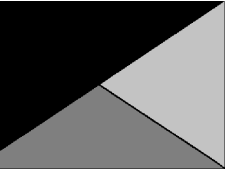




Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998



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



6/20/25

CHICK-FIL-A
Stafford & Heard FSU

99 Stafford Street
Worcester, MA 01603

FSR#05916

BUILDING TYPE / SIZE: P-14 LS BN

RELEASE: 24.05

PRINTED FOR

ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

NO. DATE DESCRIPTION

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25010.CD.SN

DATE 06/20/2025

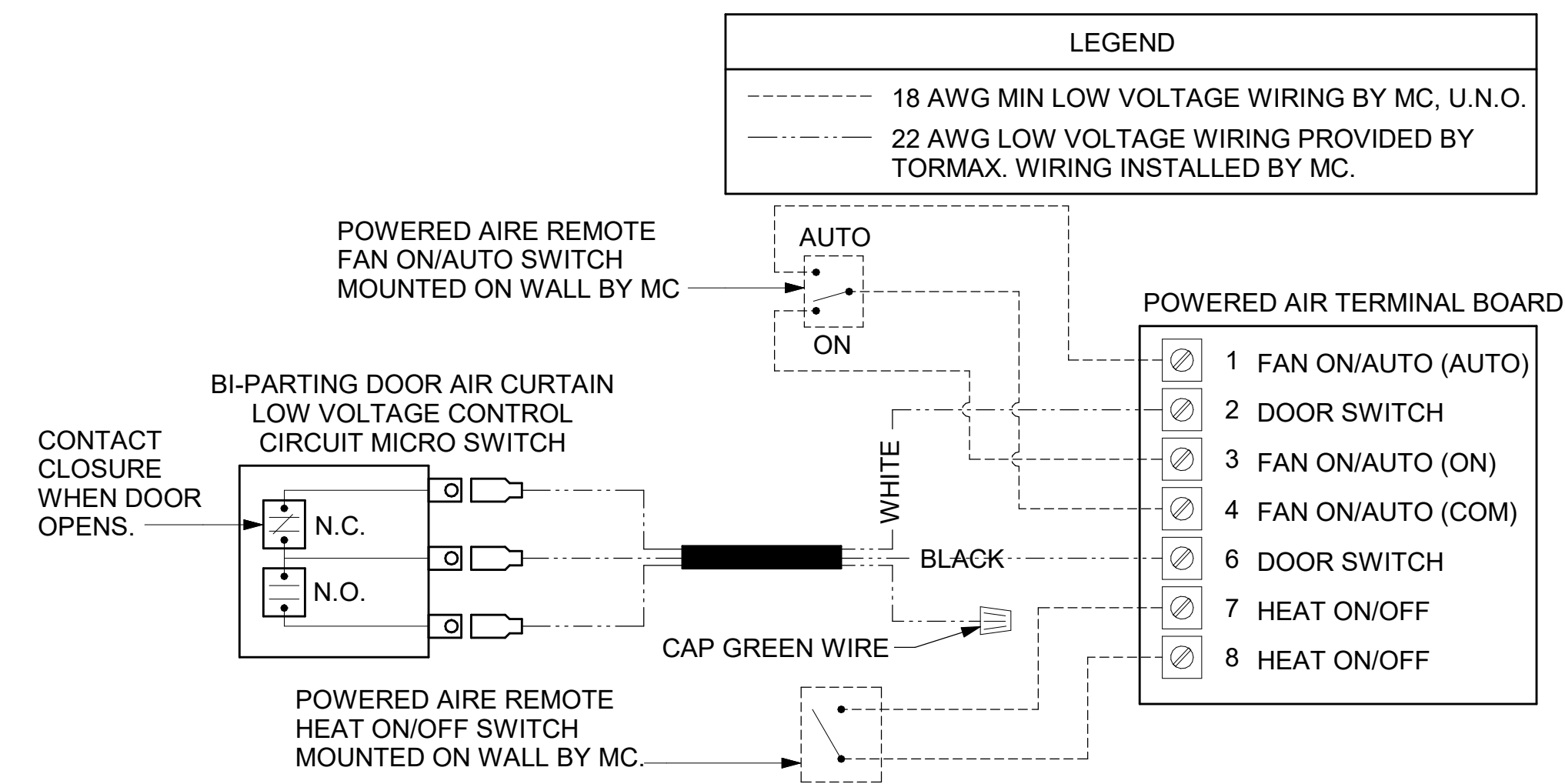
DRAWN BY BLM

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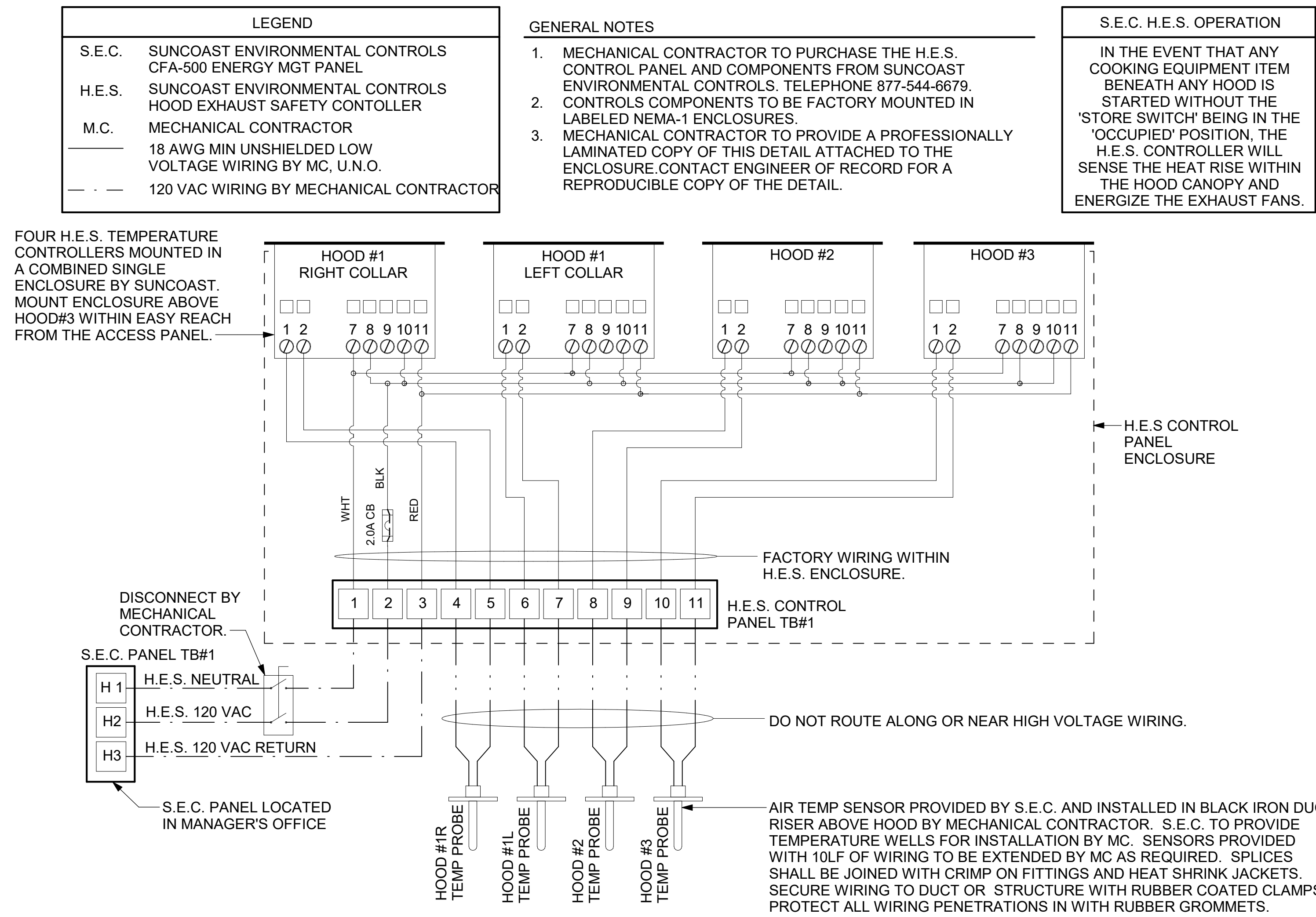
SHEET HVAC CONTROLS

SHEET NUMBER

M-702



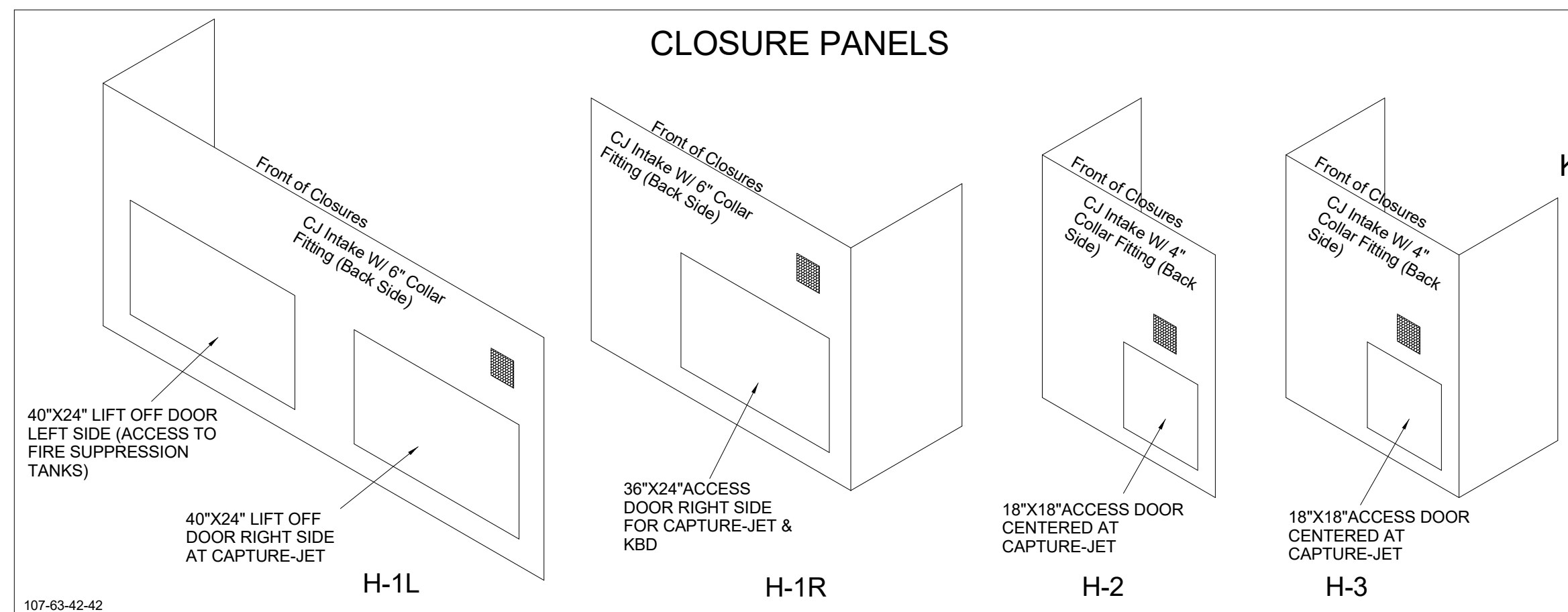
2 AIR CURTAIN WIRING DIAGRAM
NOT TO SCALE



1 HOOD FAN/EQUIPMENT INTERLOCK
NOT TO SCALE

| HOOD MODEL | HOOD NUMBER | EXHAUST COLLAR | | | EXHAUST AIR INFORMATION | | | CAPTURE AIR INFORMATION | | S.S. KSA FILTERS | | LED LIGHTS | QTY | CEILING CLOSURES | | | KBD DAMPER | K FACTOR (CFM = K FACTOR * √DP) | MATERIAL |
|------------|-------------|----------------|--------|-------|-------------------------|-------|-------|-------------------------|-------|------------------|------|------------|-----|------------------|----------------|-------------|------------|------------------------------------|---------------------------------|
| | | QTY | LENGTH | WIDTH | CFM | TAB | SP | CFM | SP | FULL | HALF | | | CLOSURE HEIGHT | CEILING HEIGHT | HOOD WEIGHT | | | |
| KVL-2-IC | H-1L | 1 | 14" | 8" | 1204 | 0.13" | 0.22" | 80 | 0.30" | 5 | - | 3 | 2 | 51" | 122" | 669 LBS | * | 3365 | EXPOSED SURFACES 18 GA. S.S. |
| KVL-2-IC | H-1R | 1 | 8" | 8" | 709 | 0.13" | 0.23" | 47 | 0.30" | 3 | - | 2 | 2 | | | 394 LBS | * | 1959 | |
| KVL-C-IC | H-2 | 1 | 8" | 8" | 701 | 0.30" | 0.39" | 30 | 0.29" | 2 | - | 1 | 2 | | | 245 LBS | * | 1291 | |
| KVL-C-IC | H-3 | 1 | 8" | 8" | 701 | 0.30" | 0.39" | 30 | 0.29" | 2 | - | 1 | 3 | | | 245 LBS | * | 1291 | |

