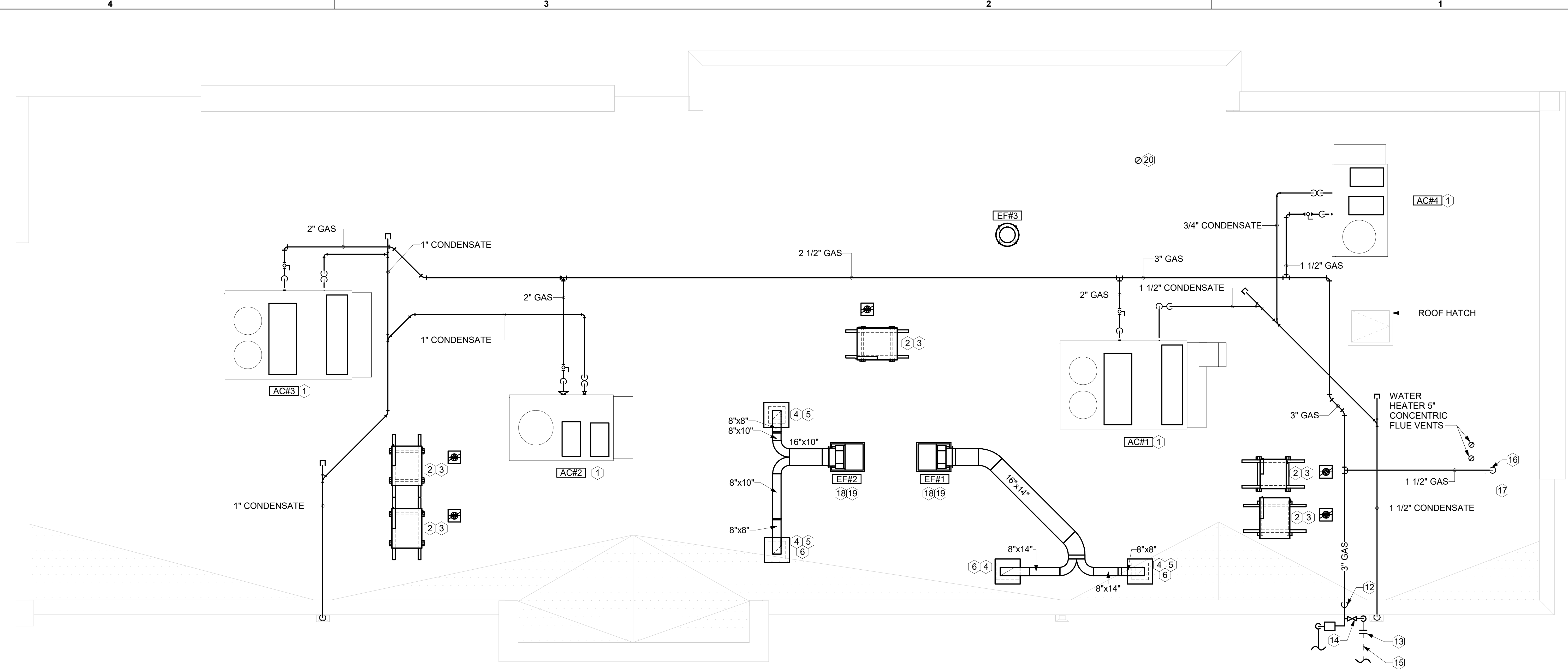




Chick-fil-A
 Chick-fil-A
 5200 Buffington Road
 Atlanta, Georgia
 30349-2998

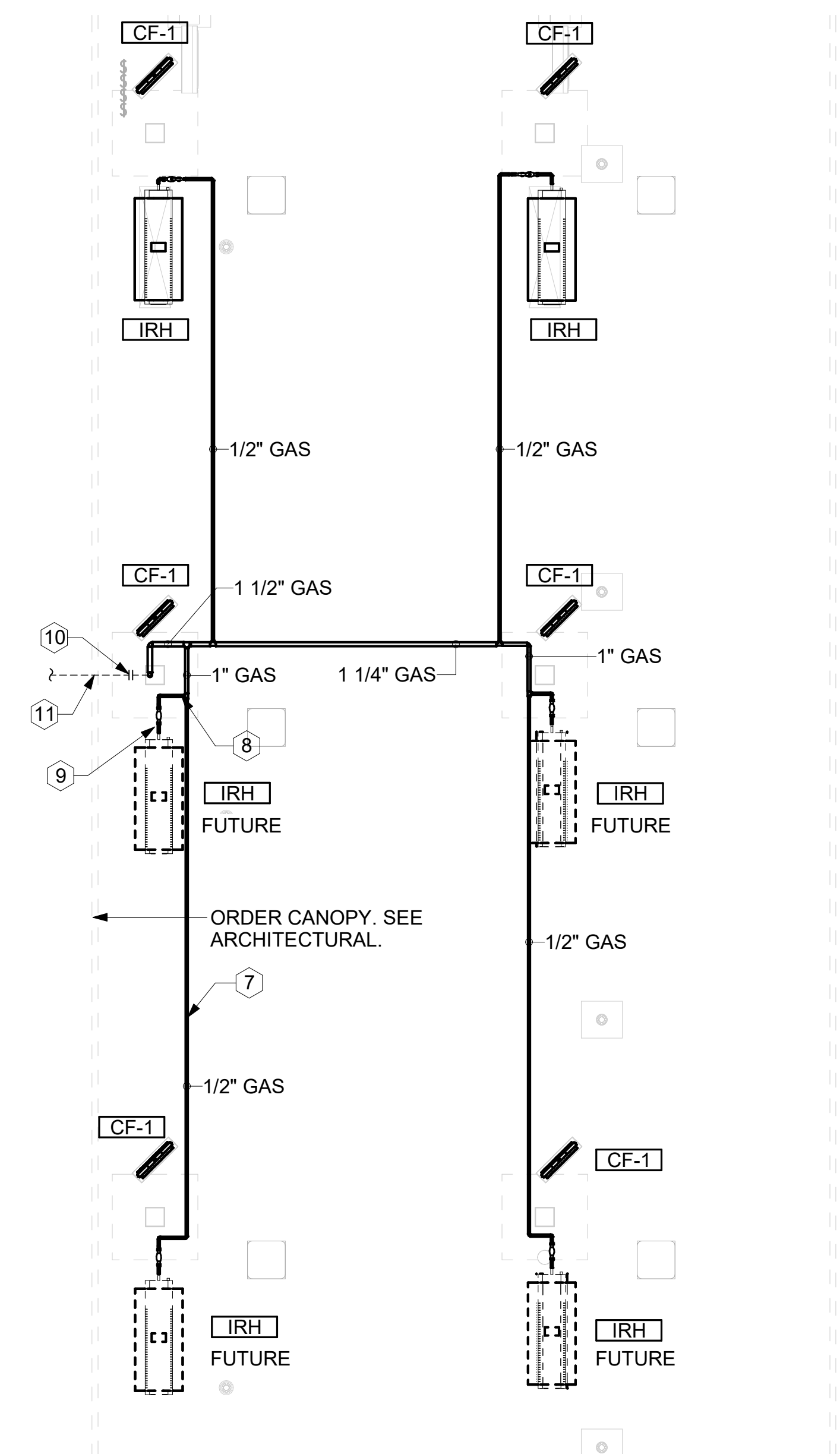


1 EQUIPMENT ROOF PLAN - TRANE
 1/4" = 1'-0"

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 TURN DOWN THRU ROOF. SEE M-101L/M-101T FOR CONTINUATION.
- 6 DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.
- 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. SEE DETAIL 1/M-503 FOR PIPING AT IRH, TYPICAL.
- 9 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 TURN 3" GAS UP WITHIN WALL, THRU PARAPET AND ONTO ROOF.
- 13 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.
- 14 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."
- 15 1-1/2" GAS BELOW GRADE TO ORDER CANOPY, SEE DETAIL 2 THIS SHEET.
- 16 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.
- 17 SEE ARCHITECTURAL DETAILS FOR ROOFTOP PIPE PENETRATIONS.
- 18 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.
- 19 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.
- 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
ALT AC#1	400,000 BTUS
ALT AC#2	240,000 BTUS
ALT AC#3	400,000 BTUS
ALT AC#4	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 BASIS OF DESIGN LOAD	1,668,000 BTUS
TOTAL FUTURE CONNECTED LOAD	1,868,000 BTUS
REMARKS:	1. EQUIVALENT TO 1,868.0 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
FORT GRATIOT
 4783 24TH AVENUE
 FORT GRATIOT, MI 48059

FSR#05694
 BUILDING TYPE / SIZE: P14 LSR BN
 RELEASE: 23.11
 PRINTED FOR
 ISSUED FOR CONSTRUCTION
 REVISION SCHEDULE
 NO. DATE DESCRIPTION

CONSULTANT PROJECT # 2023223.81
 DATE 01/23/24
 DRAWN BY MJA

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 SHEET
 EQUIPMENT ROOF PLAN - TRANE

SHEET NUMBER
M-102T

MODEL: KVL-2-1C * FACTORY MUST BE ADVISED OF ANY SPECIAL REQUIREMENTS OF THE "CUSTOMER" HAVING JURISDICTION AT TIME OF ORDER.

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 V/O EXHAUST DAMPER *
- CEILING CLOSURE 2
- STD. BACKSPLASH
- INSULATED BACKSPLASH
- KBD DAMPER *

MATERIAL

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

COMMENTS:

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

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION
08.09.22	U22-606-01	H-1L	CFM TAB SP
PROJECT:	CHICK-FIL-A P14 - REVERSE		709 .13' .23'
LOCATION: --		CAPTURE AIR INFORMATION	
		CFM SP	
SUBMITTED BY: HALTON CO.		47	.30'

K FACTOR EQUATION: CFM = K FACTOR * VDP

K FACTOR = 1959

MODEL: KVL-2-1C * FACTORY MUST BE ADVISED OF ANY SPECIAL REQUIREMENTS OF THE "CUSTOMER" HAVING JURISDICTION AT TIME OF ORDER.

STANDARD FEATURES

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- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED (3)PRESSURE FRYERS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION
08.09.22	U22-606-01	H-1R	CFM TAB SP
PROJECT:	CHICK-FIL-A P14 - REVERSE		1204 .13' .22'
LOCATION: --		CAPTURE AIR INFORMATION	
		CFM SP	
SUBMITTED BY: HALTON CO.		80	.29'

K FACTOR EQUATION: CFM = K FACTOR * VDP

K FACTOR = 3365

MODEL: KVL-C-1C * FACTORY MUST BE ADVISED OF ANY SPECIAL REQUIREMENTS OF THE "CUSTOMER" HAVING JURISDICTION AT TIME OF ORDER.

STANDARD FEATURES

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

OPTIONS

- REMOTE SWITCH PANEL
- FIRE PROTECTION *
- ETL LISTED V/O EXHAUST DAMPER *
- CEILING CLOSURE 2
- STD. BACKSPLASH
- INSULATED BACKSPLASH
- KBD DAMPER *

MATERIAL

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

COMMENTS:

- CLOSURE HEIGHT = 51" (TWO SIDES)
- CEILING HEIGHT = 122"
- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET W/ FRONT C/J INTAKE
- NOTCH RIGHT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3" X 3" TRIM STRIP FOR STANDOFF ON LEFT END
- 3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED (2)FRYERS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION
08.09.22	U22-606-01	H-2	CFM T.A.B. SP
PROJECT:	CHICK-FIL-A P14 - REVERSE		701 .30' .39'
LOCATION: --		CAPTURE AIR INFORMATION	
		CFM SP	
SUBMITTED BY: HALTON CO.		30	.29'

K FACTOR EQUATION: CFM = K FACTOR * VDP

K FACTOR = 1291

MODEL: KVL-C-1C * FACTORY MUST BE ADVISED OF ANY SPECIAL REQUIREMENTS OF THE "CUSTOMER" HAVING JURISDICTION AT TIME OF ORDER.

STANDARD FEATURES

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

OPTIONS

- REMOTE SWITCH PANEL
- FIRE PROTECTION *
- ETL LISTED V/O EXHAUST DAMPER *
- CEILING CLOSURE 2
- STD. BACKSPLASH
- INSULATED BACKSPLASH
- KBD DAMPER *

MATERIAL

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

COMMENTS:

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- 18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET W/ FRONT C/J INTAKE
- NOTCH LEFT 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
08.09.22	U22-606-01	H-3	CFM T.A.B. SP
PROJECT:	CHICK-FIL-A P14 - REVERSE		701 .30' .39'
LOCATION: --		CAPTURE AIR INFORMATION	
		CFM SP	
SUBMITTED BY: HALTON CO.		30	.29'

K FACTOR EQUATION: CFM = K FACTOR * VDP

K FACTOR = 1291

HANGER BRACKET DETAIL

H-1L H-1R H-2 H-3

MODEL: KBD
KITCHEN BALANCING DAMPER
EXHAUST VOLUME DAMPER

CONTINUOUS WELD

EXHAUST DUCT

KBD DAMPER

EXHAUST COLLAR

HOOD

PRESSURE PORTS

MODEL: KBD
KITCHEN BALANCING DAMPER
EXHAUST VOLUME DAMPER

CALIBRATED KBDs

BALANCING ADJUSTMENT

EXHAUST AIR FROM HOOD

1" FLANGE (INLET & OUTLET)

PRESSURE PORTS

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

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

"KVL-2-1C"
TYPICAL INSTALLATION

* NOTE - CAPTURE-JET FAN IS FACTORY INSTALLED ON TOP OF HOOD

4105A

"KVL-C-1C"
TYPICAL INSTALLATION

* NOTE - CAPTURE-JET FAN IS FACTORY INSTALLED ON TOP OF HOOD

4105A

60143

* NOTE *

THIS DETAIL DEPICTS THE INSTALLATION OF THE DOUBLE RECEPTACLE PIN & SLEEVE ASSEMBLY AT HOOD H-2 & HOOD H-3.

H2 DOUBLE PIN AND SLEEVE
H3 DOUBLE PIN AND SLEEVE

60143

Integral Side Jet Arm H-2

INTEGRAL SIDE JET ARM

BK STATION

COUNTER

FRONT VIEW

ISOMETRIC VIEW

Integral Side Jet Arm H-3

INTEGRAL SIDE JET ARM

BK STATION

COUNTER

FRONT VIEW

ISOMETRIC VIEW

Typical wiring of Capture-Jet fan

BY HALTON
BY ELECTRICIAN

BLACK
WHITE
ORANGE
GREEN
RED
YELLOW

ENISO CONNECTOR
LED HOOD LIGHTS
HOT GROUND (NEUTRAL)
120V/160
15 AMP CIRCUIT SWITCHED
CAPACITOR
SPEED CONTROLLER
CAPTURE-JET BLOWER MOTOR
.72 AMPS

SPLICE STRIP/U-CHANNEL DETAIL FOR HOOD H-1

ACORN NUT

SPLICE STRIP

REMOVE ALL SHARP EDGES FROM TRIM PIECES

KSA Grease Extractor

BACK SHEET (HOOK) (CANOPY HOOD IS SIMILAR)

FRONT PANEL

FRONT PANEL MAY BE FINISH WITH FRONT OR RECESSED TO FORM SHELF

4105A

KSA Grease Extractor

Extraction of contaminants from the exhaust air is provided by the KSA Multi-Cycle™ grease extractors. Efficient grease extraction is achieved by forcing the exhaust air to spiral continuously in the same direction in the multiple chambers of the extractor, thus separating the grease particles from the air flow centrifugally. High extraction efficiency and low pressure loss over the KSA remain practically constant in use.

4105A

HALTON HOODS

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

NSF Halton

CONFORMS TO UL LISTED UL STD 710 CERTIFIED TO IEC STD 5646

INTERTEK 302225

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42664

MODEL NO. SERIAL NO. ITEM NO.

KVL-2-1C

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS

THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ

THE LISTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ

THE HOOD HAS BEEN CERTIFIED BY ETL FOR 3" INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL709 WITH CONSIDERATION TO NFPA 96

THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES. REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

BUTY LEVEL	MINIMUM OVERHANG	DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING APPLIANCE	MIN. CLEARANCE TO COMBUSTIBLE MATERIAL
MEDIUM	6" TO 12"	MIN 30" MAX 120"	120"
MEDIUM	6" TO 12"	MIN 30" MAX 120"	120"
HEAVY	6" TO 12"	MIN 30" MAX 120"	120"
HEAVY	6" TO 12"	MIN 30" MAX 120"	120"

LET SUPPLY AIR FLOW SHALL ONLY BE SET AT 63% IN HOOD

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

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

NOTE TO APPROVER: COOKING EQUIPMENT SUCH AS INCREASED ENERGY INFLUENCE AS EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RE-CALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

REVISION 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
SCOTTSVILLE, KY 42164
1-270-237-5600

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

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

REV.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PROJECT: CHICK-FIL-A P14 - REVERSE

LOCATION: LSR BUILDING

DRAWN BY: CG DATE: 08.09.22

SCALE: NTS

Halton Dwg: U22-606-01

Sheet MH-1.1

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

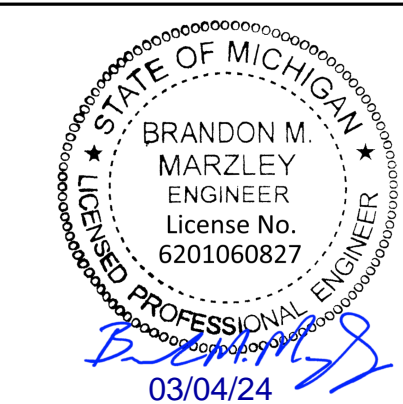
A-12-400	TYPE - NECK SIZE - CFM	[EF#1]	EXHAUST FAN #1 (TYP.)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	[AC#1]	AIR CONDITIONING UNIT #1 (TYP.)
	SPIN-IN HARD & FLEXIBLE DIFFUSER		RETURN/EXHAUST (TYP.)
	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SQ FACE (TYP.)
	HUMIDITY SENSOR		PLAN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



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Atlanta, Georgia
30349-2998



CHICK-FIL-A
FORT GRATIOT
4783 24TH AVENUE
FORT GRATIOT, MI 48059

FSR#05694

BUILDING TYPE / SIZE: P14 LSR BN
RELEASE: 23-11
PRINTED FOR:
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NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2023223.81
DATE 01/23/24
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SHEET GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS
SHEET NUMBER

M-001



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SHEET
EXHAUST HOOD ELEVATIONS

SHEET NUMBER

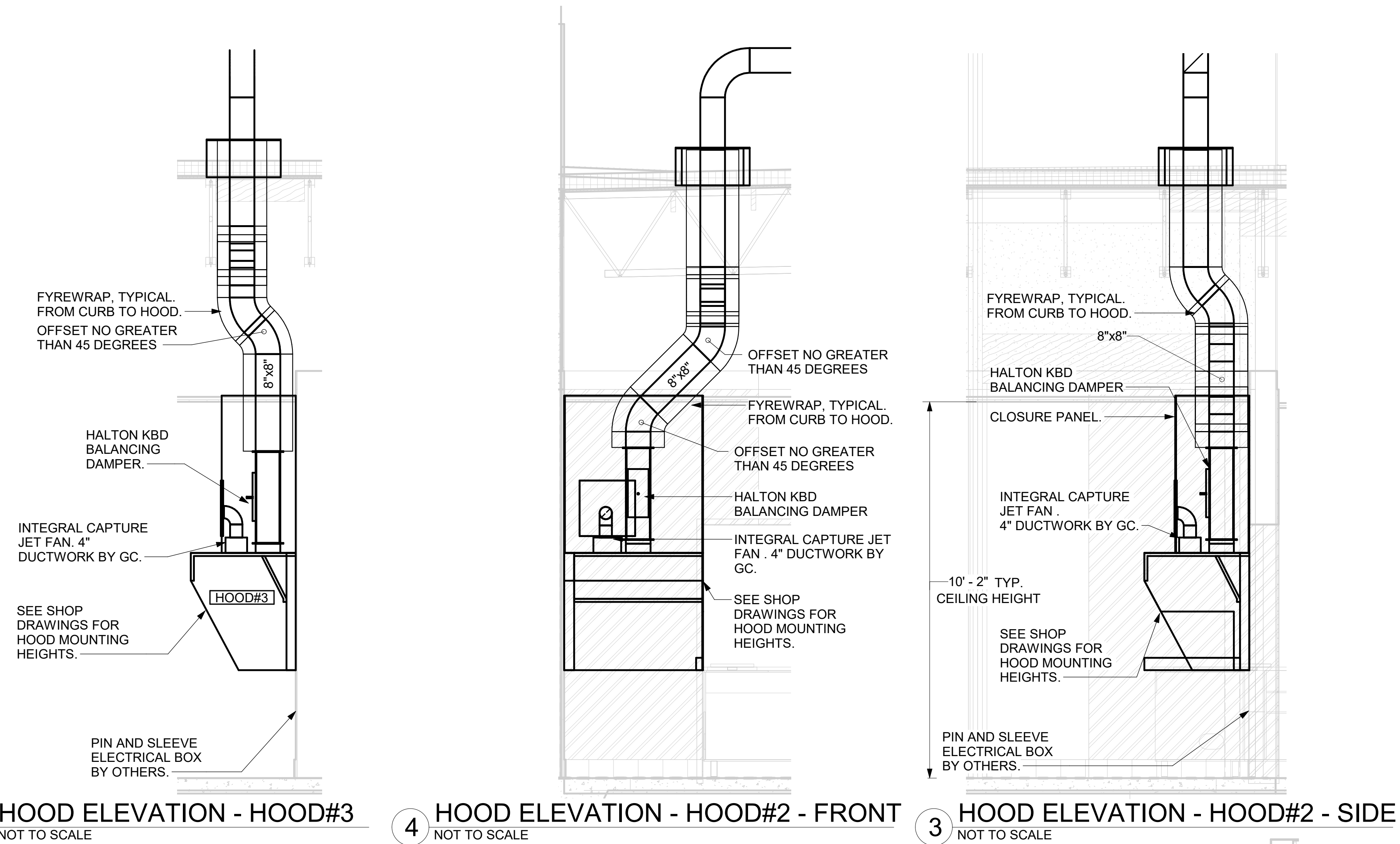
M-201

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:

