-035.

- NOTES:
1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON INSIDE DOOR OF ROOFTOP UNIT CONTROL COMPARTMENT.
  2. SEE DETAILS THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
  3. SET ALL THERMOSTATS FOR AUTO CHANGEOVER.
  4. PROVIDE PLAC ENGRAV LABEL AT ALL NEW SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. "FACE HUMIDITY SENSOR" OR "A/C2 TEMP SENSOR". PLACE LABELS ON WALL ADJACENT TO DEVICE, DO NOT APPLY.

LEGEND

S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF TEMP/FAN CONTROL PANEL) LOCATED IN THE KITCHEN
1	KEY NOTE REFERENCE
MC	MECHANICAL CONTRACTOR
AC	SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL. ENERGIZED BY PUTTING STORE SWITCH IN "STORE OCCUPIED" POSITION
AN	SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL. DENERGIZED WHEN ANSUL FIRE SUPPRESSION SYSTEM IS ACTIVATED, AS NOTED.
---	ALL LOW VOLTAGE CABLING BY MC. 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. DIN-MOUNTED IN THE RTU CONTROL CABINET. SET TO S8F. LOCATE TRANE PROVIDED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE8001-1 SENSOR DUCT MOUNTING PLATE PROVIDED BY TRANE. DO NOT RUN WIRING INSIDE DUCTWORK.
  4. 18 AWG MIN. LOW VOLTAGE WIRING BY MC.
  5. ICM102 TIME DELAY RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
  6. SET TIME DELAY RELAY (ICM102) TO 2 MINUTES.
  7. PROVIDE JCI TE6001-1 TEMPERATURE ELEMENT HOLDER FOR SUPPLY AIR TEMPERATURE SENSOR (A99).



2 ROOFTOP UNIT CONTROL WIRING - TRANE  
NOT TO SCALE



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



12/13/24

CHICK-FIL-A  
HALL RD & ROMEO  
PLANK  
18800 HALL RD,  
CLINTON TOWNSHIP, MI 48038

FSR#05834

BUILDING TYPE / SIZE: P14 LSR BS  
RELEASE: 24.05  
PRINTED FOR  
ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

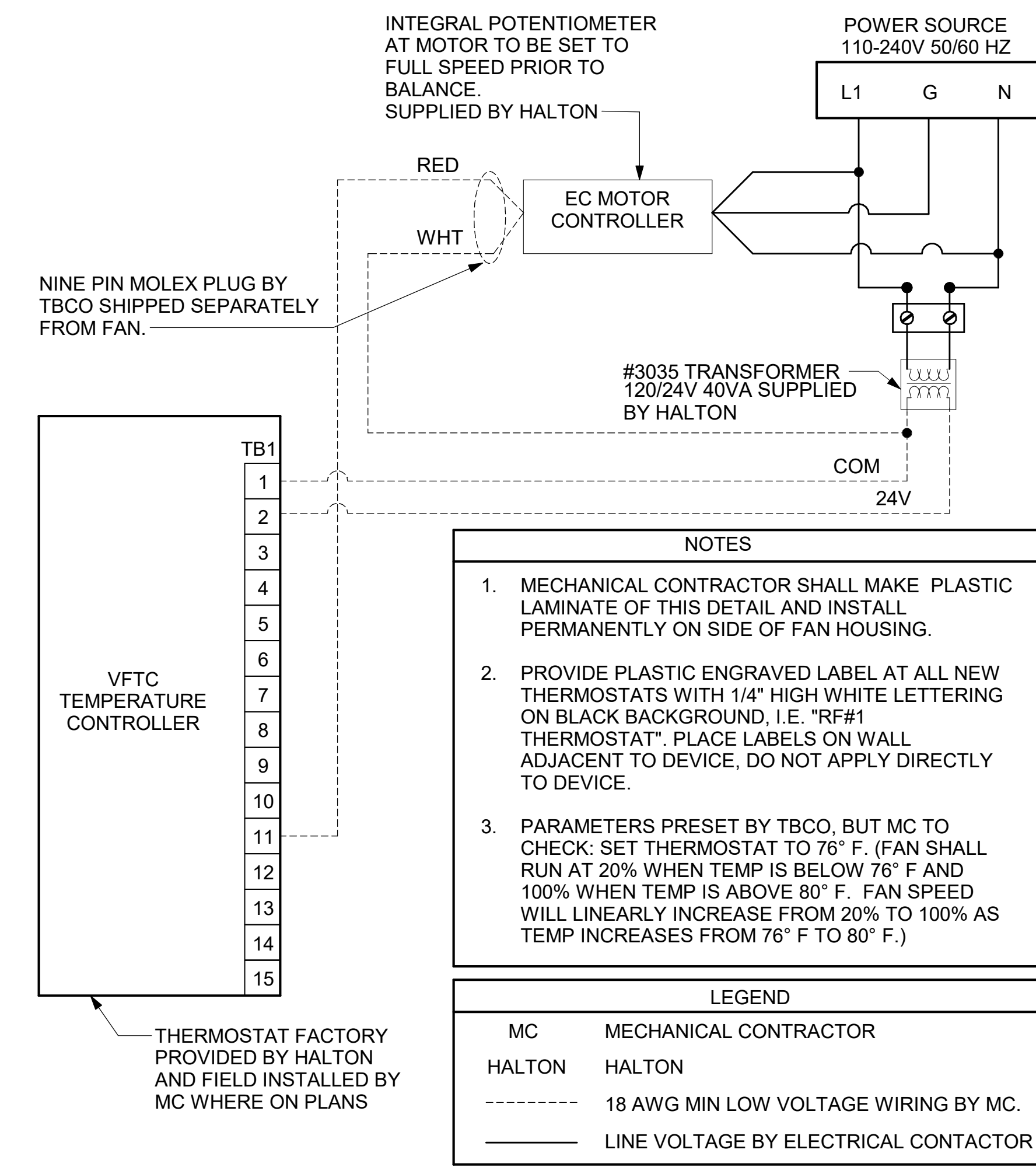
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2024223.16  
DATE 12/11/24  
DRAWN BY MJA

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SHEET CONTROL WIRING DIAGRAMS - TRANE

SHEET NUMBER M-701T



1 TECH CLOSET CONTROL DIAGRAM  
 NOT TO SCALE



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



**CHICK-FIL-A**  
 HALL RD & ROMEO  
 PLANK  
 18800 HALL RD,  
 CLINTON TOWNSHIP, MI 48038

**FSR#05834**  
 BUILDING TYPE / SIZE: P14 LSR BS  
 RELEASE: 24.05  
 PRINTED FOR  
 ISSUED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION

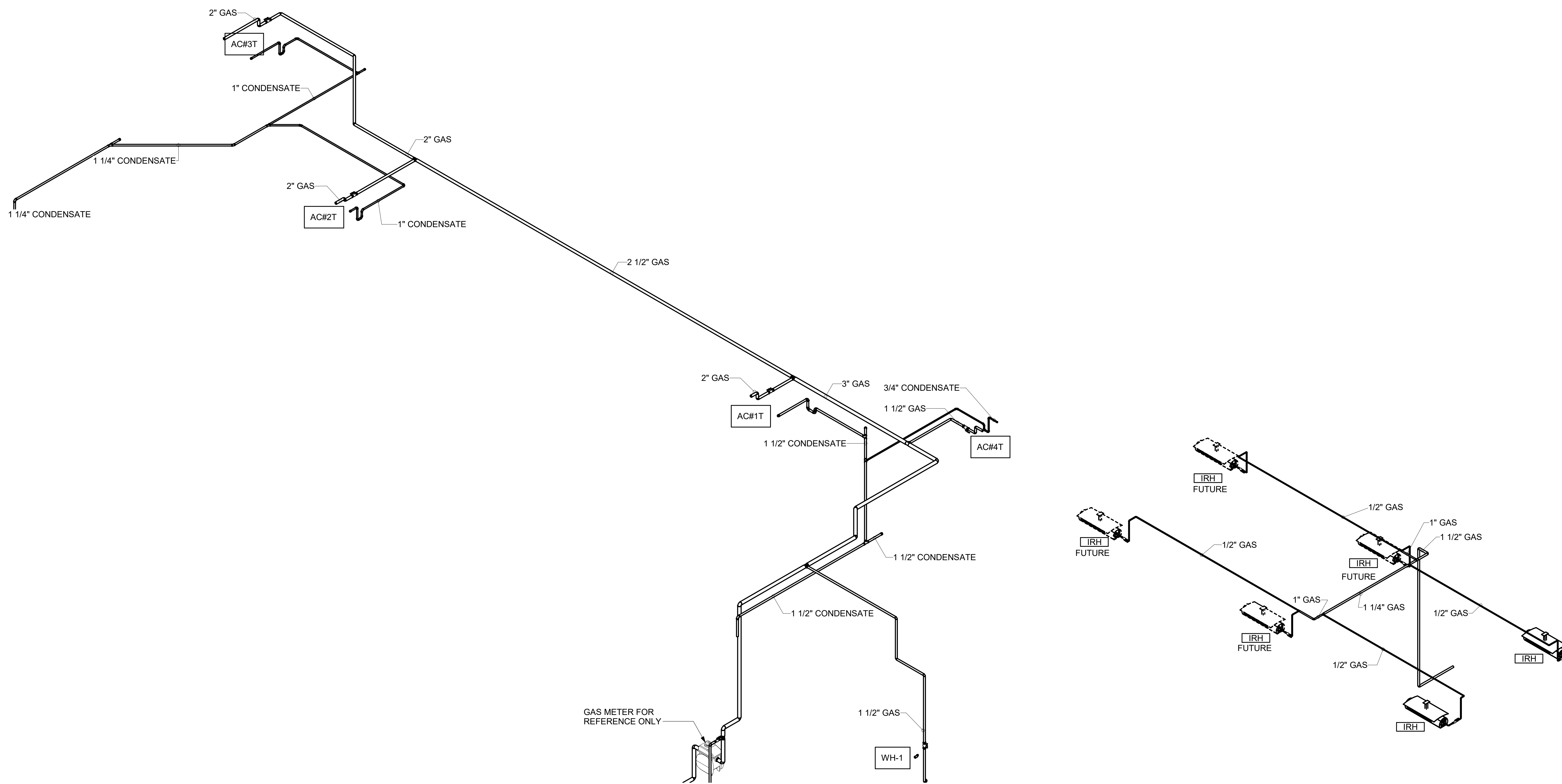
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 DATE 12/11/24  
 DRAWN BY MJA

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SHEET CONTROL WIRING DIAGRAMS

SHEET NUMBER **M-702**

Autodesk Docs://MI\_05834\_Hall Rd and Romeo Plank MI FSU\_2024\_3\_FSR/05834\_Hall Rd and Romeo Plank MI FSU\_MEC.rvt  
 12/13/2024 9:16:45 AM  
 30-LSR-05834-M-901T-GAS AND CONDENSATE ISOMETRIC - TRANE



1 GAS AND CONDENSATE ISOMETRIC - TRANE

2 ORDER CANOPY PIPING ISOMETRIC - TRANE



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



12/13/24

**CHICK-FIL-A**  
**HALL RD & ROMEO**  
**PLANK**  
 18800 HALL RD,  
 CLINTON TOWNSHIP, MI 48038

**FSR#05834**

BUILDING TYPE / SIZE: P14 LSR BS  
 RELEASE: 24.05  
 PRINTED FOR  
 ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

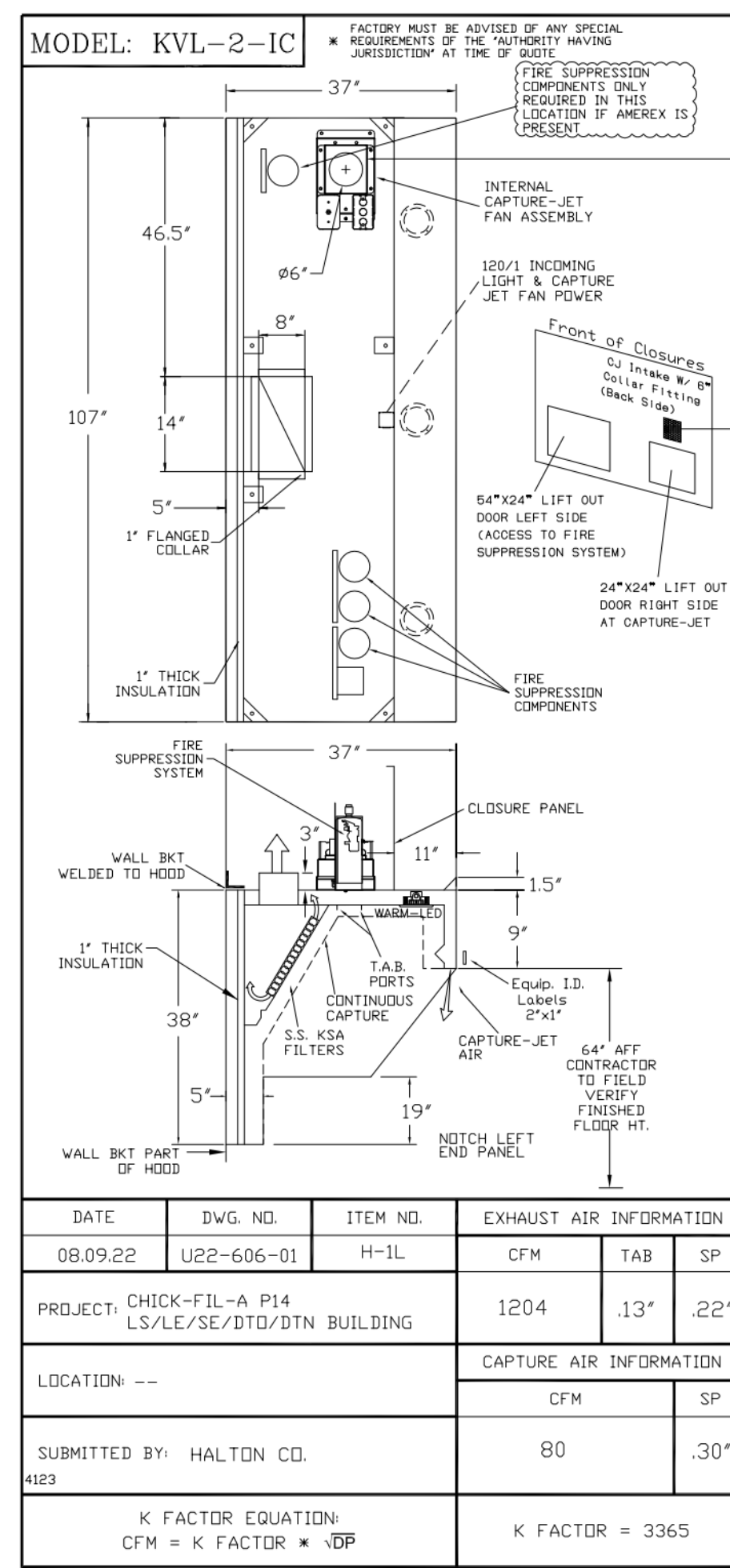
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DATE	12/11/24
DRAWN BY	MJA

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SHEET  
 GAS AND CONDENSATE  
 ISOMETRIC - TRANE

SHEET NUMBER

**M-901T**



STANDARD FEATURES	
S.S. FILTERS (KSA)	5
1/2" S.S. FILTERS (KSA)	1
CAPTURE-JET	*
STAND-OFF	*
L.E.D. LIGHTS	3

OPTIONS	
REMOTE SWITCH PANEL	*
FIRE PROTECTION	*
ETL LISTED W/O EXHAUST DAMPER	*
CEILING CLOSURE	2
STD. BACKSPASH	*
INSULATED BACKSPASH	*
KBD DAMPER	*

MATERIAL	
EXPOSED SURFACES	18 GA. S.S.
ALL 18 GA. S.S.	*

COMMENTS	
CLOSURE HEIGHT = 51" (TWO SIDES)	
CEILING HEIGHT = 122" (THREE SIDES)	
CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF	
FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION)	
64"x24" LIFT OUT DOOR RIGHT SIDE AT CAPTURE-JET W/ FRONT C/J INTAKE	
CONTINUOUS CAPTURE INTERNAL RIGHT END OUTLET	
3" REAR STAND-OFF TO HAVE 1" THICK INSULATION	
NOTCHED LEFT END PANEL	

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-1L	CFM TAB SP	(4) PRESSURE FRYERS (2) GRILLS

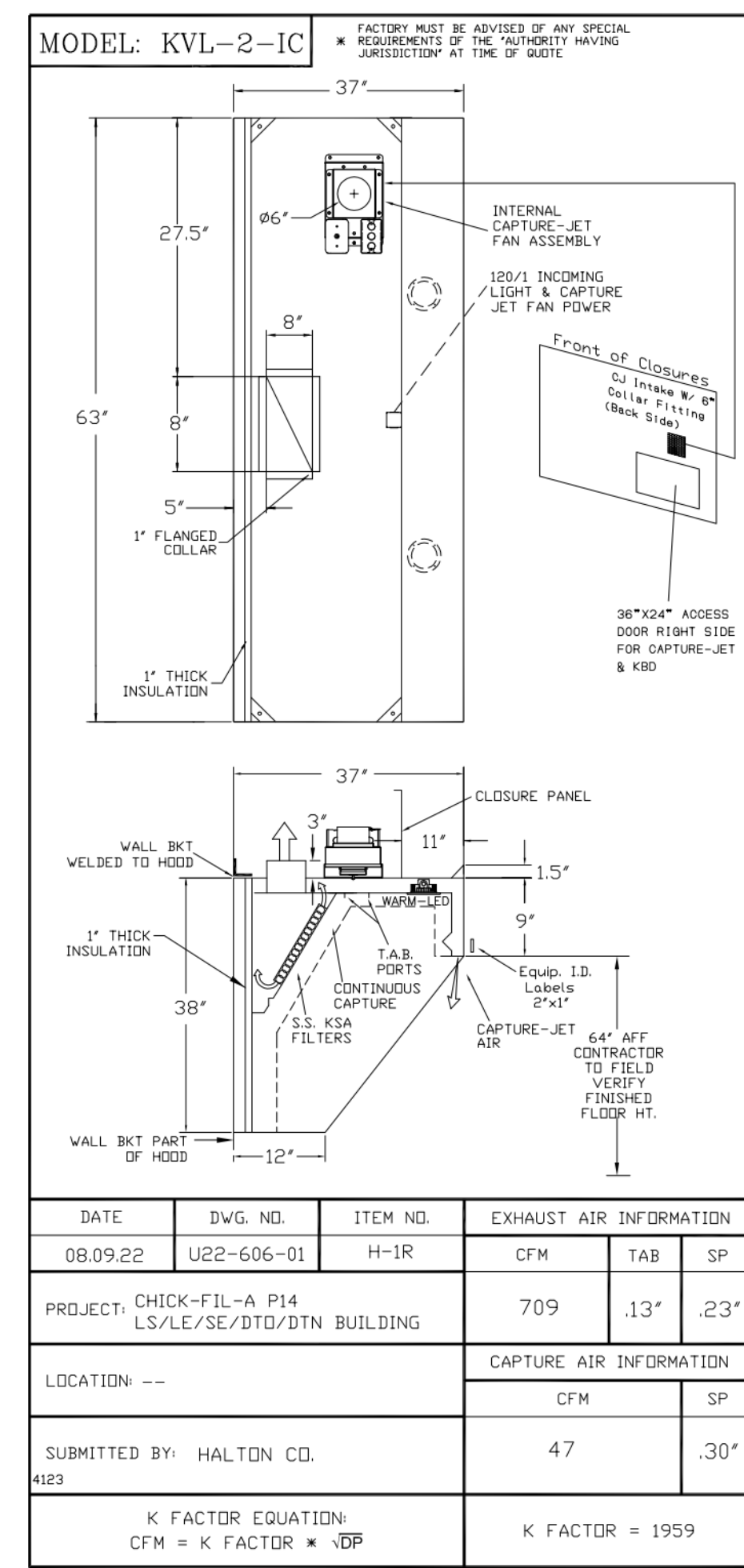
DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-1R	CFM TAB SP	(4) PRESSURE FRYERS (2) GRILLS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-2	CFM TAB SP	(4) PRESSURE FRYERS (2) GRILLS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-3	CFM TAB SP	(4) PRESSURE FRYERS (2) GRILLS