FOR REFERENCE ONLY

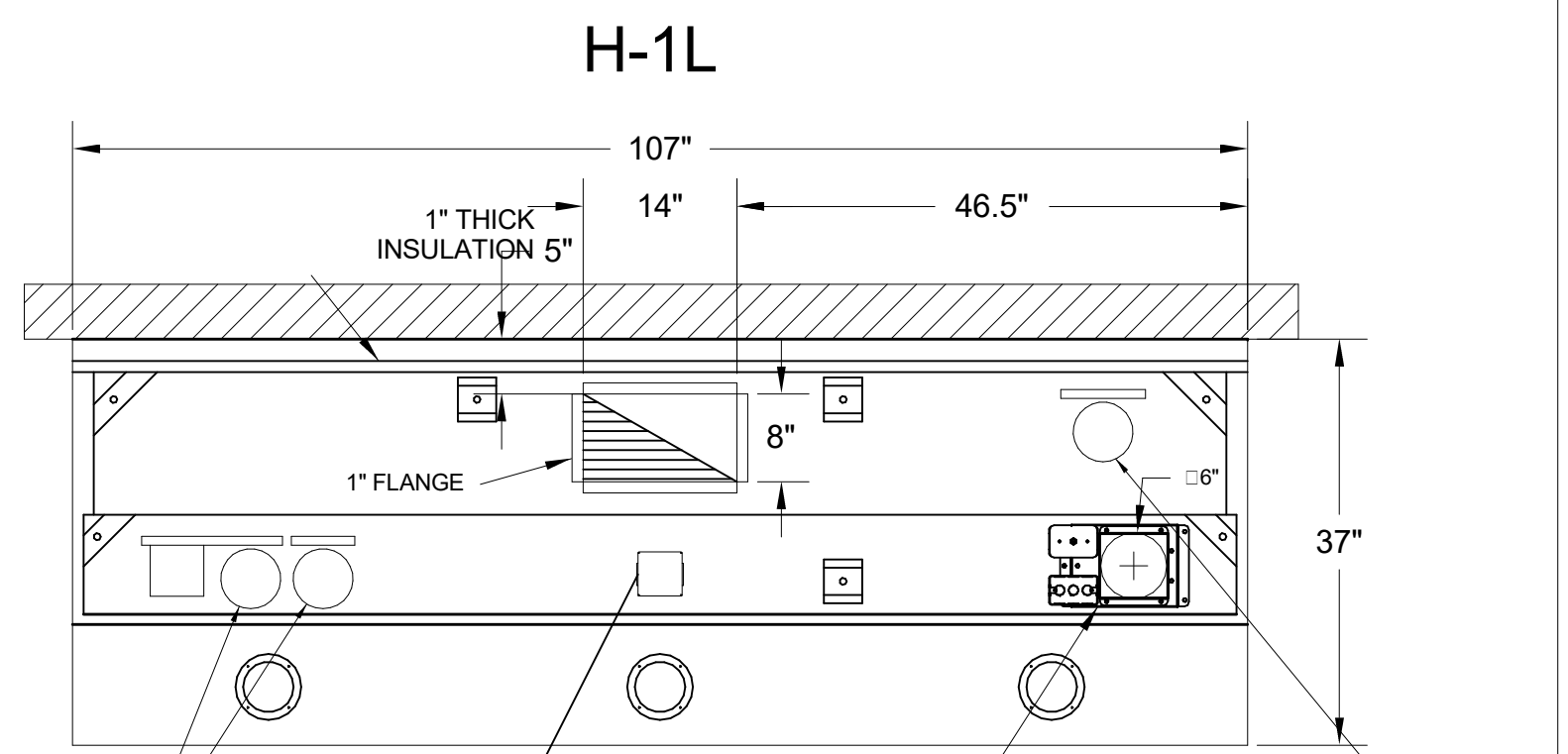
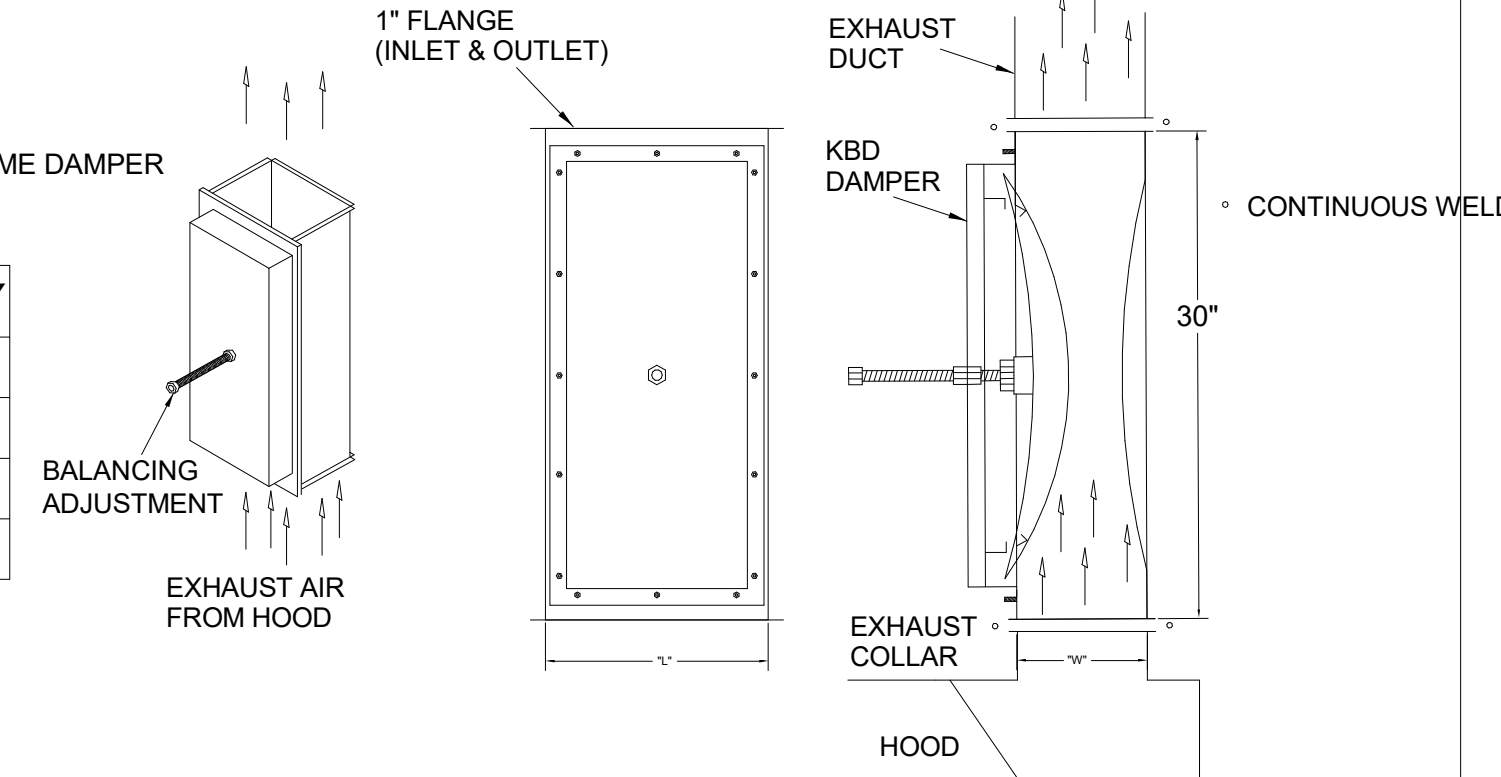


MODEL:KBD CALIBRATED

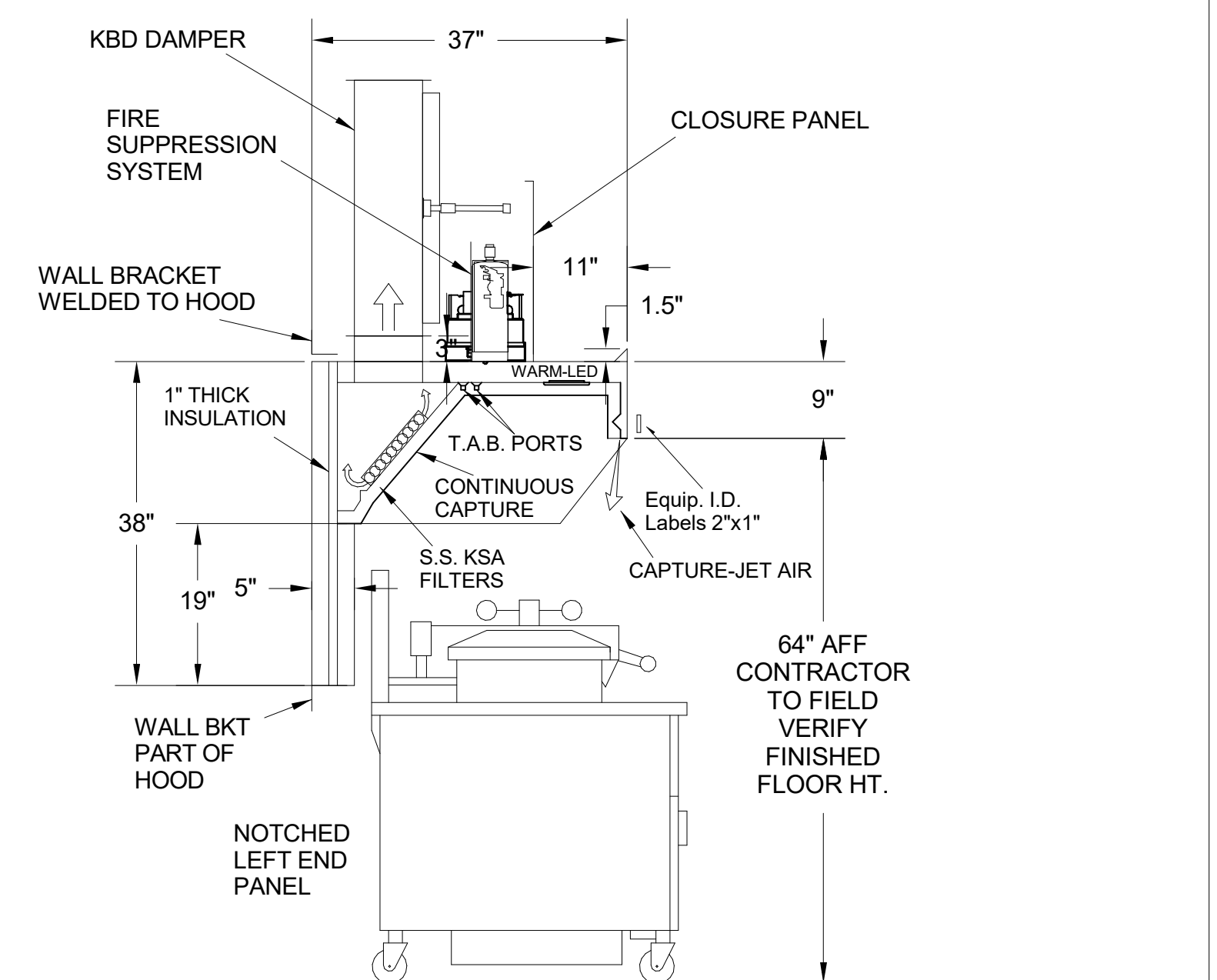
KITCHEN BALANCING DAMPER EXHAUST VOLUME DAMPER