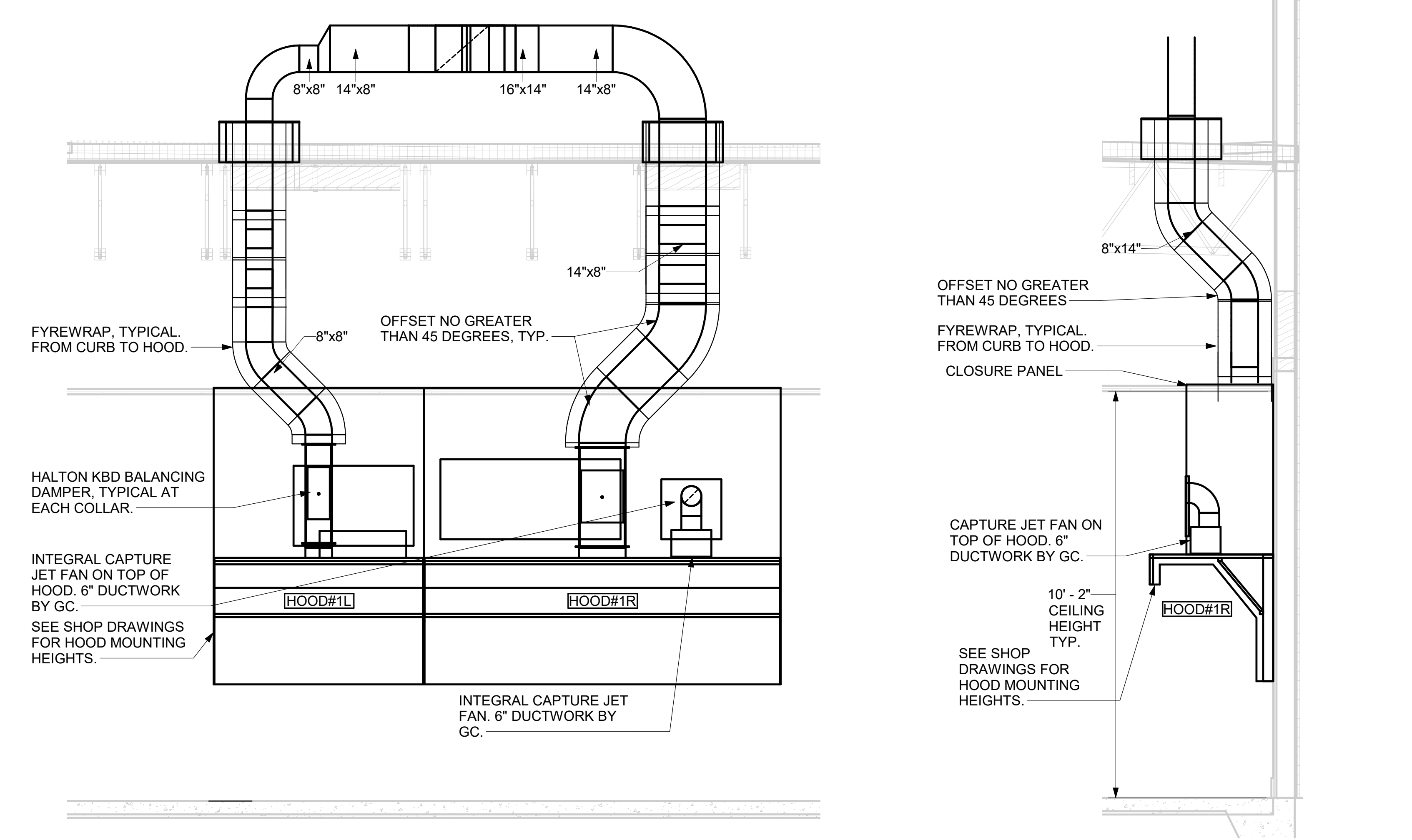
DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS, NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.



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

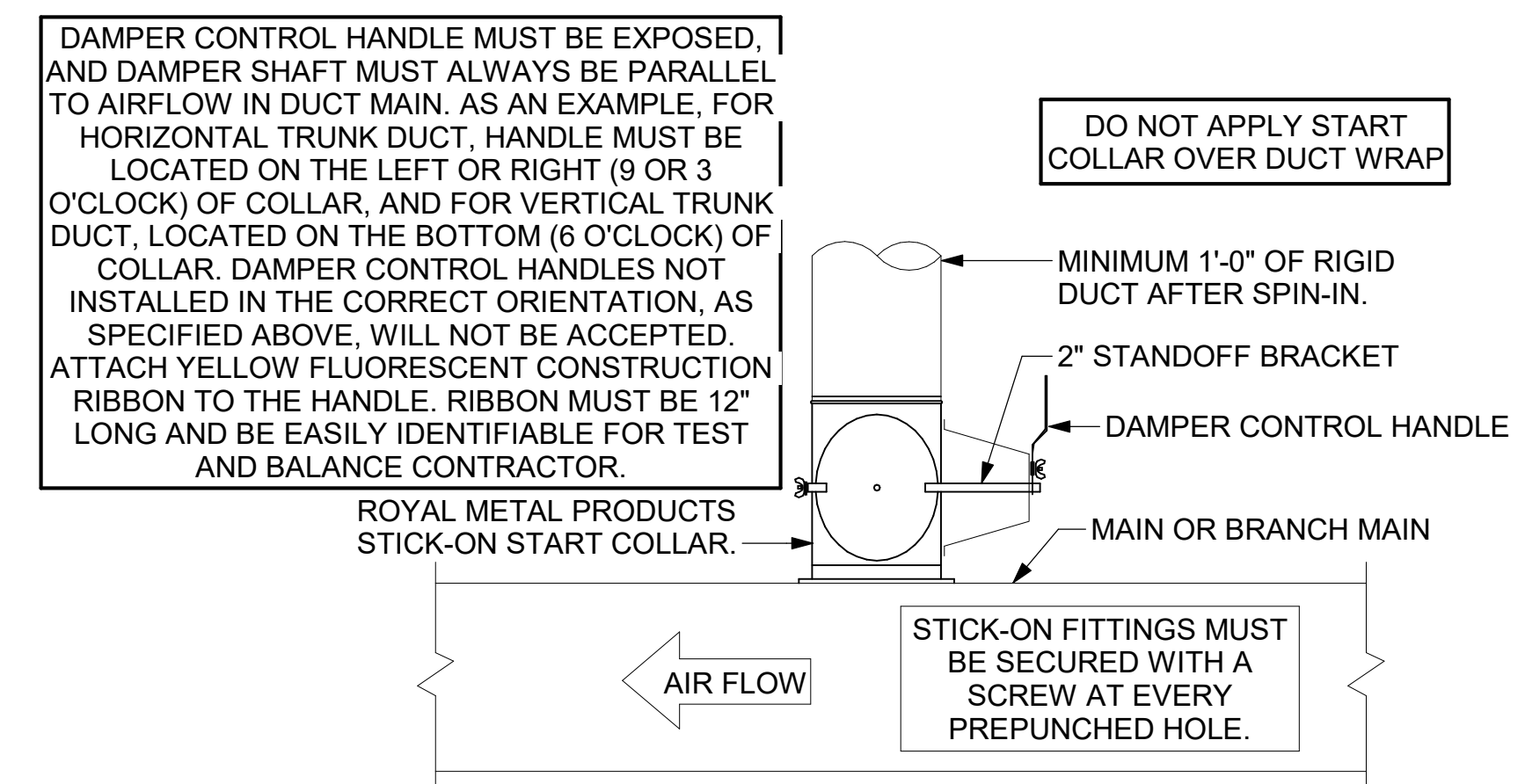
1 HOOD ELEVATION - HOOD#1 - SIDE
NOT TO SCALE

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E

D

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.

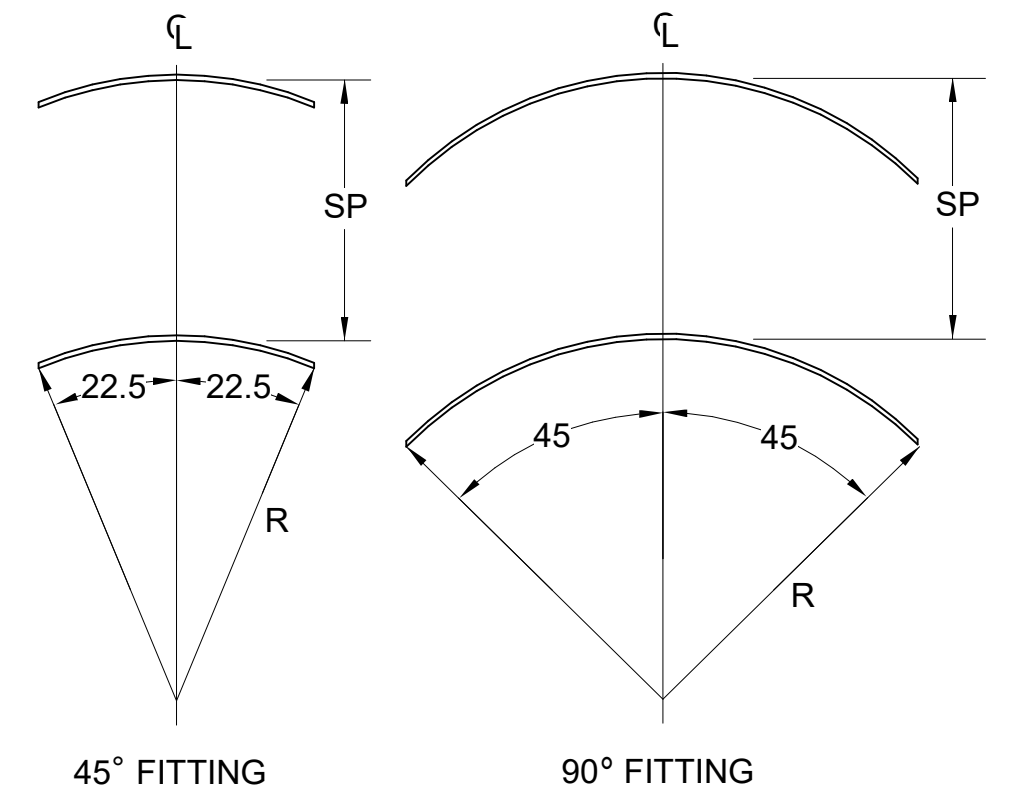


2 START COLLAR
NOT TO SCALE

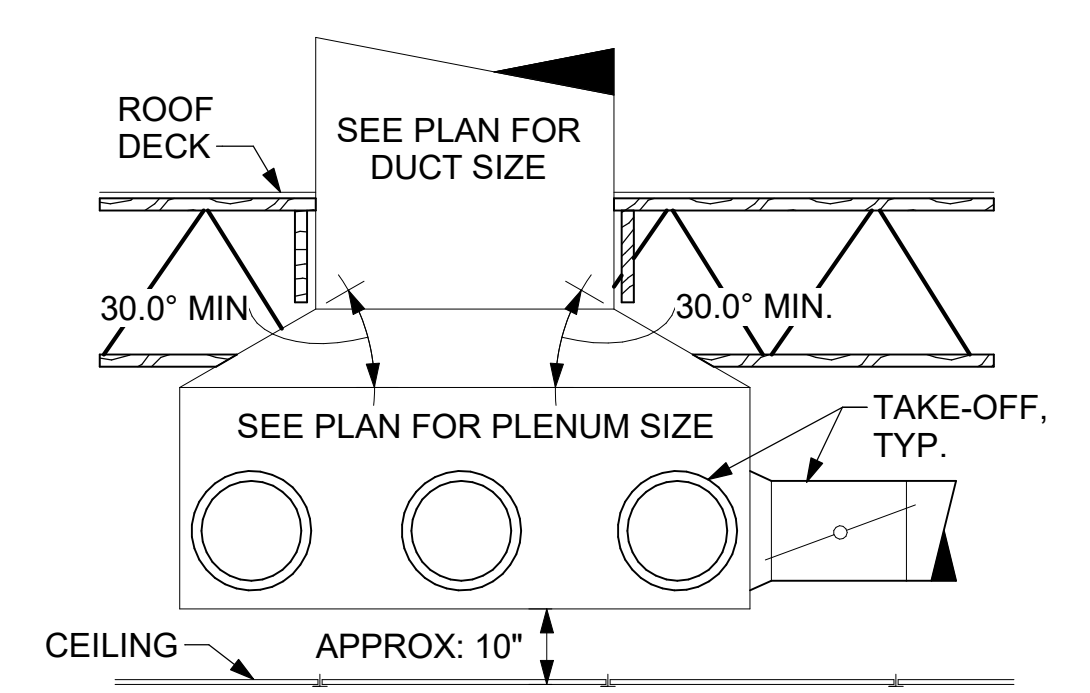
TURNING VANE SCHEDULE

R	SP	GA
2"	1.5"	24

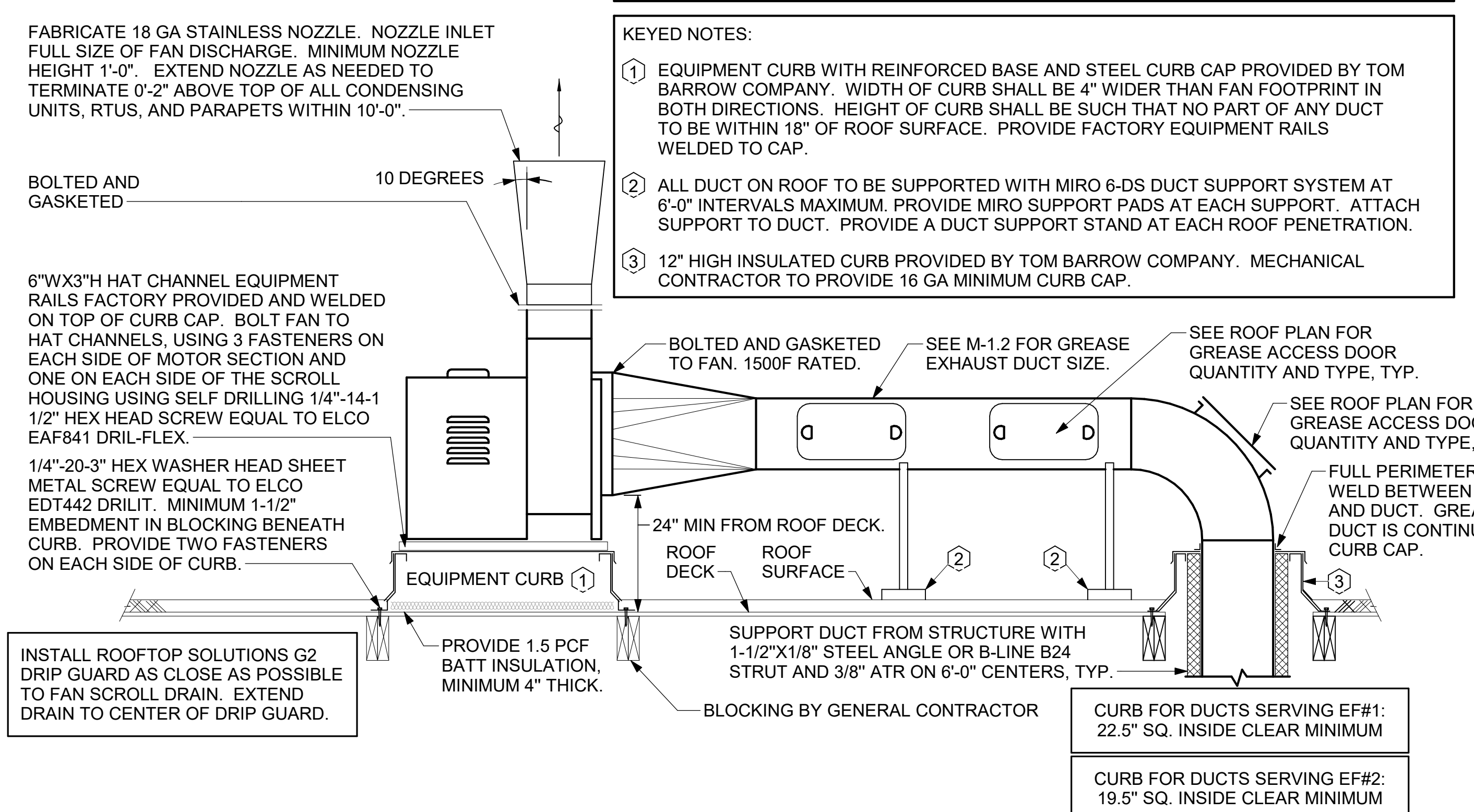
1. NO TRAILING EDGE.
2. SINGLE THICKNESS CONSTRUCTION.