STANDARD FEATURES	
S.S. FILTERS (KSA)	3
1/2" S.S. FILTERS (KSA)	1
CAPTURE-JET	*
STAND-OFF	*
L.E.D. LIGHTS	2

OPTIONS	
REMOTE SWITCH PANEL	*
FIRE PROTECTION	*
ETL LISTED W/O EXHAUST DAMPER	*
CEILING CLOSURE	2
STD. BACKSPASH	*
INSULATED BACKSPASH	*
KBD DAMPER	*

MATERIAL	
EXPOSED SURFACES	18 GA. S.S.
ALL 18 GA. S.S.	*

COMMENTS	
CLOSURE HEIGHT = 51" (TWO SIDES)	
CEILING HEIGHT = 122" (THREE SIDES)	
CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF	
FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION)	
64"x24" LIFT OUT DOOR RIGHT SIDE AT CAPTURE-JET W/ FRONT C/J INTAKE & KBD	
CONTINUOUS CAPTURE INTERNAL LEFT END OUTLET	
3" REAR STAND-OFF TO HAVE 1" THICK INSULATION	
EQUIPMENT COVERED (3) PRESSURE FRYERS	

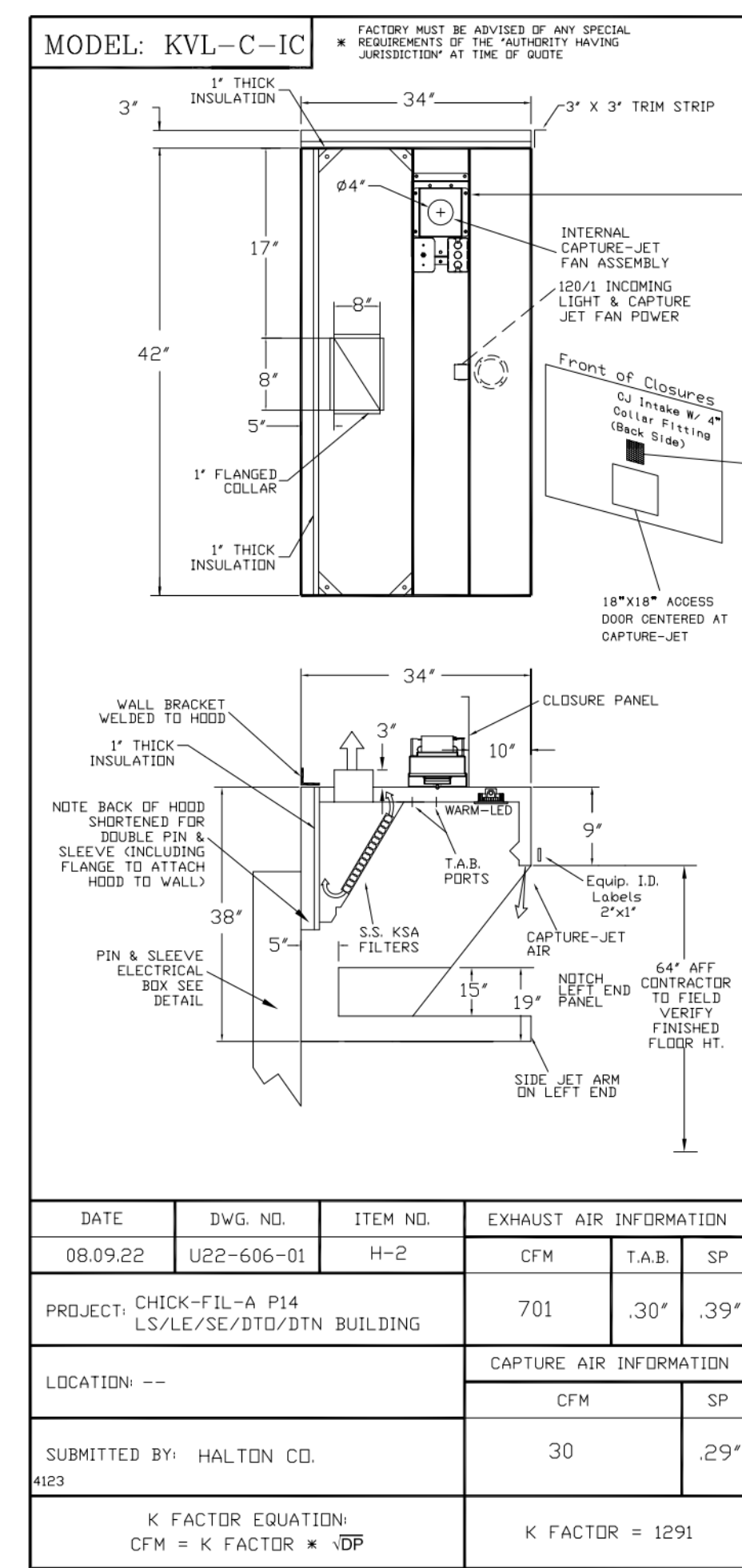
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08.09.22	U22-606-01	H-1R	CFM TAB SP	(4) PRESSURE FRYERS (2) GRILLS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-2	CFM TAB SP	(4) PRESSURE FRYERS (2) GRILLS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-3	CFM TAB SP	(4) PRESSURE FRYERS (2) GRILLS



STANDARD FEATURES	
S.S. FILTERS (KSA)	2
1/2" S.S. FILTERS (KSA)	1
CAPTURE-JET	*
STAND-OFF	*
L.E.D. LIGHTS	1

OPTIONS	
REMOTE SWITCH PANEL	*
FIRE PROTECTION	*
ETL LISTED W/O EXHAUST DAMPER	*
CEILING CLOSURE	2
STD. BACKSPASH	*
INSULATED BACKSPASH	*
KBD DAMPER	*

MATERIAL	
EXPOSED SURFACES	18 GA. S.S.
ALL 18 GA. S.S.	*

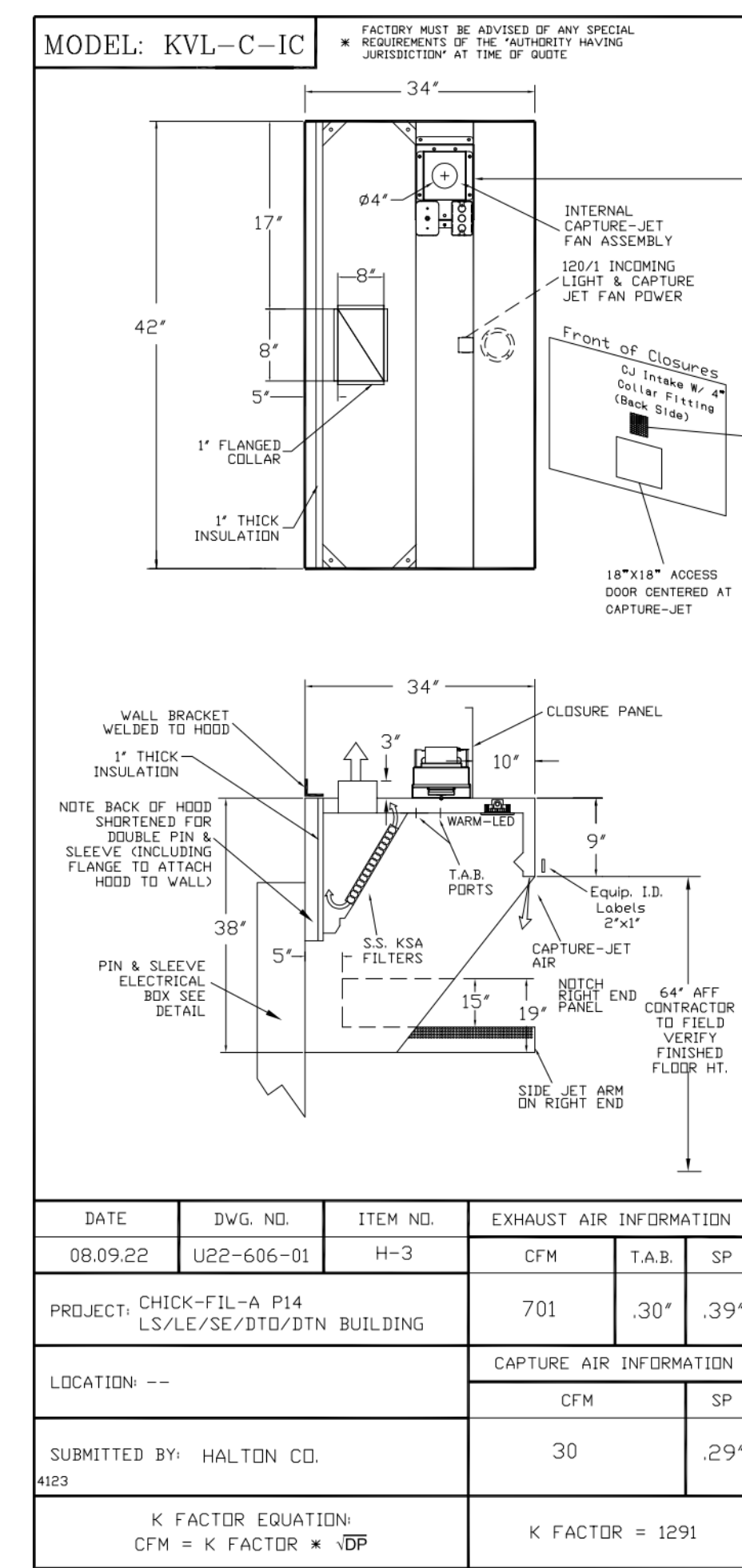
COMMENTS	
CLOSURE HEIGHT = 51" (TWO SIDES)	
CEILING HEIGHT = 122" (THREE SIDES)	
CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF	
FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR CENTERED AT CAPTURE-JET W/ FRONT C/J INTAKE	
NOTCH LEFT END PANEL	
DOUBLE RECEPTACLE PIN & SLEEVE	
3" X 3" TRIM STRIP FOR STAND-OFF ON RIGHT END	
3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION	
EQUIPMENT COVERED (2) FRYERS	

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-2	CFM T.A.B. SP	(2) FRYERS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-3	CFM T.A.B. SP	(2) FRYERS



STANDARD FEATURES	
S.S. FILTERS (KSA)	2
1/2" S.S. FILTERS (KSA)	1
CAPTURE-JET	*
STAND-OFF	*
L.E.D. LIGHTS	1

OPTIONS	
REMOTE SWITCH PANEL	*
FIRE PROTECTION	*
ETL LISTED W/O EXHAUST DAMPER	*
CEILING CLOSURE	3
STD. BACKSPASH	*
INSULATED BACKSPASH	*
KBD DAMPER	*