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

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



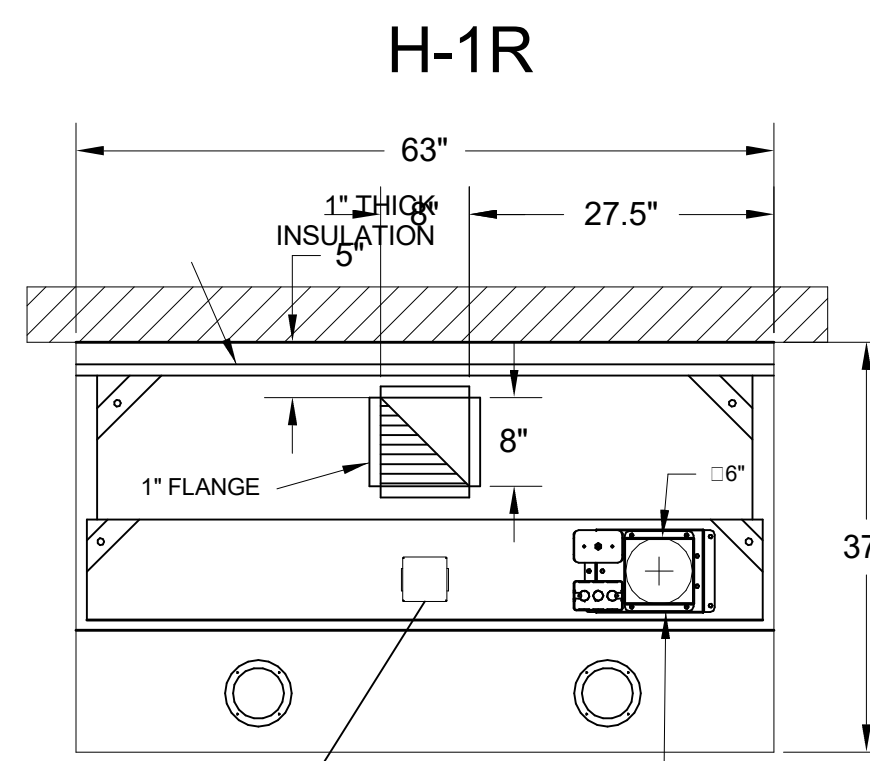
PLAN VIEW



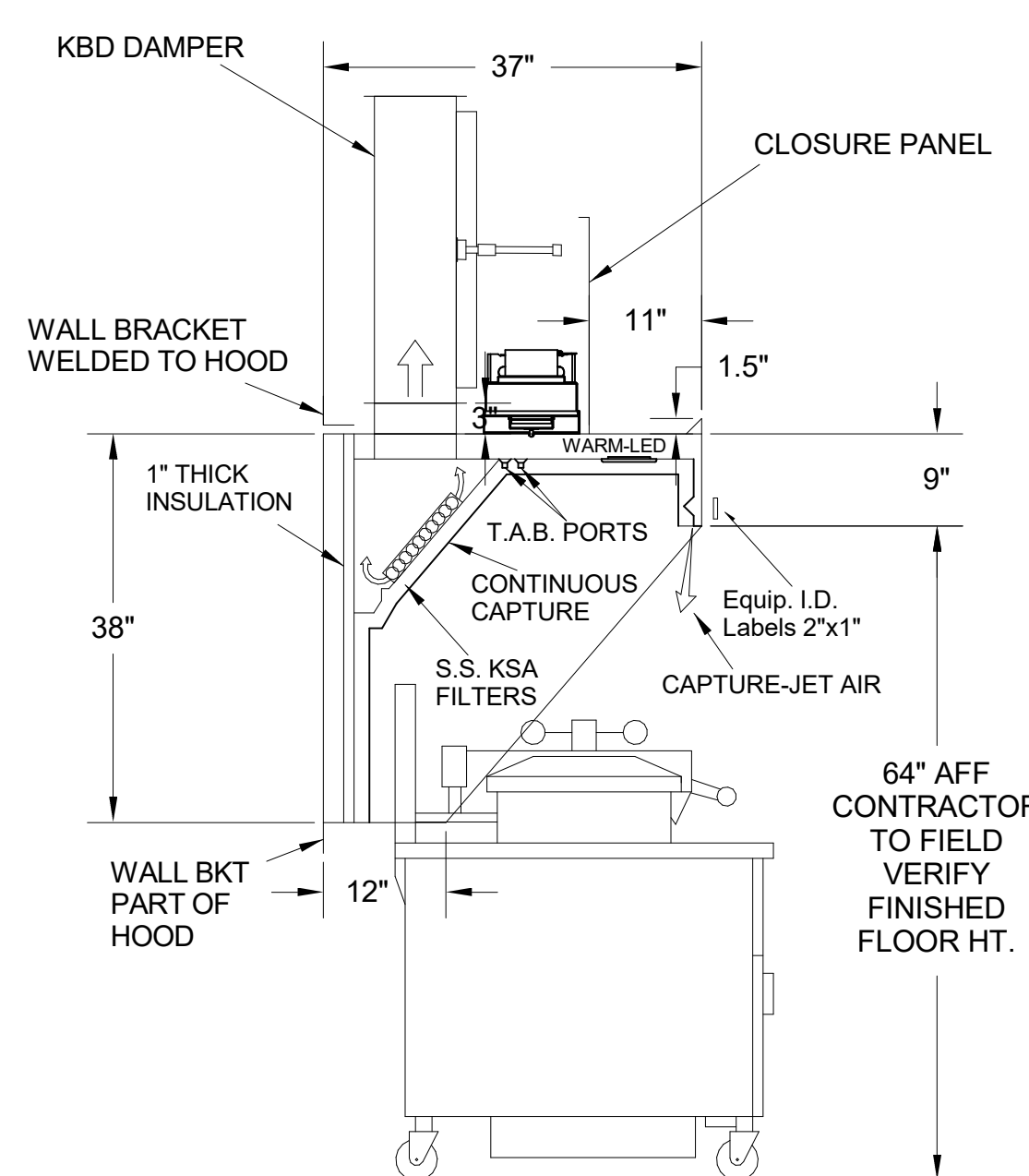
H-1L SECTION VIEW

- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 40"X24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION)
- 40"X24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET WITH FRONT CJ INTAKE
- CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- NOTCHED LEFT END PANEL
- EQUIPMENT COVERED:
(4) PRESSURE FRYERS
(2) GRILLS
- ANSUL WEIGHT = 286 LBS
- AMEREX WEIGHT = 264 LBS

| MODEL NO. | SERIAL NO. | ITEM NO. |
|-----------|------------|----------|
| | | |



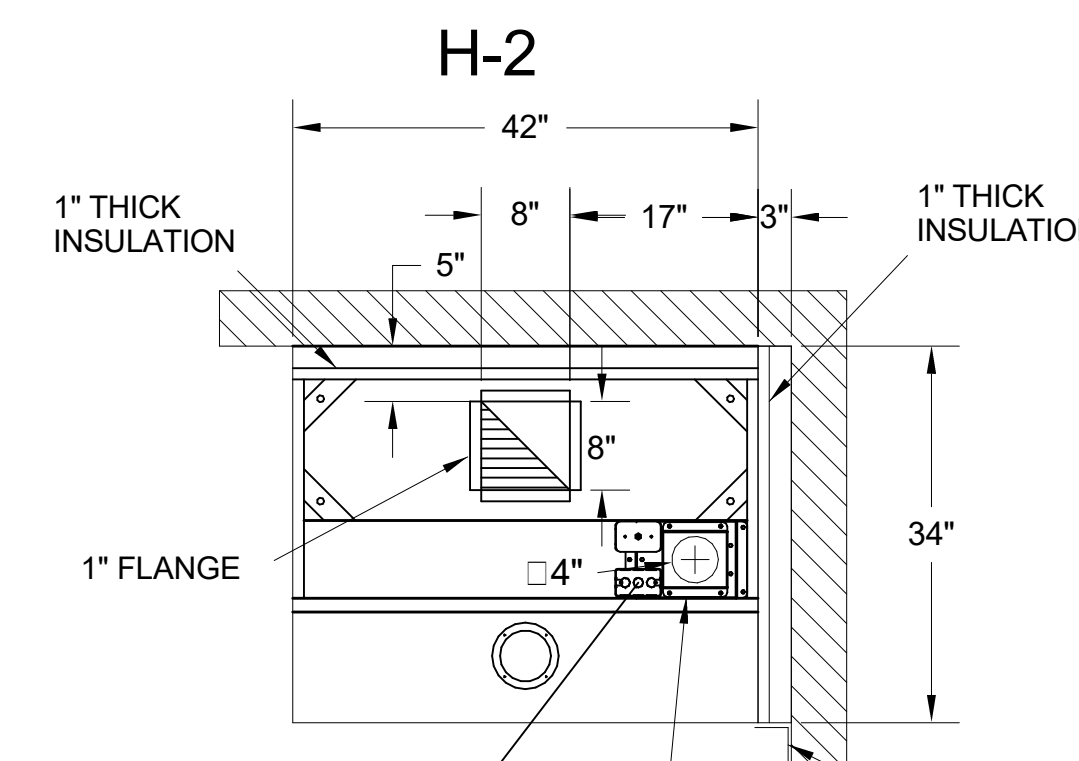
PLAN VIEW



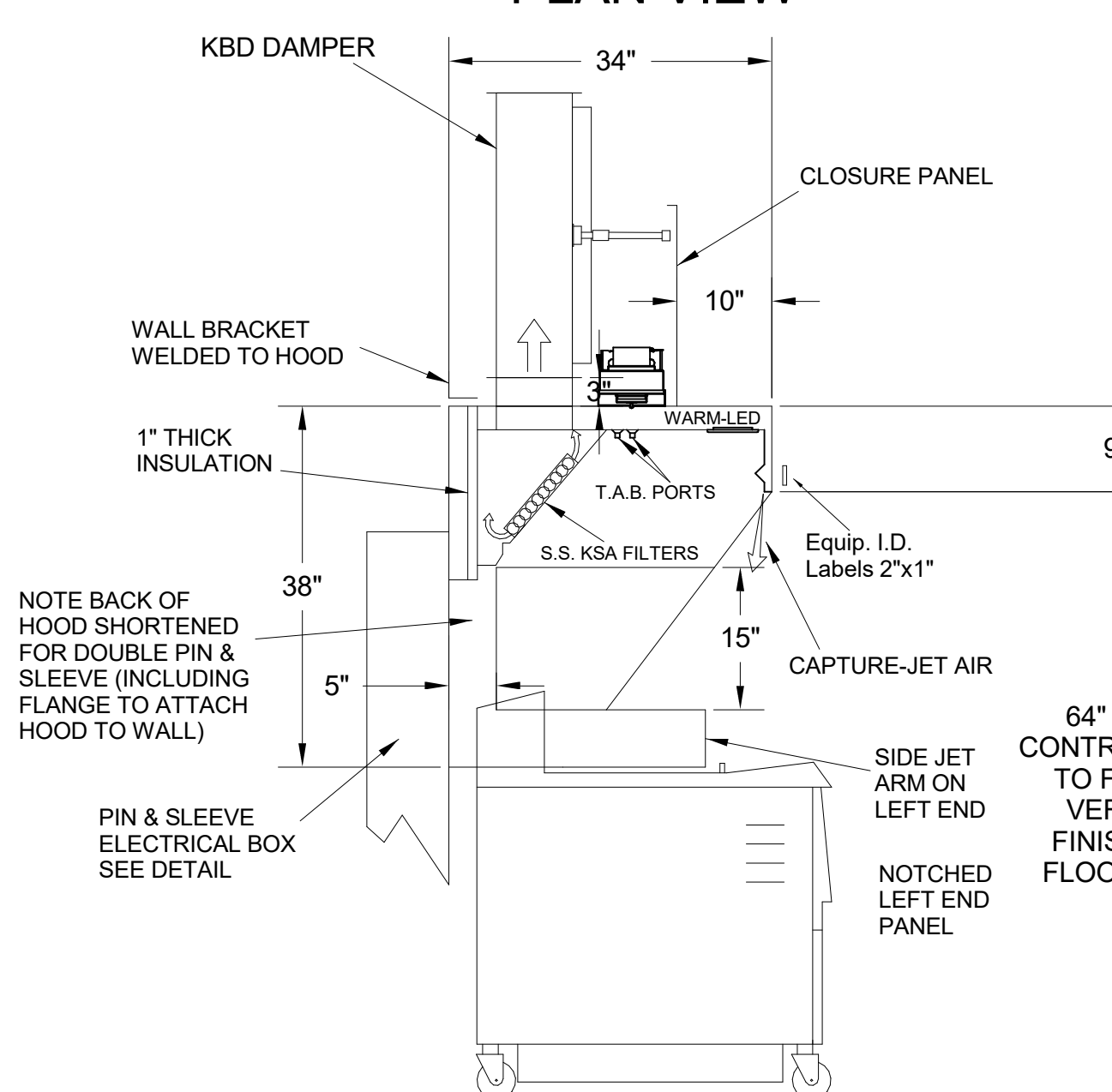
H-1R SECTION VIEW

- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- 36"X24" ACCESS DOOR RIGHT SIDE FOR ACCESS TO CAPTURE-JET WITH FRONT CJ INTAKE & KBD
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
(3) PRESSURE FRYERS