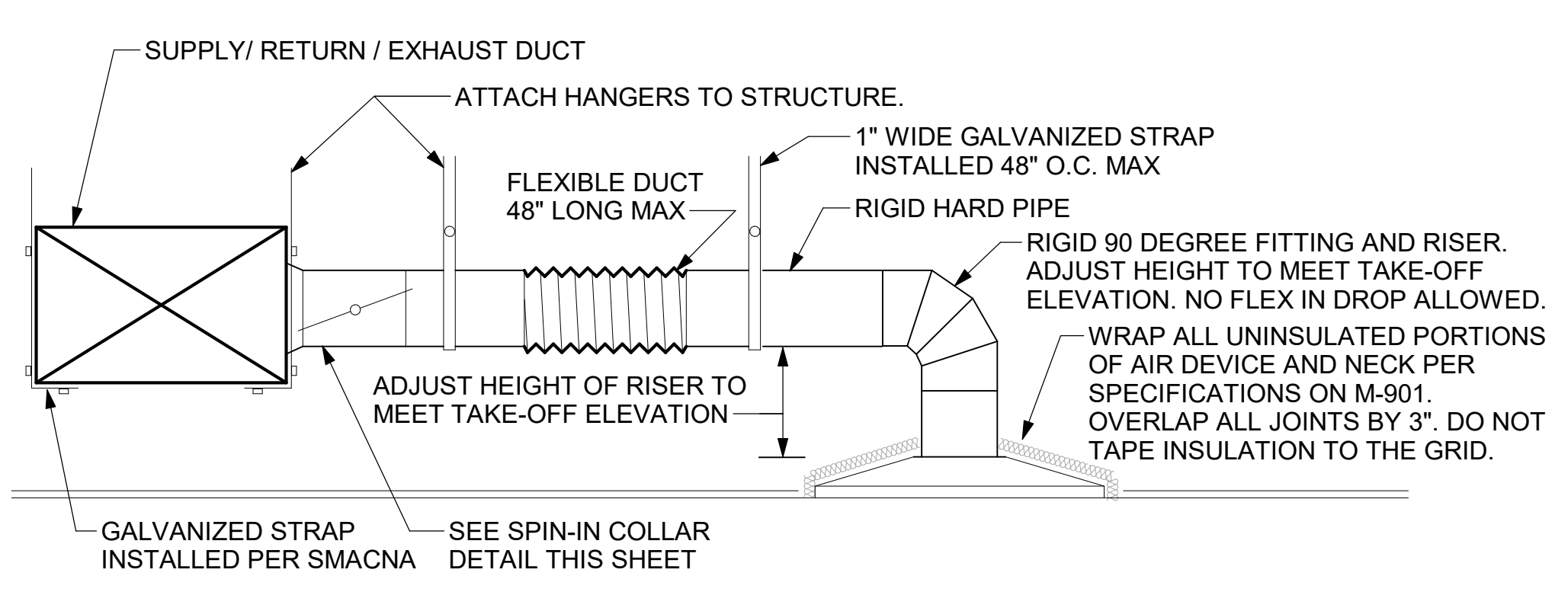
4 TURNING VANES
NOT TO SCALE



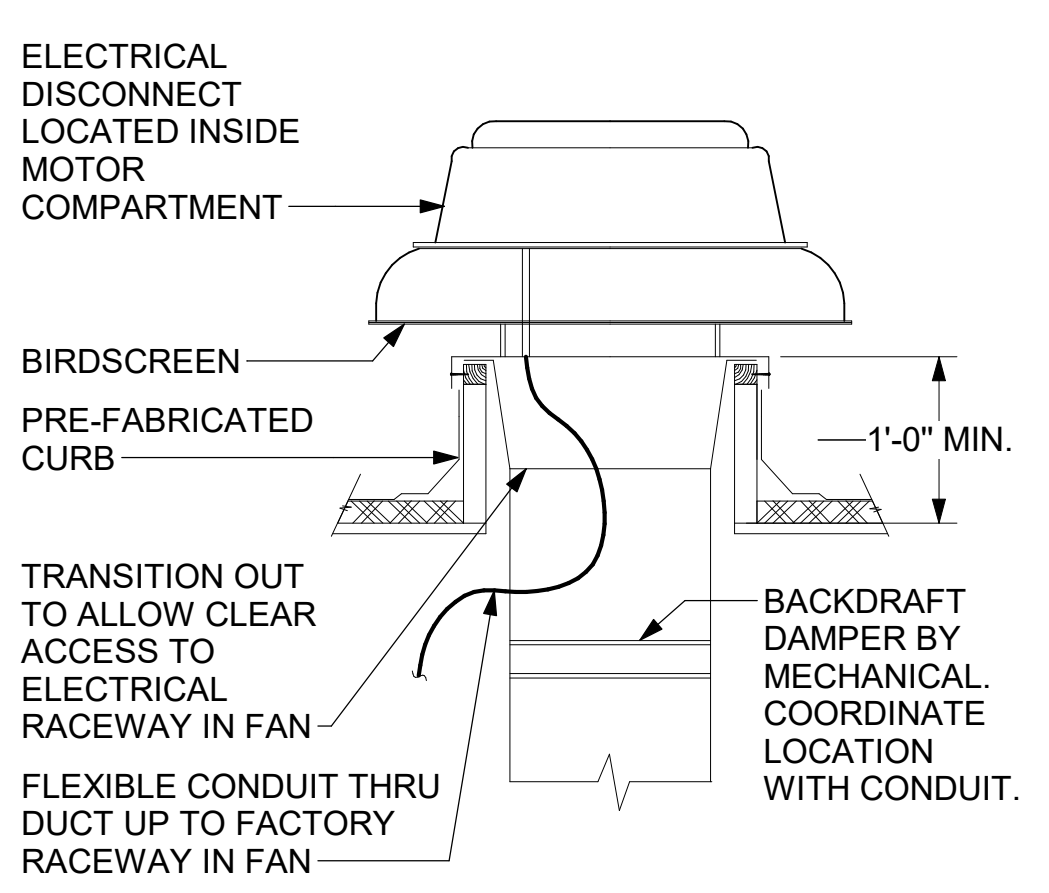
6 RETURN DROP GEOMETRY
NOT TO SCALE



1 KITCHEN HOOD EXHAUST FANS
NOT TO SCALE



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



5 RESTROOM EXHAUST FAN
NOT TO SCALE



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SHEET
DETAILS

SHEET NUMBER
M-501

A

A



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525 South Main Street, Suite 801
Akron, OH 44311
330.572.2100 Fax 330.572.2101



CHICK-FIL-A
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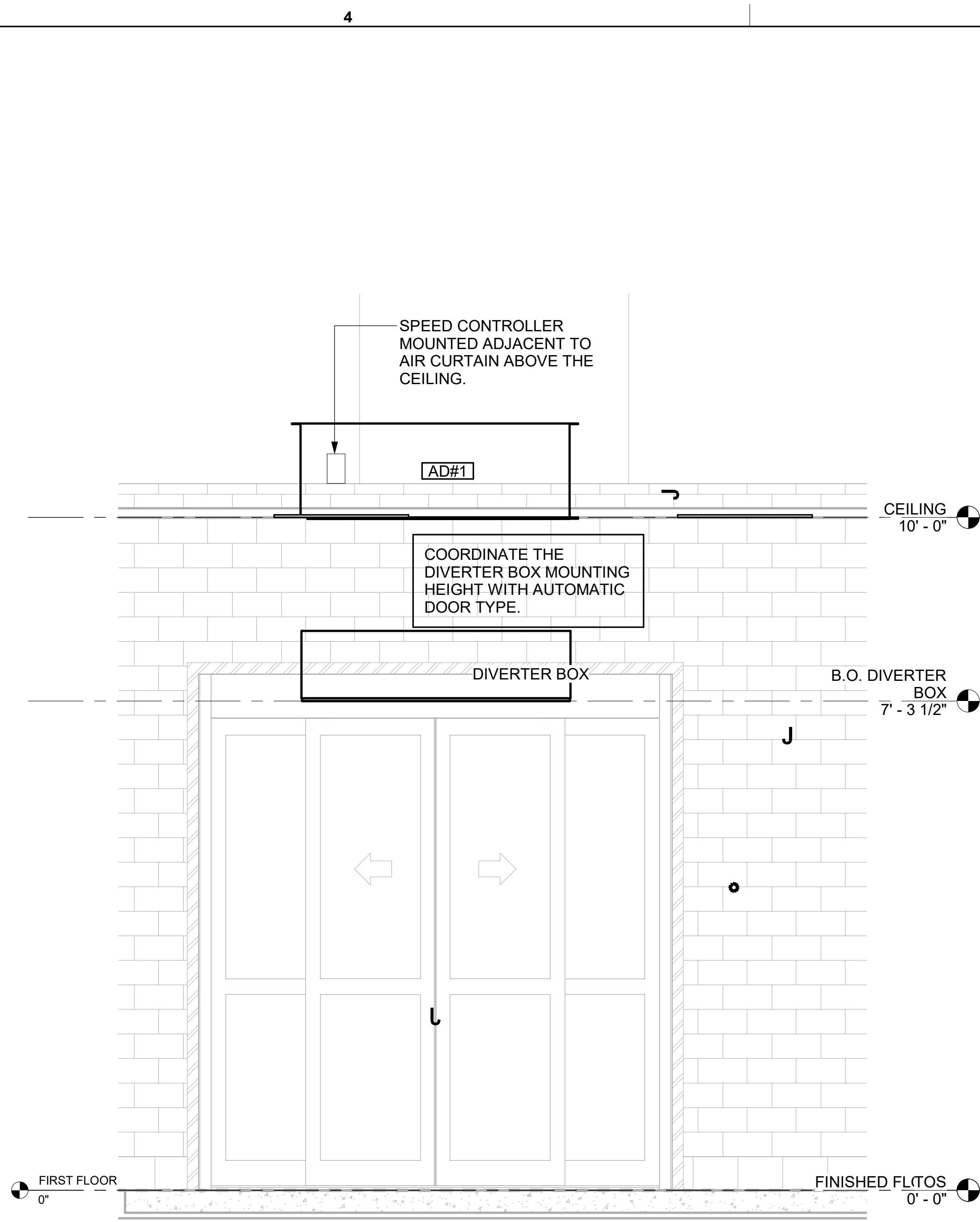
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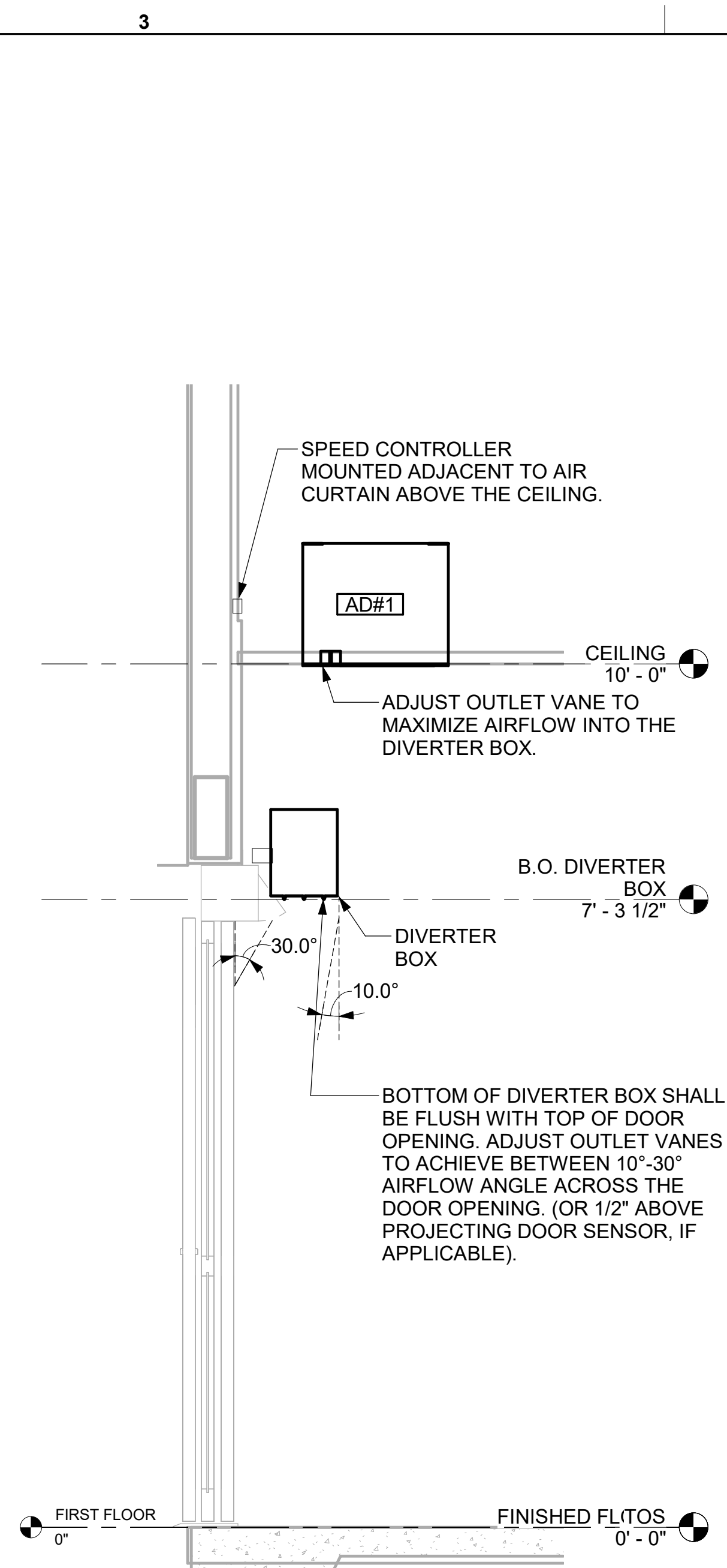
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SHEET NUMBER

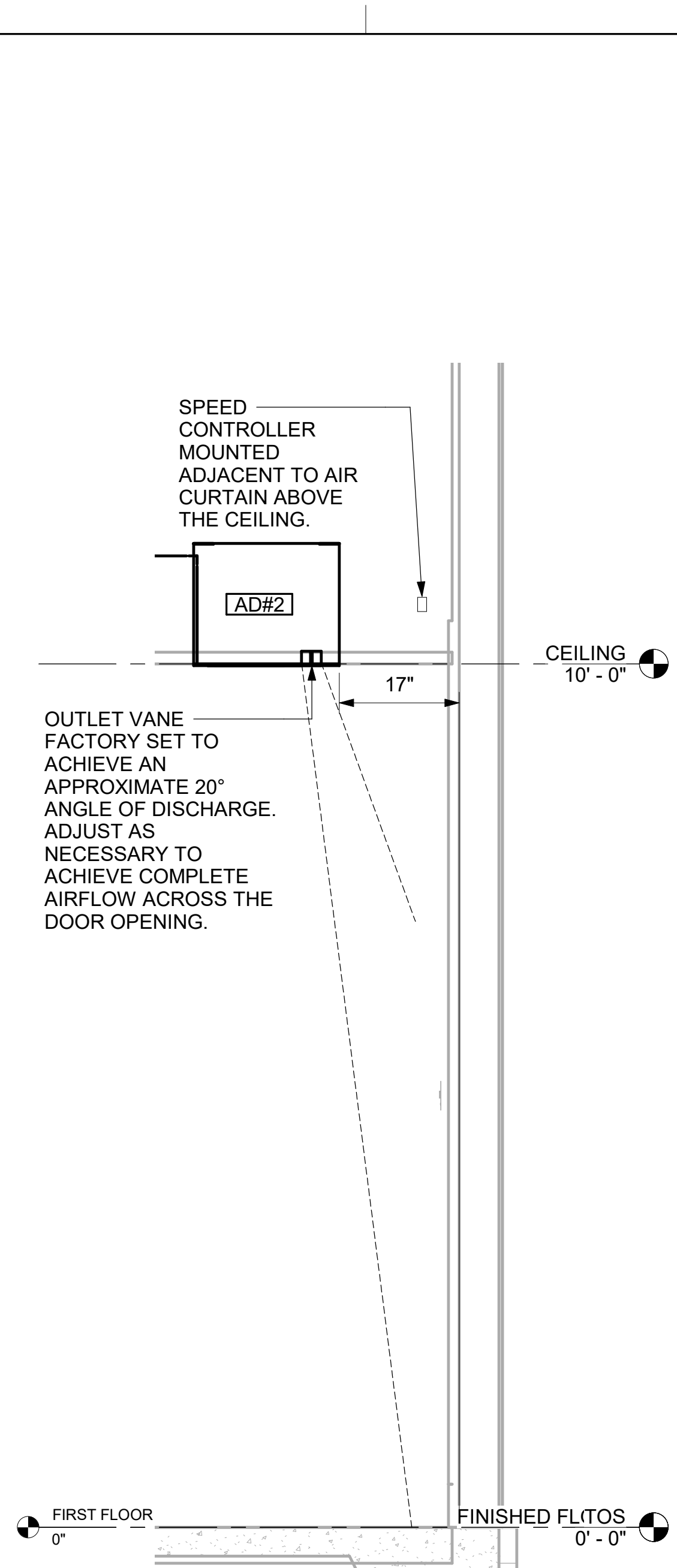
M-502



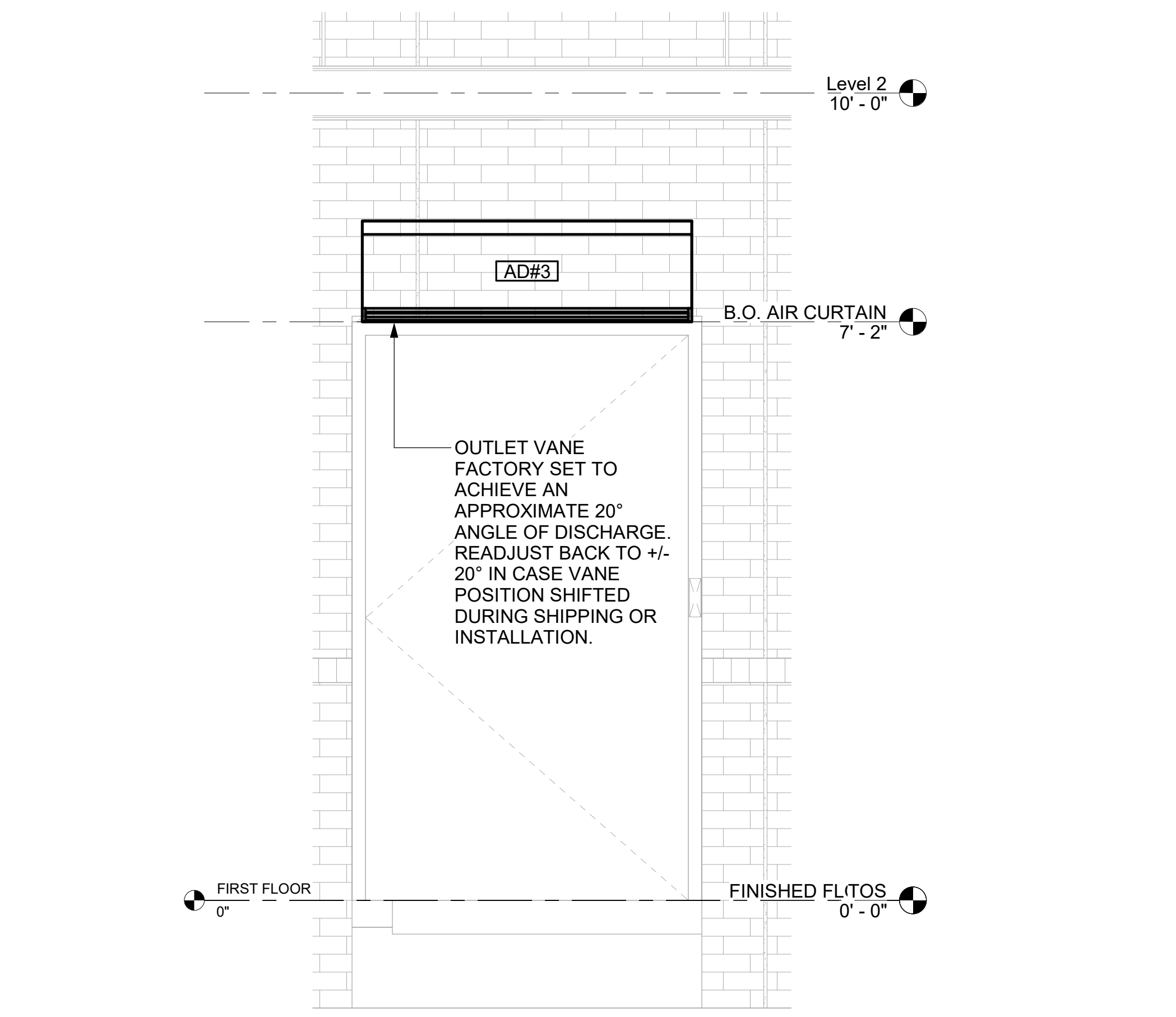
1 AD#1 FRONT VIEW
3/4" = 1'-0"



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



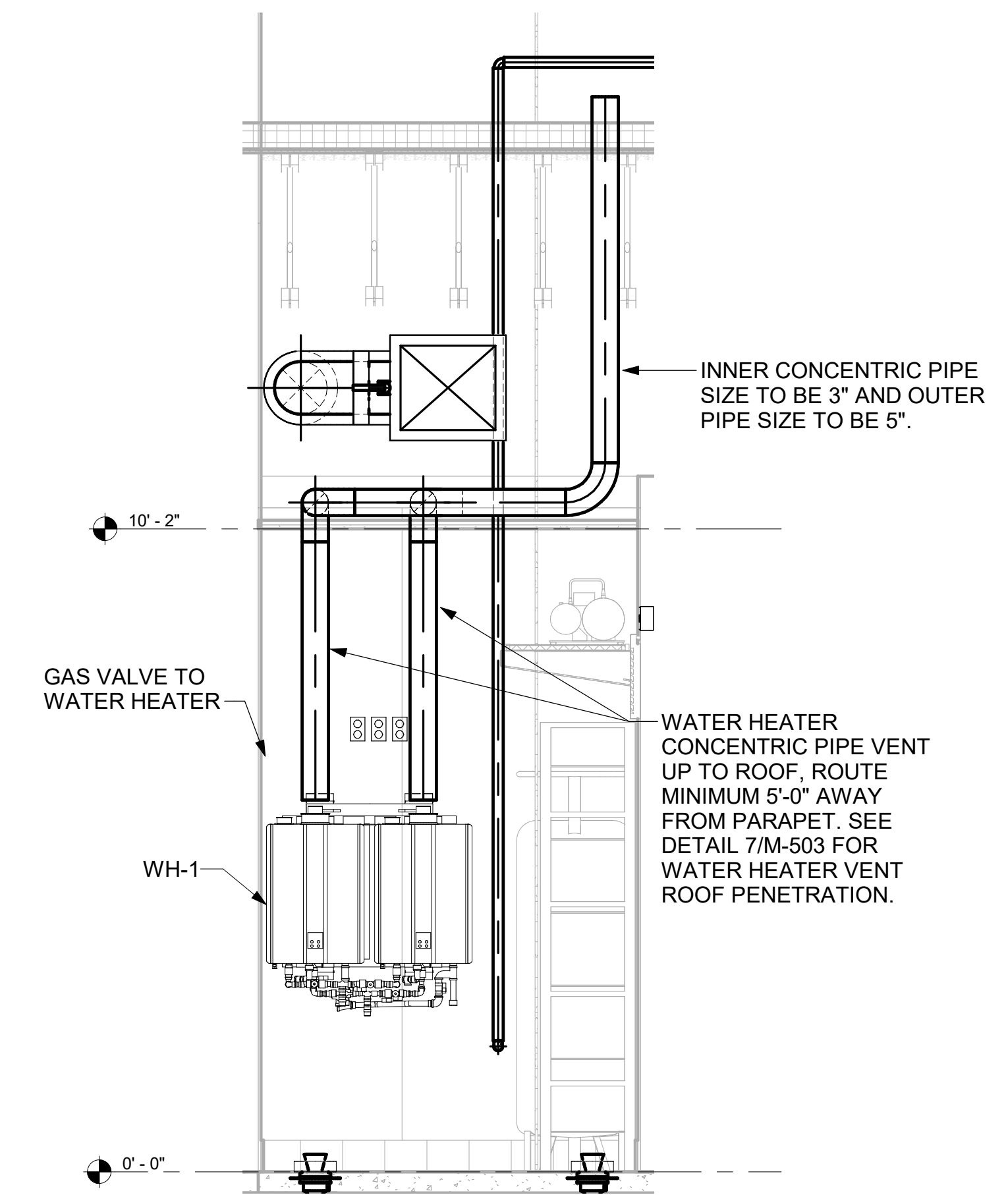
3 AD#2 SIDE VIEW
3/4" = 1'-0"