MATERIAL	
EXPOSED SURFACES	18 GA. S.S.
ALL 18 GA. S.S.	*

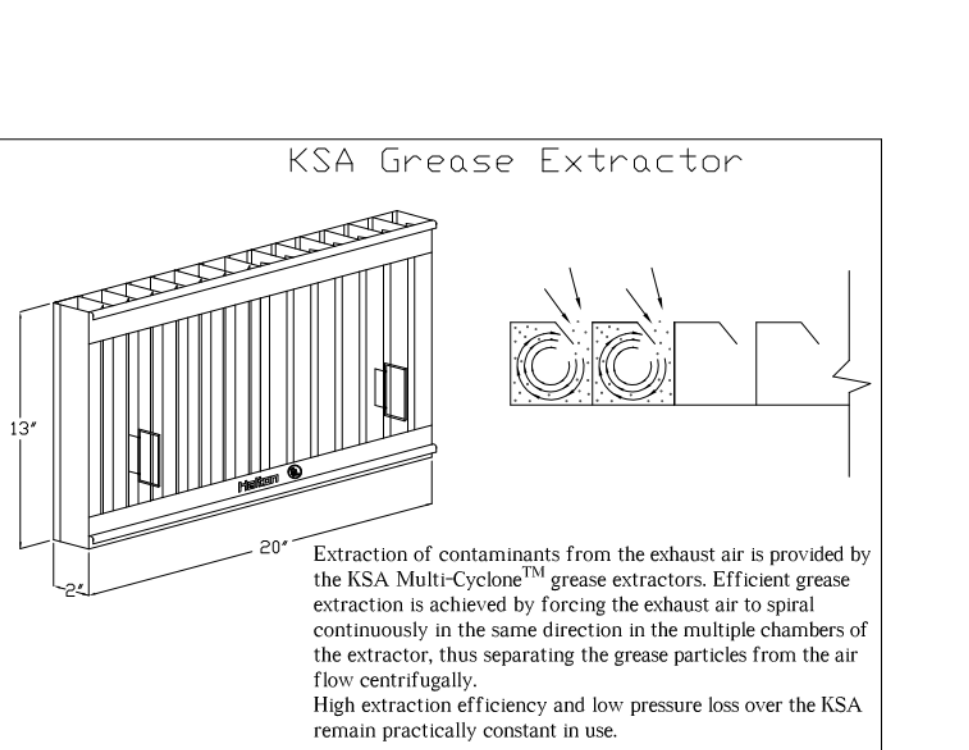
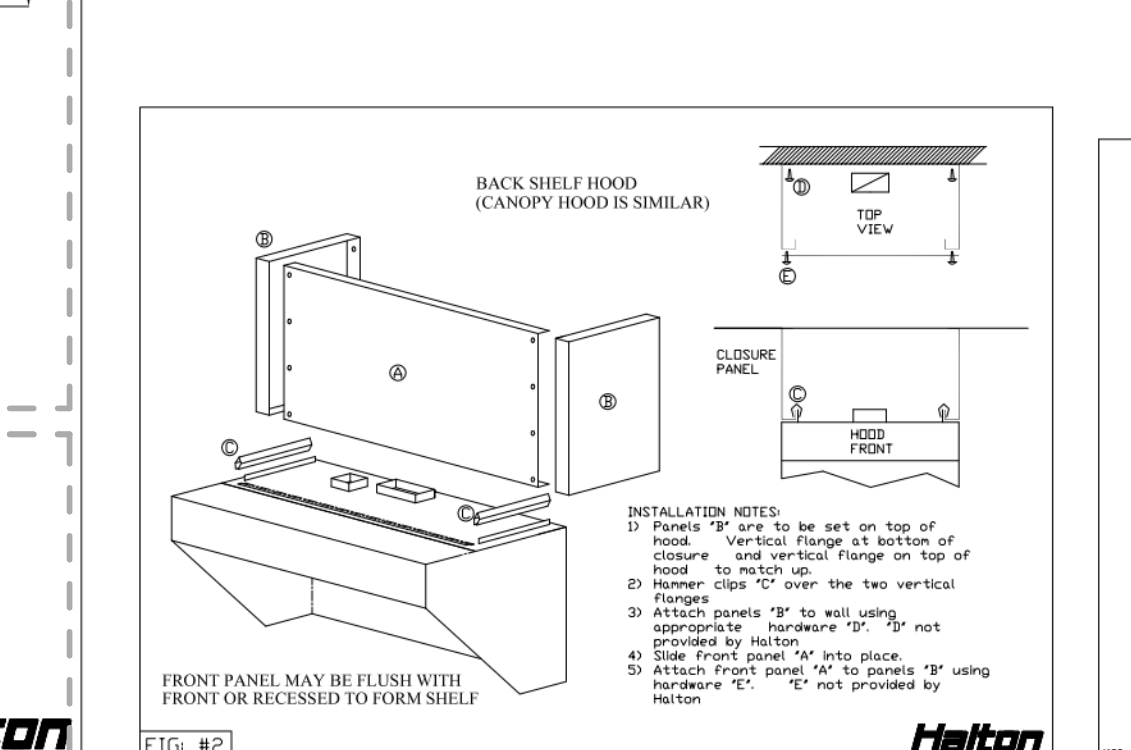
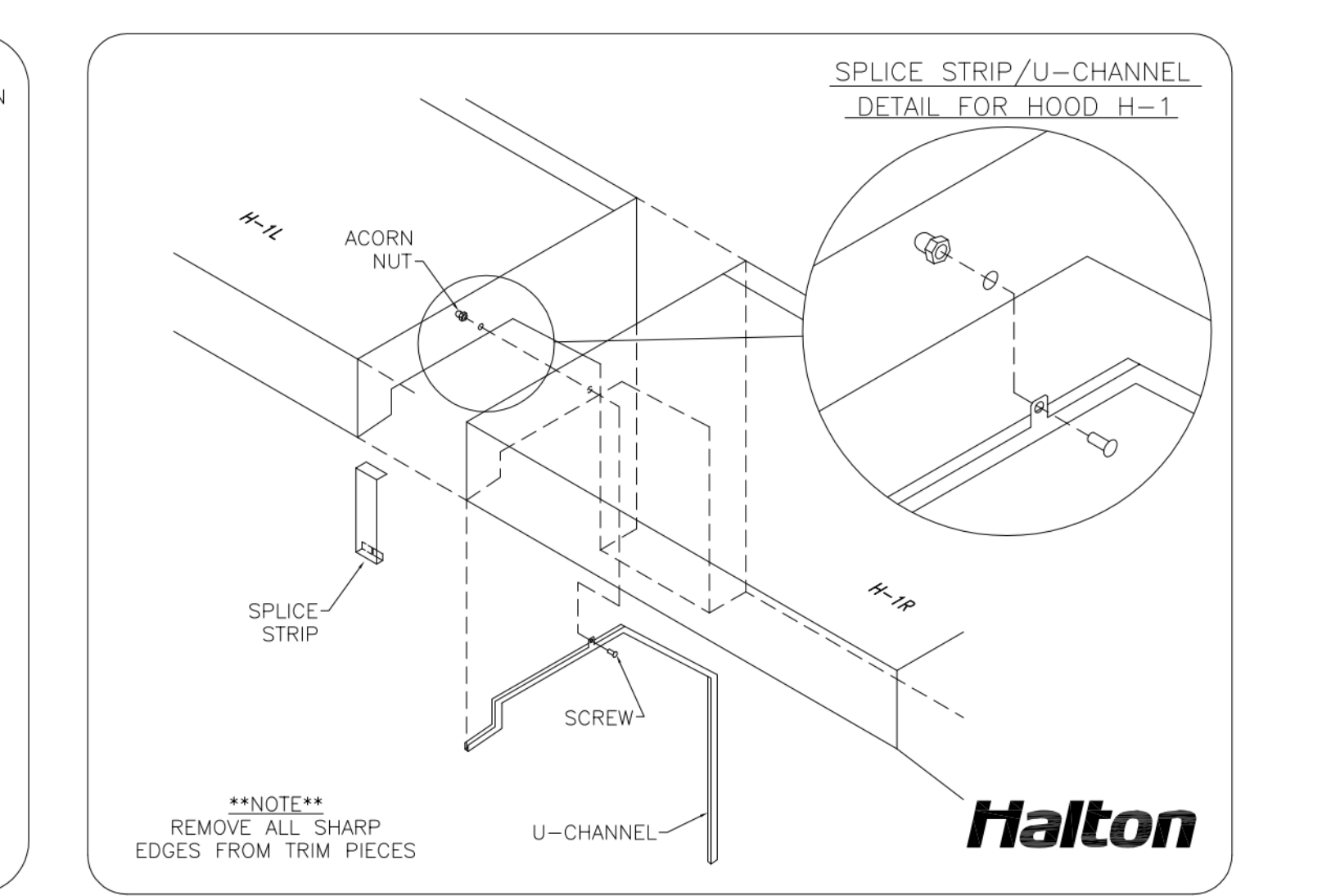
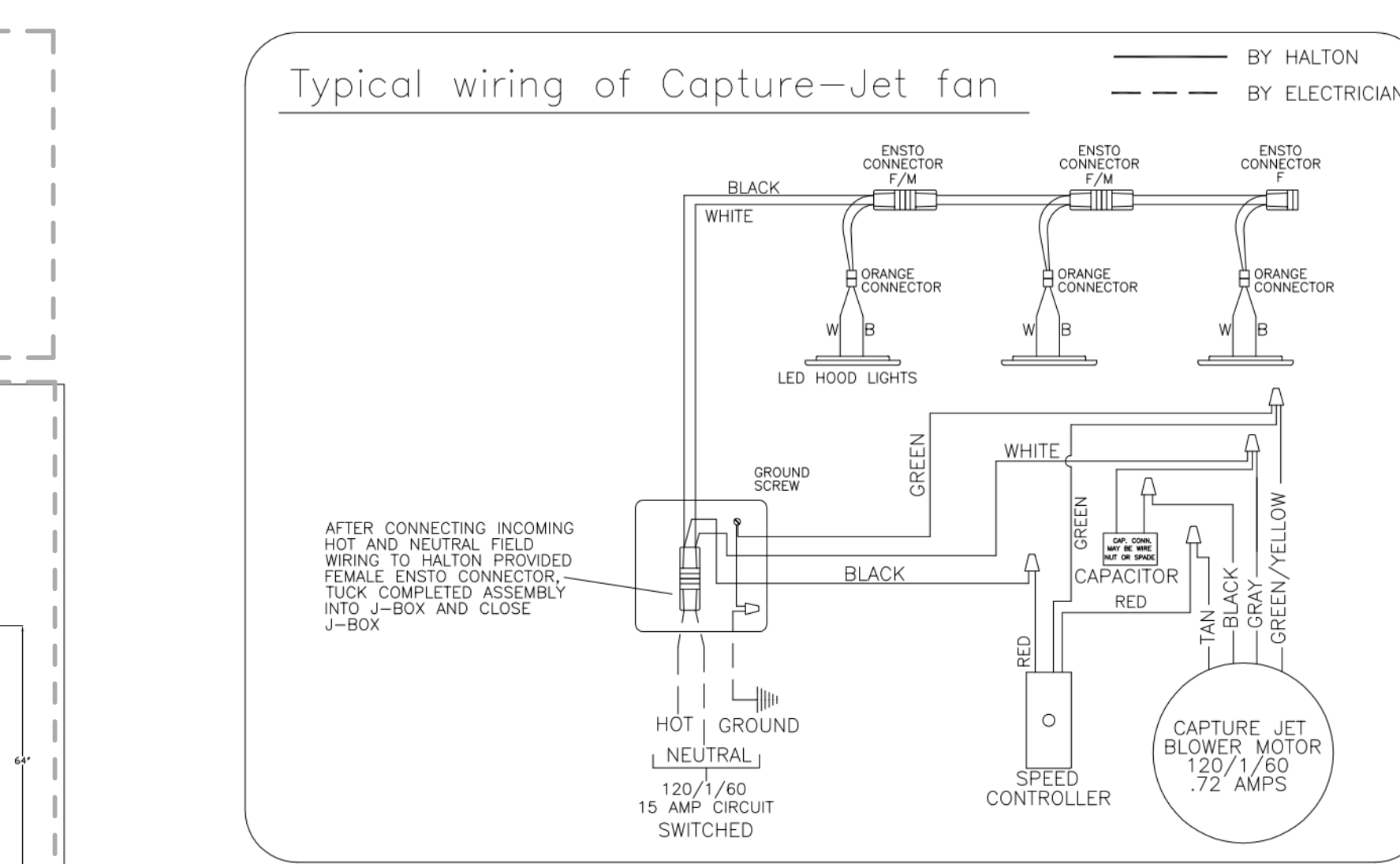
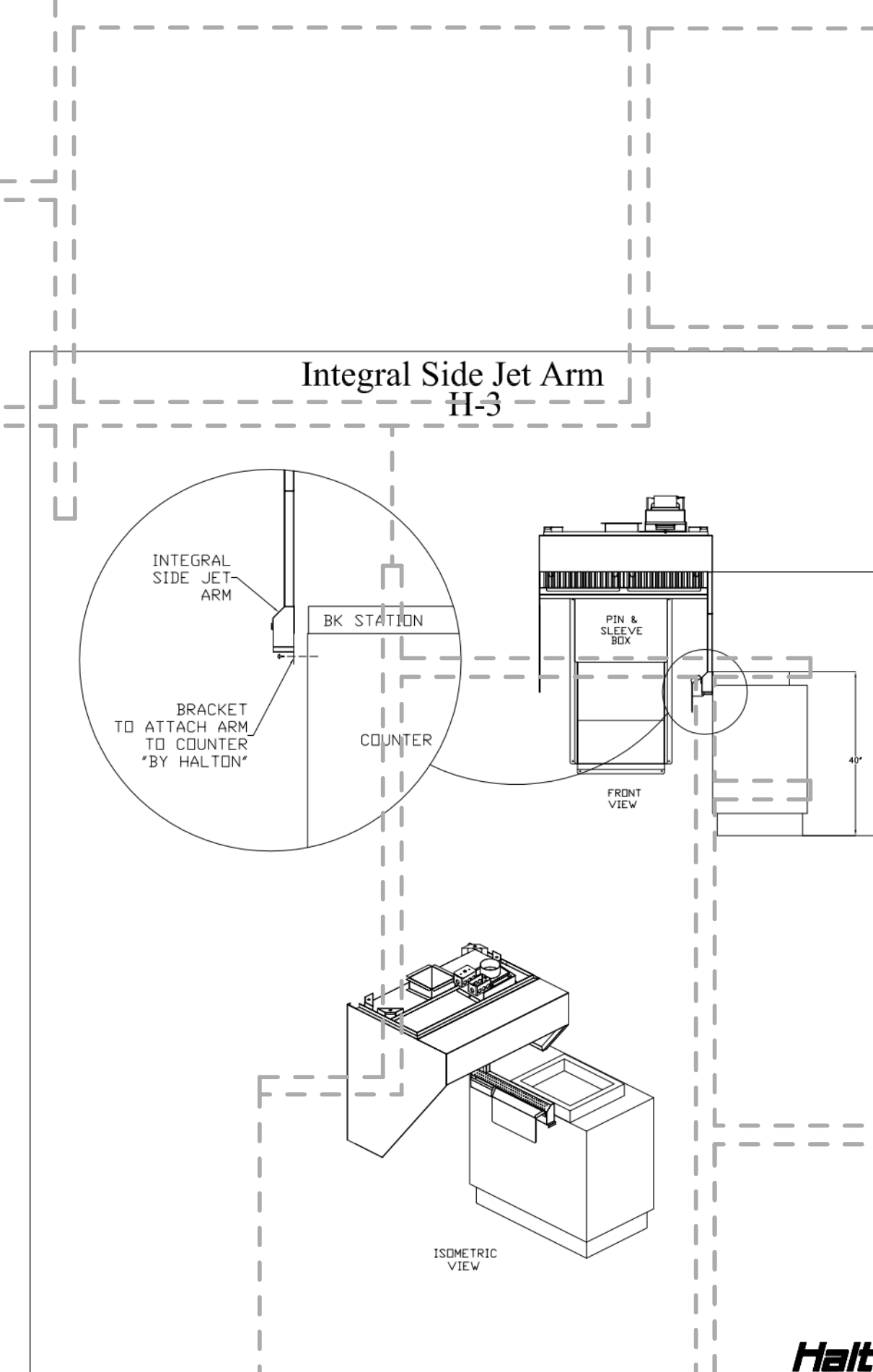
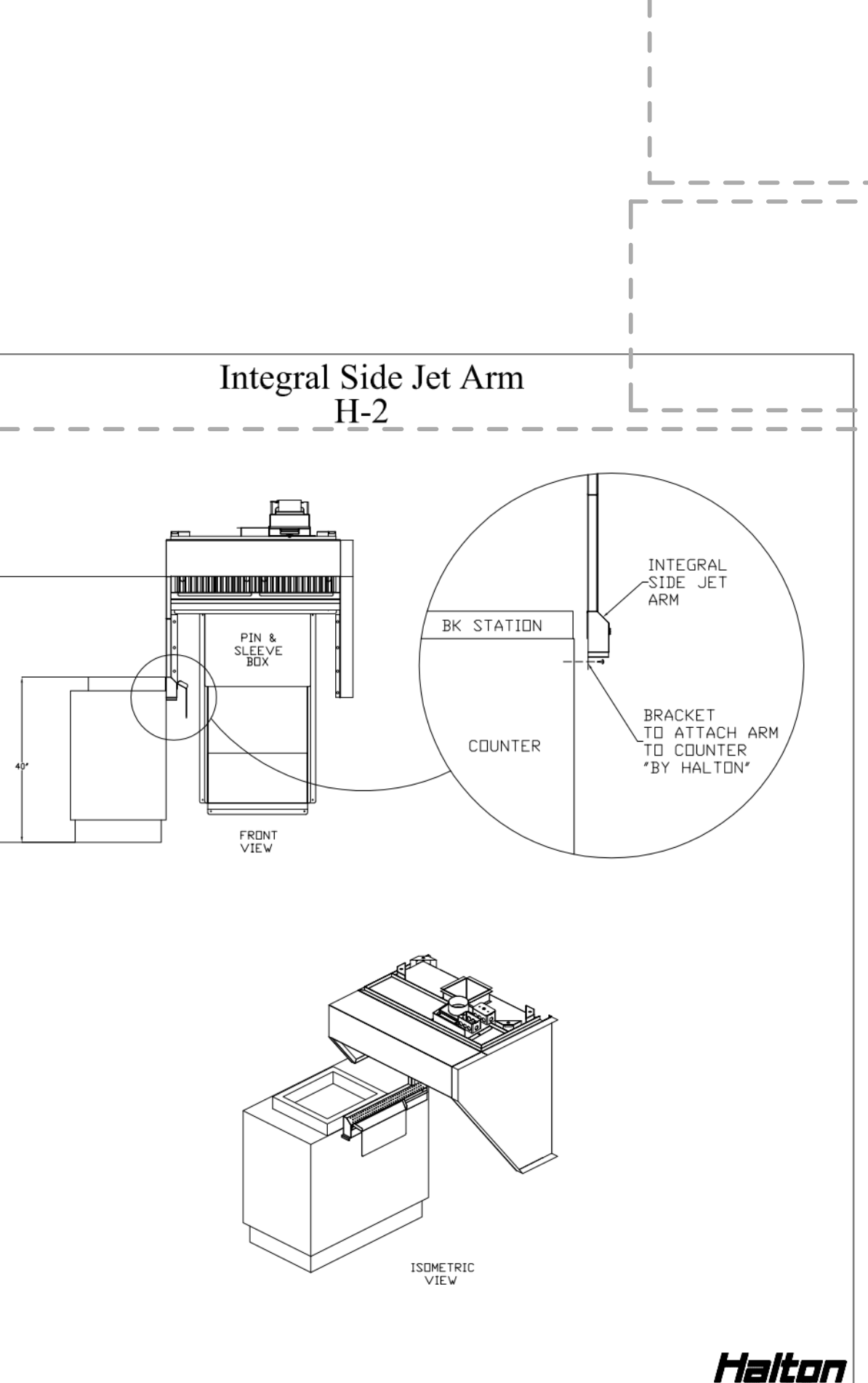
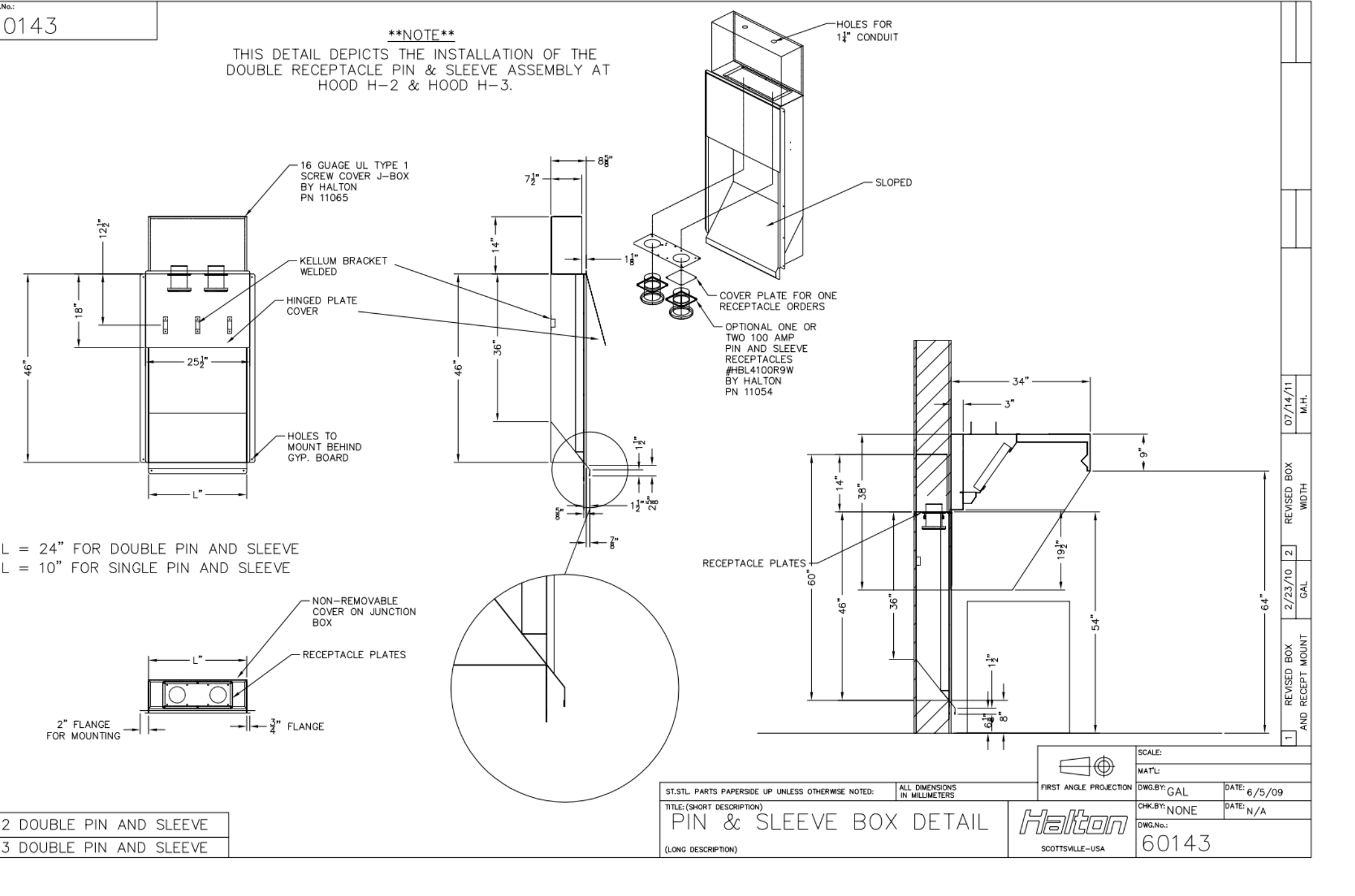
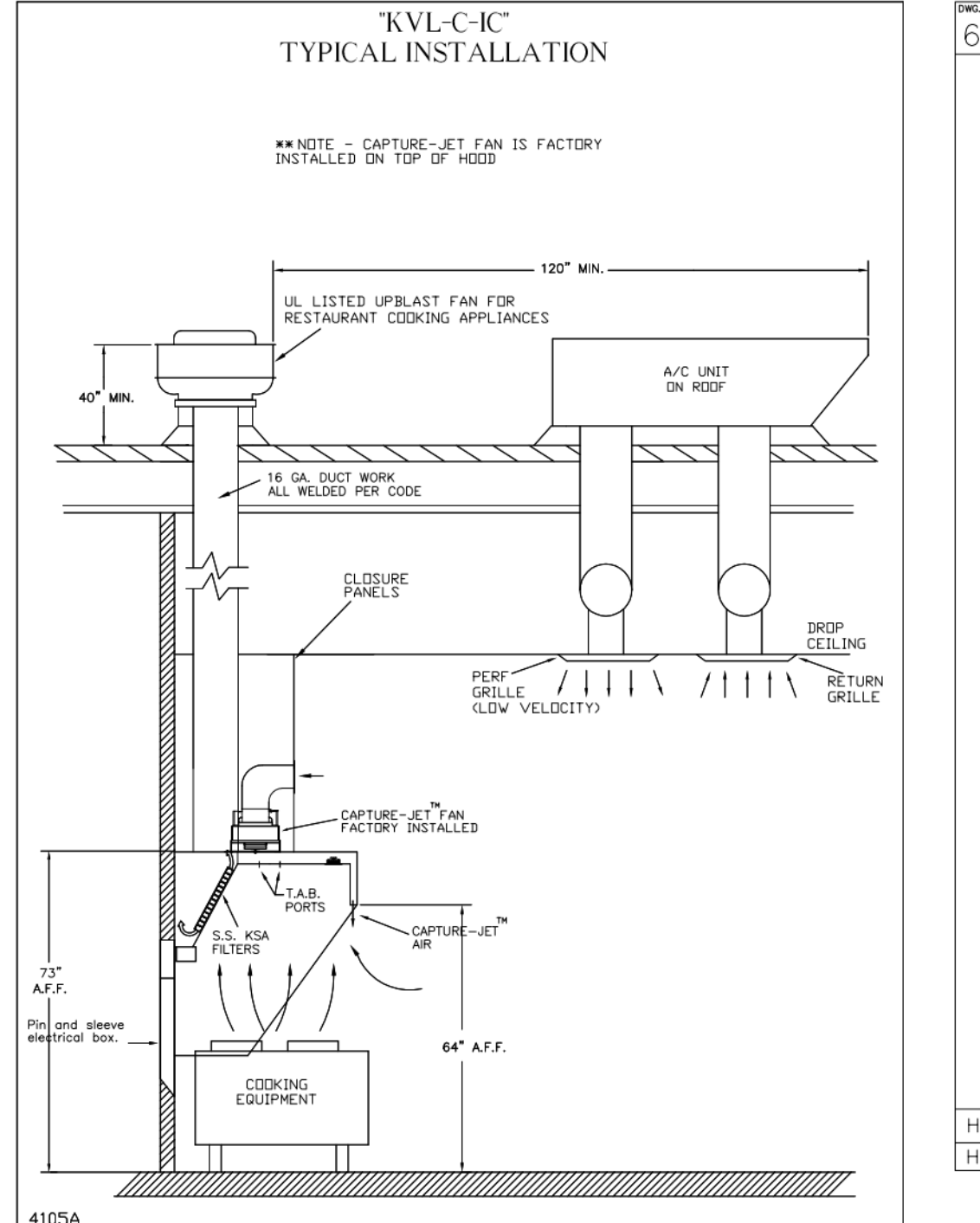
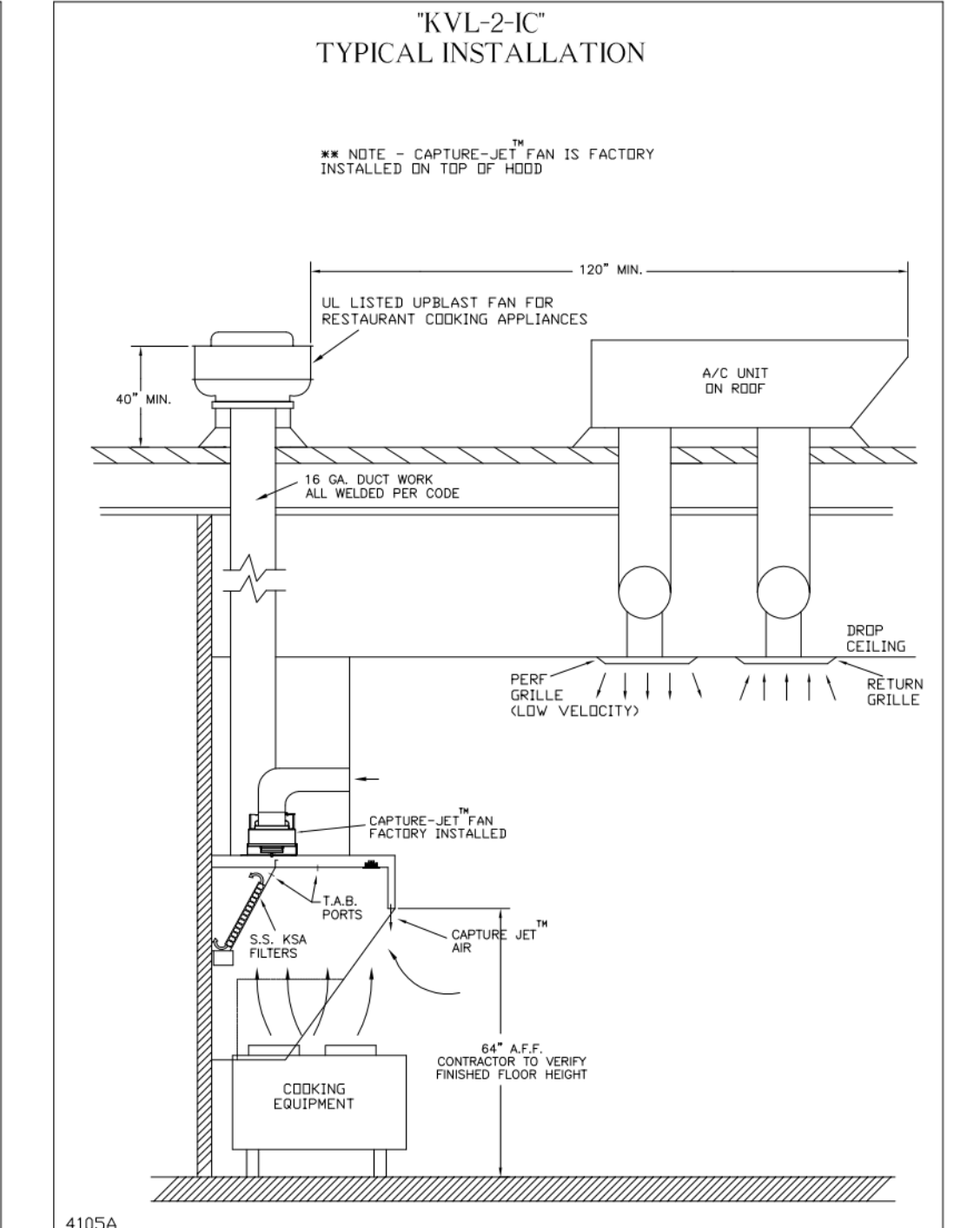
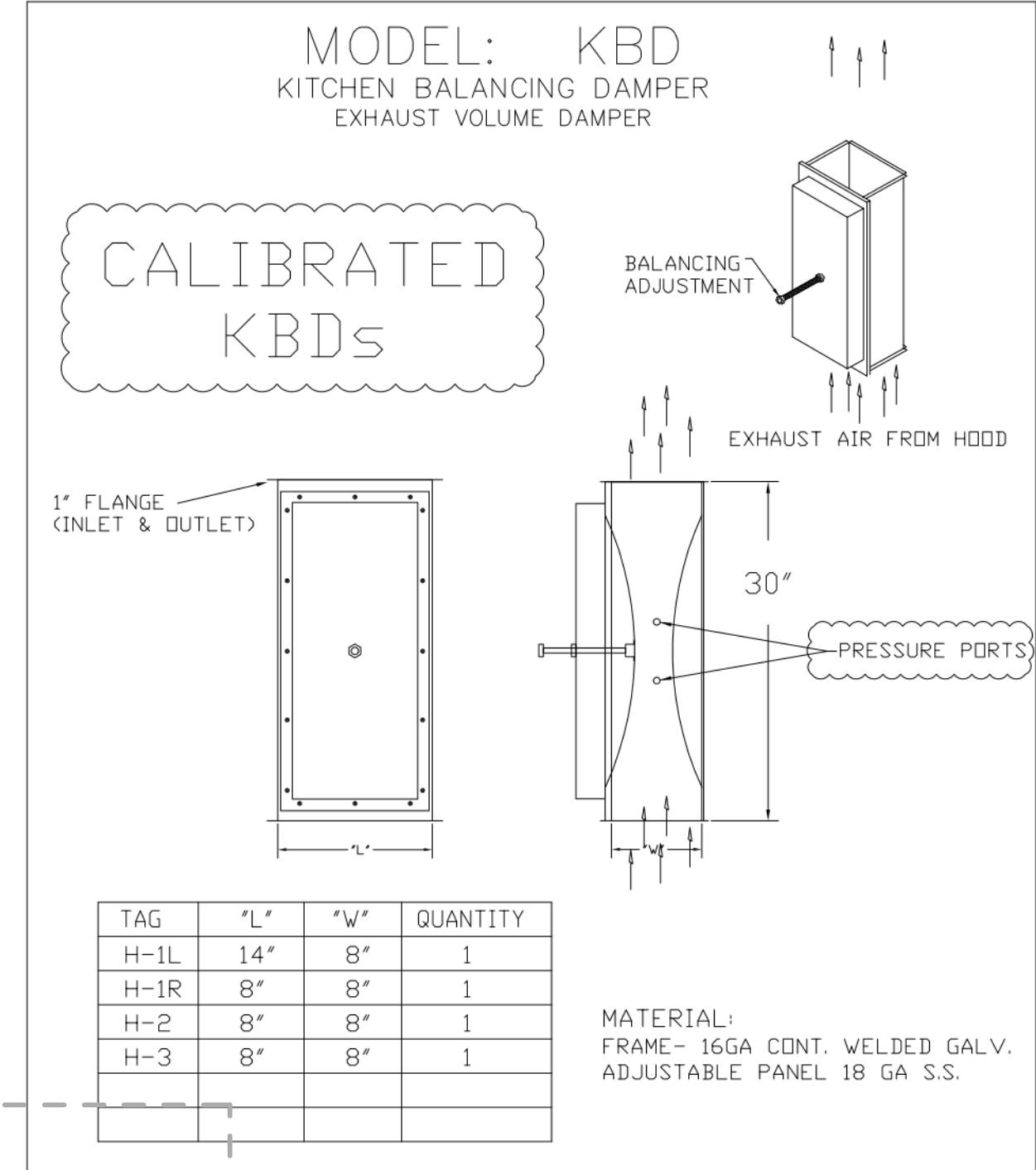
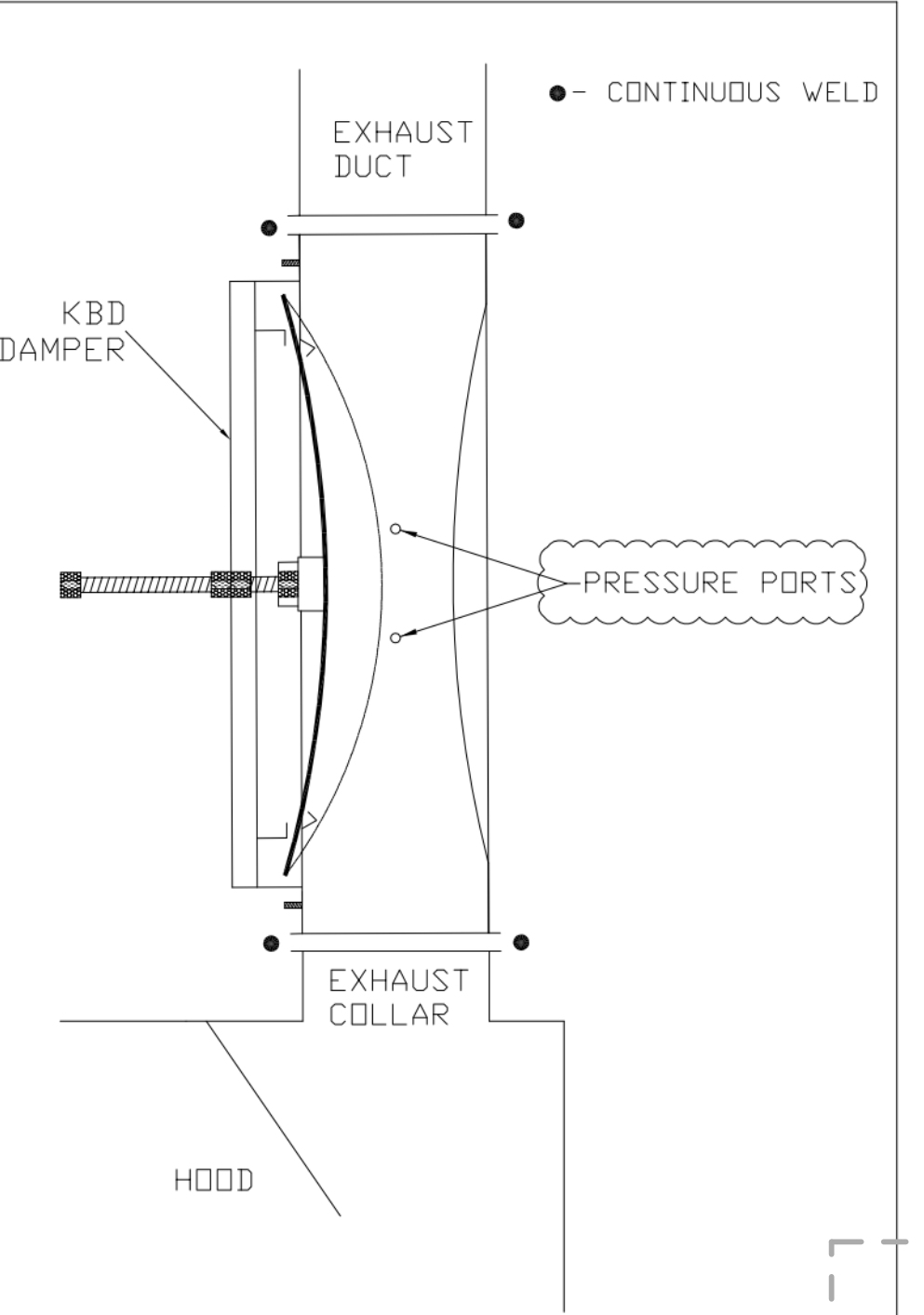
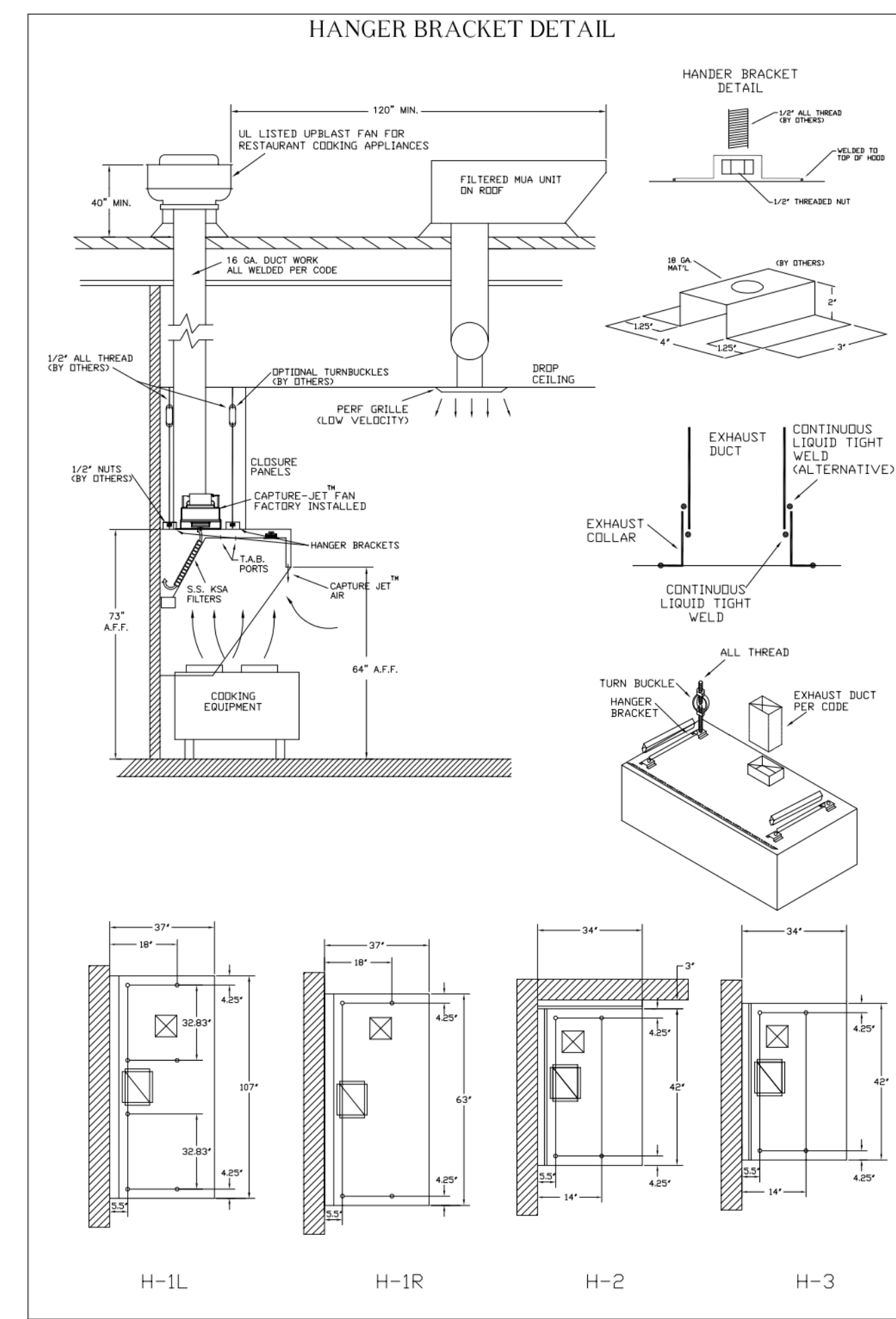
COMMENTS	
CLOSURE HEIGHT = 51" (TWO SIDES)	
CEILING HEIGHT = 122" (THREE SIDES)	
CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF	
FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR CENTERED AT CAPTURE-JET W/ FRONT C/J INTAKE	
NOTCH RIGHT END PANEL	
DOUBLE RECEPTACLE PIN & SLEEVE	
3" REAR SIDE STAND-OFF TO HAVE 1" THICK INSULATION	
EQUIPMENT COVERED (2) FRYERS	