| MODEL NO. | SERIAL NO. | ITEM NO. |
|-----------|------------|----------|
| | | |



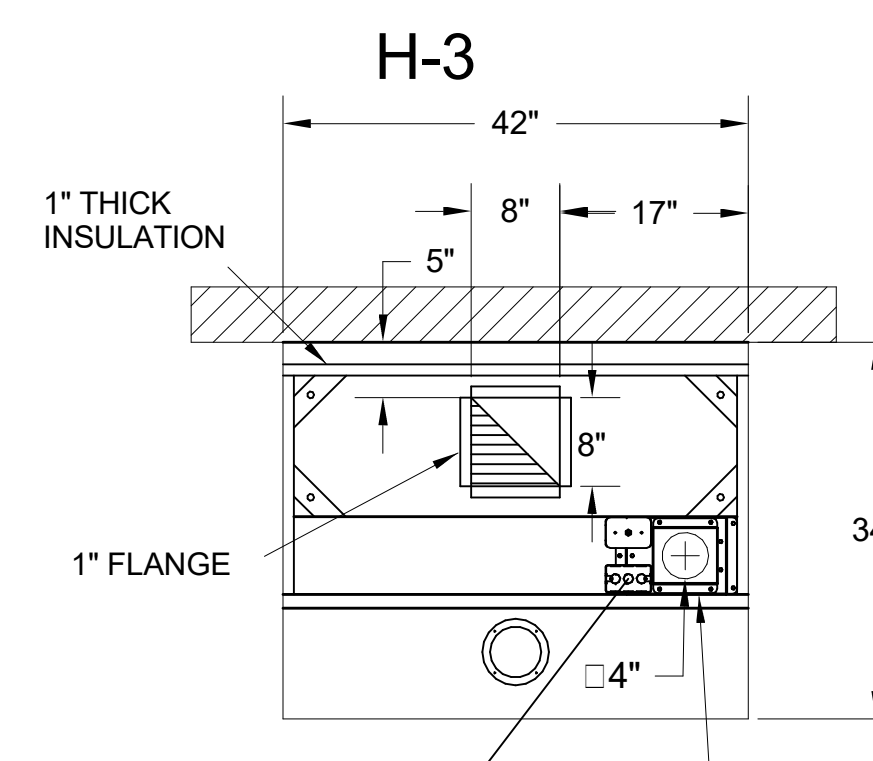
PLAN VIEW



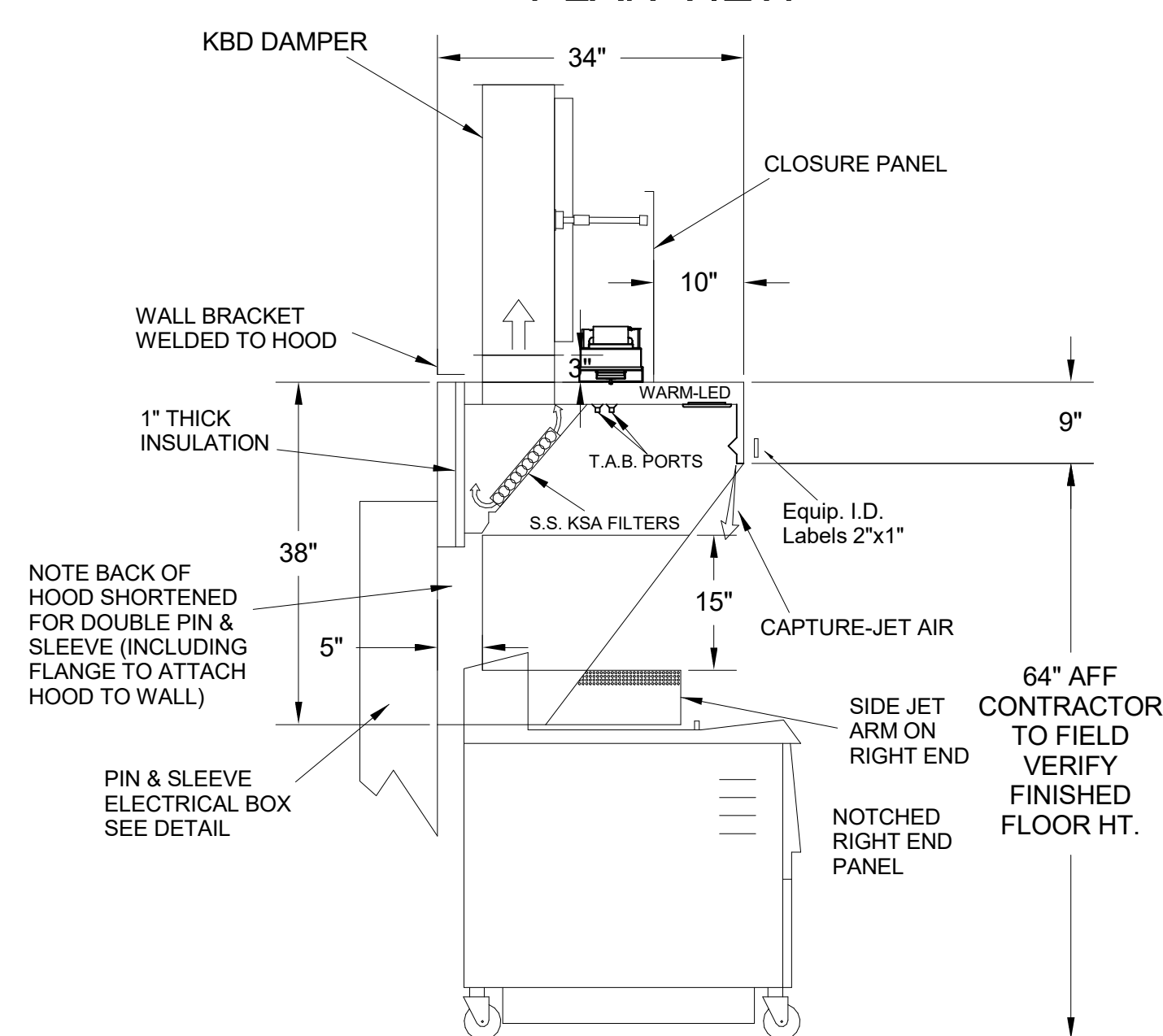
H-2 SECTION VIEW

- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"X18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED LEFT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3"X3" TRIM STRIP FOR STANDOFF ON RIGHT END
- 3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
(2) FRYERS

| MODEL NO. | SERIAL NO. | ITEM NO. |
|-----------|------------|----------|
| | | |



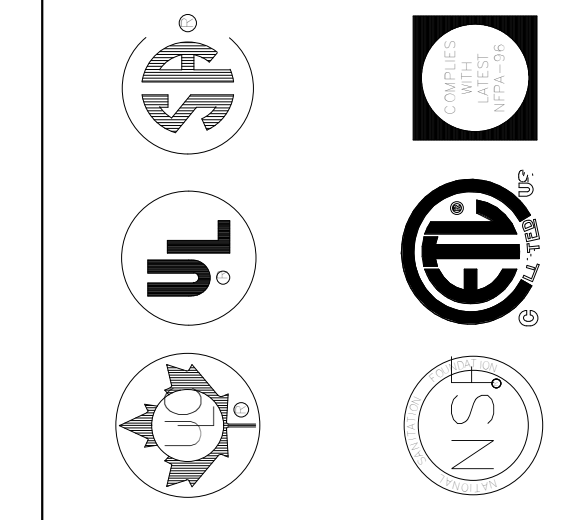
PLAN VIEW



H-3 SECTION VIEW

- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"X18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED RIGHT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
(2) FRYERS

| MODEL NO. | SERIAL NO. | ITEM NO. |
|-----------|------------|----------|
| | | |



| | |
|---|------|
| MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY: BELOW WEBSITE: WWW.HALTONCOMPANY.COM | DATE |
| HALTON CO. (CANADA) | BY |
| HALTON CO. (USA) | DATE |
| 1021 BREVIK PLACE | DATE |
| MISSISSAUGA, ON L4W 3R7 | DATE |
| 1-905-624-0301 | DATE |
| 1-270-237-5600 | DATE |
| REVISION DESCRIPTION | DATE |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |

PROJECT: **CHICK-FIL-A**

LOCATION: **Stafford & Heard FSU**

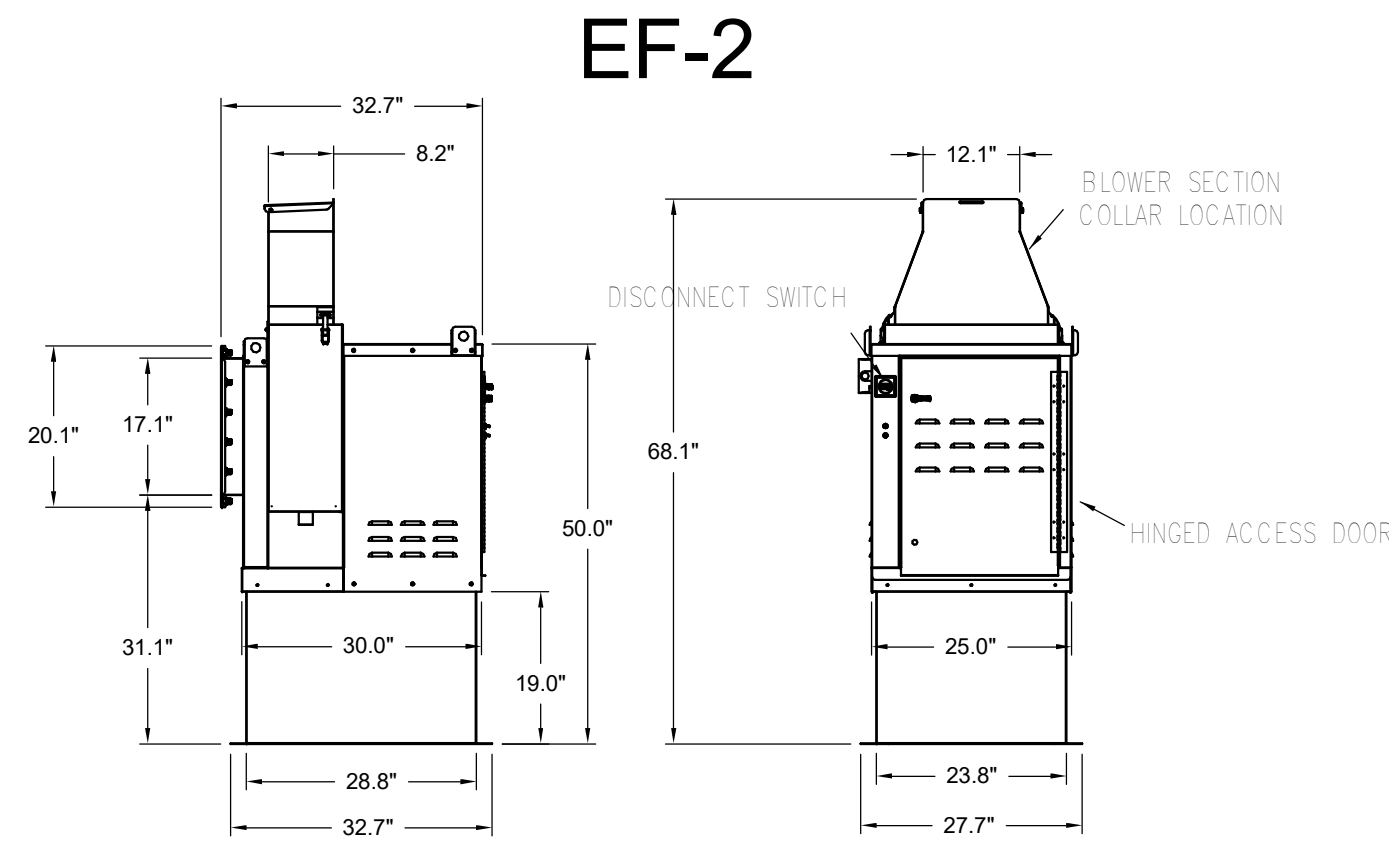
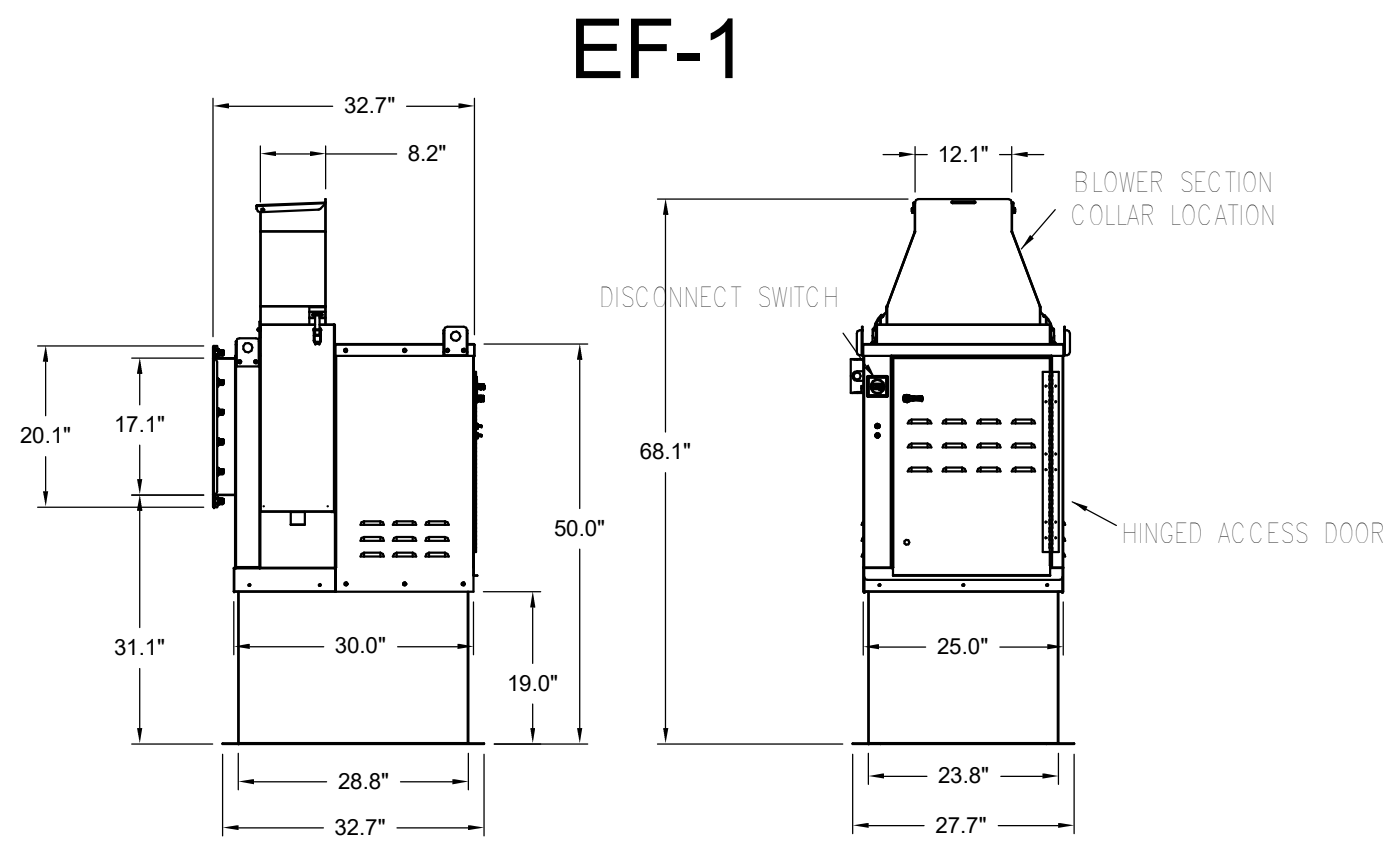
DRAWN BY: **DATE: 02/14/2025**