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

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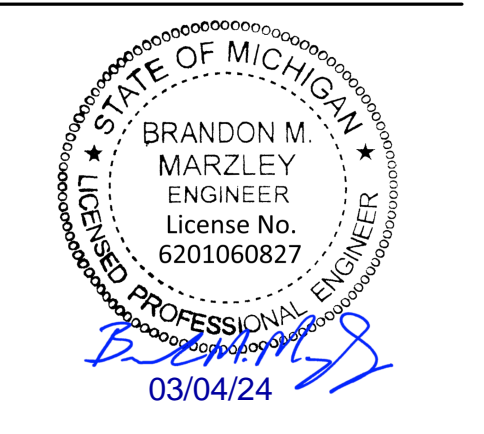
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30-LSR-05694-M-503-DETAILS



7 WATER HEATER GAS PIPING AND VENTING
NOT TO SCALE



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SHEET NUMBER
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07/12/24

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SHEET HVAC VENTILATION SCHEDULES

SHEET NUMBER

M-602

VENTILATION SCHEDULE

General		Ventilation													Exhaust					Served by		
Room #	Room Name	Area A _r ft ²	People			Area					Zone Air Distribution Effectiveness E _z	Zone Outdoor Airflow CFM V _{oz}	Primary Zone Airflow CFM V _{pz}	Primary Outdoor Air Fraction Z _p	Actual Outdoor Airflow CFM	Area		Toilet		Actual Exhaust CFM	Supply	Exhaust
			Occupant Density People/1,000 ft ²	Occupants People P _z	Outdoor Airflow Rate CFM/Person R _p	Outdoor Airflow CFM P _z x R _p	Outdoor Airflow Rate CFM/ft ² R _a	Outdoor Airflow CFM A _r x R _a	Breathing Zone Outdoor Airflow CFM V _{bz}	Required Exhaust Rate CFM/ft ² CFM/ft ²						Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture 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#1 / ALT AC#1	EF-1 / EF-2
2	Scullery	126	15	2	7.5	15	0.18	23	38	0.8	48	425	0.11	92	-	-	-	-	-	-	AC#1 / ALT AC#1	-
Total Area		1,371				Total V _{bz}					Total Supply Airflow			1,750		Actual Outdoor Airflow						
						Diversity (D)					Maximum Z _p			0.11								
						Uncorrected Outdoor Air Intake (V _{oa})					System Ventilation Efficiency (E _s)			1.00								
						Required Outdoor Air Intake (CFM)					329											

VENTILATION SCHEDULE

General		Ventilation													Exhaust					Served by		
Room #	Room Name	Area A _r ft ²	People			Area					Zone Air Distribution Effectiveness E _z	Zone Outdoor Airflow CFM V _{oz}	Primary Zone Airflow CFM V _{pz}	Primary Outdoor Air Fraction Z _p	Actual Outdoor Airflow CFM	Area		Toilet		Actual Exhaust CFM	Supply	Exhaust
			Occupant Density People/1,000 ft ²	Occupants People P _z	Outdoor Airflow Rate CFM/Person R _p	Outdoor Airflow CFM P _z x R _p	Outdoor Airflow Rate CFM/ft ² R _a	Outdoor Airflow CFM A _r x R _a	Breathing Zone Outdoor Airflow CFM V _{bz}	Required Exhaust Rate CFM/ft ² CFM/ft ²						Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture 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#2 / ALT AC#2	-
Total Area		543				Total V _{bz}					Total Supply Airflow			1,075		Actual Outdoor Airflow						
						Diversity (D)					Maximum Z _p			0.04								
						Uncorrected Outdoor Air Intake (V _{oa})					System Ventilation Efficiency (E _s)			1.00								
						Required Outdoor Air Intake (CFM)					154											

VENTILATION SCHEDULE

General		Ventilation													Exhaust					Served by					
Room #	Room Name	Area A _r ft ²	People			Area					Zone Air Distribution Effectiveness E _z	Zone Outdoor Airflow CFM V _{oz}	Primary Zone Airflow CFM V _{pz}	Primary Outdoor Air Fraction Z _p	Actual Outdoor Airflow CFM	Area		Toilet		Actual Exhaust CFM	Supply	Exhaust			
			Occupant Density People/1,000 ft ²	Occupants People P _z	Outdoor Airflow Rate CFM/Person R _p	Outdoor Airflow CFM P _z x R _p	Outdoor Airflow Rate CFM/ft ² R _a	Outdoor Airflow CFM A _r x R _a	Breathing Zone Outdoor Airflow CFM V _{bz}	Required Exhaust Rate CFM/ft ² CFM/ft ²						Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture 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#3 / ALT AC#3	-			
2	Serving	191	15	3	7.5	23	0.18	34	57	0.8	72	500	0.14	121	-	-	-	-	-	-	AC#3 / ALT AC#3	-			
3	Men's RR	151	-	-	-	-	-	-	-	0.8	-	100	-	24	-	-	Continuous	50	100	150	AC#3 / ALT AC#3	EF-3			
4	Women's RR	167	-	-	-	-	-	-	-	0.8	-	135	-	33	-	-	Continuous	50	100	150	AC#3 / ALT AC#3	EF-3			
5	RR Vestibule	117	-	-	-	-	0.08	7	7	0.8	9	115	0.08	28	-	-	-	-	-	-	AC#3 / ALT AC#3	-			
6	Entry Vestibule	63	-	-	-	-	0.08	4	4	0.8	5	400	0.01	97	-	-	-	-	-	-	AC#3 / ALT AC#3	-			
Total Area		2,082				Total V _{bz}					Total Supply Airflow			5,250		1,275					Actual Outdoor Airflow				
						Diversity (D)					Maximum Z _p			0.308											
						Uncorrected Outdoor Air Intake (V _{oa})					System Ventilation Efficiency (E _s)			0.80											
						Required Outdoor Air Intake (CFM)					1,232														

VENTILATION SCHEDULE

General		Ventilation													Exhaust					Served by					
Room #	Room Name	Area A _r ft ²	People			Area					Zone Air Distribution Effectiveness E _z	Zone Outdoor Airflow CFM V _{oz}	Primary Zone Airflow CFM V _{pz}	Primary Outdoor Air Fraction Z _p	Actual Outdoor Airflow CFM	Area		Toilet		Actual Exhaust CFM	Supply	Exhaust			
			Occupant Density People/1,000 ft ²	Occupants People P _z	Outdoor Airflow Rate CFM/Person R _p	Outdoor Airflow CFM P _z x R _p	Outdoor Airflow Rate CFM/ft ² R _a	Outdoor Airflow CFM A _r x R _a	Breathing Zone Outdoor Airflow CFM V _{bz}	Required Exhaust Rate CFM/ft ² CFM/ft ²						Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM						
1	Team Member Room	172	50	9	5	45	0.08	10	55	0.8	70	650	0.11	158	-	-	-	-	-	-	AC#4 / ALT AC#4	-			
2	Riser Room	41	-	-	-	-	0.12	5	9	0.8	7	225	0.03	55	-	-	-	-	-	-	AC#4 / ALT AC#4	-			
3	Service / Beverage	141	-	-	-	-	0.12	17	17	0.8	22	700	0.03	170	-	-	-	-	-	-	AC#4 / ALT AC#4	-			
4	Office	68	5	1	5	5	0.06	4	9	0.8	12	135	0.08	33	-	-	-	-	-	-	AC#4 / ALT AC#4	-			
5	Employee RR	68	-	-	-	-	-	-	-	0.8	-	40	-	10	-	-	-	-	-	-	AC#4 / ALT AC#4	-			
Total Area		490				Total V _{bz}					Total Supply Airflow			1,750		425					Actual Outdoor Airflow				
						Diversity (D)					Maximum Z _p			0.11											
						Uncorrected Outdoor Air Intake (V _{oa})					System Ventilation Efficiency (E _s)			1.00											
						Required Outdoor Air Intake (CFM)					78														

PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #68624, TELEPHONE NUMBER 800-243-6624. 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.

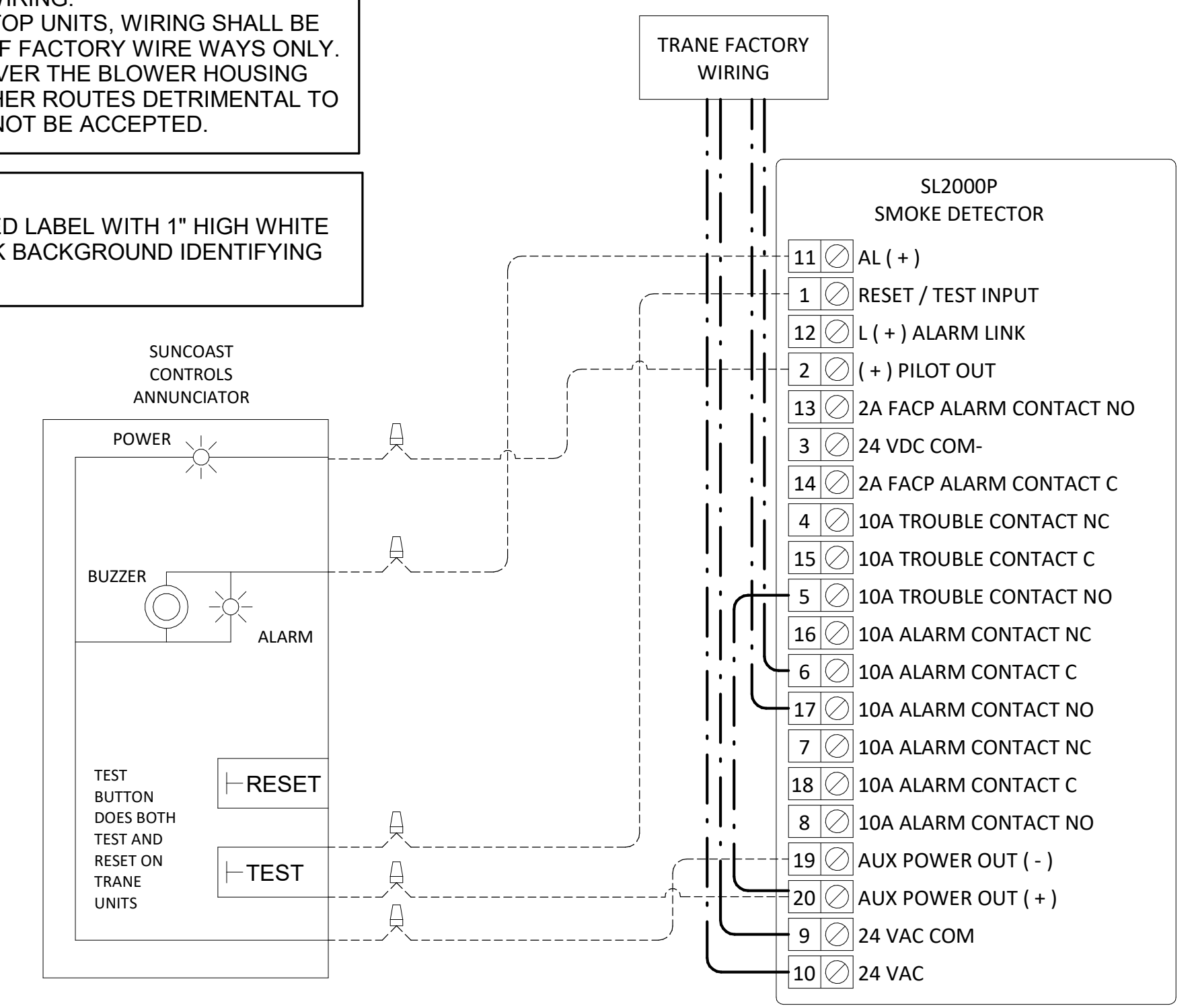
SUPPLY SIDE DETECTORS: IF SUPPLY SIDE SMOKE DETECTORS ARE SHOWN ON DWG M-101, AND CALLED FOR ON RTU SCHEDULE, THE CONTRACTOR IS TO RELOCATE FACTORY INSTALLED SUPPLY SMOKE DETECTOR FROM BLOWER SECTION TO DUCTWORK. SEE NOTES ON DWG M-101.

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

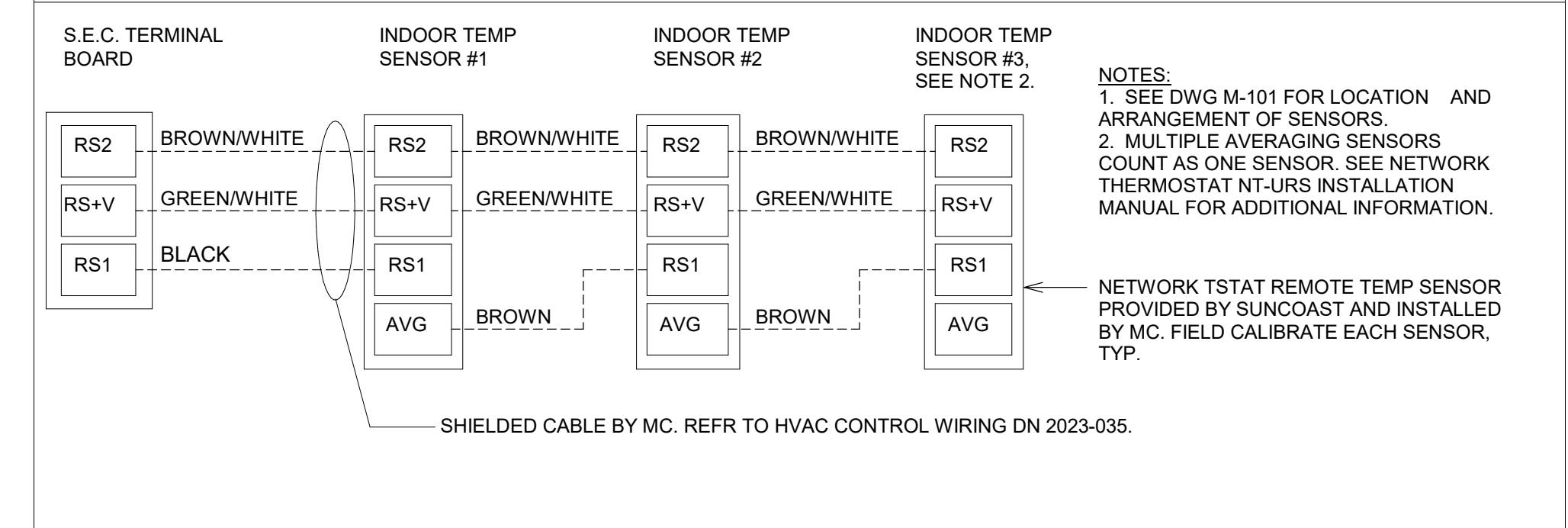
LEGEND

---	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:

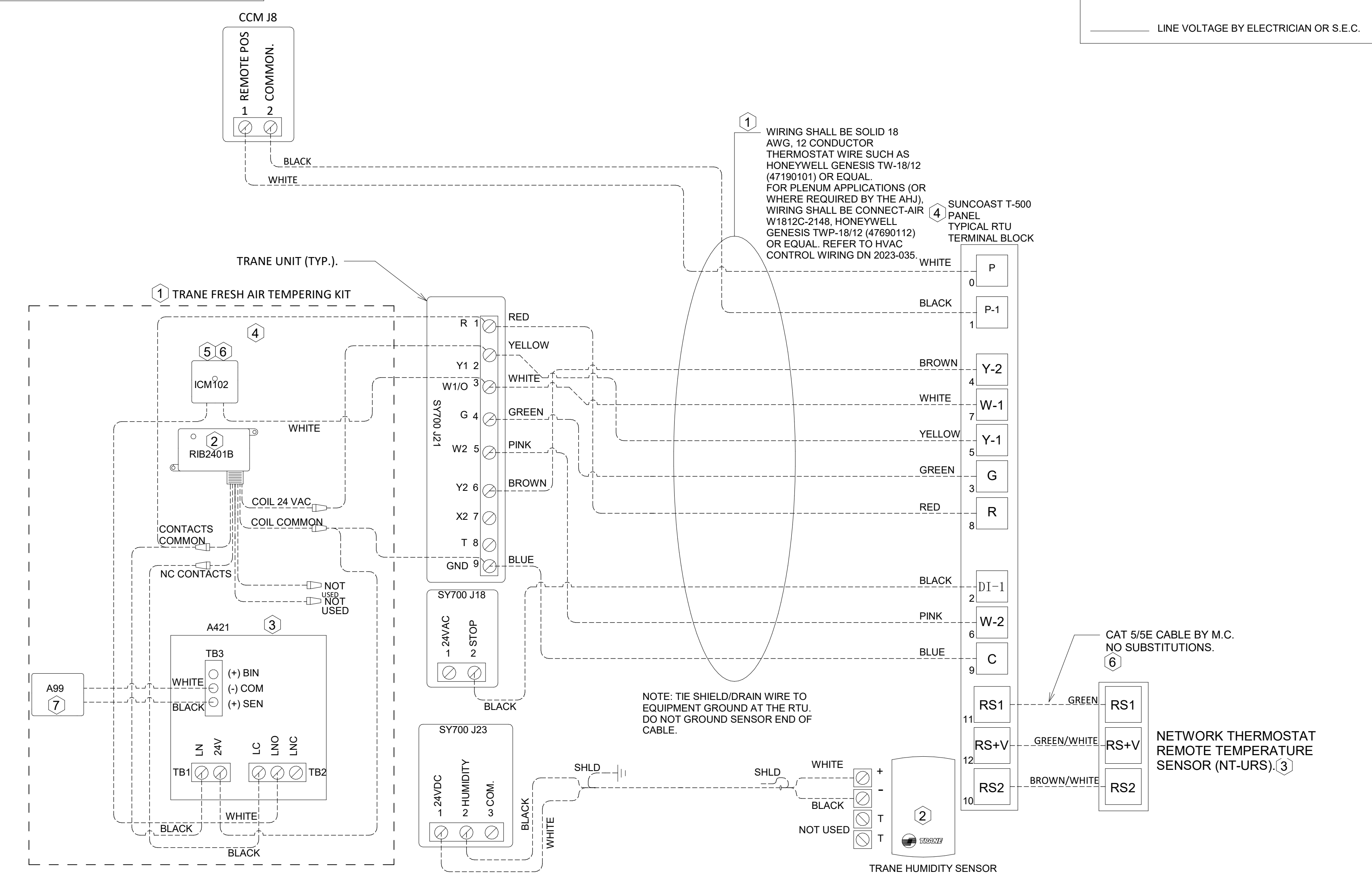
1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON INSIDE DOOR OF ROOFTOP UNIT CONTROL COMPARTMENT.
2. SEE DETAILS THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
3. SET ALL THERMOSTATS FOR AUTO CHANGEOVER.
4. PROVIDE PLAC ENGRAV LABEL AT ALL NEW SENSORS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

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-300 PANEL. ENERGIZED 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:

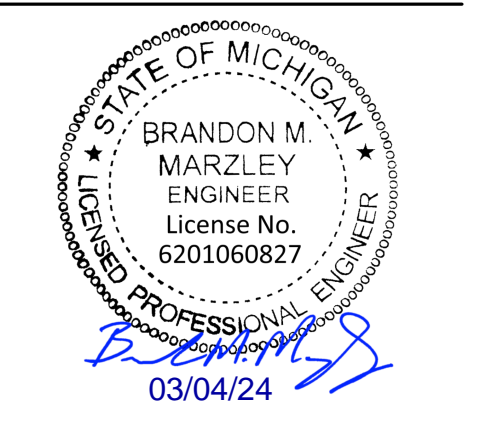
1. INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.
2. RIB2401B SPDT RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
3. JCI A421 TEMPERATURE CONTROLLER FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR. DIN MOUNTED IN THE RTU CONTROL CABINET. SET TO 58F. LOCATE TRANE PROVIDED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE6001-1 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