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-3	CFM T.A.B. SP	(2) FRYERS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION	EQUIPMENT COVERED
08.09.22	U22-606-01	H-3	CFM T.A.B. SP	(2) FRYERS



GENERAL REQUIREMENTS	
EXTRACTOR TYPE	ETL LISTED PER LATEST 710 STANDARD
EXTRACTOR TYPE	NSF LISTED

DUTY LEVEL	ROOM OVERHANG	DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING APPLIANCE	MIN. HOOD DEPTH	MIN. HOOD LENGTH
MEDIUM	6"	0"	30"	135"
MEDIUM	6"	0"	30"	135"
MEDIUM	6"	0"	30"	135"
MEDIUM	6"	0"	30"	135"
MEDIUM	6"	0"	30"	135"

CONFORMS TO UL LISTING E750000  
 INTERTEX 300000  
 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, 50A, 60HZ  
 THE LIGHTING CIRCUIT IS RATED FOR 120V, 50A, 60HZ  
 THE HOOD HAS BEEN CERTIFIED BY ETL FOR 5' HIGH CLEARANCE TO COMBUSTIBLE MATERIALS IN ACCORDANCE WITH NFPA 96  
 THE HOOD IS PROVIDED WITH REMOVABLE KSA FILTERS AND LIGHTING FIXTURES RELEASED UNDER THE UL LISTING PROGRAM  
 THE HOOD IS PROVIDED WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES  
 DUTY LEVEL ROOM OVERHANG DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING APPLIANCE MIN. HOOD DEPTH MIN. HOOD LENGTH  
 MEDIUM 6" 0" 30" 135"  
 MEDIUM 6" 0" 30" 135"  
 MEDIUM 6" 0" 30" 135"  
 MEDIUM 6" 0" 30" 135"  
 MEDIUM 6" 0" 30" 135"  
 \* - SETBACK UNDERLINE DISTANCE  
 JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 500 IN HOOD