SCALE: **NTS**

SN#: **05916**

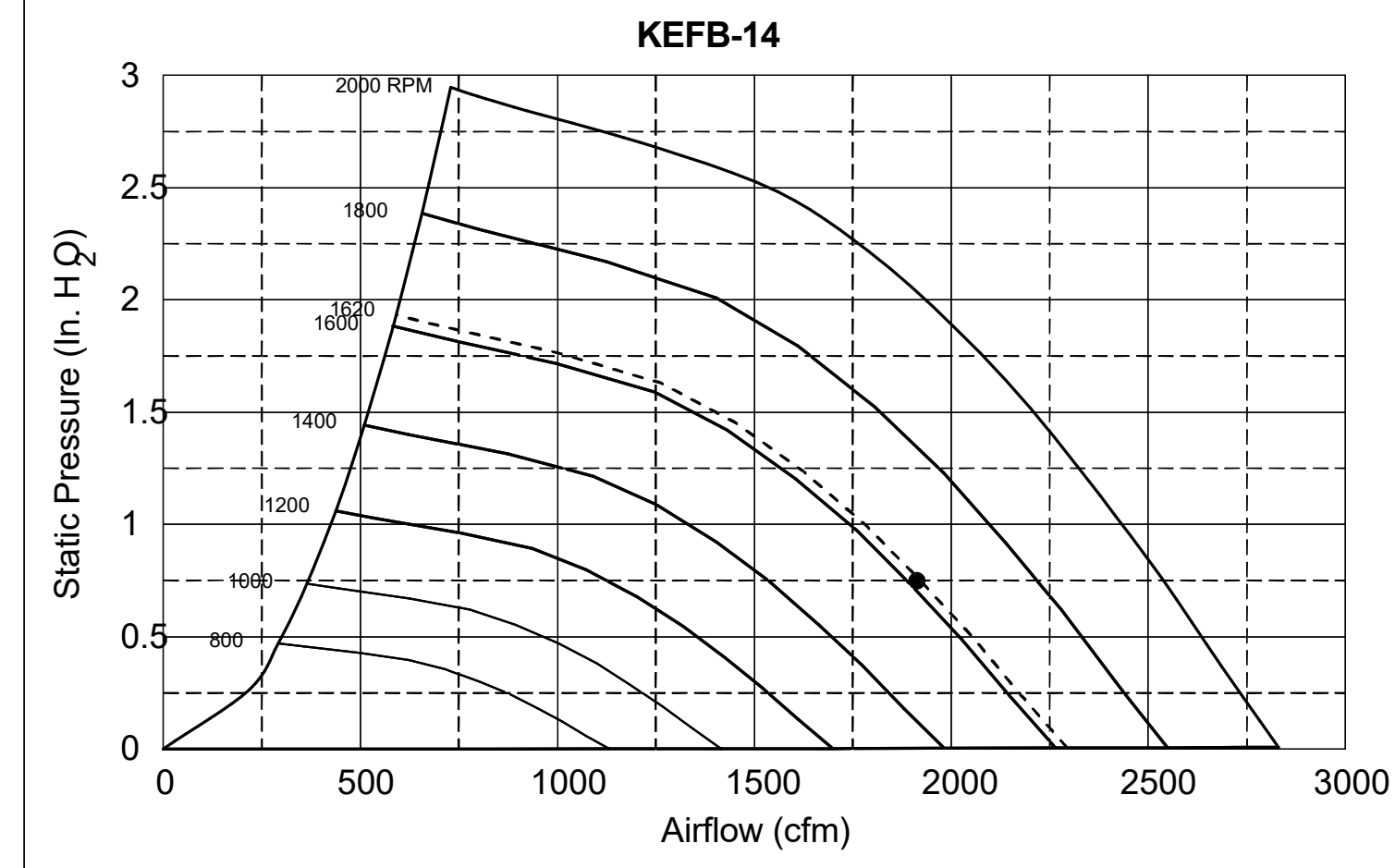
Halton
CAPRE FOR INDOOR AIR

FOR REFERENCE ONLY



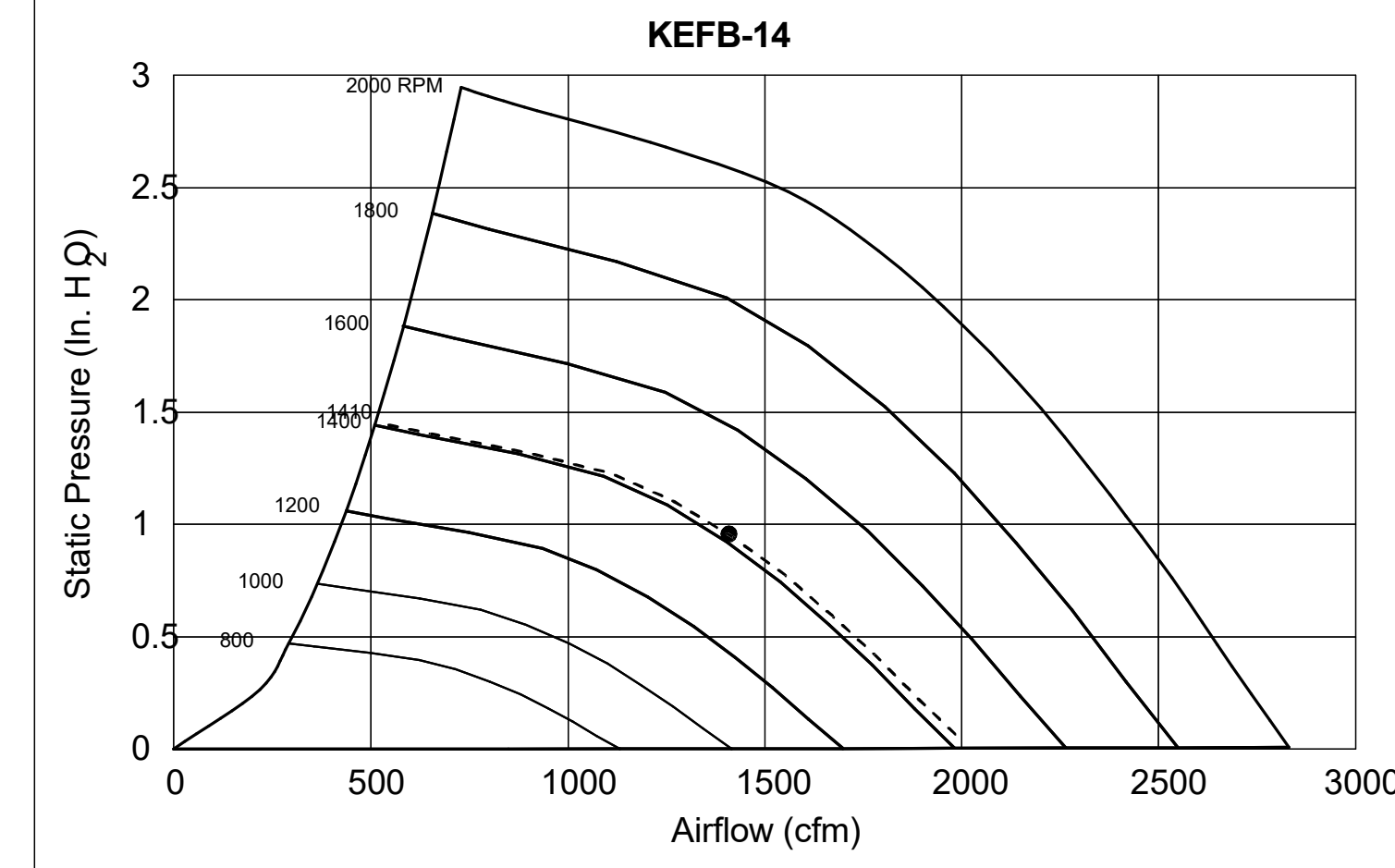
Halton KEFB Exhaust Fan

| | | | | | | | |
|--------------|------------|------------------------|---------|---------|-------|-----------------|----------|
| Job Name | Chick-FL-A | Location | EF-1 | Item No | 1747 | Qty | 115/160 |
| Date | 1/26/2023 | Model | KEFB-14 | Fan RPM | 1,747 | Volts/Ph/Amps | 115/1/60 |
| Model | KEFB-14 | Airflow, cfm | 1,913 | Fan BHP | 0.75 | Motor HP | 0.75 |
| Airflow, cfm | 1,913 | Static Pressure, in WC | 0.75 | dB | 85.3 | TAB Port, in WC | 4 |



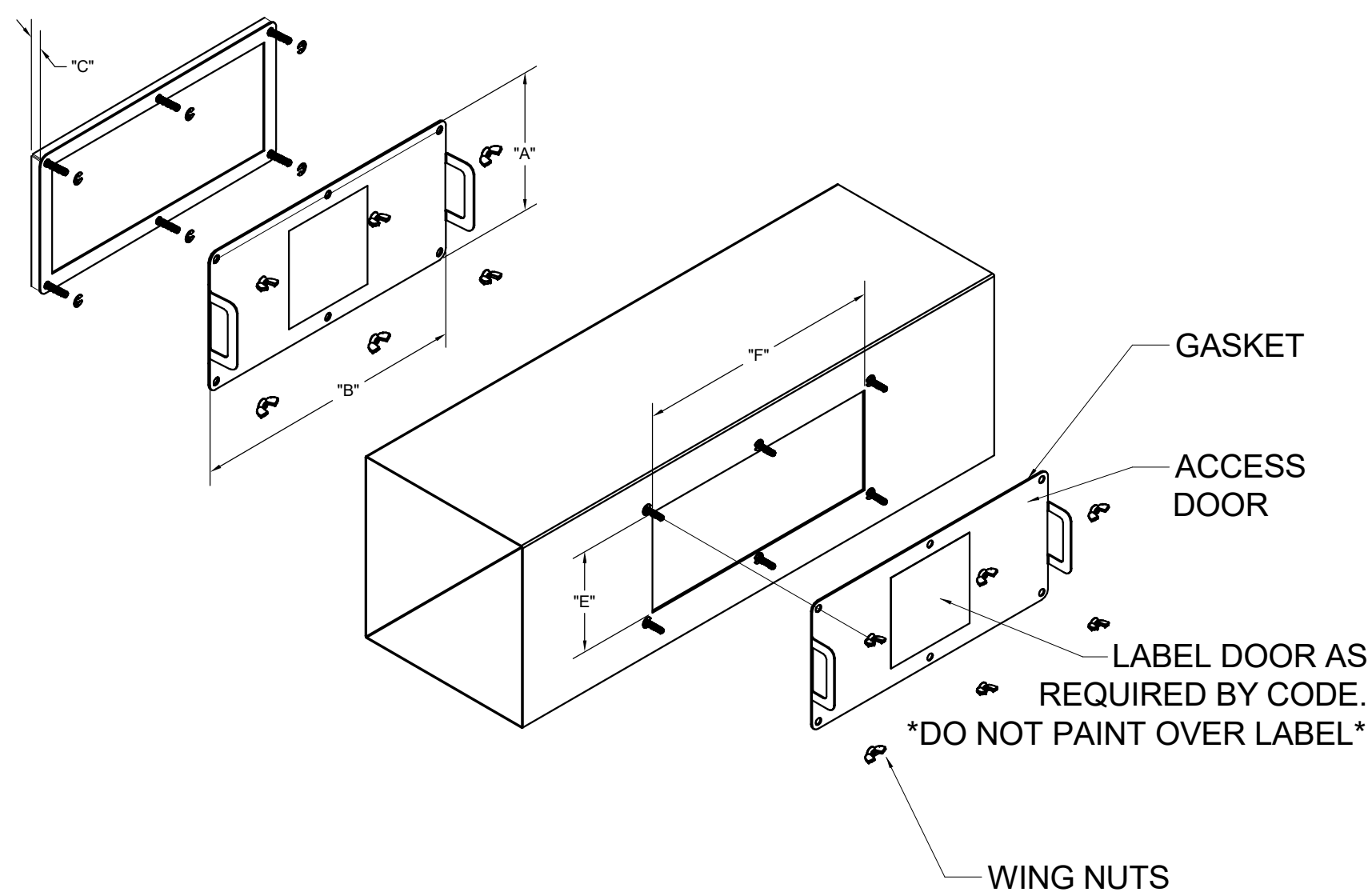
Halton KEFB Exhaust Fan

| | | | | | | | |
|--------------|------------|------------------------|---------|---------|-------|-----------------|----------|
| Job Name | Chick-FL-A | Location | EF-2 | Item No | 1,522 | Qty | 115/160 |
| Date | 1/26/2023 | Model | KEFB-14 | Fan RPM | 1,522 | Volts/Ph/Amps | 115/1/60 |
| Model | KEFB-14 | Airflow, cfm | 1,402 | Fan BHP | 0.38 | Motor HP | 0.75 |
| Airflow, cfm | 1,402 | Static Pressure, in WC | 0.95 | dB | 81.6 | TAB Port, in WC | 2.1 |

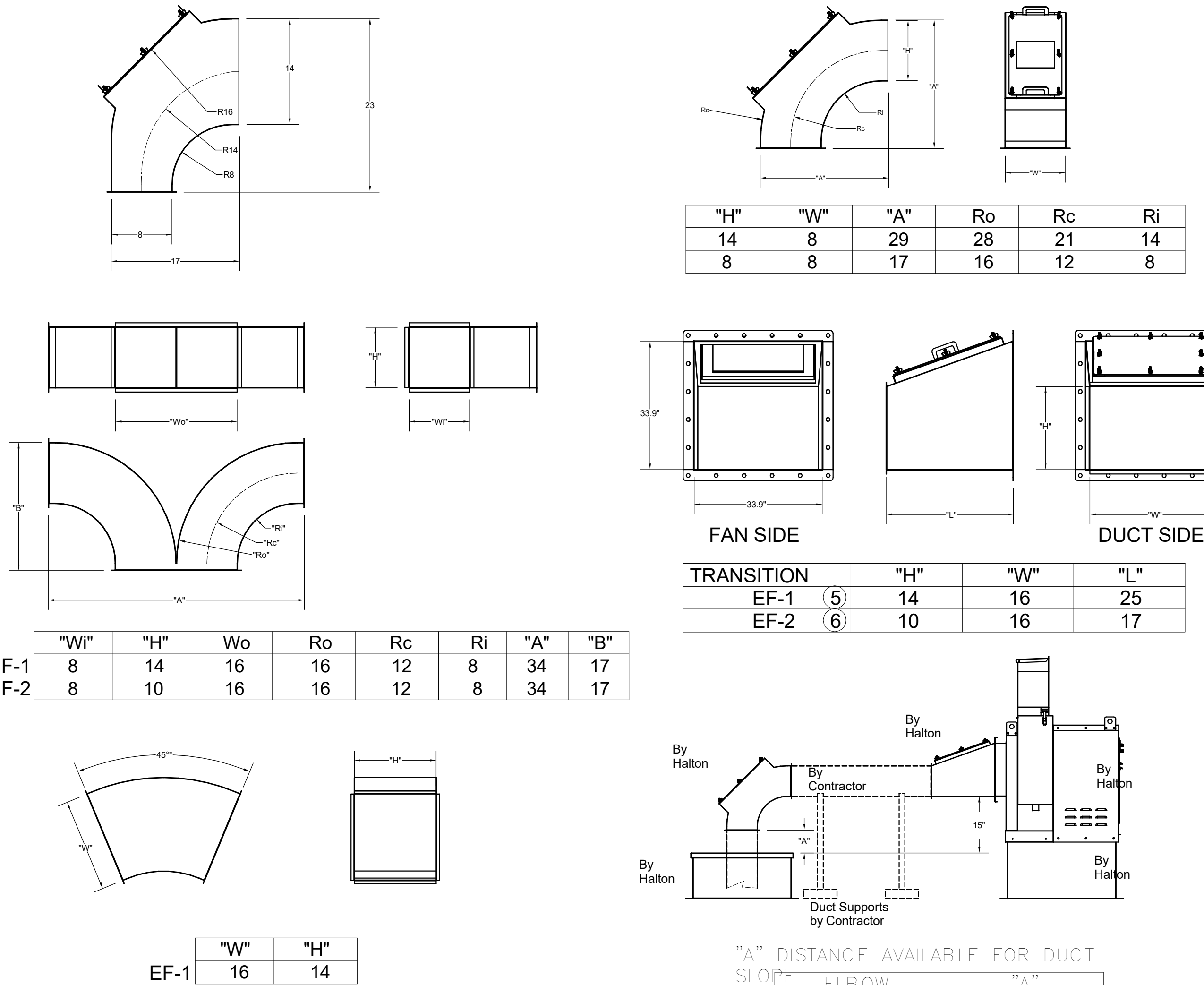


| MODEL | DOOR | | | | |
|---------|------|-----|------|-----|------|
| | "A" | "B" | "C" | "E" | "F" |
| KAP0715 | 7 | 15 | FLAT | 5.5 | 13.5 |
| KAP1015 | 10 | 15 | 1/2 | 7 | 12 |