CHICK-FIL-A
FORT GRATIOT
4783 24TH AVENUE
FORT GRATIOT, MI 48059

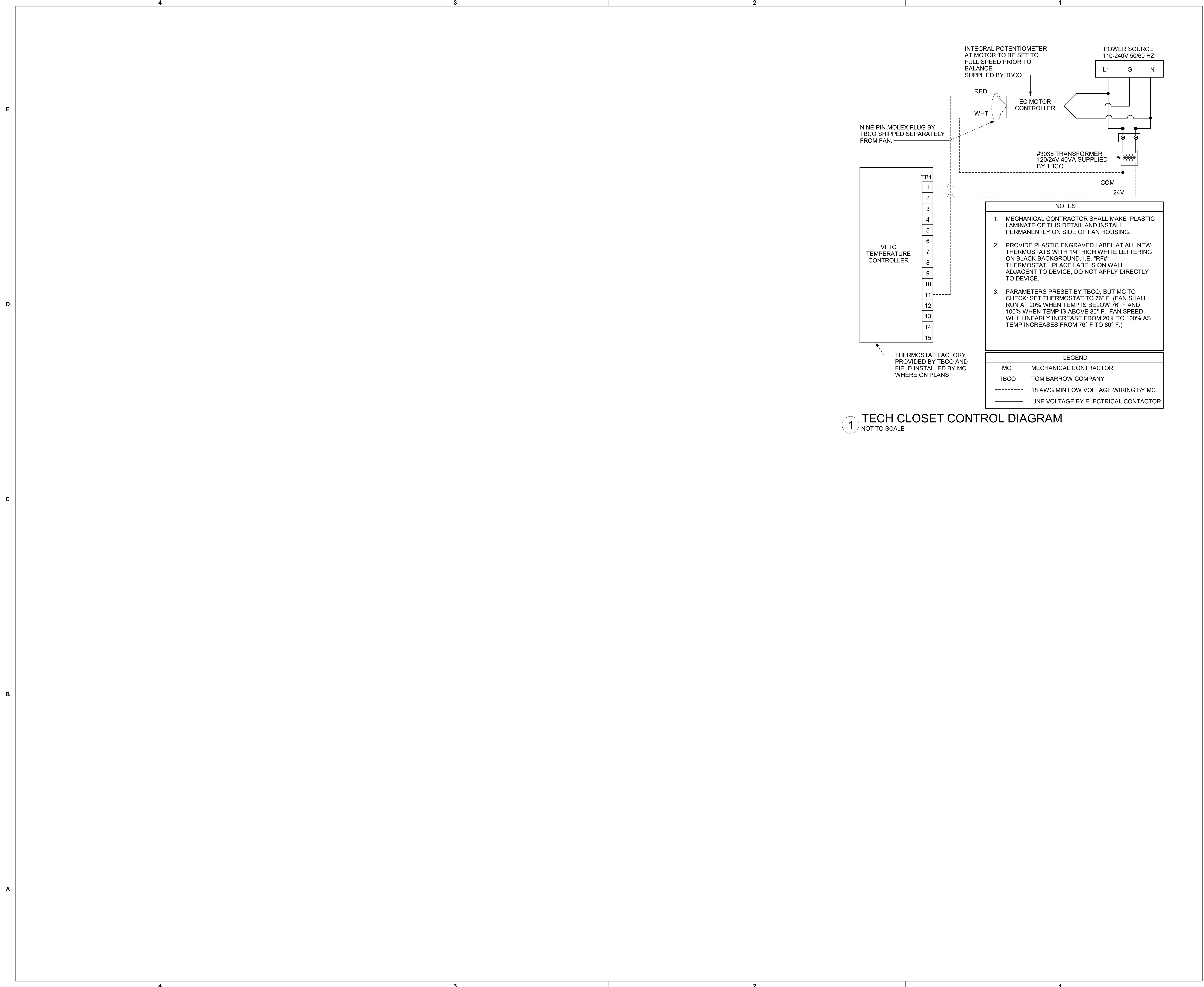
FSR#05694
BUILDING TYPE / SIZE: P14 LSR BN
RELEASE: 23.11
PRINTED FOR
ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2023223.81
DATE 01/23/24
DRAWN BY MJA
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SHEET CONTROL WIRING DIAGRAMS - TRANE
SHEET NUMBER

M-701T



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 5200 Buffington Road
 Atlanta, Georgia
 30349-2998



CHICK-FIL-A
FORT GRATIOT
 4783 24TH AVENUE
 FORT GRATIOT, MI 48059

FSR#05694
 BUILDING TYPE / SIZE: P14 LSR BN
 RELEASE: 23.11
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 ISSUED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2023223.81
 DATE 01/23/24
 DRAWN BY MJA
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 SHEET CONTROL WIRING DIAGRAMS
 SHEET NUMBER **M-702**



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



GPD GROUP
 Professional Corporation
 525 South Main Street, Suite 201
 Akron, OH 44311
 330.572.2100 Fax 330.572.2101



CHICK-FIL-A
FORT GRATIOT

4783 24TH AVENUE
 FORT GRATIOT, MI 48059

FSR#05694

BUILDING TYPE / SIZE: P14 LSR BN
 RELEASE: 23.11

ISSUED FOR CONSTRUCTION

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

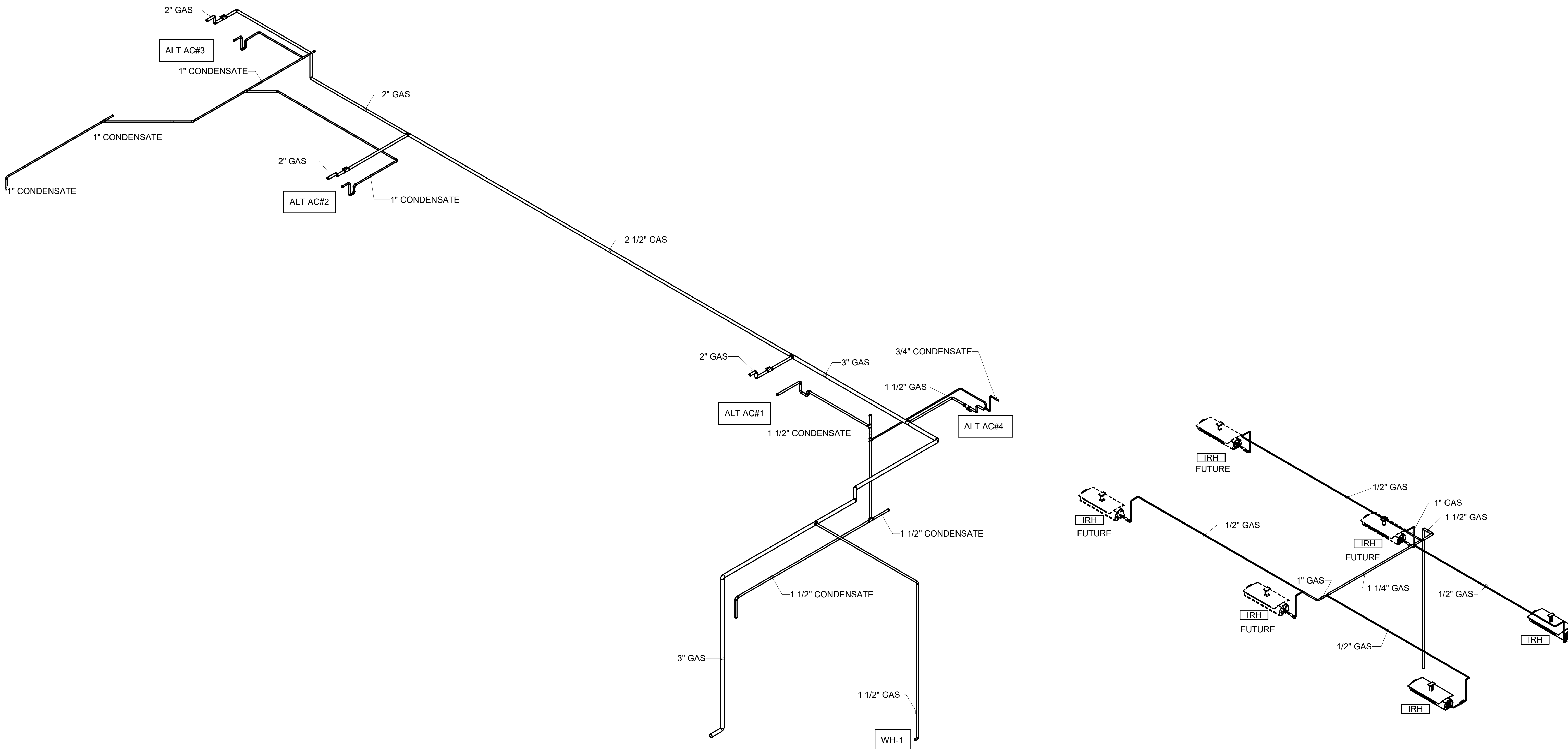
CONSULTANT PROJECT #	2023223.81
DATE	01/23/24
DRAWN BY	MJA

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SHEET: GAS AND CONDENSATE ISOMETRIC - TRANE

SHEET NUMBER

M-901T



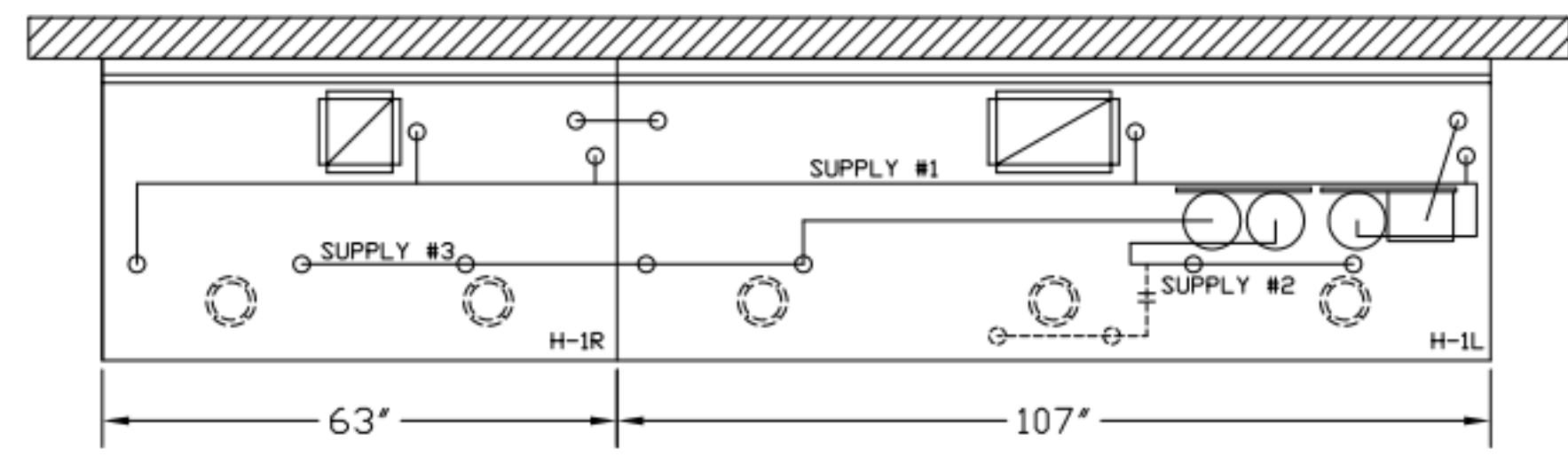
1 GAS AND CONDENSATE ISOMETRIC - TRANE

2 ORDER CANOPY PIPING ISOMETRIC - TRANE

Autodesk Docs://MI_05694_Fort Gratiot (MI) FSR#05694_Fort Gratiot (MI) FSU_MEC.rvt
 3/1/2024 11:24:11 AM
 30-LSR-05694-M-901T-GAS AND CONDENSATE ISOMETRIC - TRANE

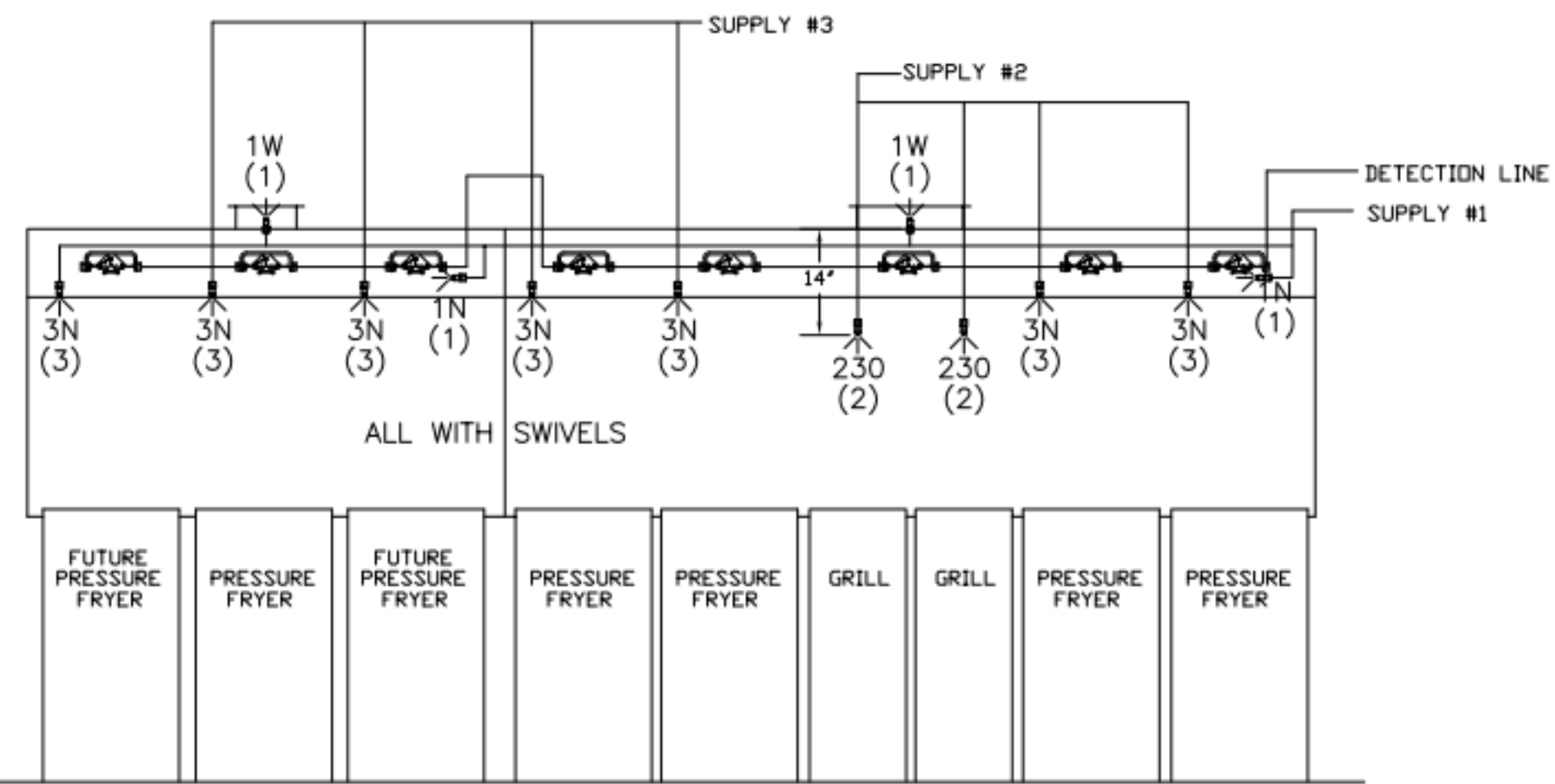
NOTE:

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

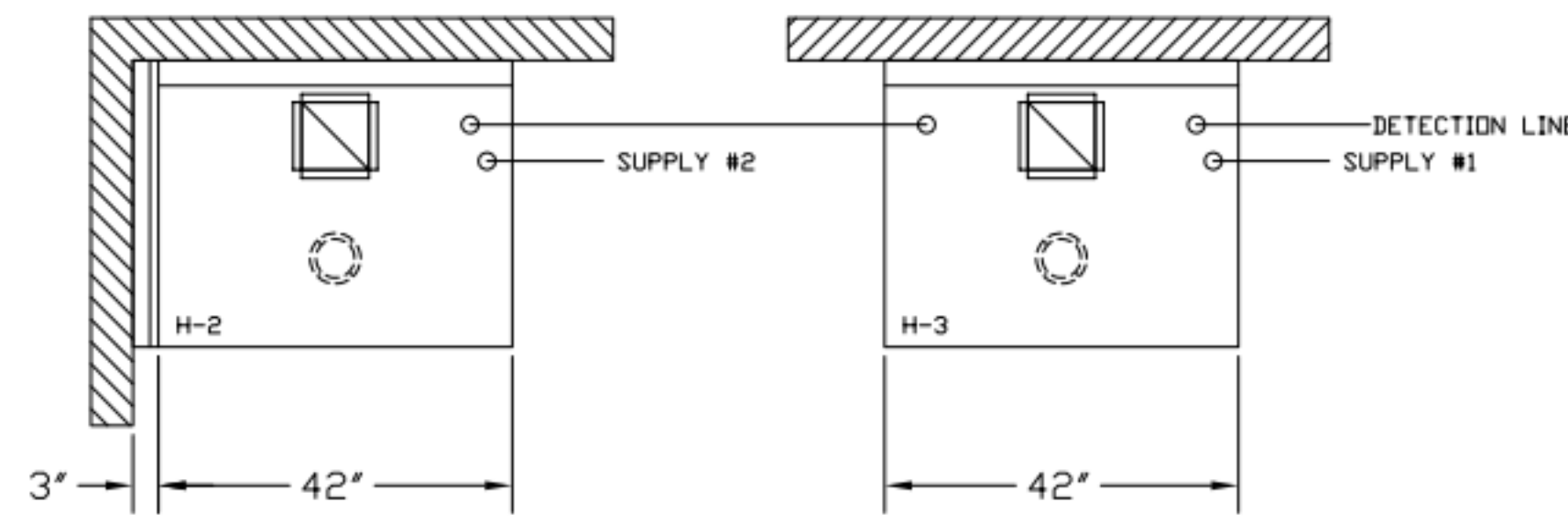


- (1) DEM REGULATED RELEASE
- (2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN DEM REG. REL.)
- (3) 3 GALLON TANKS

- ANSUL R-102 FIRE SYSTEM**
- A) 9 GALLON SYSTEM (3 TANKS) (MOUNTED ON HOOD H-1L & H-1R)
 - B) 3/8" BLACK IRON PIPING W/ 3/8" S.S. APPLIANCE DROPS

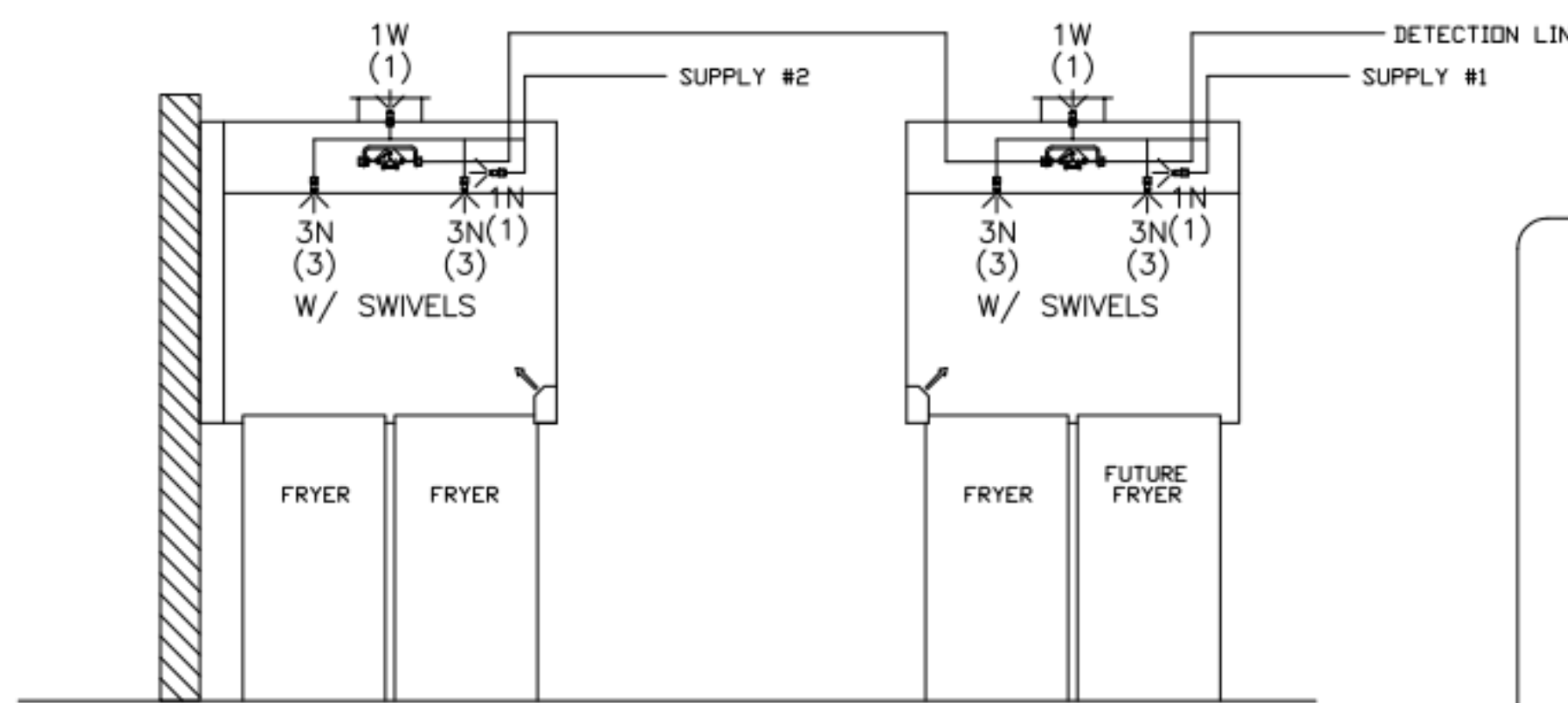


ANSUL R-102 FIRE SYSTEM LAYOUT



- (1) ELEC REGULATED RELEASE
- (2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN REG. REL.)
- (3) SINGLE TANK ENCLOSURE
- (4) 3 GALLON TANK