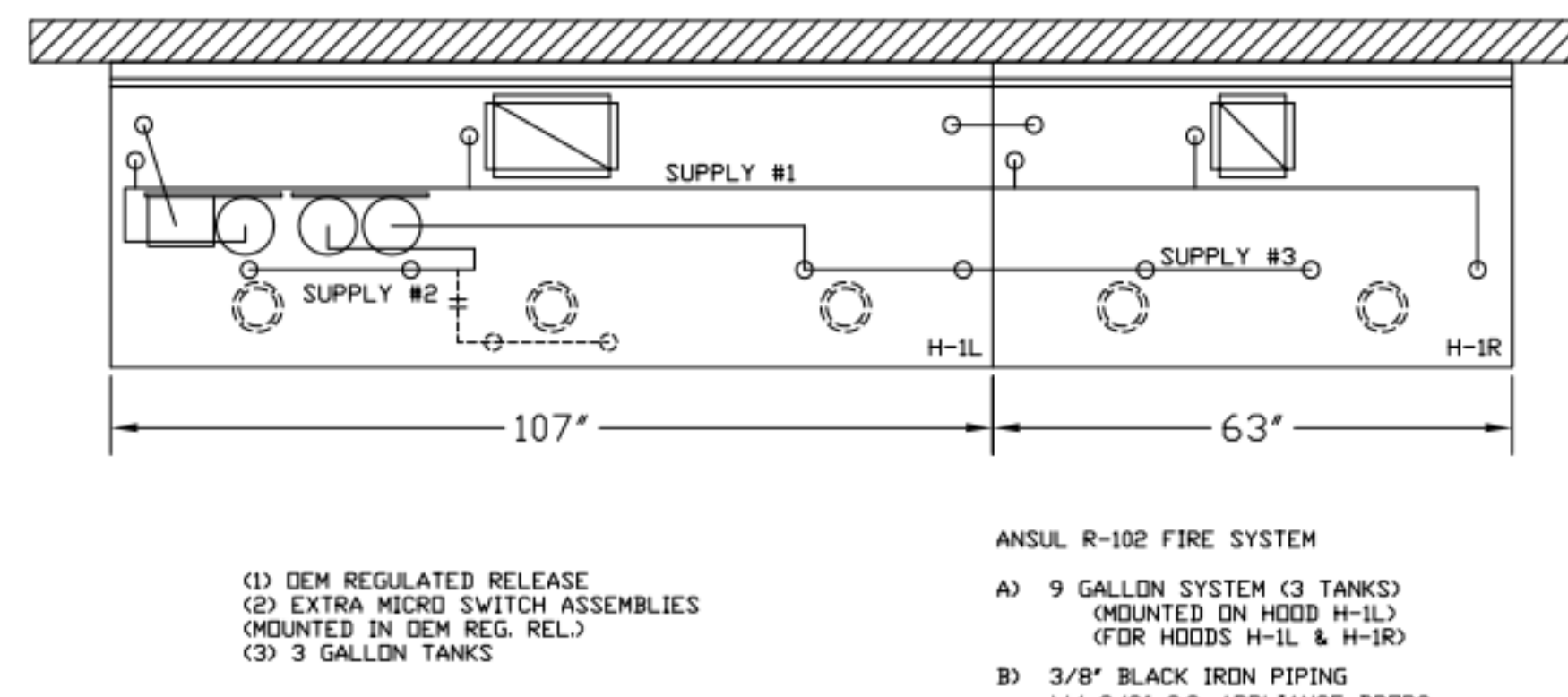
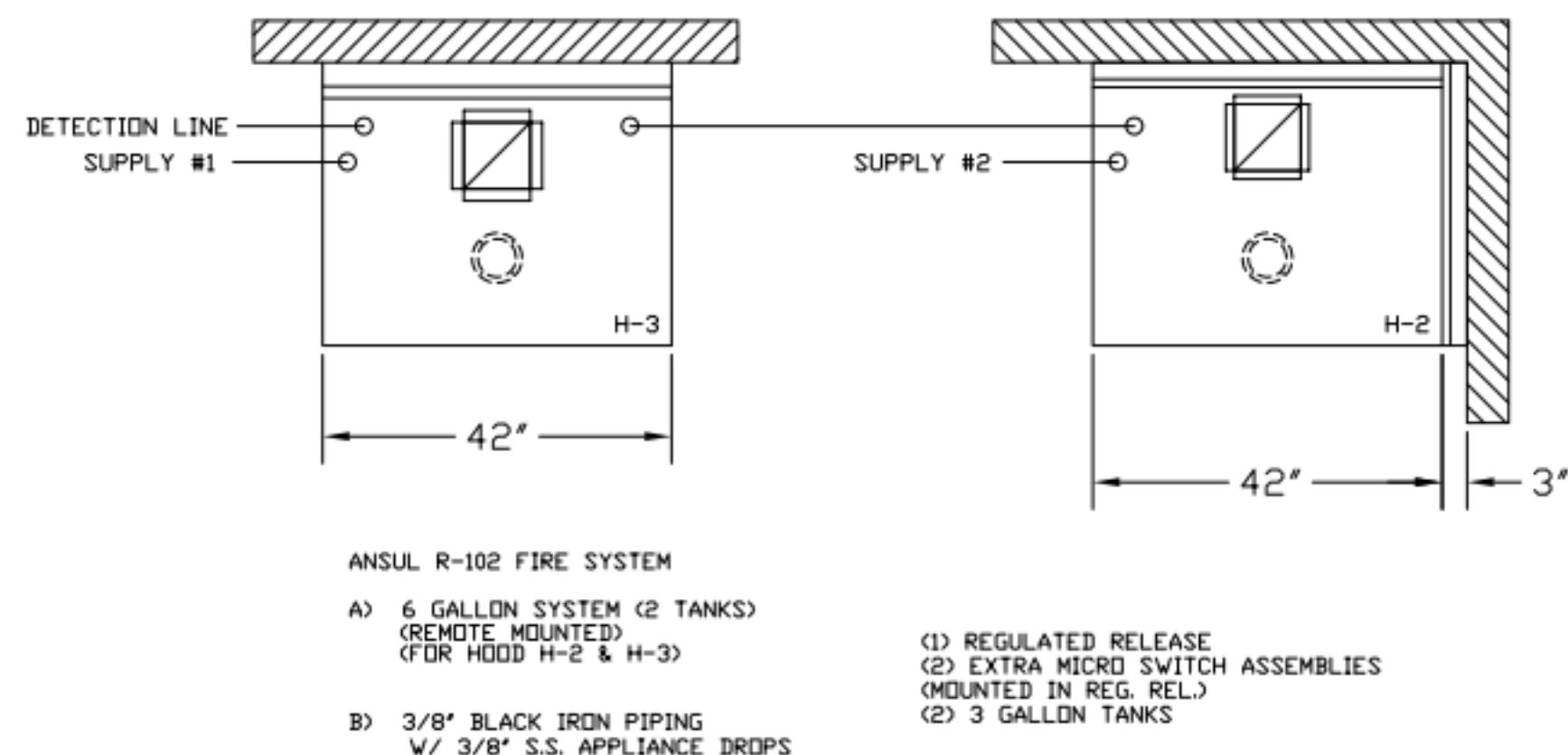
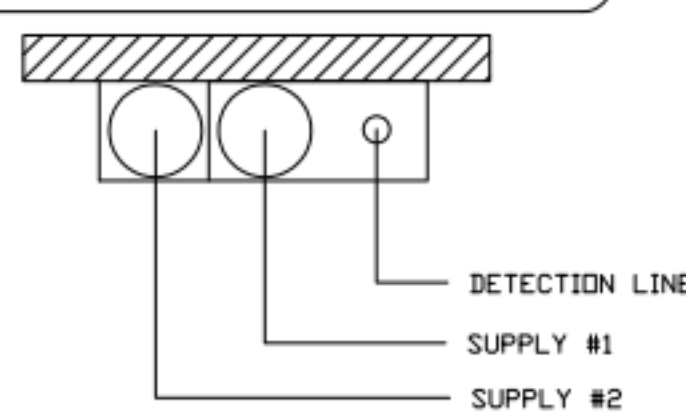
MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:  
 WEBSITE: WWW.HALTON.COM  
 HALTON CO. (USA)  
 101 INDUSTRIAL DRIVE  
 SCOTTSVILLE, KY 42164  
 1-270-237-9600  
 HALTON CO. (CANADA)  
 1021 BREVK PLACE  
 MISSISSAUGA, ON L4W 3R7  
 1-905-654-0301  
 PROJECT: CHICK-FIL-A P14  
 LS/LE/SE/DTN/DTN BUILDING  
 LOCATION: MISSISSAUGA, ON L4W 3R7  
 DRAWN BY: CG DATE: 08.09.22  
 SCALE: NTS  
 Halton Dwg: U22-606-01  
 SHEET: MH-1.1  
 APPROVED FOR FABRICATION: [Signature]  
 WITH NO CHANGES [ ] WITH CHANGES AS NOTED [ ]  
 APPROVED BY: [Signature]

**NOTE:**

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

**\*\*PROTECTS HOODS H-2 & H-3\*\***

REMOTE MOUNTED:  
 (1) REGULATED RELEASE (WITH ONE TANK)  
 (1) SINGLE TANK ENCLOSURE (WITH ONE TANK)



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  
 THREE TANK SYSTEM MOUNTED ON TOP OF (H-1L)  
 MAXIMUM FLOW POINTS = 33

ANSUL R-102 FIRE SYSTEM NOTES  
 TWO TANK SYSTEM REMOTE MOUNTED  
 MAXIMUM FLOW POINTS = 22

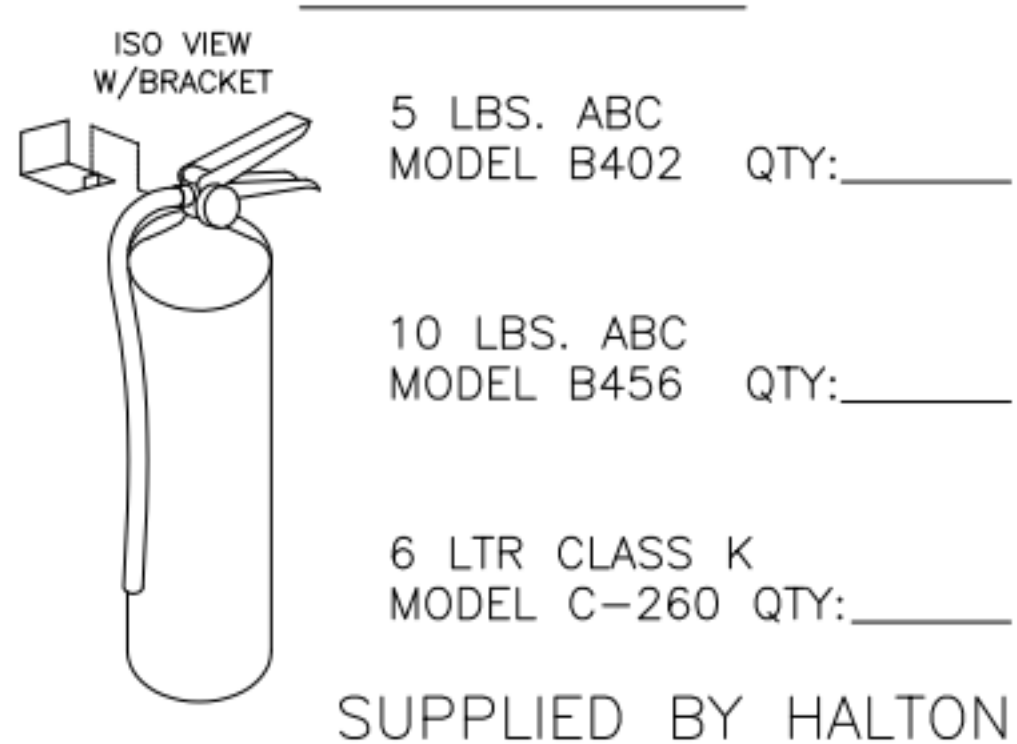
ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
1W	4	DUCT NOZZLES	4
1N	4	PLENUM NOZZLES	4
230	2	APPLIANCE NOZZLES	4
3N	11	APPLIANCE NOZZLES	33
<b>TOTAL FLOW POINTS - 45</b>			

ITEM #	QTY	DESCRIPTION
#200	8	SERIES DETECTORS W/ FUSIBLE LINKS
#201	2	TERMINAL DETECTOR W/ FUSIBLE LINKS
#202	1	DEM REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#202	1	REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#203	5	3 GALLON TANKS
#204	1	SINGLE TANK ENCLOSURE
#205	2	REMOTE PULL STATION

ANSUL R-102 FIRE SYSTEM  
 UL LISTED PER STD LATEST STD 300

- FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES
- ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY ANSUL INSTALLER
- REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

FIRE EXTINGUISHER



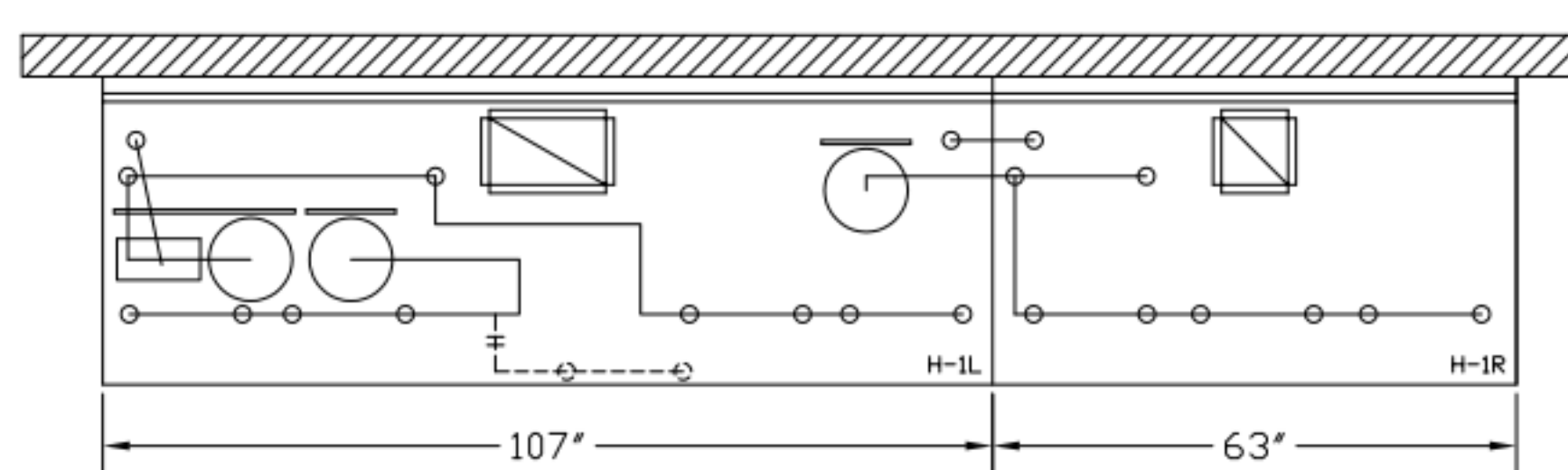
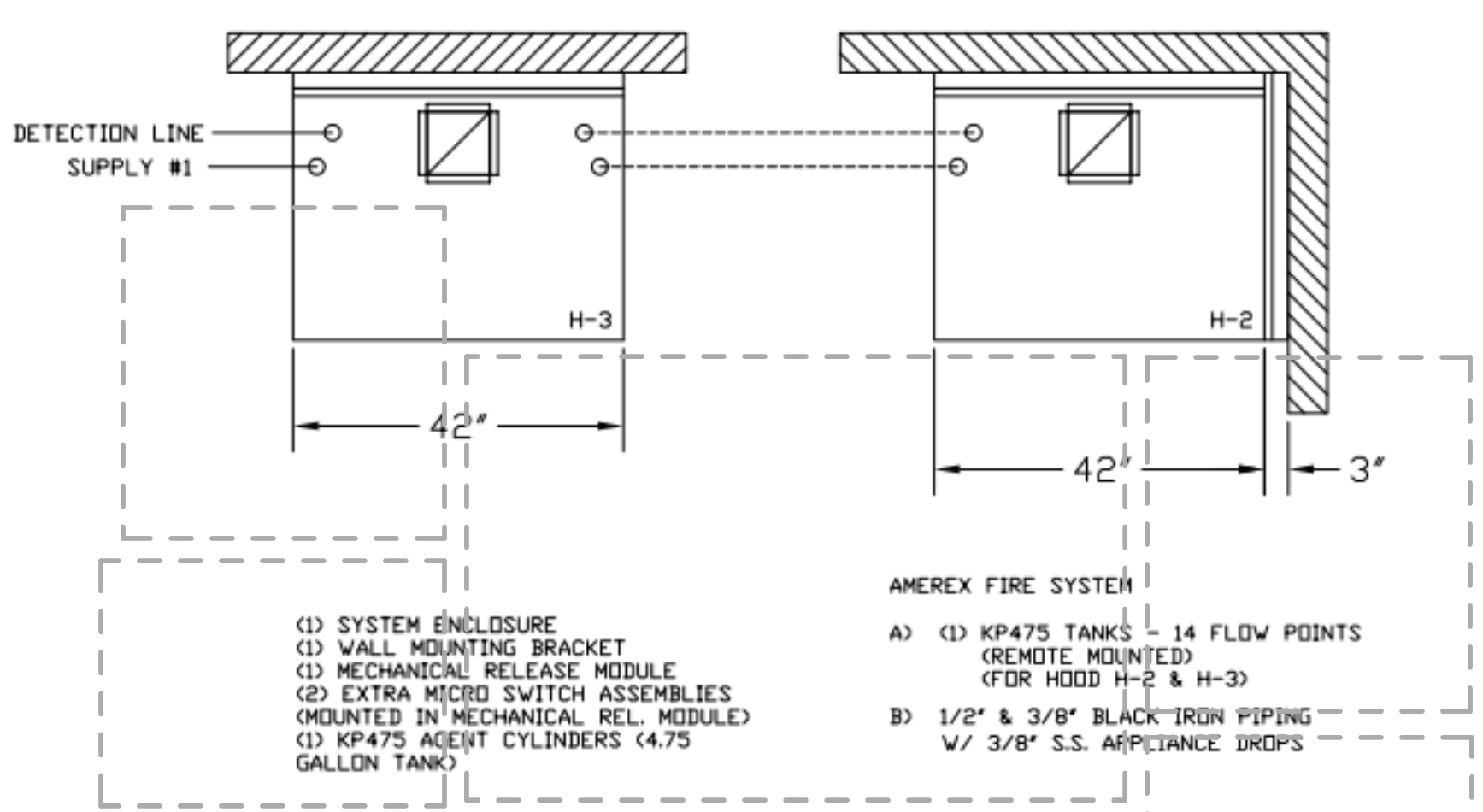
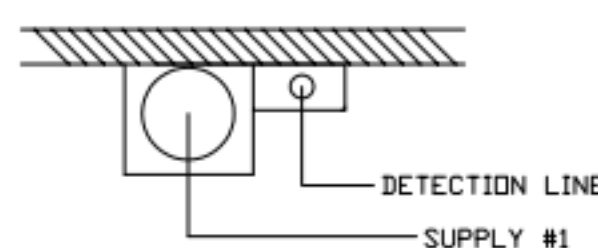
ANSUL R-102 FIRE SYSTEM LAYOUT

ANSUL R-102 FIRE SYSTEM LAYOUT

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

**\*\*PROTECTS HOODS H-2 & H-3\*\***

REMOTE MOUNTED:  
 (1) SYSTEM ENCLOSURE  
 (1) WALL MOUNTING BRACKET  
 (1) MECHANICAL RELEASE MODULE  
 (1) KP475 AGENT CYLINDER (4.75 GALLON TANK)