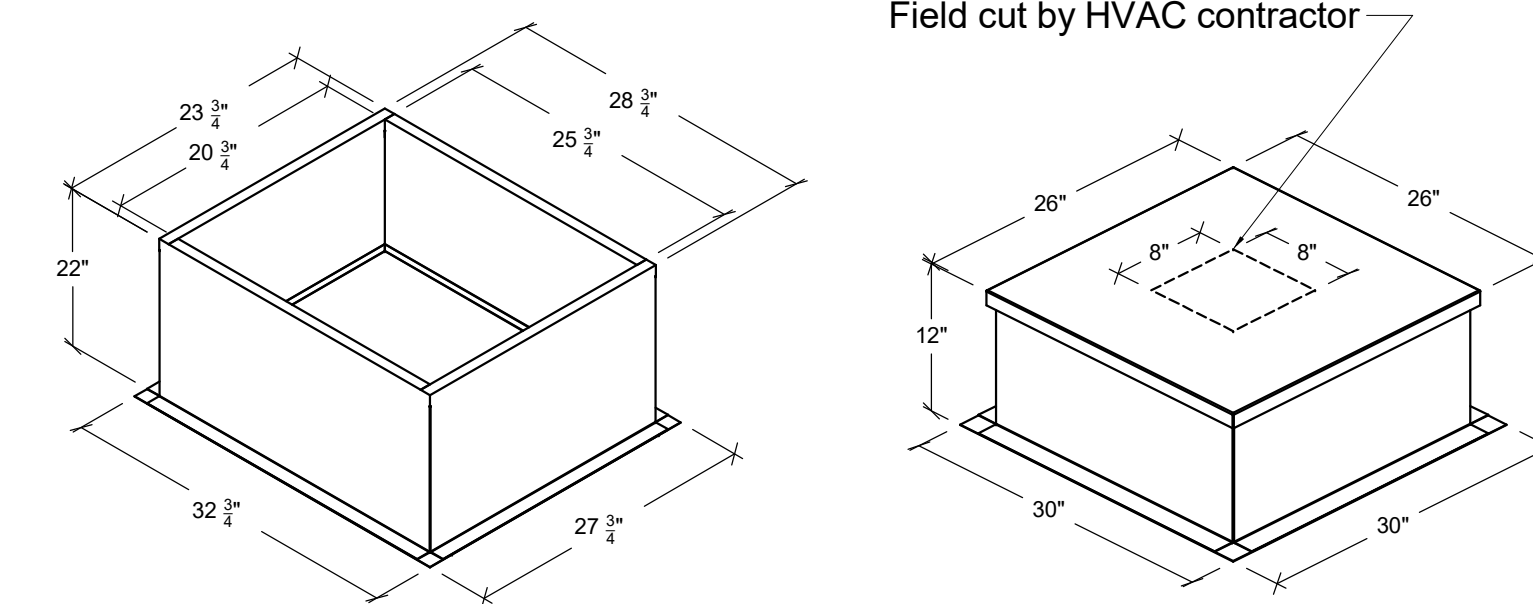
ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEREK GASKET MATERIAL.



INSTALL PER MANUFACTURER'S INSTRUCTIONS

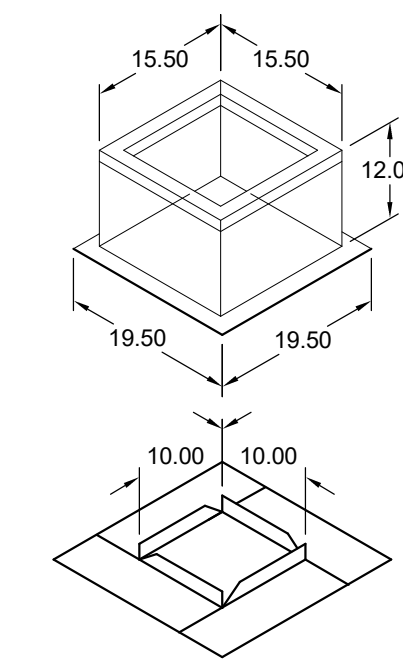


Halton Kitchen Exhaust Fan Curb Insulated Duct Curb



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

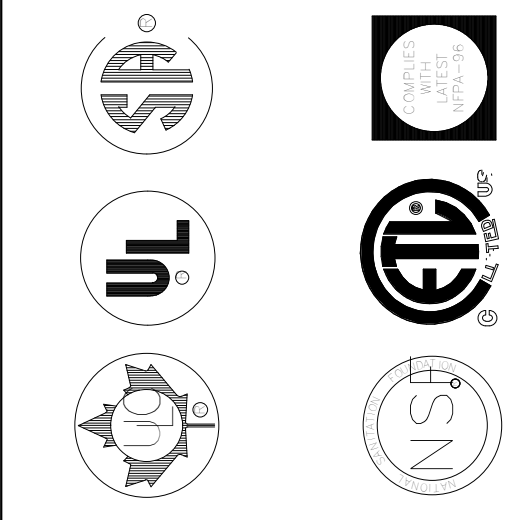
Insulated Duct Curb Standard Construction Features:
 - Duct Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of 18 ga aluminum steel - Straight Sided without a cant - 2 in. mounting flange - Height is 12 in. - 16 ga. cap



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

| 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 Length (in.) | Actual Inside 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 | |



MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW WEBSITE: WWW.HALTONCOMPANY.COM

HALTON CO. (USA)
 101 INDUSTRIAL DRIVE
 SCOTTSVILLE, KY 42764
 1-270-237-5600

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

PROJECT: CHICK-FL-A

LOCATION: Stafford & Heard FSU
 DRAWN BY: NTS
 DATE: 02/14/2025
 SCALE: Halton Dwg.

Sheet MH-1.4



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

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



CHICK-FIL-A
 Stafford & Heard FSU
 99 Stafford Street
 Worcester, MA 01603

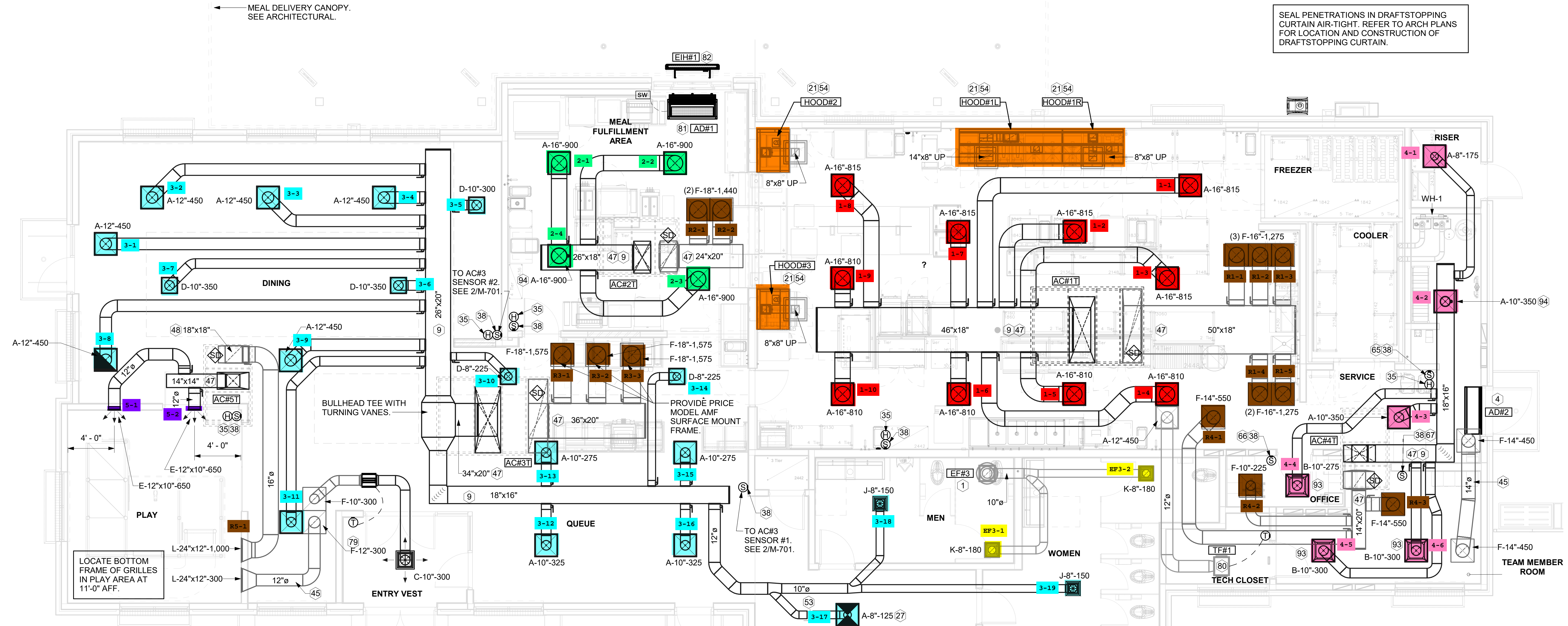
FSR#05916
 BUILDING TYPE / SIZE: P-14 LS BN
 RELEASE: 24.05

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REVISION SCHEDULE

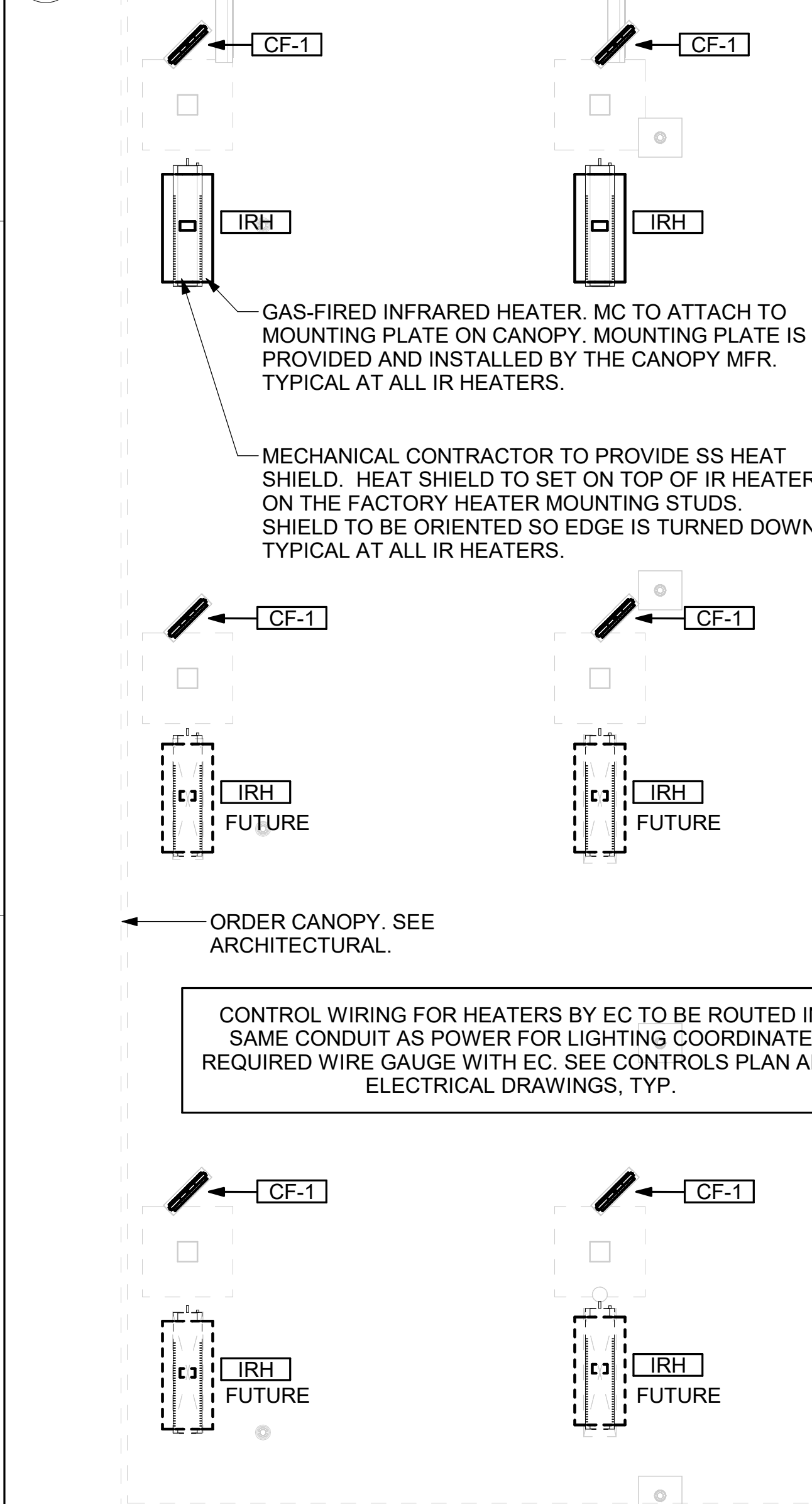
| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |

CONSULTANT PROJECT # 25010.CD.S
 DATE 02/14/2025
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EQUIPMENT AND DUCTWORK PLAN - TRANE
 SHEET NUMBER
M-101T

SEAL PENETRATIONS IN DRAFTSTOPPING CURTAIN AIR-TIGHT. REFER TO ARCH PLANS FOR LOCATION AND CONSTRUCTION OF DRAFTSTOPPING CURTAIN.