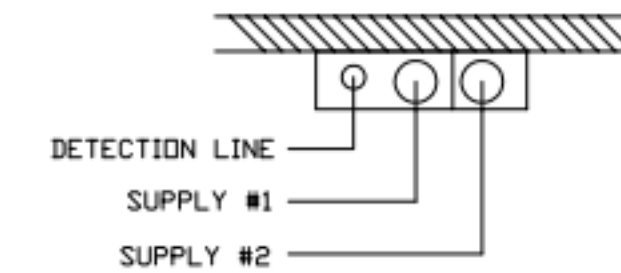
- ANSUL R-102 FIRE SYSTEM**
- A) 6 GALLON SYSTEM (2 TANKS) (REMOTE MOUNTED)
 - B) 3/8" BLACK IRON PIPING W/ 3/8" S.S. APPLIANCE DROPS



ANSUL R-102 FIRE SYSTEM LAYOUT

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

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



FIRE EXTINGUISHER

ISO VIEW W/BACKET

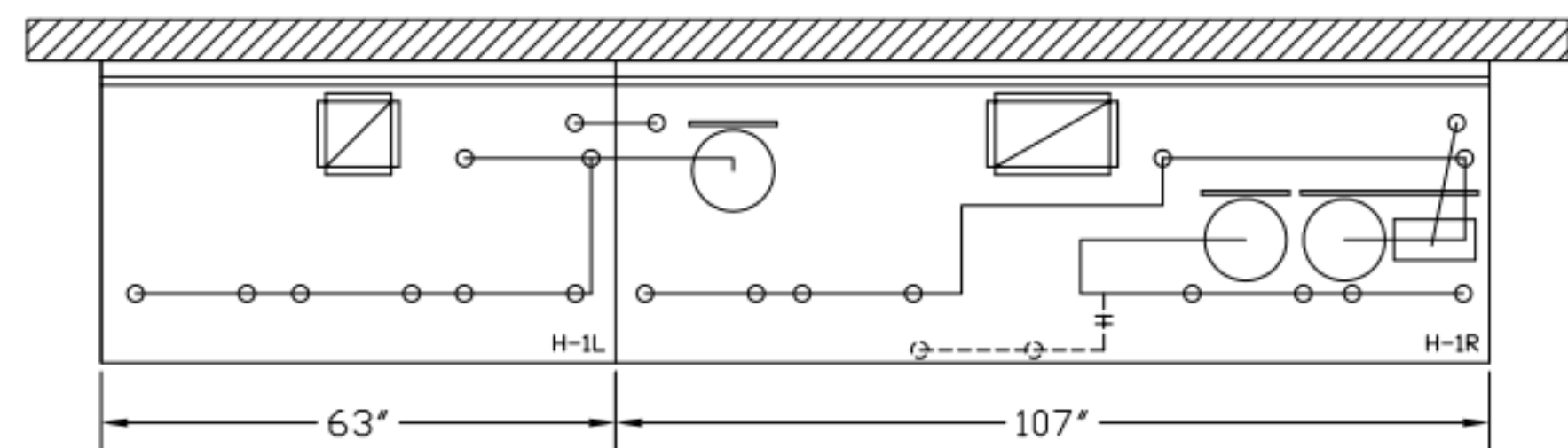
5 LBS. ABC MODEL B402 QTY: _____

10 LBS. ABC MODEL B456 QTY: _____

6 LTR CLASS K MODEL C-260 QTY: _____

SUPPLIED BY HALTON

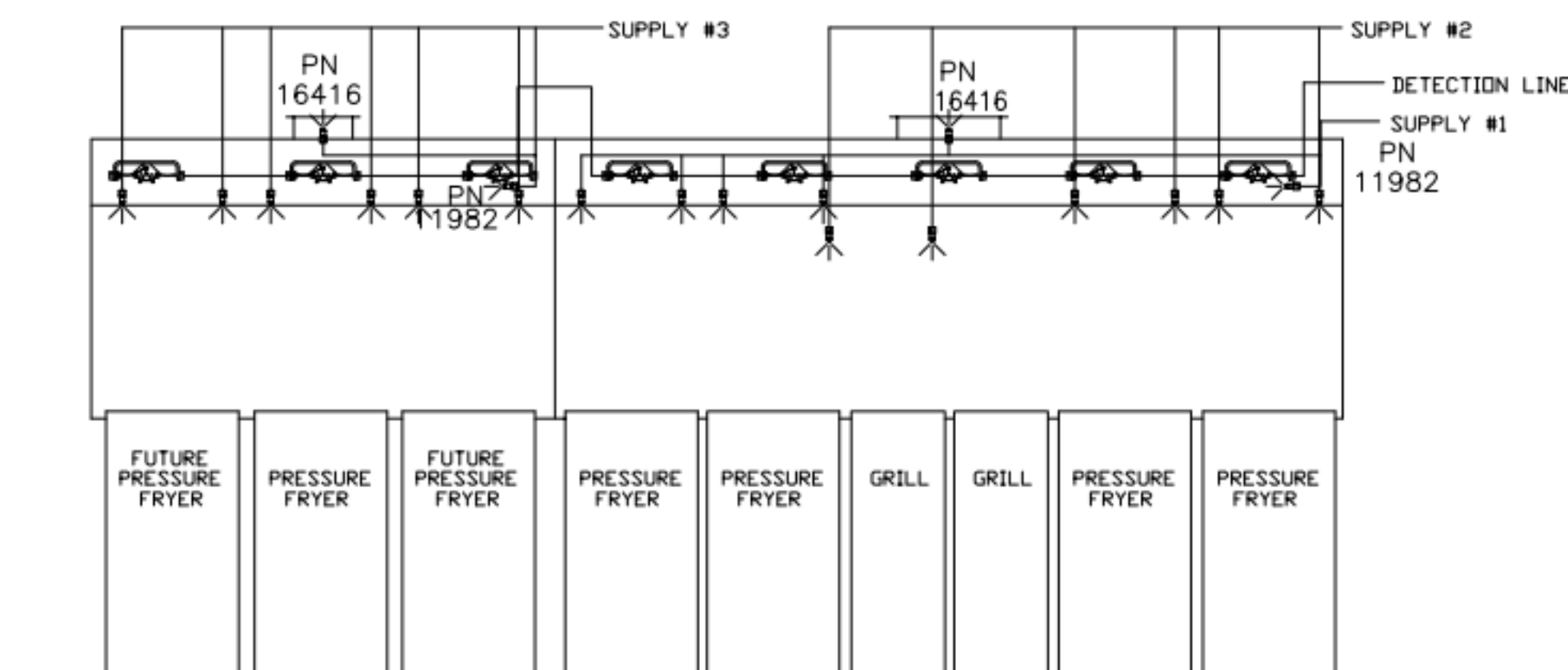
1/2" BLACK IRON SUPPLY LINE REQ'D FROM TANK TO FIRST BRANCH LINE FOR 475 TANKS ONLY!



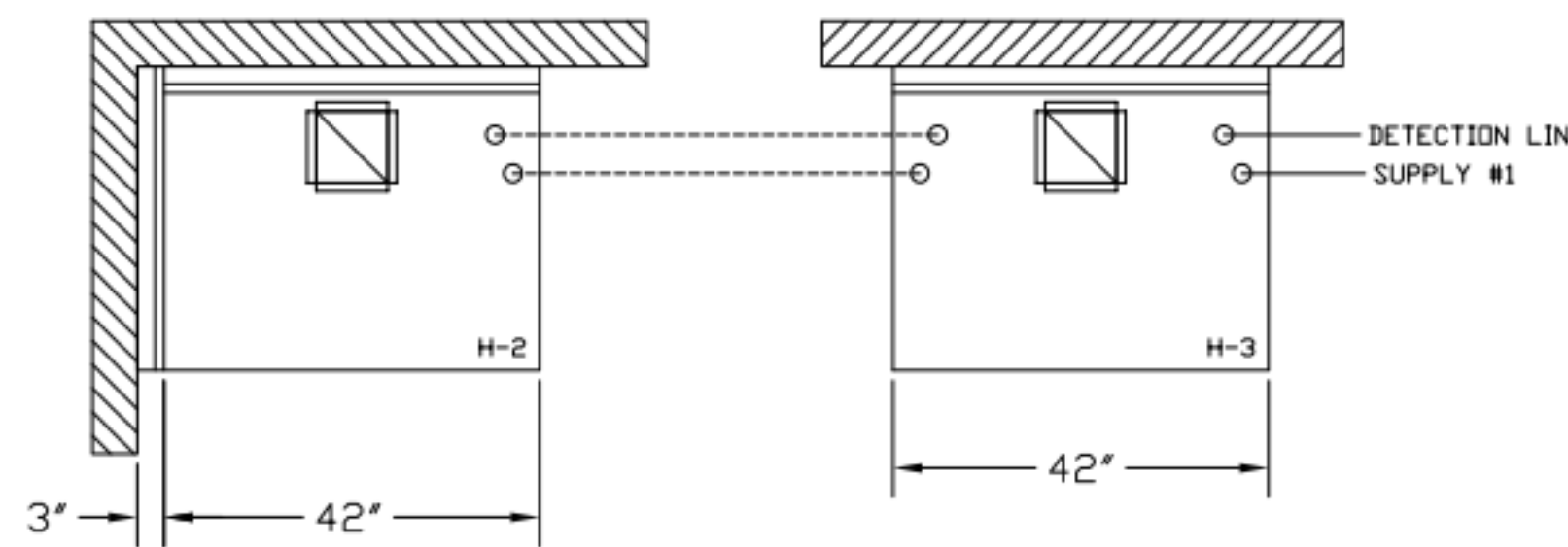
- (1) MECHANICAL RELEASE MODULE
- (2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN MECHANICAL REL. MODULE)
- (3) 3.75 GALLON TANK
- (4) 4.75 GALLON TANKS

- AMEREX FIRE SYSTEM**
- A) (1) KP375 TANK - 11 FLOW POINTS
 - (2) KP475 TANKS - 14 FLOW POINTS (MOUNTED ON HOOD H-1L & H-1R)
 - B) 1/2" & 3/8" BLACK IRON PIPING W/ 3/8" S.S. APPLIANCE DROPS

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



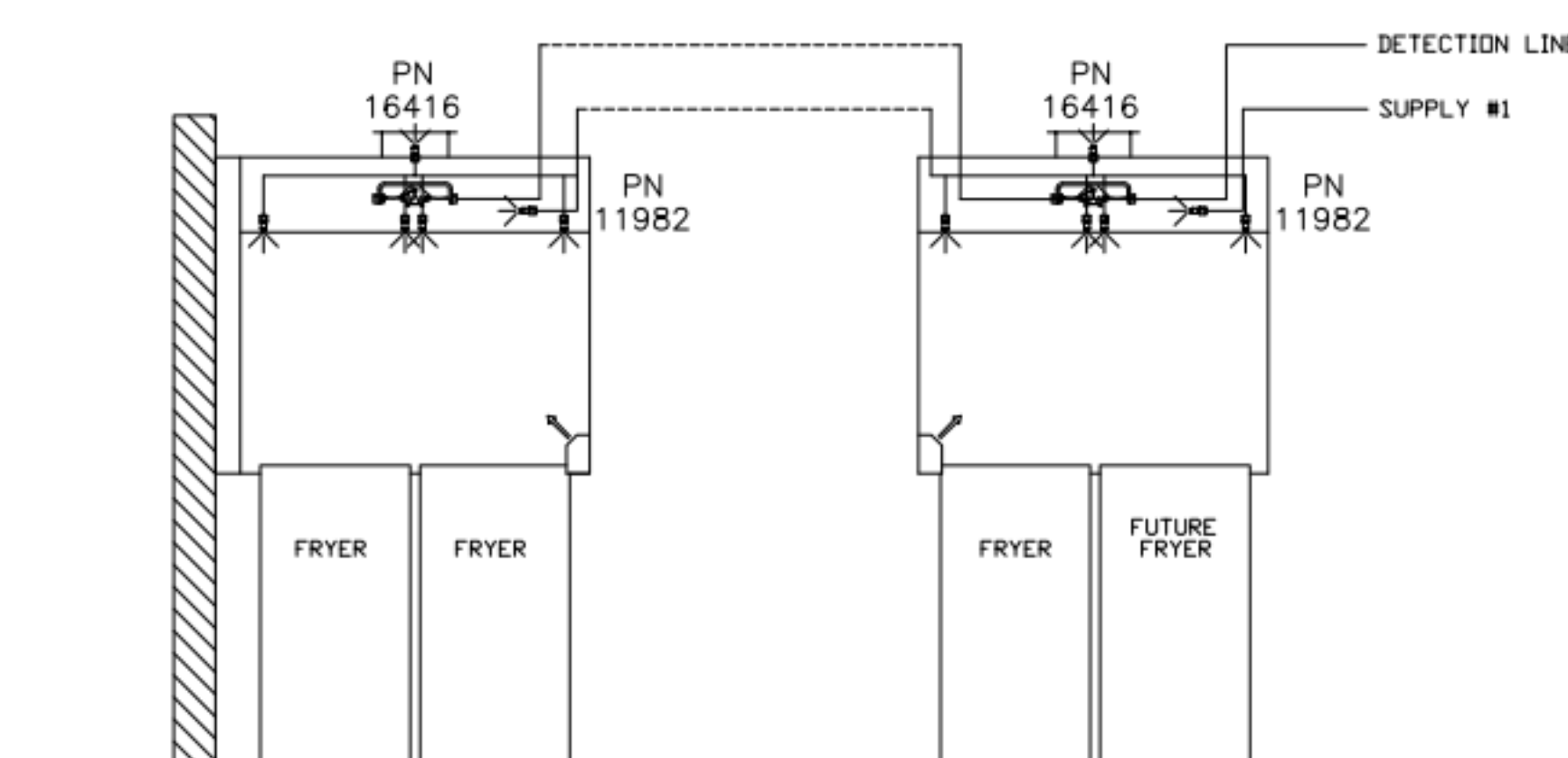
AMEREX FIRE SYSTEM LAYOUT



- (1) SYSTEM ENCLOSURE
- (2) WALL MOUNTING BRACKET
- (3) MECHANICAL RELEASE MODULE
- (4) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN MECHANICAL REL. MODULE)
- (5) KP475 AGENT CYLINDERS (4.75 GALLON TANK)

- AMEREX FIRE SYSTEM**
- A) (1) KP475 TANKS - 14 FLOW POINTS (REMOTE MOUNTED)
 - B) 1/2" & 3/8" BLACK IRON PIPING W/ 3/8" S.S. APPLIANCE DROPS

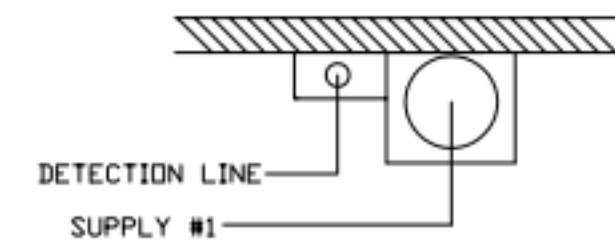
ALL APPLIANCE NOZZLES FOR H-2 & H-3 ARE PN 11982 NOZZLES W/ SWIVELS.



AMEREX FIRE SYSTEM LAYOUT

****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°

ANSUL

ANSUL R-102 FIRE SYSTEM NOTES
 THREE TANK SYSTEM MOUNTED ON TOP OF (H-1R)
 MAXIMUM FLOW POINTS = 33

ANSUL R-102 FIRE SYSTEM NOTES
 TWO TANK SYSTEM REMOTE MOUNTED ON WALL
 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

TOTAL FLOW POINTS - 45

ITEM #	QTY	DESCRIPTION
#200	8	SERIES DETECTORS W/ FUSIBLE LINKS
#201	2	TERMINAL DETECTOR W/ FUSIBLE LINKS
#202	1	ELEC DEM REGULATED RELEASE
#202	1	W/ DOUBLE POLE MICRO SWITCH
#202	1	ELEC REGULATED RELEASE
#202	1	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

FUSIBLE LINK RATINGS

ITEM	TEMP
OPEN FRYERS	450°
2 BURNER / FLAT TOP	450°
PRESSURE FRYERS	450°
GRILL	450°
EXHAUST COLLARS	450°

AMEREX

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

TOTAL FLOW POINTS - 48

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
16290	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

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:
 1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
 2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.
 NOTE TO APPROVER: THIS DRAWING IS EQUIPMENT SPECIFIC. AS INCREASED RISKS IMPACT AS 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 CHANGES AS NOTED
 APPROVED BY: _____ DATE: _____



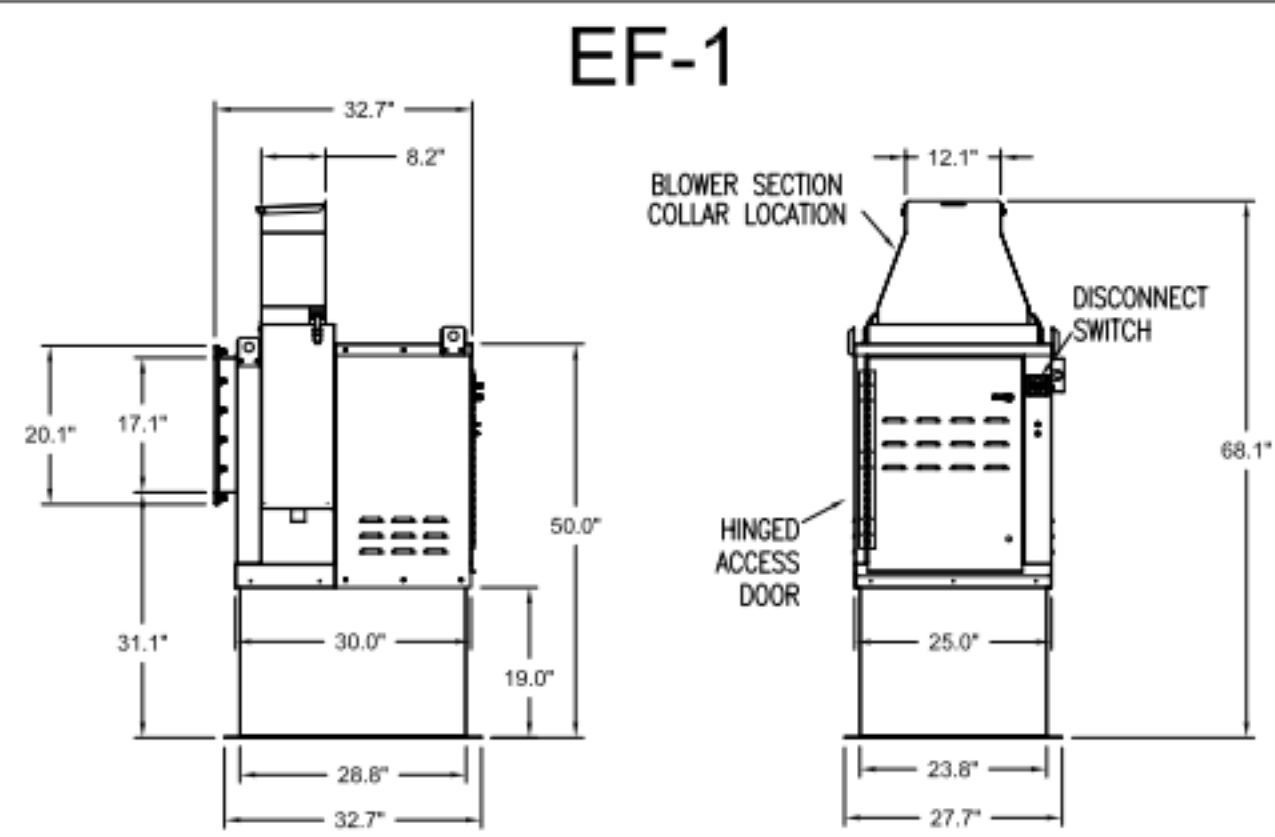
WEBSITE: WWW.HALTON.COM
 HALTON CO. (USA)
 101 INDUSTRIAL DRIVE
 SCOTTSDALE, KY 42164
 1-270-237-5600