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  
 (1) KP375 & (2) KP475 TANK SYSTEM MOUNTED ON TOP OF (H-1L)  
 MAXIMUM FLOW POINTS = 39

AMEREX FIRE SYSTEM NOTES  
 KP475 TANK SYSTEM REMOTE MOUNTED  
 (1) TANK  
 MAXIMUM FLOW POINTS = 14

ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
16416	4	DUCT NOZZLES	4
11982	4	PLENUM NOZZLES	4
11982	8	APPLIANCE NOZZLES	8
14178	2	APPLIANCE NOZZLES	4
13729	14	APPLIANCE NOZZLES	28
<b>TOTAL FLOW POINTS - 48</b>			

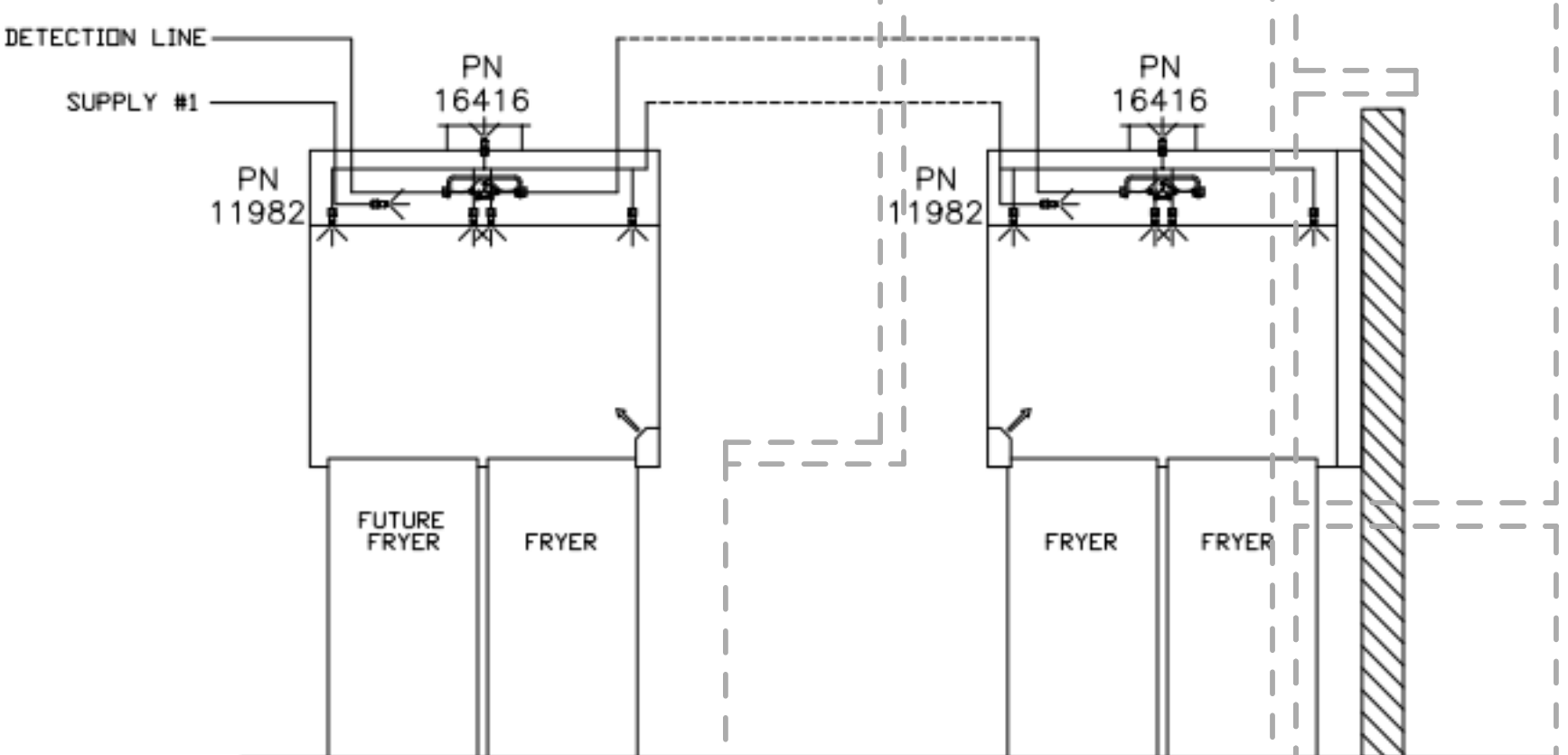
ITEM #	QTY	DESCRIPTION
12508-P001	10	DETECTOR BRACKET ASSEMBLY
13334	1	KP375 AGENT CYLINDER
17379	3	KP475 AGENT CYLINDER
18001	1	MECHANICAL RELEASE MODULE W/ DOUBLE POLE MICRO SWITCH
25851	1	SYSTEM ENCLOSURE W/ DOUBLE POLE MICRO SWITCH
16920	1	WALL MOUNTING BRACKET
21481	3	REMOTE MANUAL PULL STATION

AMEREX FIRE SYSTEM  
 TESTED & LISTED BY UNDERWRITERS LABORATORIES, INC. TO UL STANDARD 300.

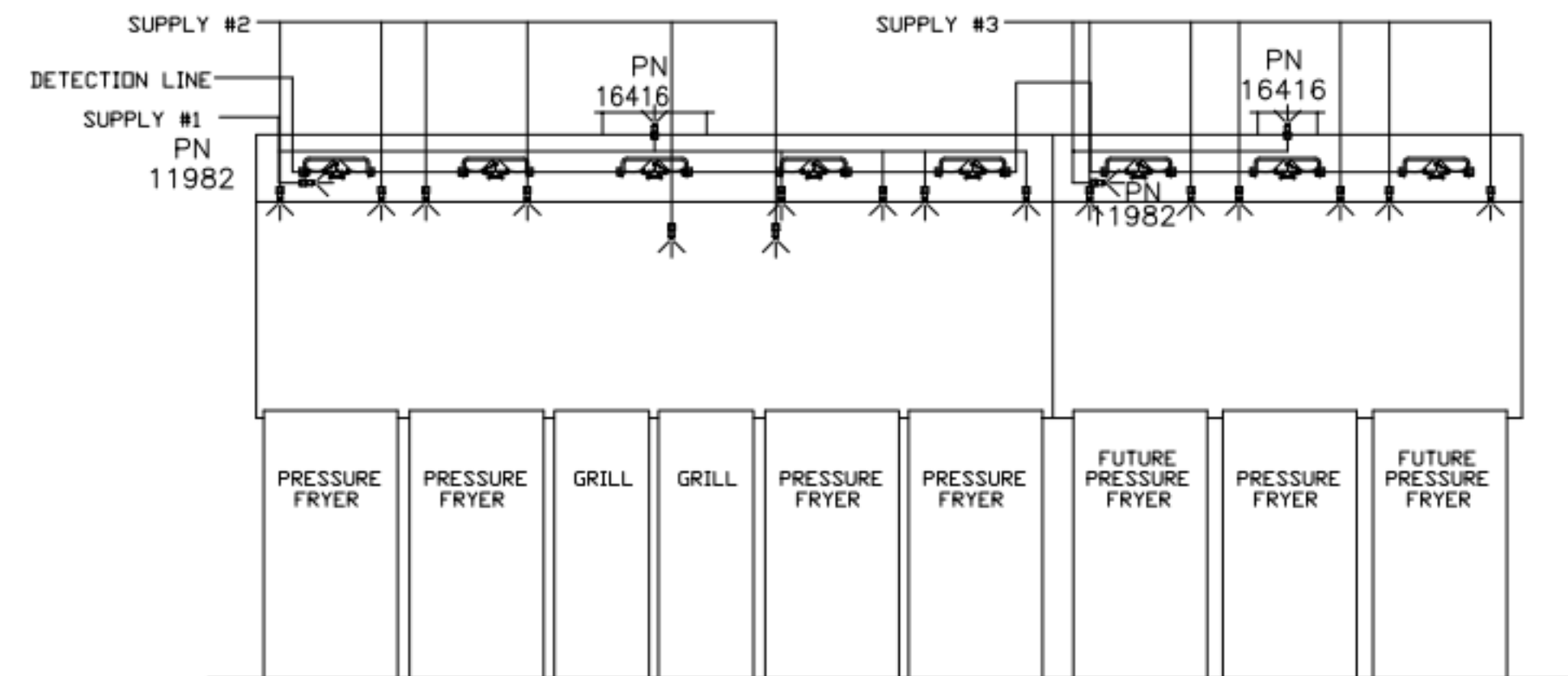
- FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES
- ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY AMEREX INSTALLER
- REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

ALL APPLIANCE NOZZLES FOR H-2 & H-3 ARE PN 11982 NOZZLES W/ SWIVELS.

ALL APPLIANCE NOZZLES FOR PRESSURE FRYERS ARE PN 13729 NOZZLES W/ SWIVELS. ALL GRILL NOZZLES ARE 14178 NOZZLES W/ SWIVELS.



AMEREX FIRE SYSTEM LAYOUT



AMEREX FIRE SYSTEM LAYOUT

ANSUL

AMEREX

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.  
 REVISE AND RESUBMIT  
 APPROVED FOR FABRICATION  
 WITH NO CHANGES  
 WITH CHANGES AS NOTED  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

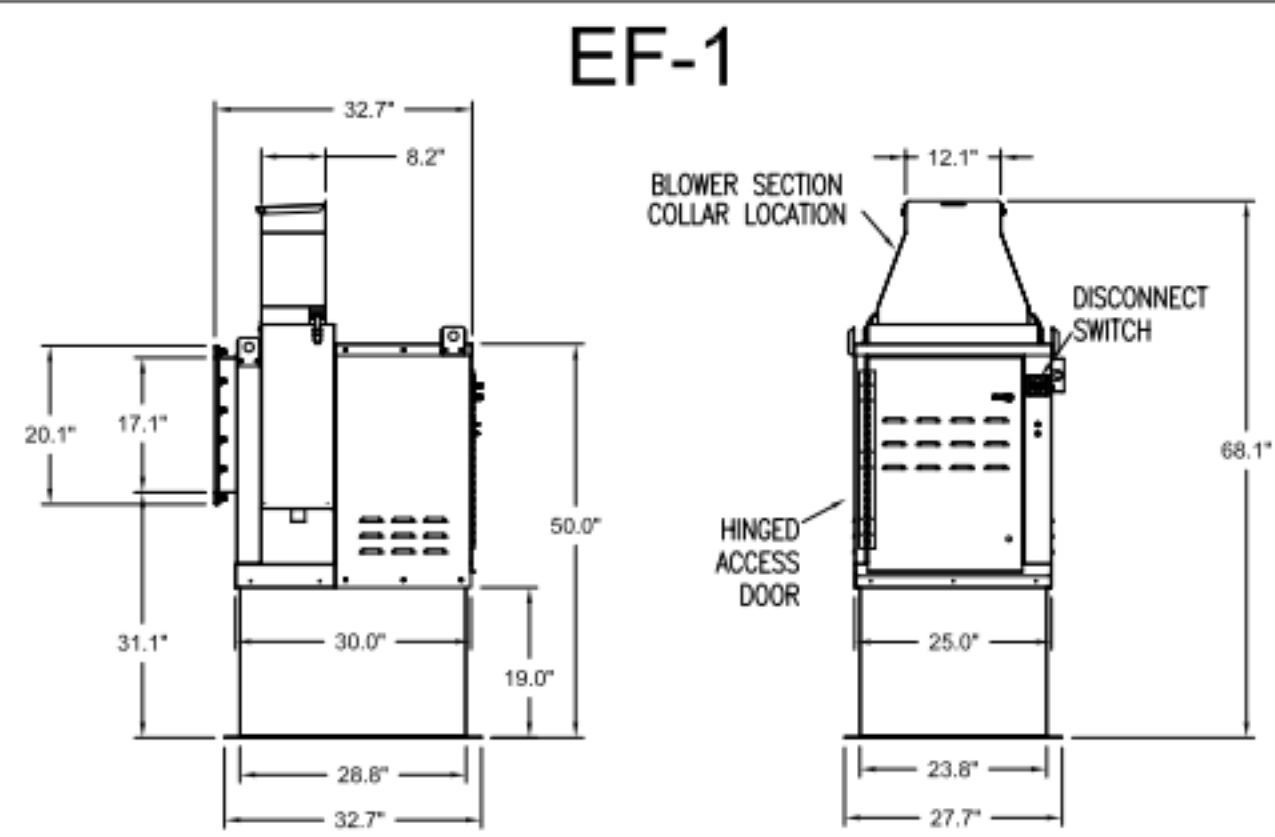


REV.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

WEBSITE: WWW.HALTON.COM  
 HALTON CO. (USA)  
 101 INDUSTRIAL DRIVE  
 SCOTTSDALE, KY 42164  
 1-270-237-9600

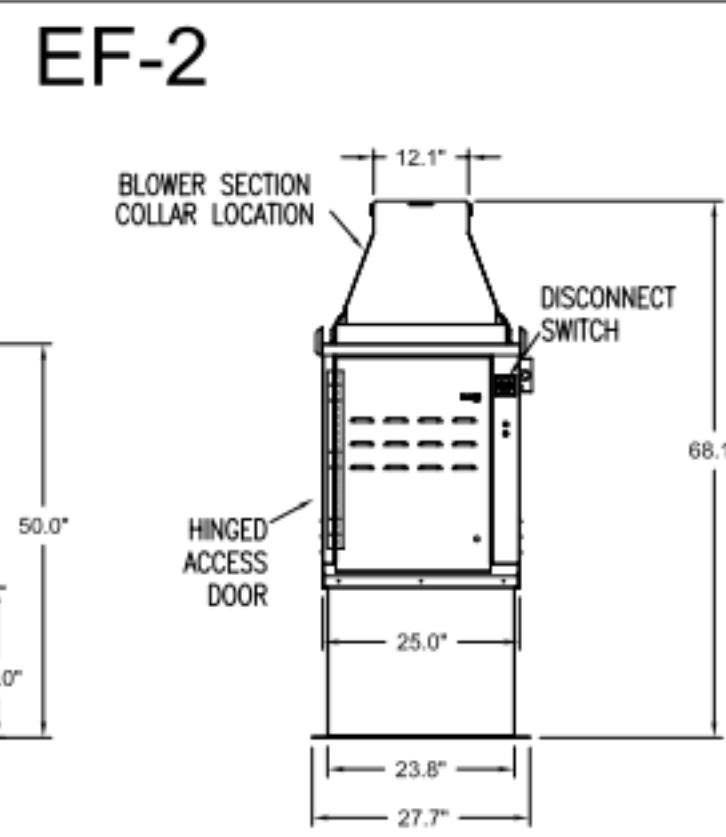
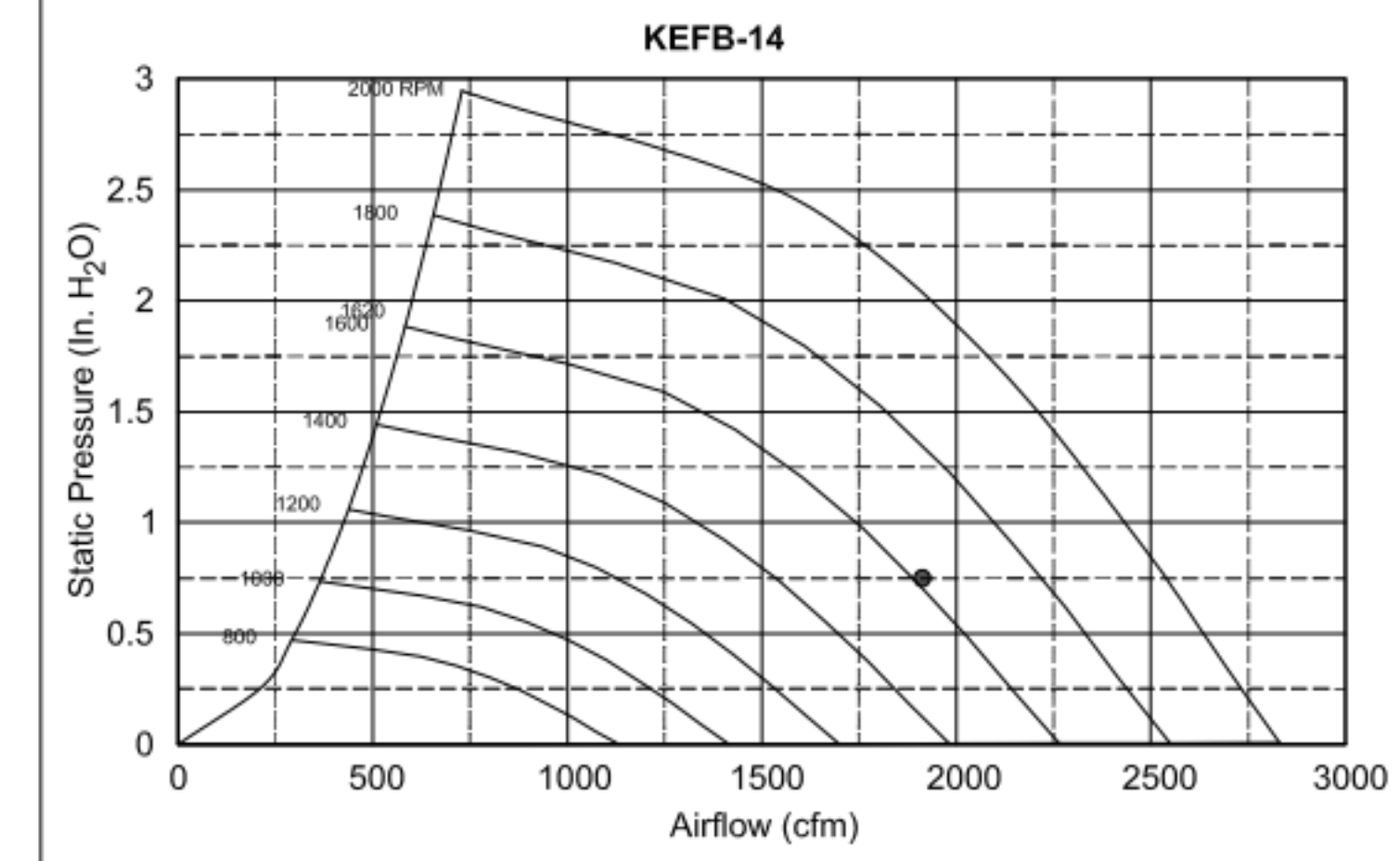
MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:  
 HALTON CO. (CANADA)  
 1021 BREVIK PLACE 3R7  
 MISSISSAUGA, ON L4W 1L9  
 1-905-624-0301

PROJECT: CHICK-FIL-A P14  
 LS/LE/SE/DTO/DTN BUILDING  
 LOCATION: ---  
 DRAWN BY: CG DATE: 08.09.22  
 SCALE: NTS  
 Halton Dwg: U22-606-02FS  
**Halton**  
 CARE FOR INDOOR AIR  
 Sheet MH-1.2