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 | 6,375 | 1,750 | 0 | |
| AC#2T | 3,600 | 4,375 | 720 | 0 | |
| AC#3T | 6,125 | 3,975 | 1,400 | 0 | |
| AC#4T | 1,750 | 1,325 | 425 | 0 | |
| AC#5T | 1,300 | 1,325 | 300 | 0 | |
| EF#1 | 0 | 0 | 0 | 1,913 | |
| EF#2 | 0 | 0 | 0 | 1,402 | |
| EF#3 | 0 | 0 | 0 | 360 | |
| | 20,900 | 17,375 | 4,595 | 3,675 | 920 |

FANS SHALL HAVE MINIMUM 2 STAGES OF FAN CONTROL. VALUES SHOWN IN TABLE ABOVE ARE FOR FULL FAN SPEED. MINIMUM FAN SPEED FOR LOW COOLING OR ECONOMIZER SHALL BE SET AT 66% OF VALUE SHOWN IN TABLE ABOVE. OUTSIDE AIR VALUES SHOWN IN TABLE ABOVE SHALL REMAIN THE SAME AT ALL FAN SPEEDS.

H.E.S. SYSTEM

MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-701 FOR MORE INFORMATION.

KEY NOTES

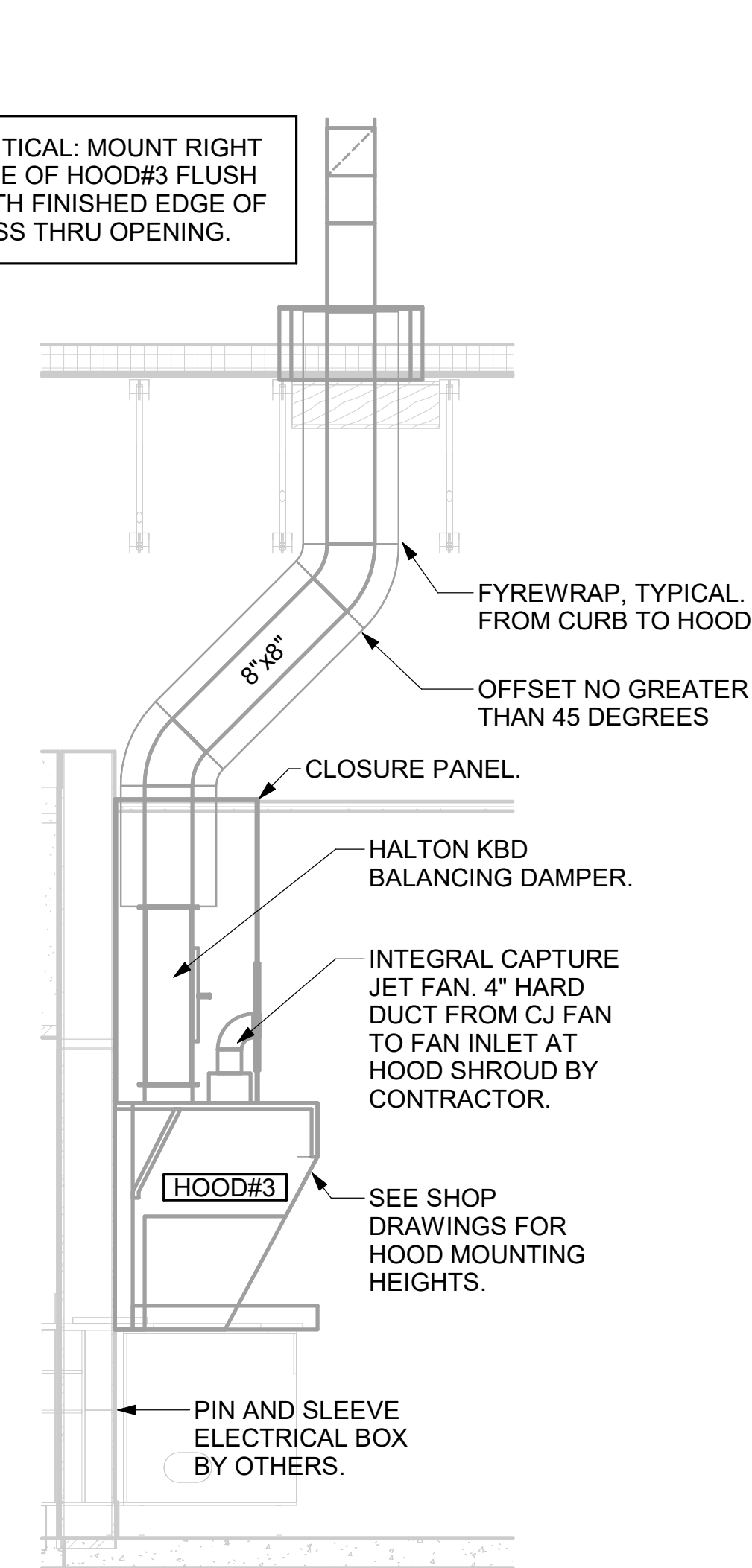
- 10" UP THRU ROOF.
- AIR CURTAIN MOUNTED OVER DOOR HEADER AT 7'-2" AFF TO BOTTOM OF UNIT. PROVIDE BLOCKING IN WALL BEHIND AIR CURTAIN. USE FACTORY PRE-PUNCHED MOUNTING HOLES ON BACK SIDE OF AIR CURTAIN ONLY. ATTACH AIR CURTAIN TO WALL USING 3/8" LAG BOLTS. LENGTH AS REQUIRED TO FULLY PENETRATE BLOCKING. LOCATE MAGNETIC CONTACT TYPE MICROSWITCH IN DOOR FRAME ON STRIKE SIDE.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
- MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
- MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.
- TRANSFER AIR DUCT. NO BALANCING DAMPERS AT GRILLES.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE SUPPLY DUCT, PROVIDE ELBOWS WITH TURNING VANES. WHERE RETURN DUCT, NO TURNING VANES IN ELBOWS. HORIZONTAL DUCT MINIMUM 10" ABOVE CEILING TO BOTTOM OF DUCT.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. STOP VERTICAL DROP A MINIMUM OF 10" ABOVE CEILING.
- RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
- SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- TO AC#4, SENSOR #1. SEE 2/M-701.
- TO AC#4, SENSOR #2. SEE 2/M-701.
- TO AC#4, SENSOR #3. SEE 2/M-701.
- PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT, OCCUPIED/UNOCCUPIED TERMINALS. MOUNT THERMOSTAT ON WALL AT 4'-0" AFF. OCCUPIED SETPOINTS: 75 DEG. F COOLING, 69 DEG. F HEATING; UNOCCUPIED SETPOINTS: 85 DEG. F COOLING, 55 DEG. F HEATING.
- CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN. MOUNT THERMOSTAT FOR RECIRCULATING FAN ON WALL AT 4'-0" AFF.
- MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.
- ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 50 CFM.
- TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK. TYP.

Autodesk Docs://MA_05916_Stafford & Heard FSU_2024.6_FSR#05916_Stafford & Heard FSU_K&A_MEC.rvt
 2/14/2025 8:15:47 AM
 30-LS-05916-M-101T-EQUIPMENT AND DUCTWORK PLAN - TRANE

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

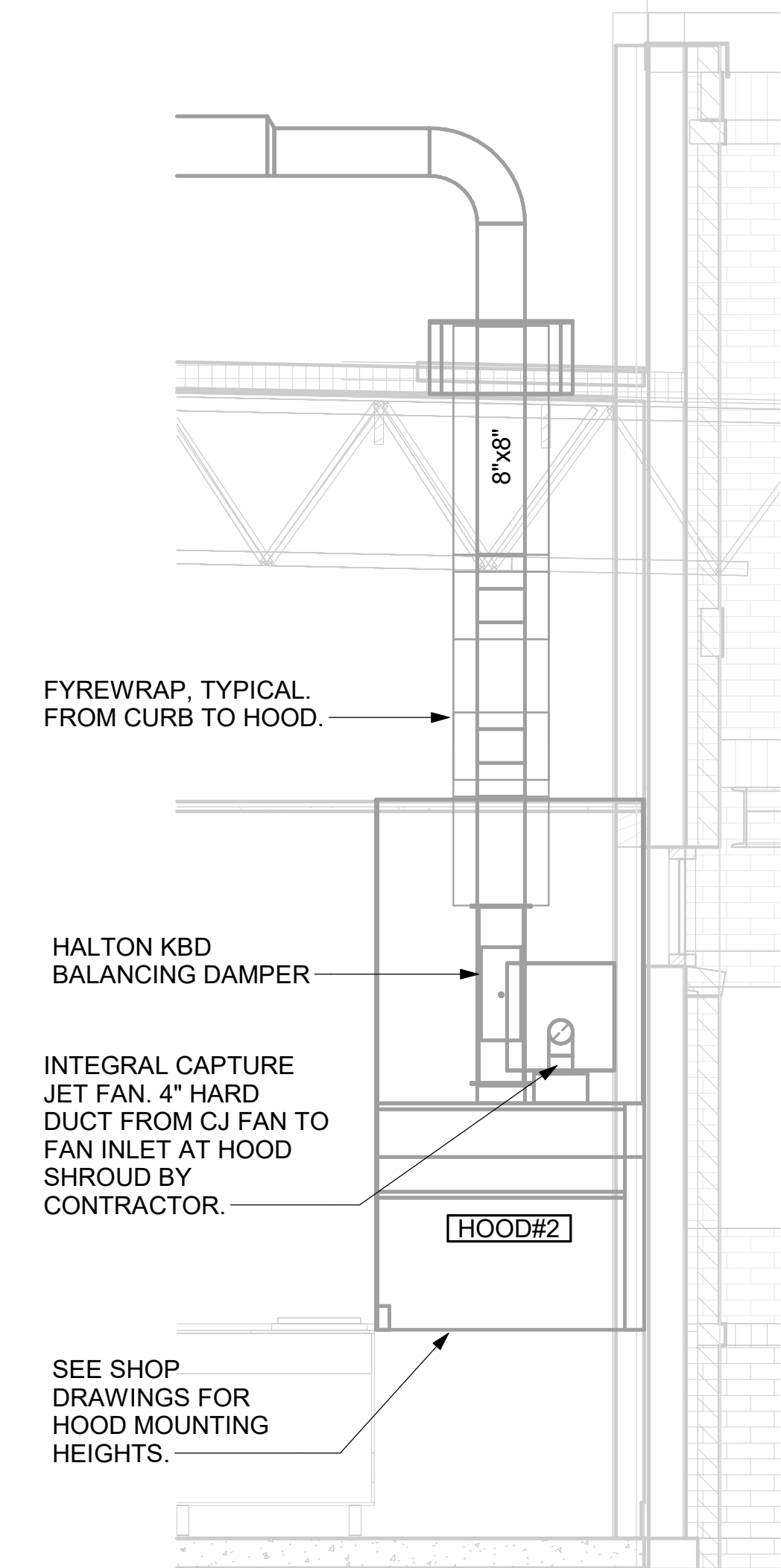
CLEANOUT DOOR NOTE:
 DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.