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

PROJECT: CHICK-FIL-A P14 - REVERSE
 LSR BUILDING
 LOCATION: --- DATE: 08.09.22
 DRAWN BY: CG DATE: 08.09.22
 SCALE: NTS
 Halton Dwg:U22-606-02FS

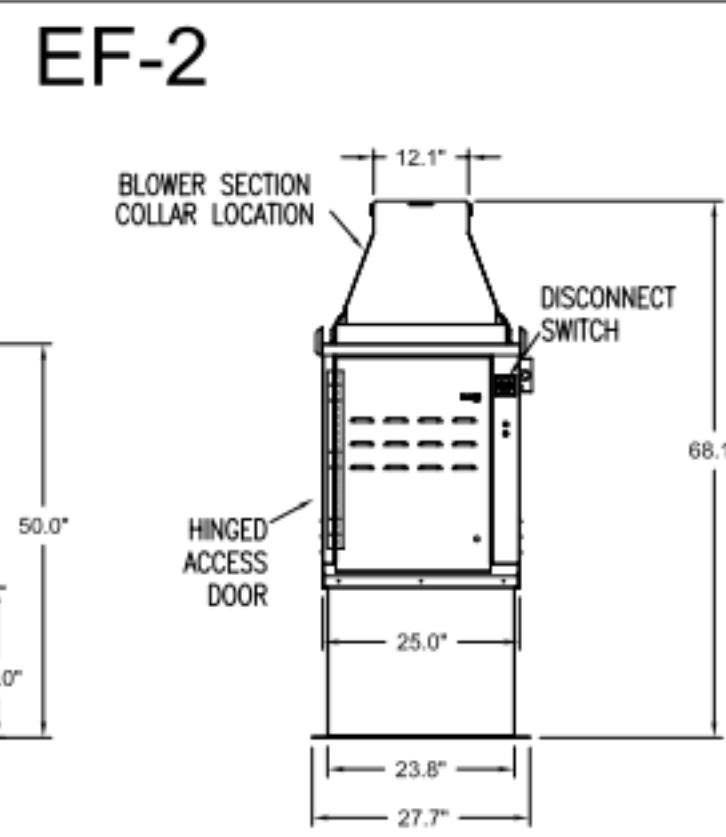
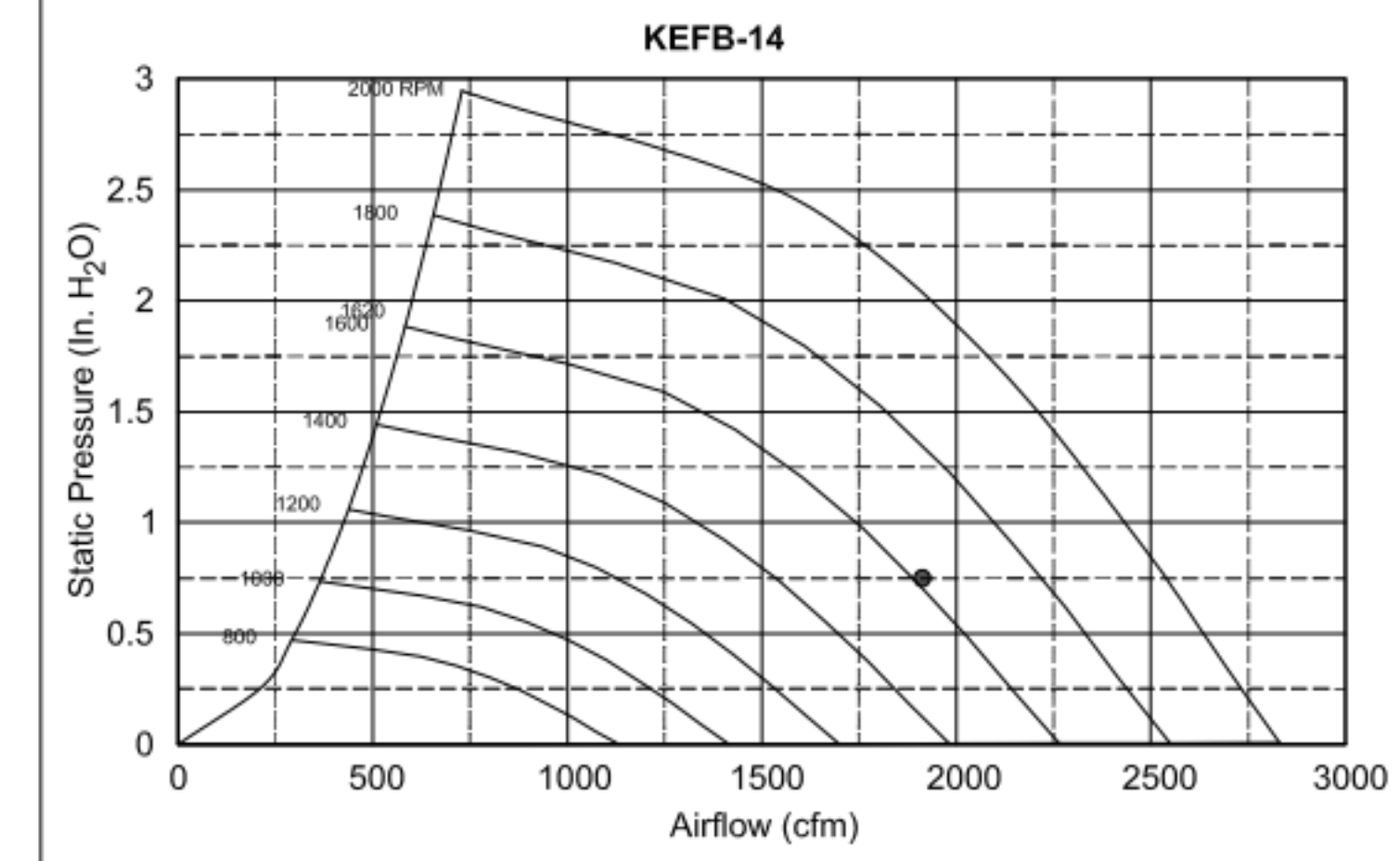
Sheet
 MH-1.2

Halton
 CARE FOR INDOOR AIR



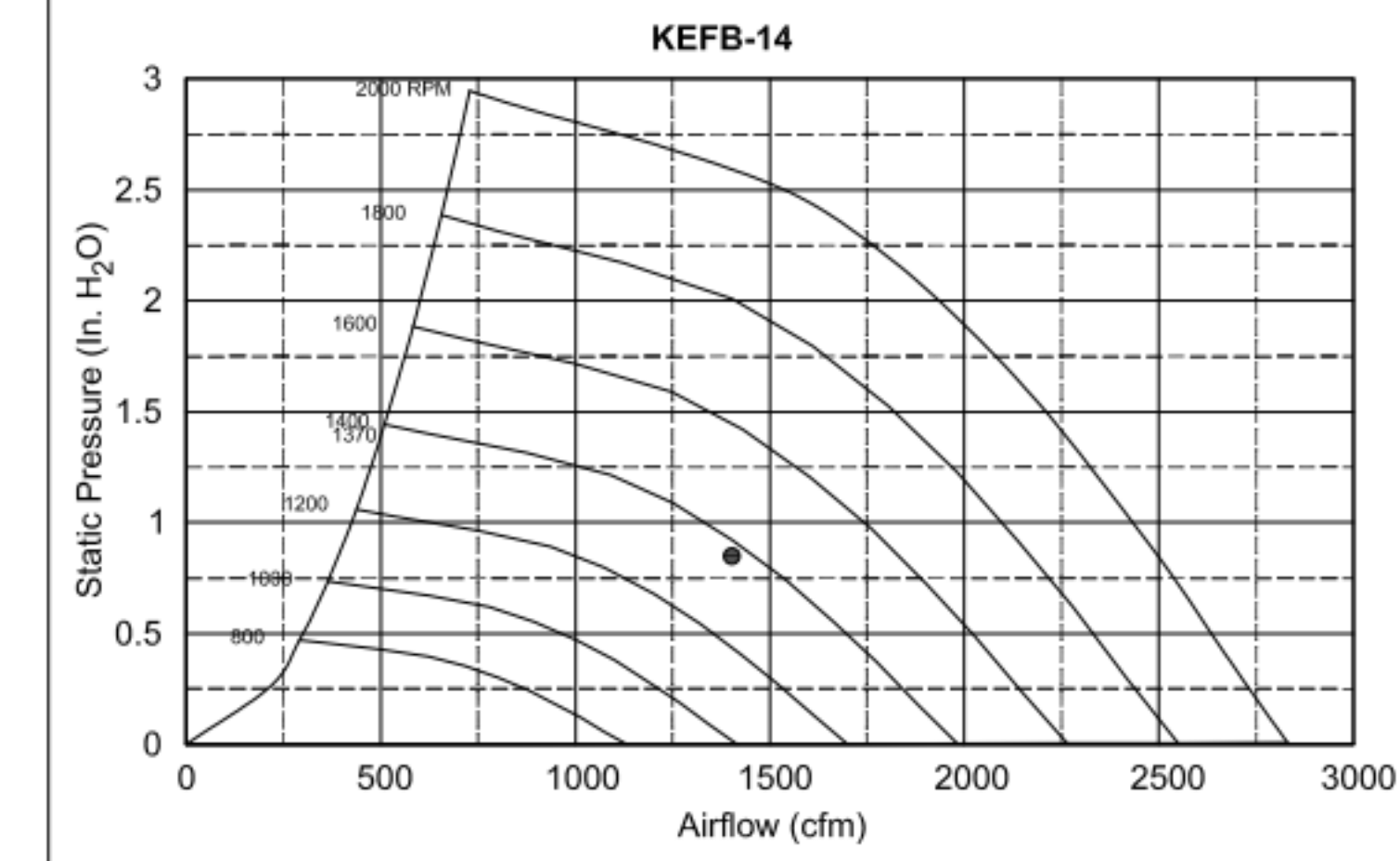
Halton KEFB Exhaust Fan

Job Name	Chick-8A-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						



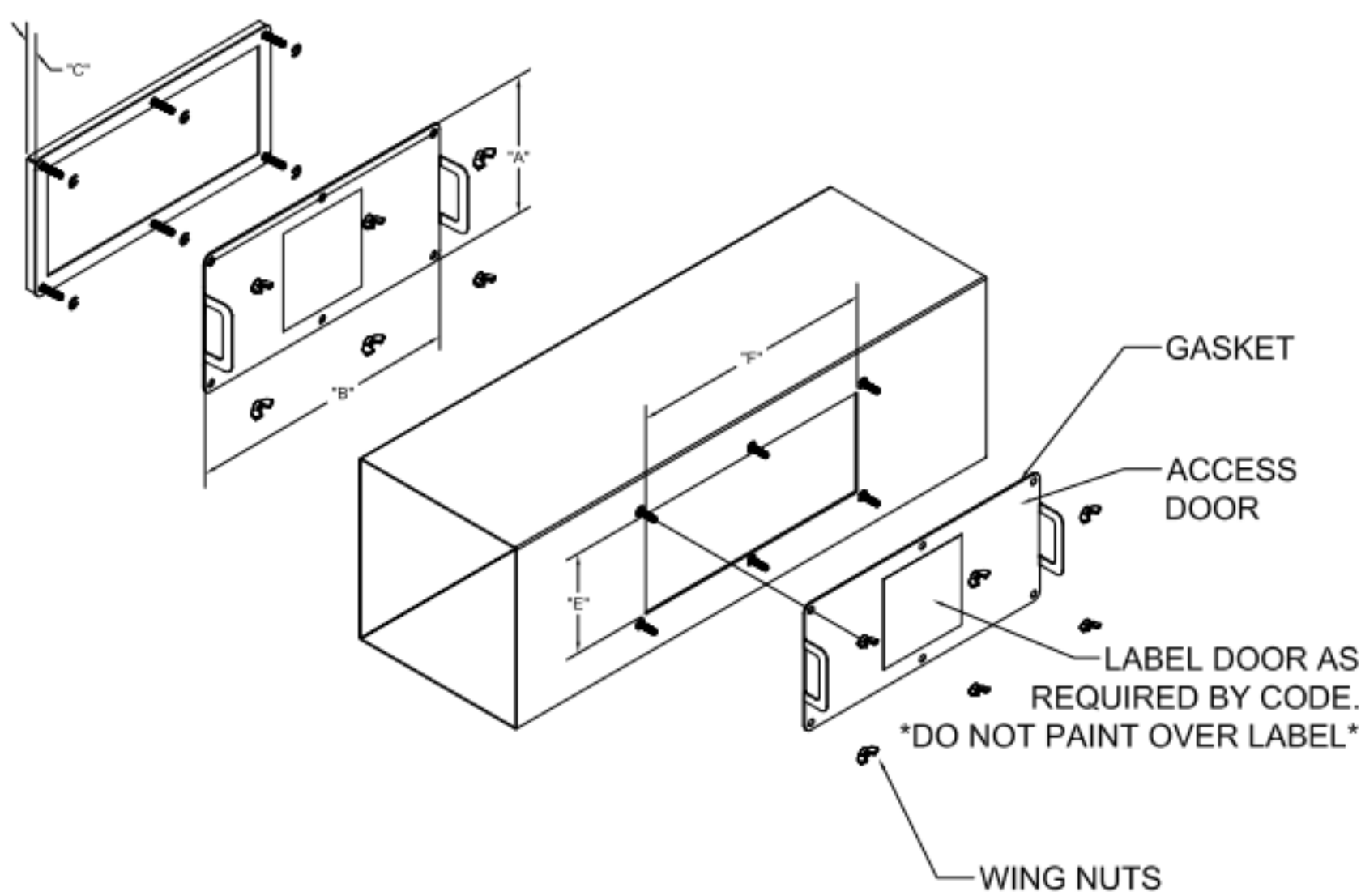
Halton KEFB Exhaust Fan

Job Name	Chick-8A-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						

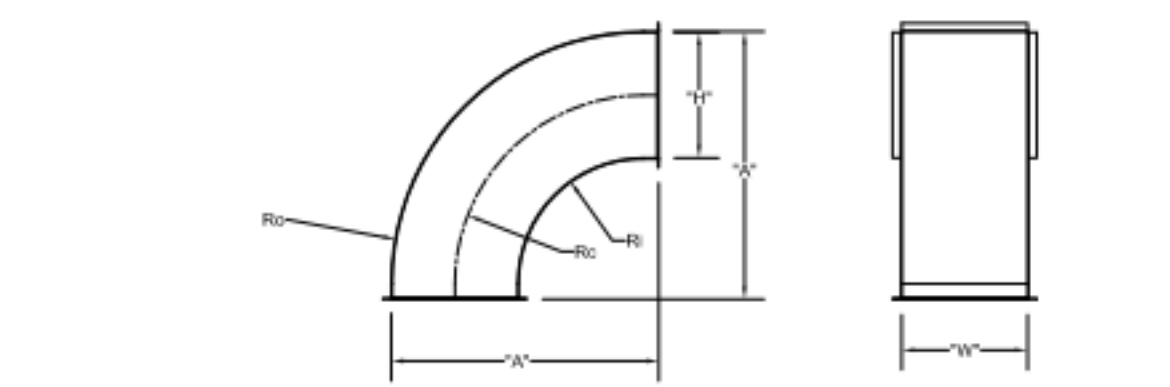


MODEL	DOOR SIZE		OPTIONAL FLANGE	OPENING SIZE	
	"A"	"B"		"E"	"F"
KAP0715	7	15	FLAT	5.5	13.5
KAP1015	10	15	1/2	7	12

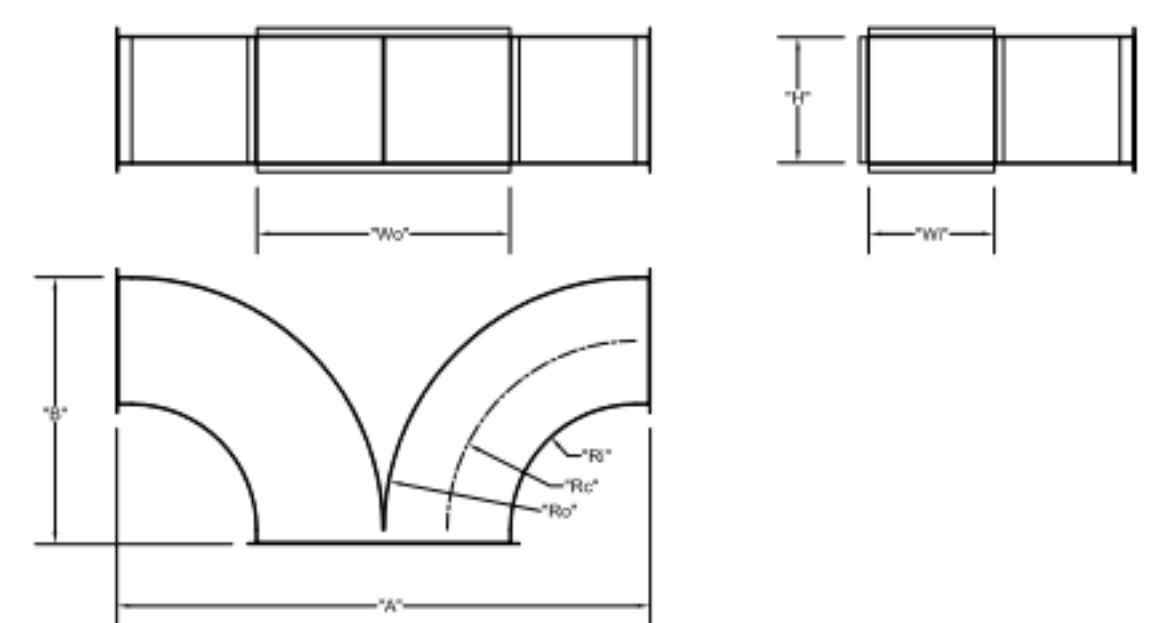
ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEREK GASKET MATERIAL.