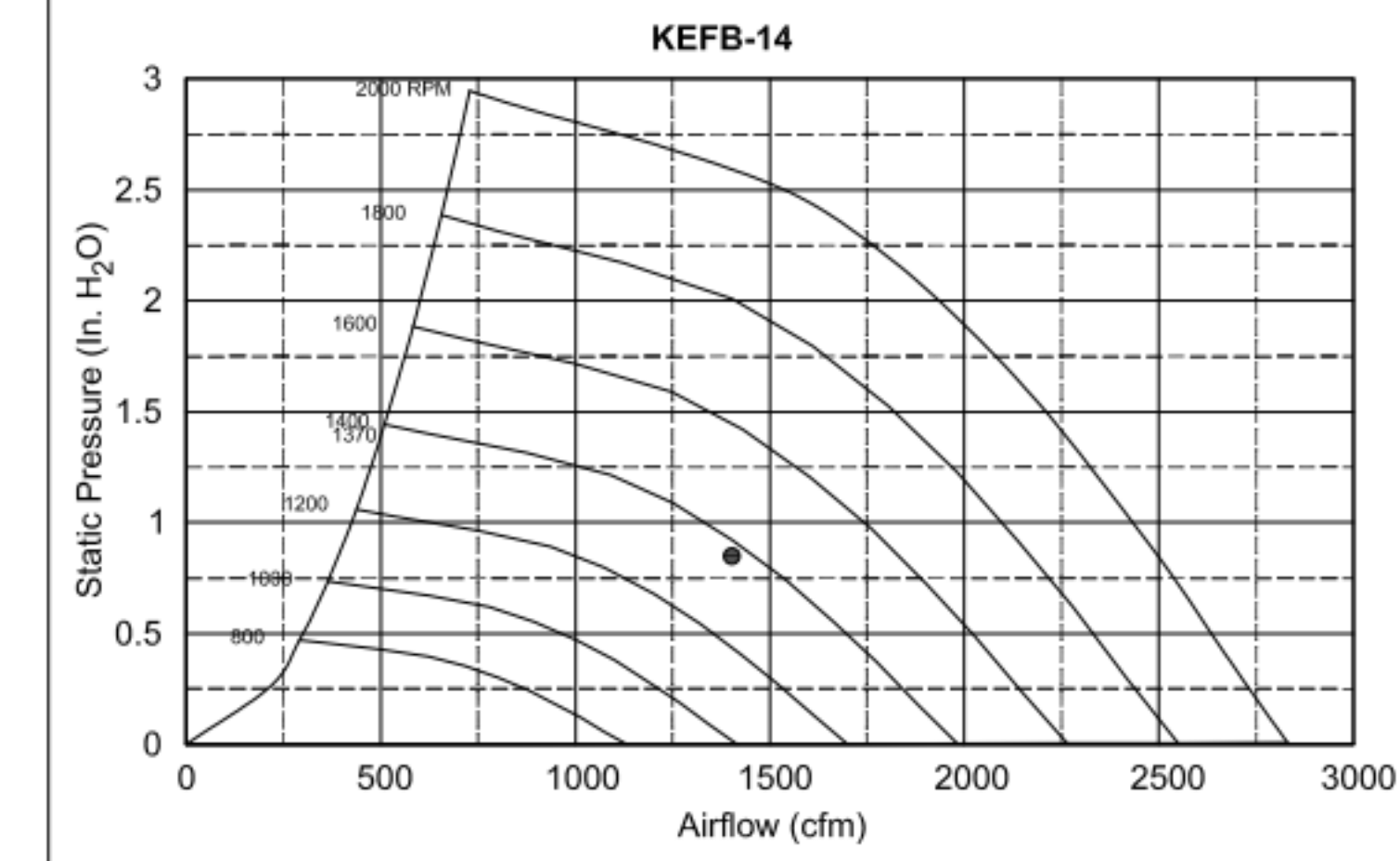
Halton KEFB Exhaust Fan

Job Name	Chick-8/A	Item No	KEFB-14	Fan RPM	1,620	Volts/Ph/Amps	115/160
Location	EF-1	Model	KEFB-14	Fan BHP	0.55	Motor HP	0.75
Date	1/26/2023	Airflow, cfm	1,913	dB	85.3	TAB Port, in WC	4.8
Static Pressure, in WC	0.75						



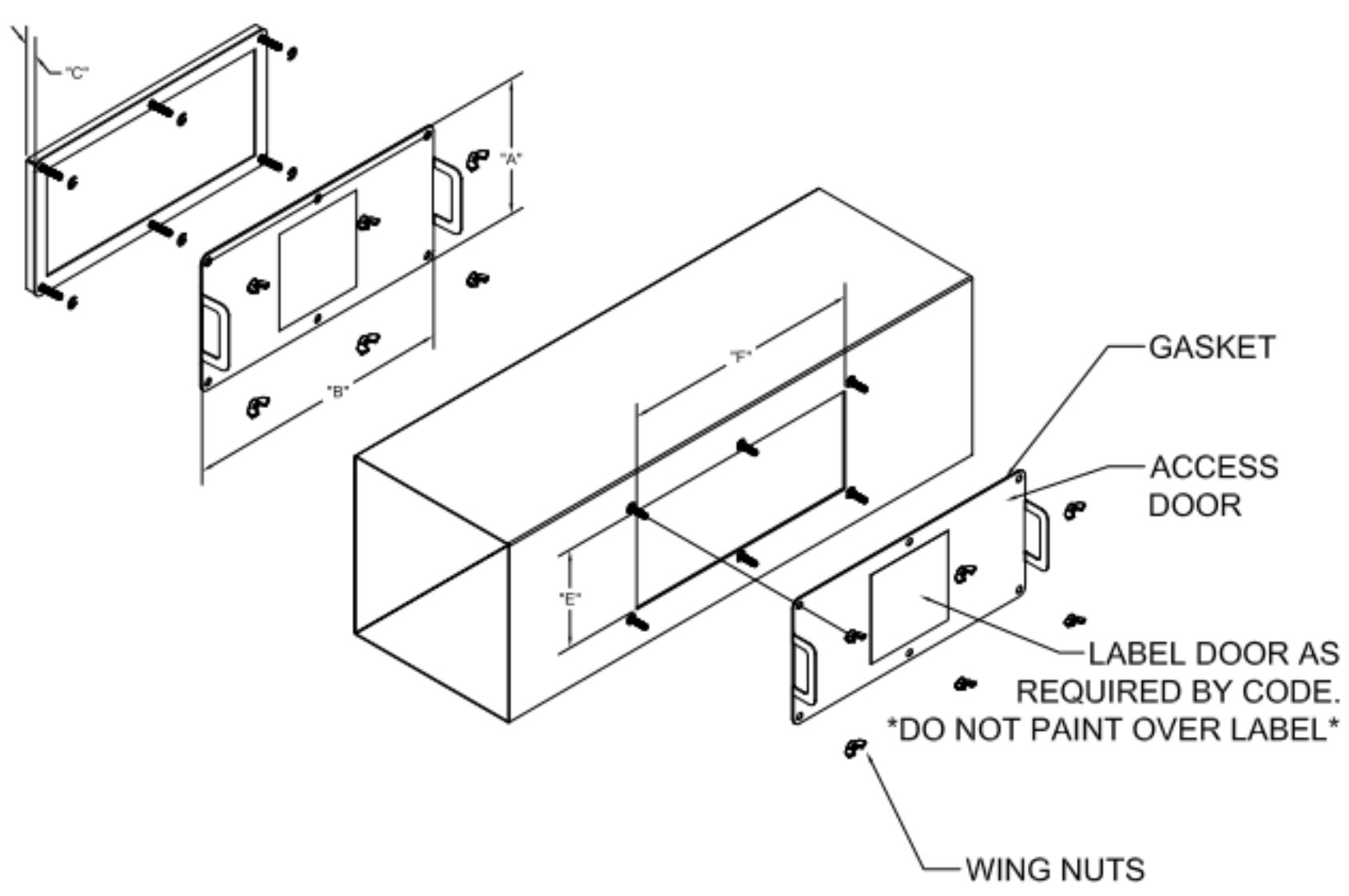
Halton KEFB Exhaust Fan

Job Name	Chick-6/A	Item No	KEFB-14	Fan RPM	1,370	Volts/Ph/Amps	115/160
Location	EF-2	Model	KEFB-14	Fan BHP	0.34	Motor HP	0.75
Date	1/26/2023	Airflow, cfm	1,402	dB	81	TAB Port, in WC	2.6
Static Pressure, in WC	0.95						

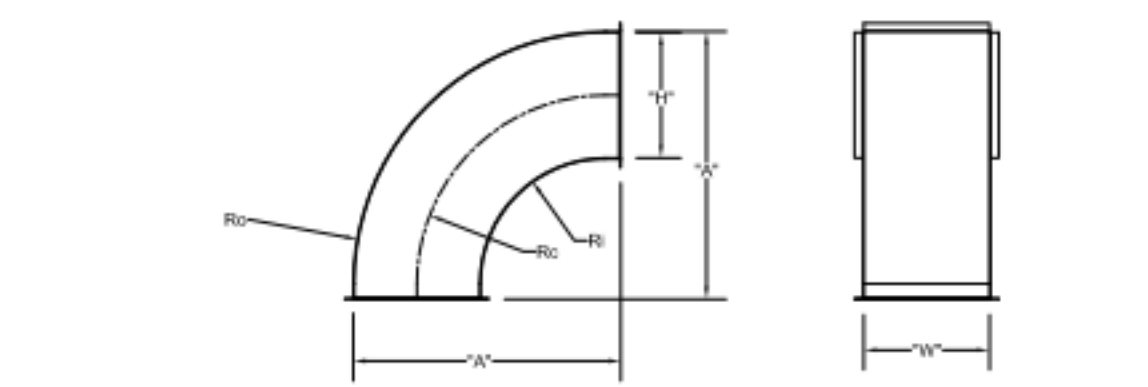


MODEL	DOOR SIZE		OPTIONAL FLANGE	OPENING SIZE	
	"A"	"B"		"E"	"F"
KAP0715	7	15	FLAT	5.5	13.5
KAP1015	10	15	1/2	7	12

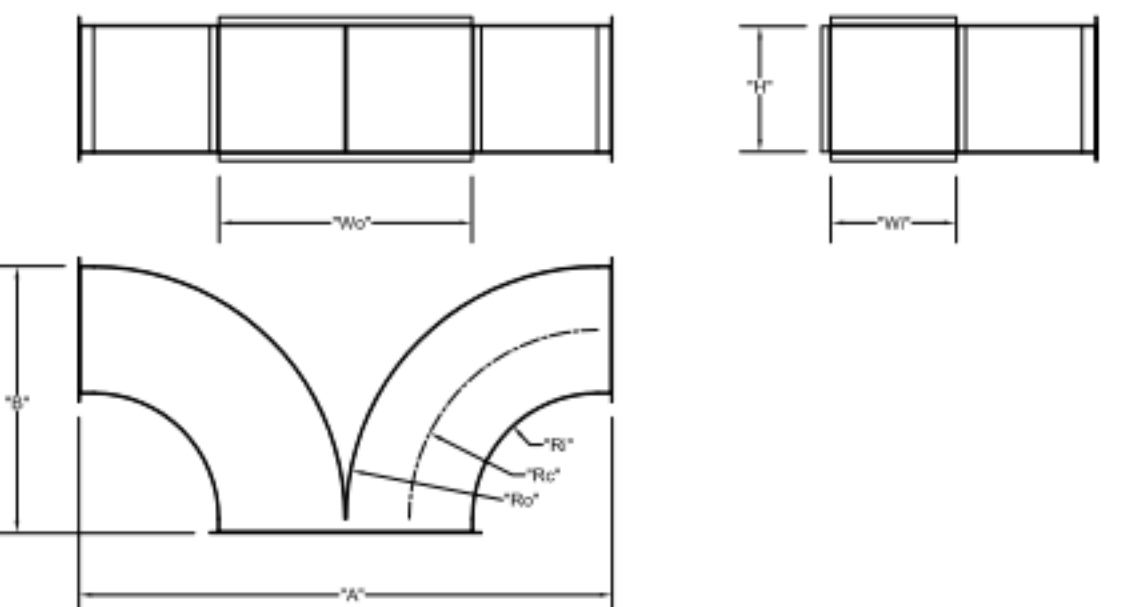
ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEREK GASKET MATERIAL.



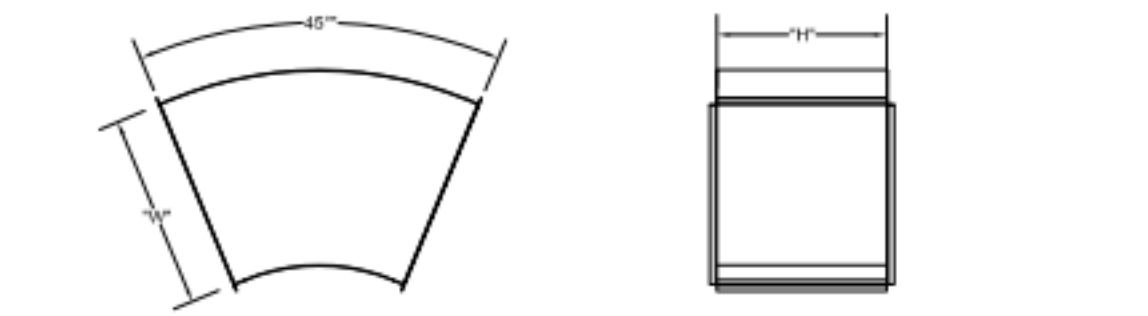
INSTALL PER MANUFACTURER'S INSTRUCTIONS



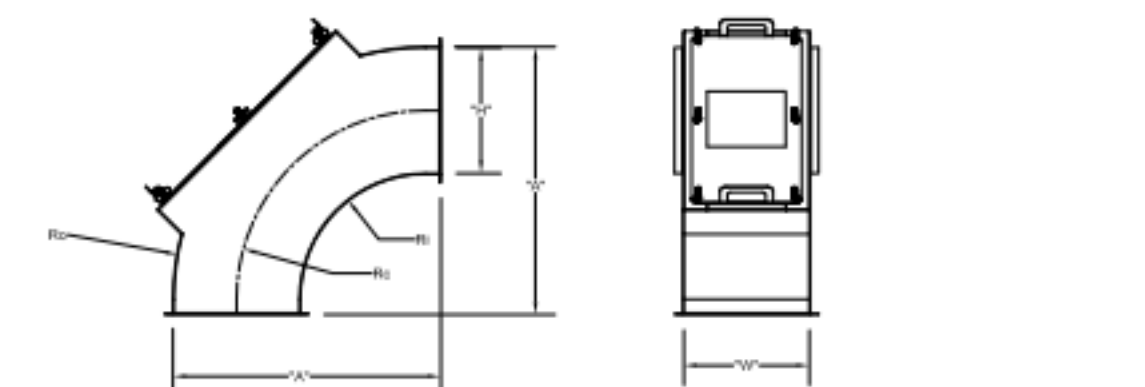
	"H"	"W"	"A"	Ro	Rc	Ri
EF-2	8	8	17	16	12	8
EF-2	8	10	17	16	12	8



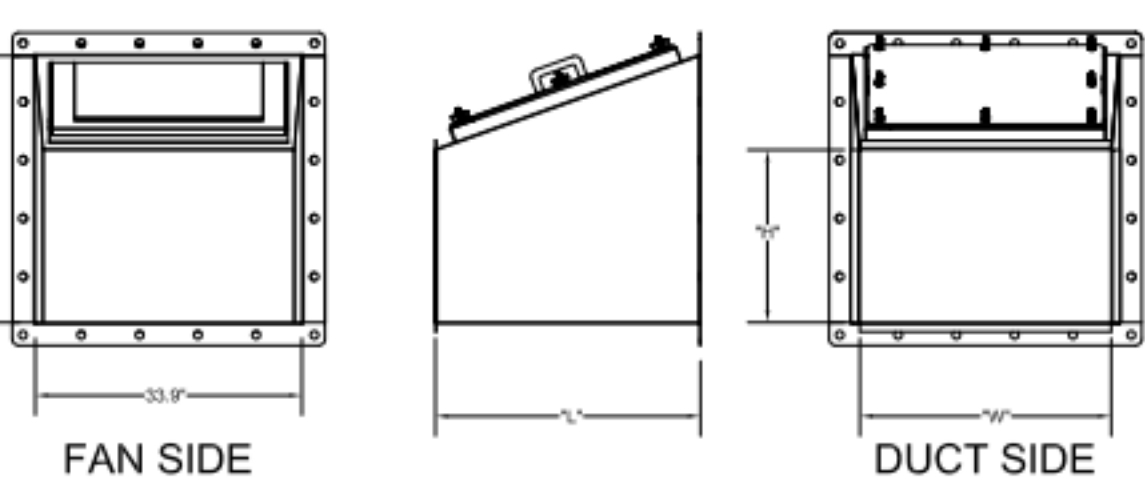
	"W"	"H"	Wo	Ro	Rc	Ri	"A"	"B"
EF-1	8	14	16	16	12	8	34	17
EF-2	8	10	16	16	12	8	34	17