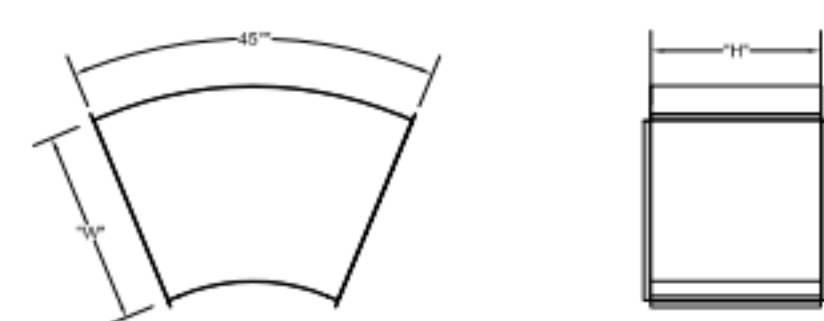
INSTALL PER MANUFACTURER'S INSTRUCTIONS



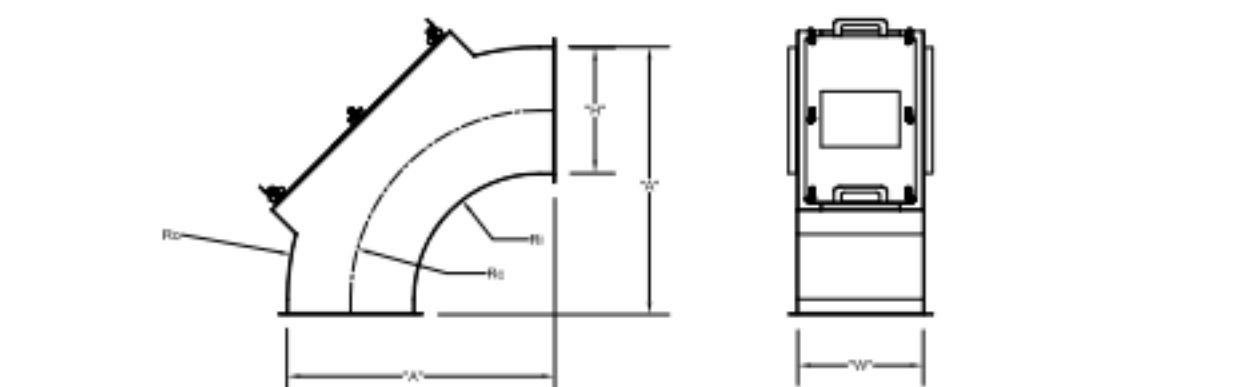
	"H"	"W"	"A"	Ro	Rc	Ri
EF-2	8	8	17	16	12	8
EF-2	8	10	17	16	12	8



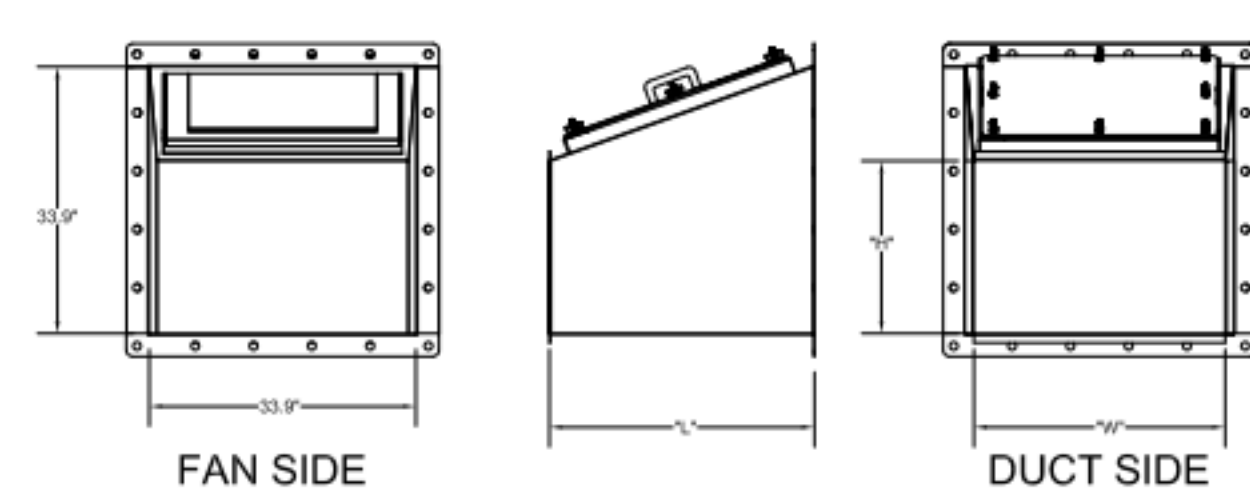
	"W"	"H"	Wo	Ro	Rc	Ri	"A"	"B"
EF-1	8	14	16	16	12	8	34	17
EF-2	8	10	16	16	12	8	34	17



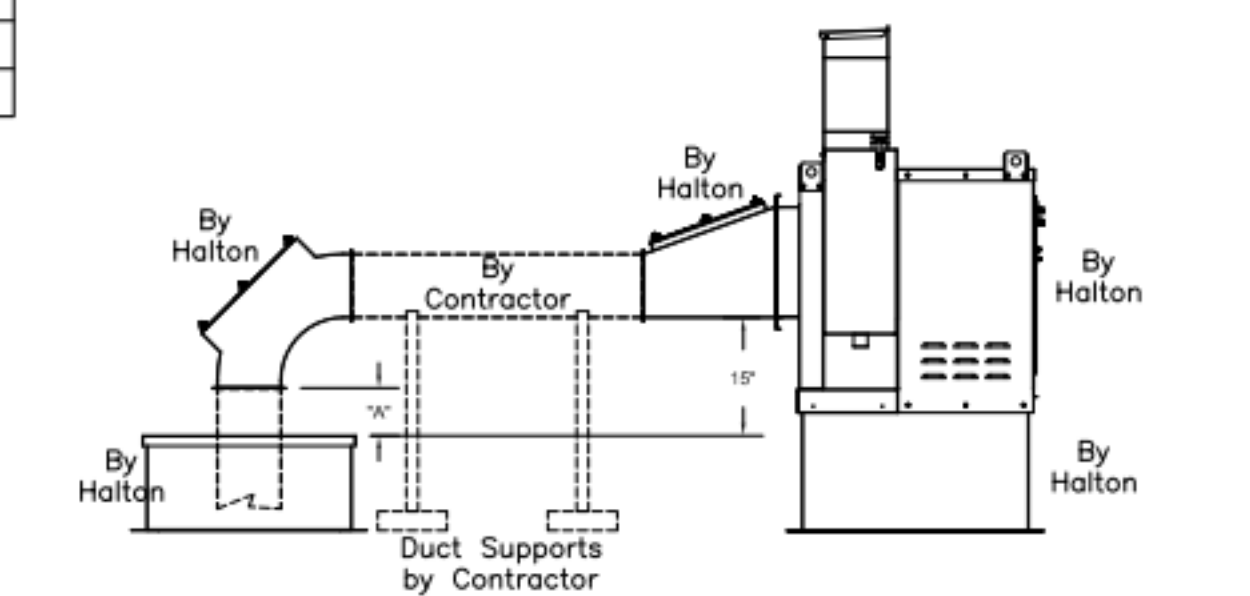
	"W"	"H"
EF-1	16	14



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



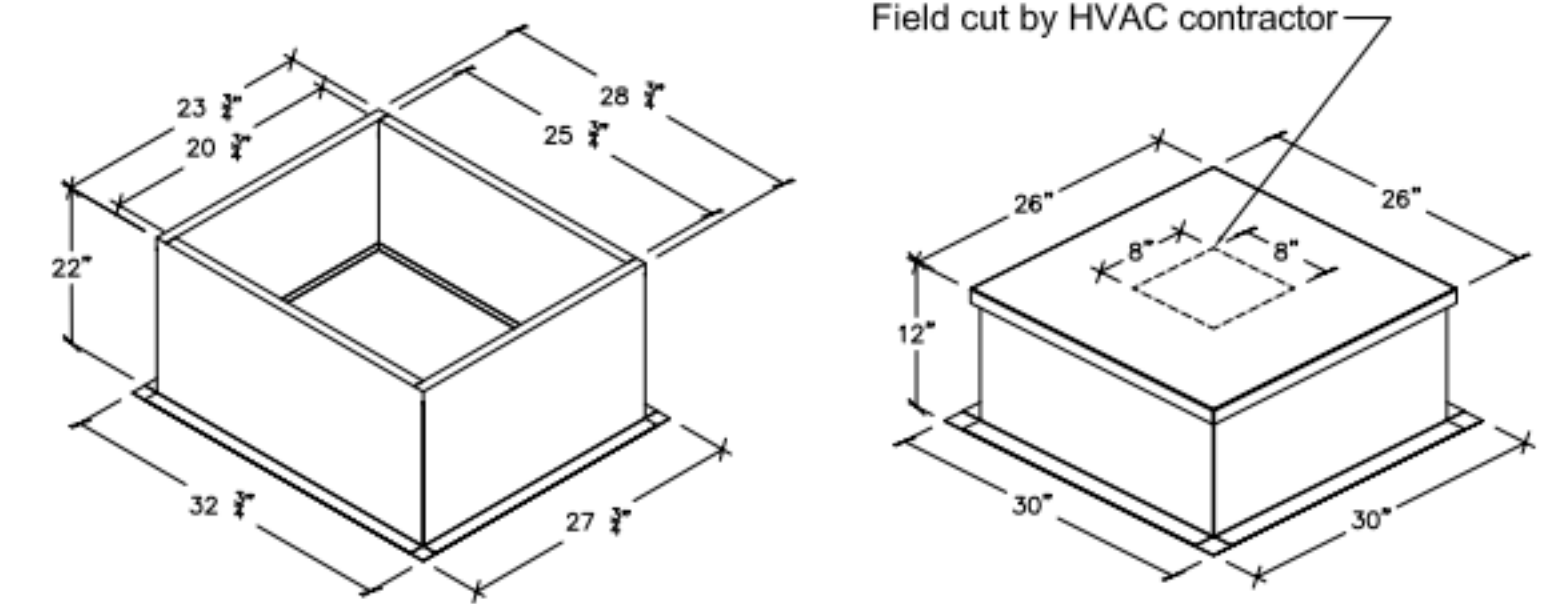
TRANSITION	"H"	"W"	"L"
EF-1 (5)	14	16	25
EF-2 (6)	10	16	17



"A" DISTANCE AVAILABLE FOR DUCT SLOPE

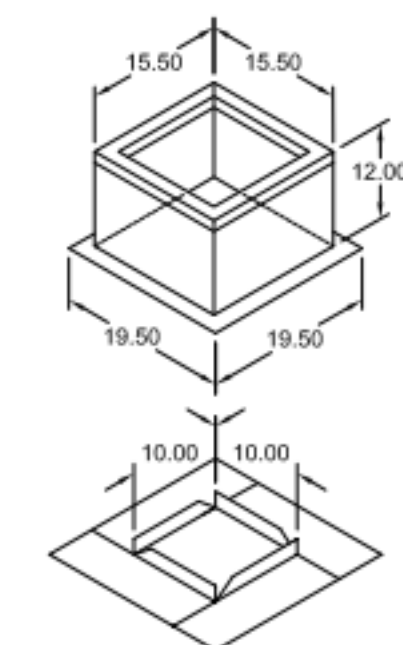
	ELBOW	"A"
EF-1	14X8	8
EF-2	8X8	10

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 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: _____



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 HALTON CO. (USA)
 101 INDUSTRIAL DRIVE
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 1-270-237-5600

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

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

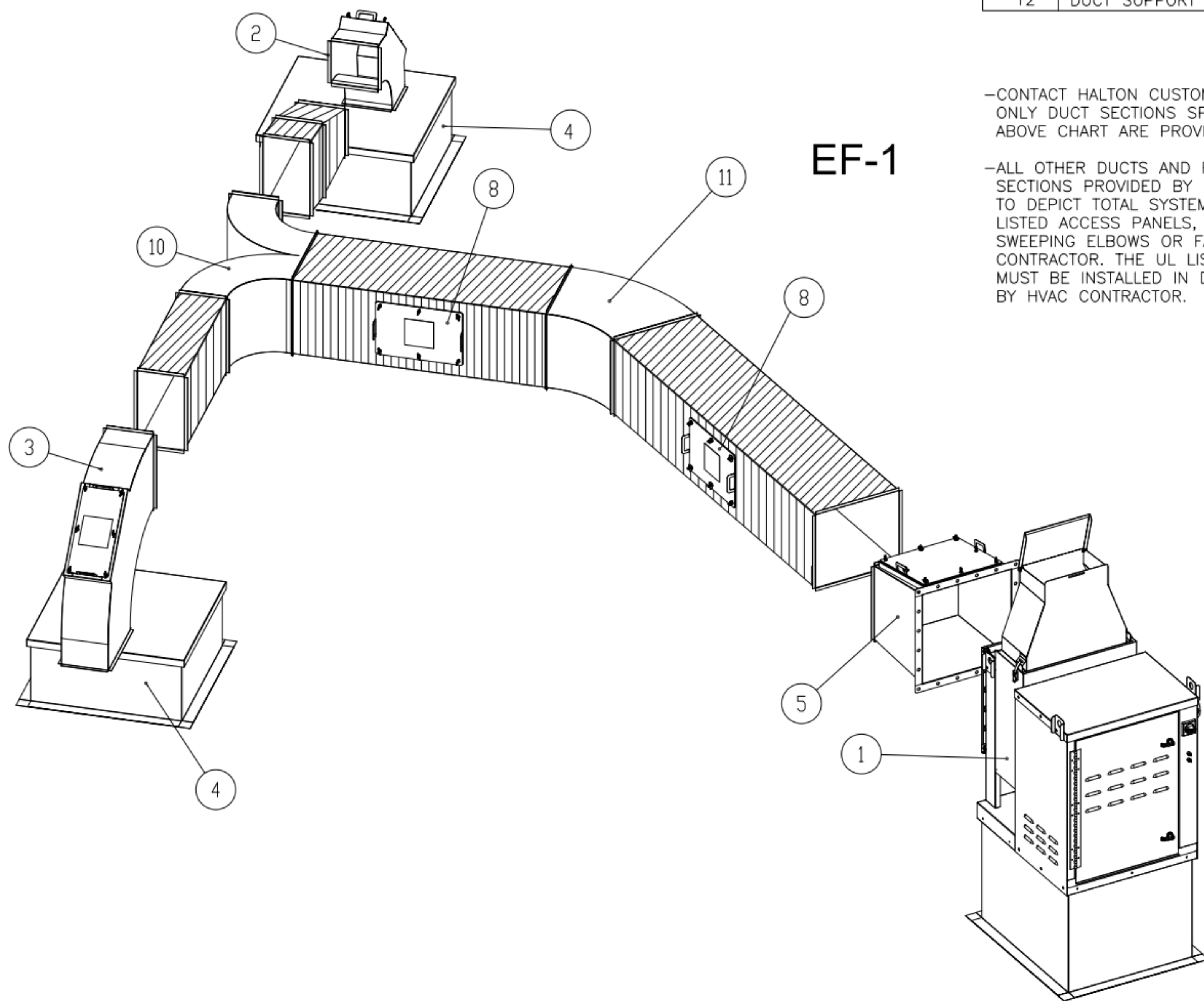
DRAWING TITLE: CFA FAN DETAILS

DRAWING No.: U23-459

REV. NO.: 0 SHEET NO.: 1 of 2



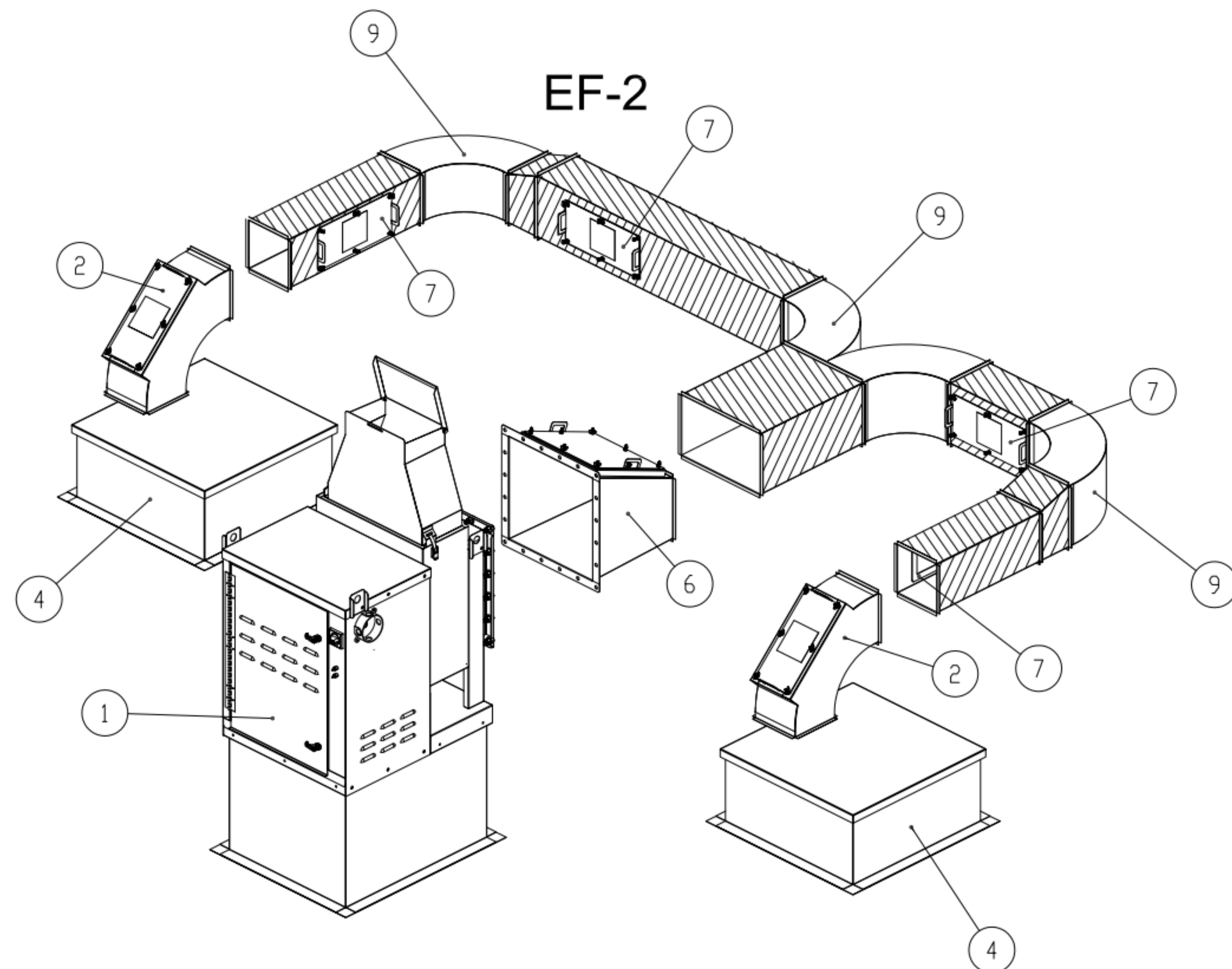
ITEM	DESCRIPTION	QTY
1	KEFB EXHAUST FAN W/ ROOF CURB	2
2	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 8X8	3
3	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8	1
4	DUCT ROOF CURB W/ CAP 26X26X9	4
5	FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X16	1
6	FAN TRANSITION W/ UL LISTED ACCESS PANEL 10X16	1
7	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	



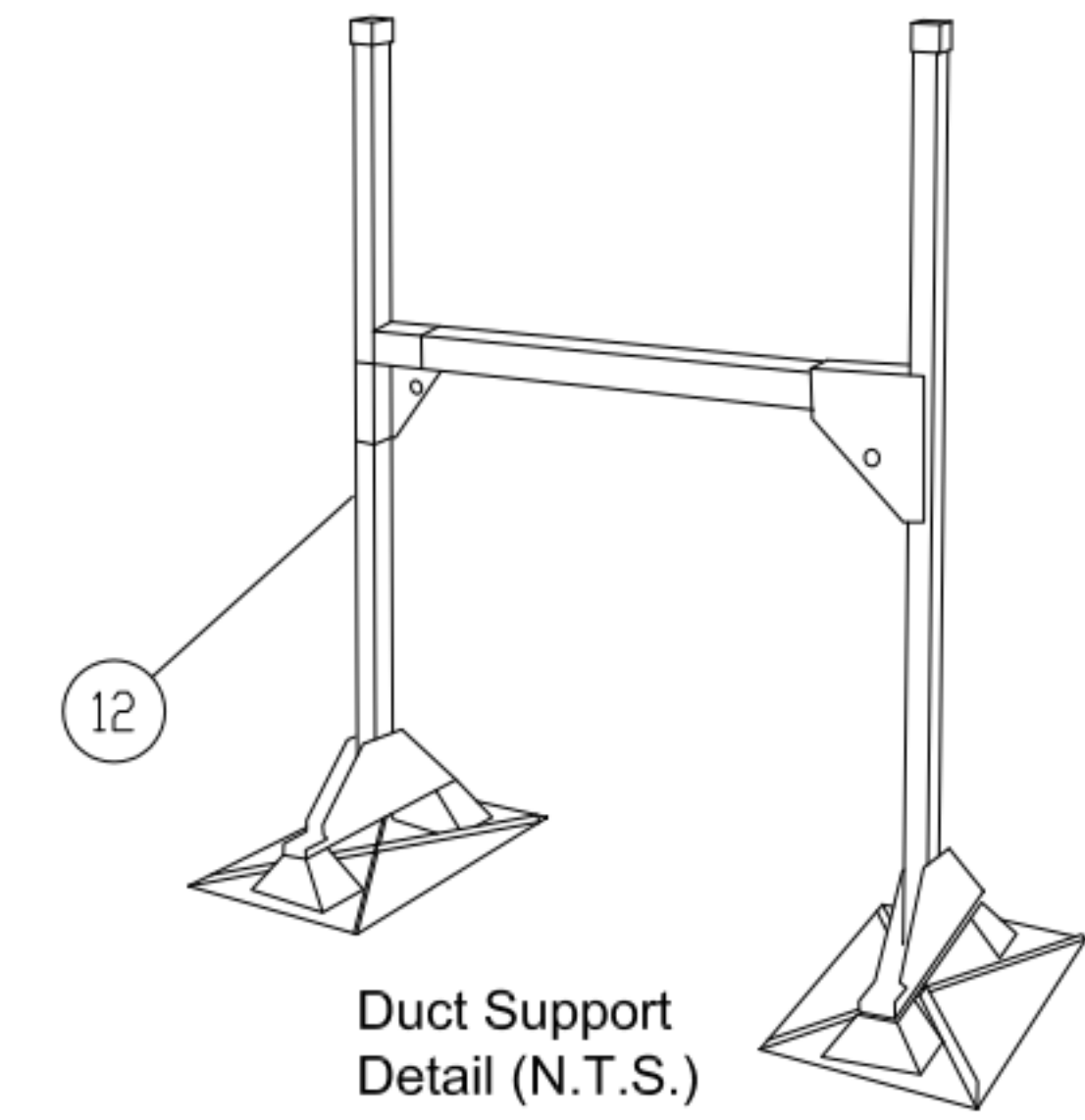
EF-1

-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



Duct Support Detail (N.T.S.)

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

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



MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:	WEBSITE: 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
PROJECT: CHICK-FIL-A FAN DETAILS LOCATION: PROTO SE/LE/LS/LSR (EN & BP) DRAWN BY: ACF DATE: 05.10.23 SCALE: CONSULTANT:	REVISION DESCRIPTION REV. A REV. B REV. C REV. D REV. E REV. F REV. G

PROJECT: CHICK-FIL-A FAN DETAILS
 DRAWING TITLE: CFA FAN DETAILS
 DRAWING No.: U23-459
 REV. NO.: 0 SHEET NO.: 2 of 2