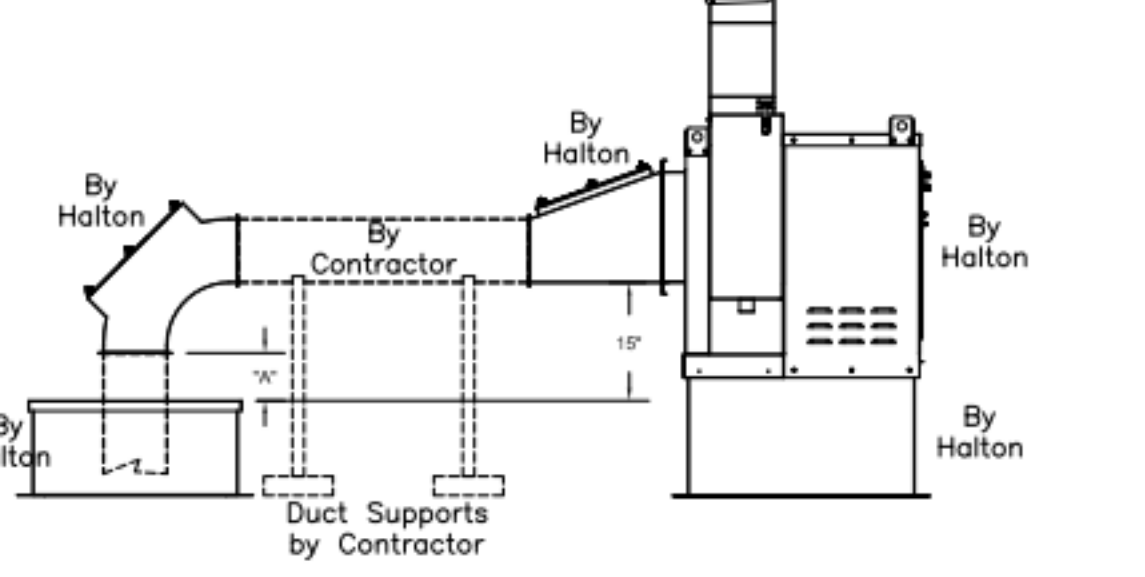
	"W"	"H"
EF-1	16	14



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



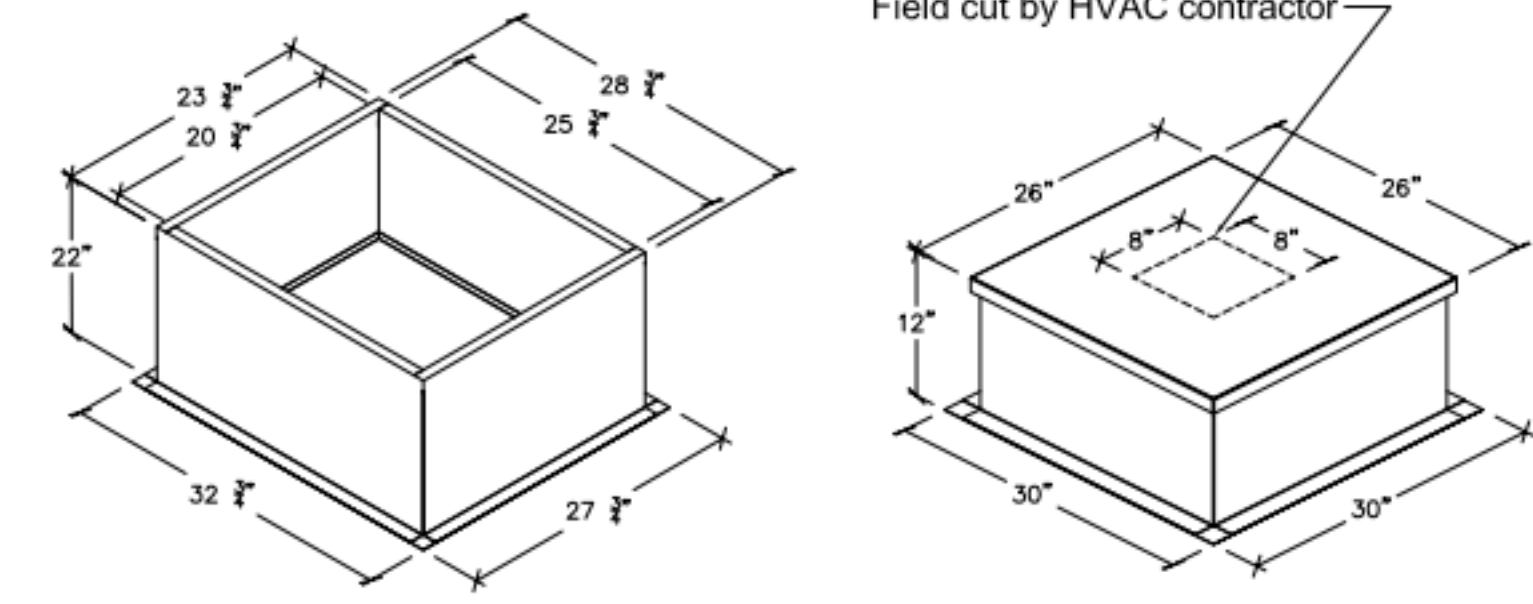
TRANSITION	"H"	"W"	"L"
EF-1 (5)	14	16	25
EF-2 (6)	10	16	17



"A" DISTANCE AVAILABLE FOR DUCT SLOPE

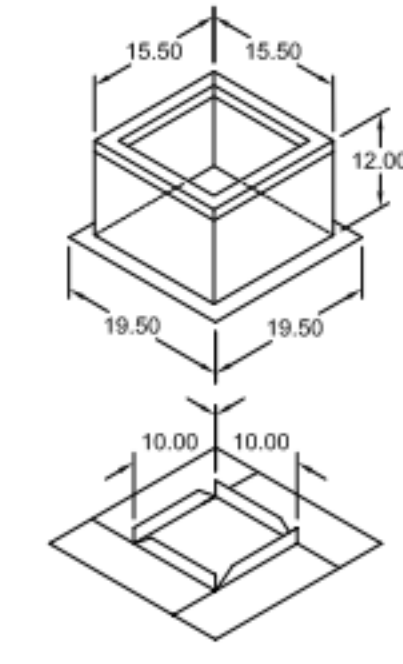
ELBOW	"A"
EF-1	14X8
EF-2	8X8

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:**  
 - 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 12 in. - 16 ga. cap



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

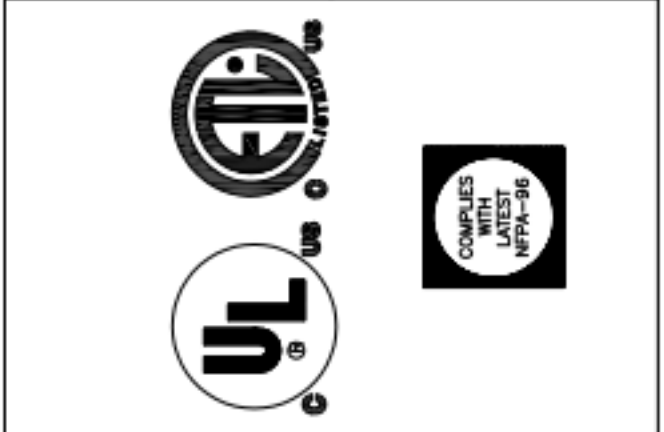
Accessories		Security	Insulation	Insulation
Material	Galvanized	Bars	Liner	(in.) R Value
No	No	No	No	R4.3

Tag	Qty	Model	Sizing Method	Undersizing (in.)	Weight (lb.)	Shipped Assembled	Union Label
EF-3	1	GPI-17	Nominal	1.5	14	Yes	No Preference

Curb Height (in.)	Nominal Outside Width (in.)	Nominal Outside 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 Width* (in.)	Hinge Base Length* (in.)
	12	17	17	15.5	15.5	12	12	19.5	16	

\*May not be applicable

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 REVISE AND RESUBMIT  
 APPROVED FOR FABRICATION  
 WITH NO CHANGES  
 WITH CHANGES AS NOTED  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



WEBSITE: www.halton.com  
 HALTON CO. (USA)  
 101 INDUSTRIAL DRIVE  
 SCOTTSDALE, KY 42164  
 1-270-237-5600

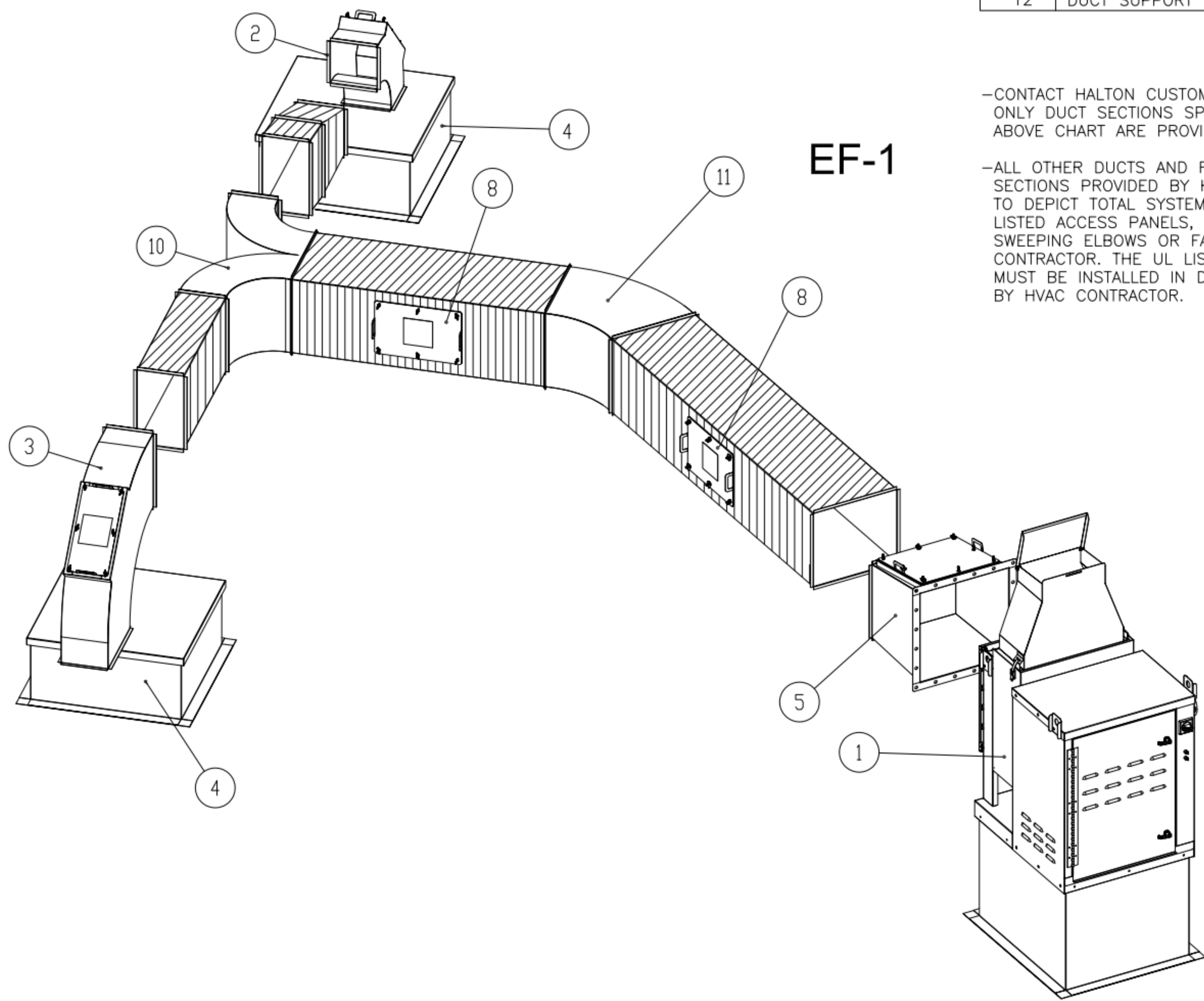
REV.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			

PROJECT: CHICK-FIL-A FAN DETAILS  
 LOCATION: PROTO SE/LE/LS/LSR (BN & BP)  
 DRAWN BY: ACF DATE: 05.10.23  
 SCALE: \_\_\_\_\_  
 CONSULTANT: \_\_\_\_\_

DRAWING TITLE: CFA FAN DETAILS  
 DRAWING No.: 1102450  
**MH-1.3**



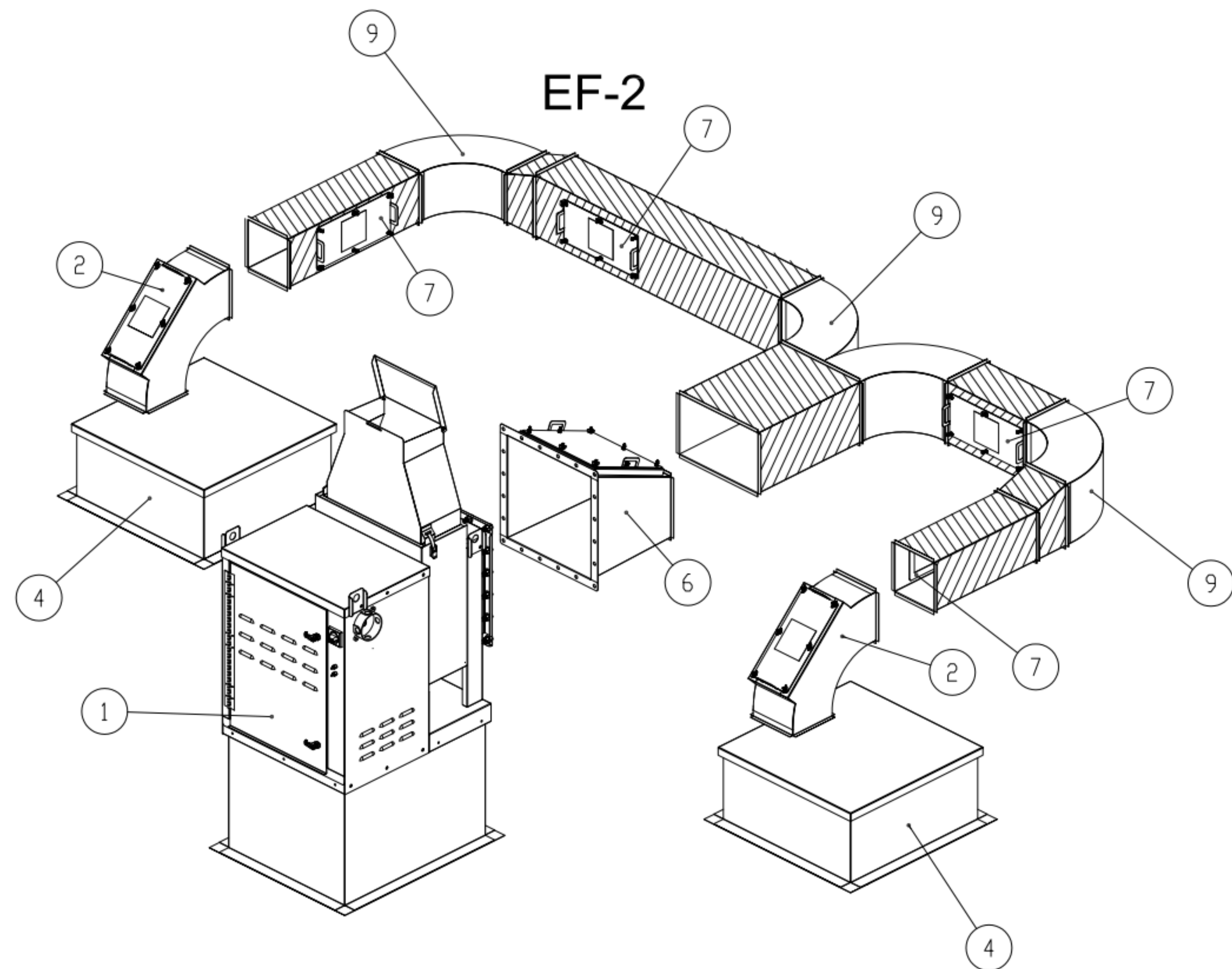
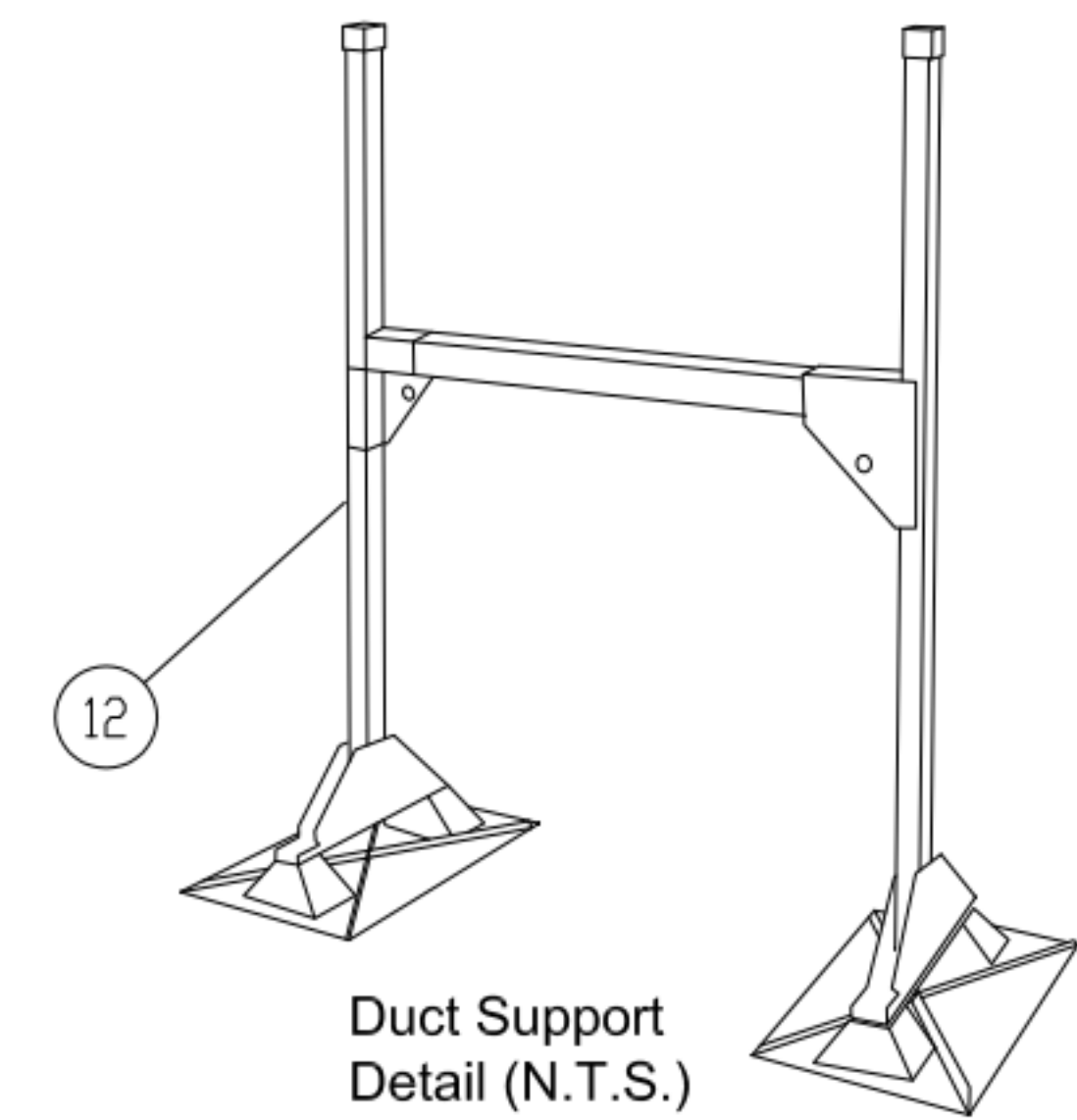
ITEM	DESCRIPTION	QTY
1	KEFB EXHAUST FAN W/ ROOF CURB	2
2	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 8X8	3
3	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8	1
4	DUCT ROOF CURB W/ CAP 26X26X9	4
5	FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X16	1
6	FAN TRANSITION W/ UL LISTED ACCESS PANEL 10X16	1
7	UL LISTED ACCESS PANEL 7X15	4
8	UL LISTED ACCESS PANEL 10X15	2
9	LONG SWEEPING WYE 8X10	1
10	LONG SWEEPING WYE 14X8	1
11	45° 14X16	1
12	DUCT SUPPORT - AS NEEDED, BY HVAC CONTRACTOR	



**EF-1**

-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. DUCT SECTIONS SHOWN WITH UL LISTED ACCESS PANELS, THAT ARE NOT HALTON PROVIDED LONG SWEEPING ELBOWS OR FAN TRANSITIONS, ARE PROVIDED BY HVAC CONTRACTOR. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.



**EF-2**

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

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

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW: WEBSITE: [www.halton.com](http://www.halton.com)

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

HALTON CO. (USA)  
 101 INDUSTRIAL DRIVE  
 SCOTTSDALE, KY 42164  
 1-270-237-5600

REVISION DESCRIPTION

REV. BY DATE

PROJECT: CHICK-FIL-A FAN DETAILS

LOCATION: PROTO SE/LE/LS/LSR (EN & BP)  
 DRAWN BY: ACF DATE: 05.10.23

SCALE: \_\_\_\_\_

CONSULTANT:

**Halton**

DRAWING TITLE: CFA FAN DETAILS

DRAWING No.: MH-1.4

No: 0

No: 2 of 2