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



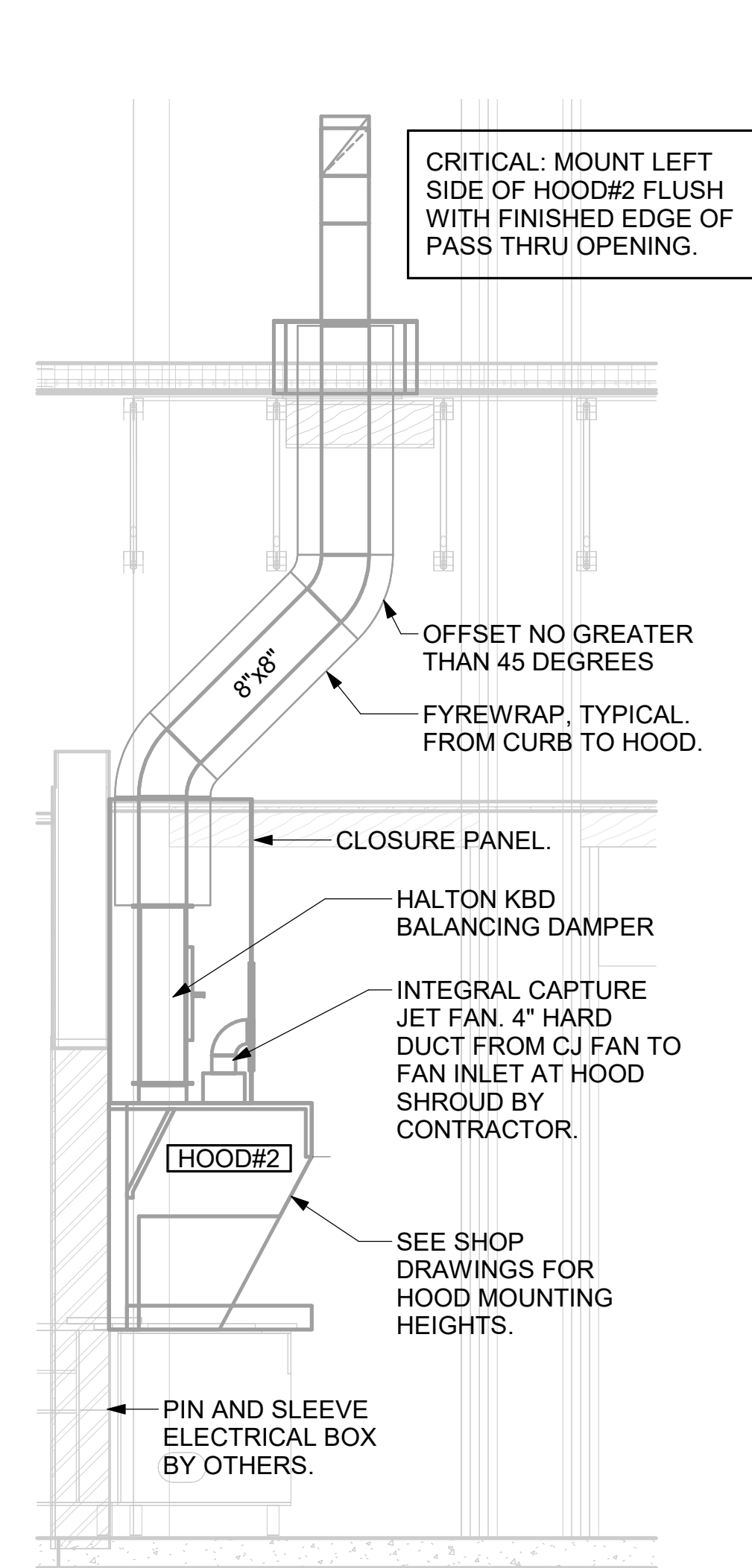
6 HOOD ELEVATION - HOOD#3
 NOT TO SCALE

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

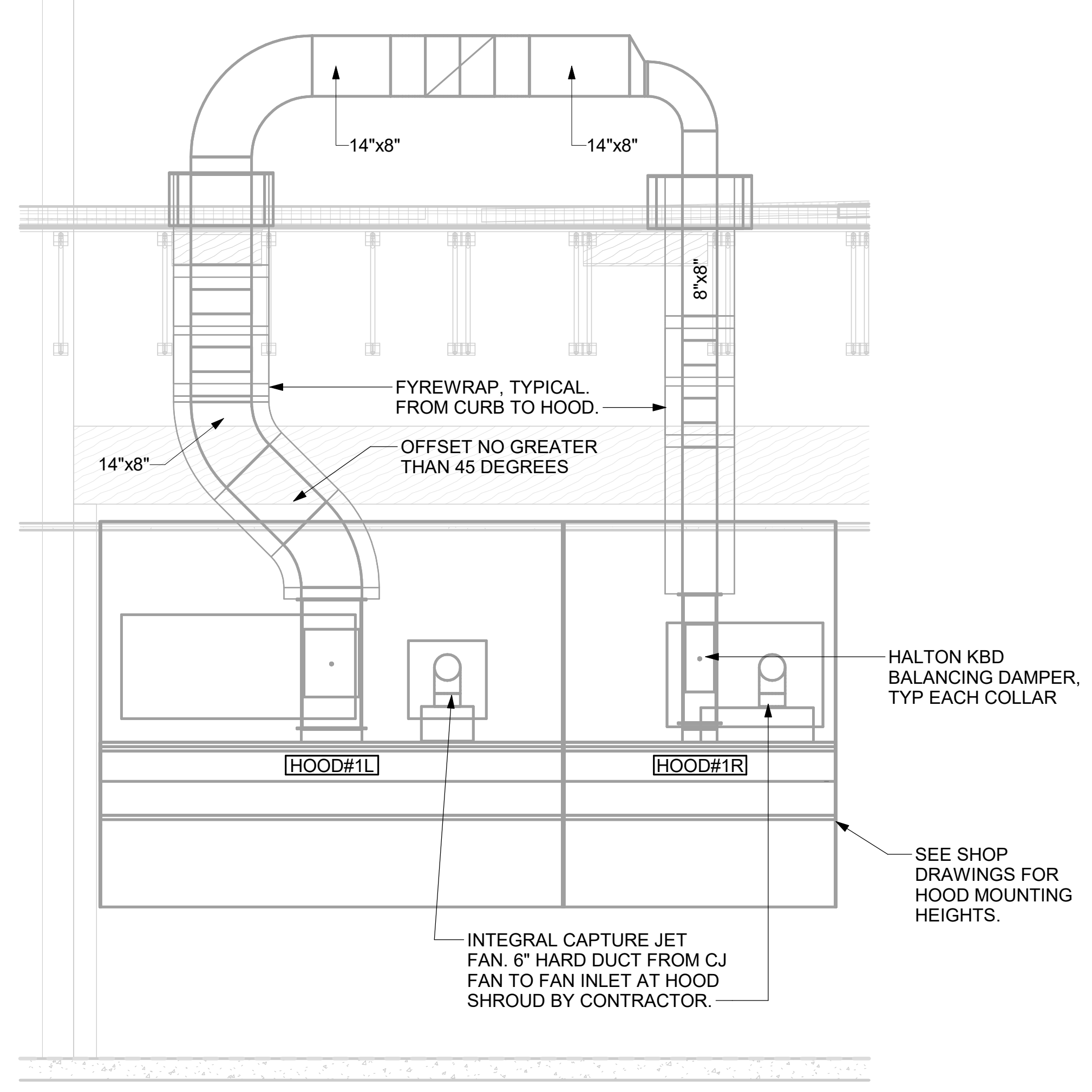


5 HOOD ELEVATION - HOOD#2 - FRONT
 NOT TO SCALE

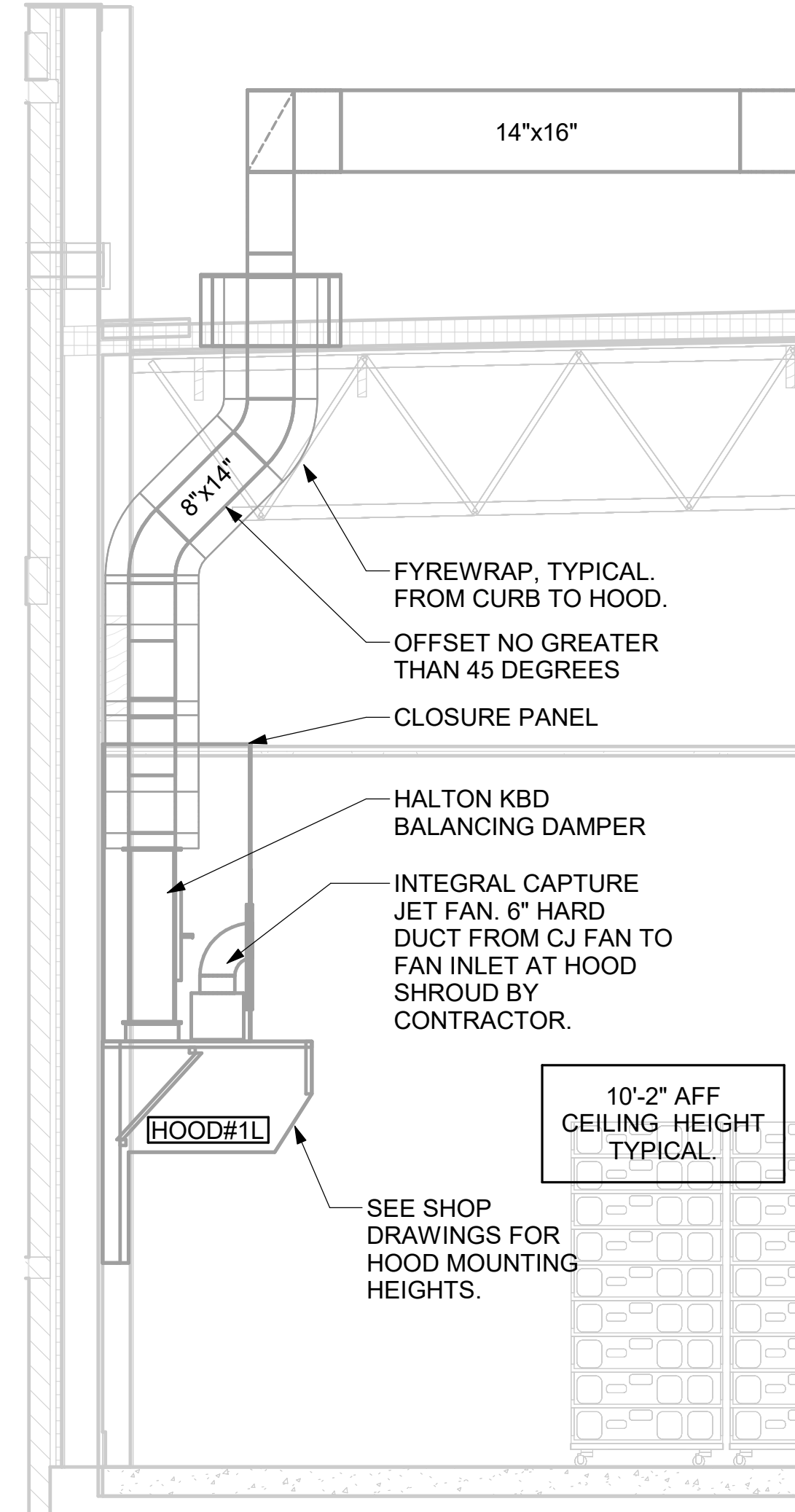
CRITICAL: MOUNT LEFT SIDE OF HOOD#2 FLUSH WITH FINISHED EDGE OF PASS THRU OPENING.



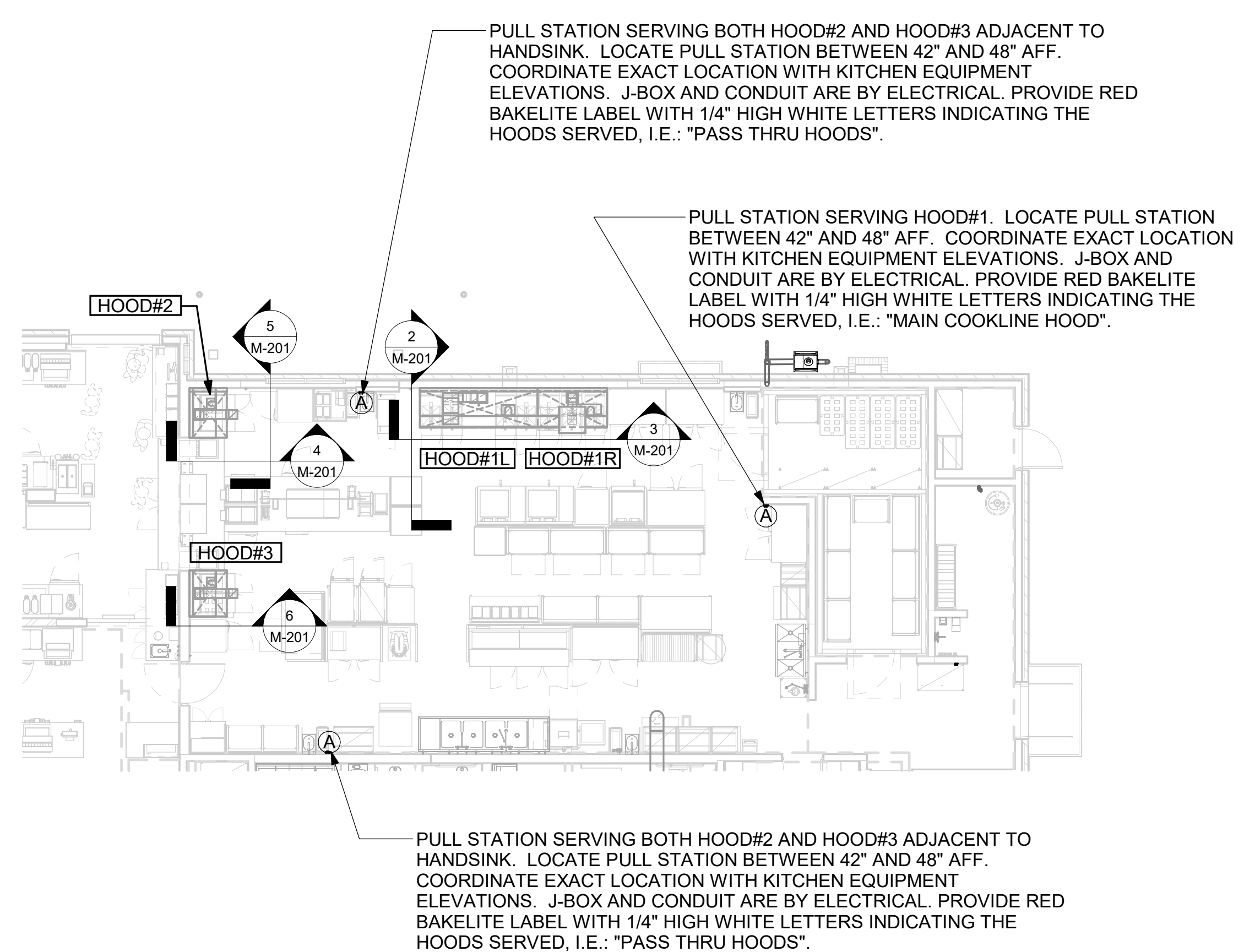
4 HOOD ELEVATION - HOOD#2 - SIDE
 NOT TO SCALE



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



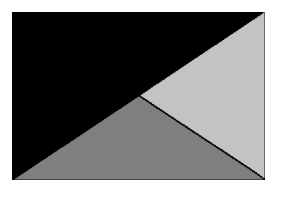
2 HOOD ELEVATION - HOOD#1 - SIDE
 NOT TO SCALE



1 HOOD LAYOUT
 NOT TO SCALE



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



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



6/20/25

CHICK-FIL-A
 Stafford & Heard FSU
 99 Stafford Street
 Worcester, MA 01603

FSR#05916

BUILDING TYPE / SIZE: P-14 LS BN
 RELEASE: 24.05
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ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25010.CD.S
 DATE 06/20/2025
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SHEET EXHAUST HOOD ELEVATIONS

SHEET NUMBER **M-201**

DIVISION 15 SPECIFICATIONS

PART I - GENERAL

1.01 SCOPE

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

PART II - PRODUCTS

2.01 HEATING AND COOLING EQUIPMENT

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

2.02 DUCTWORK (C15735)

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

2.03 CONTROLS

- A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 877-544-6879). 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 ALUMINIUM 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 OXA 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.

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.).

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 FYREWAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWAP 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.

LEGEND

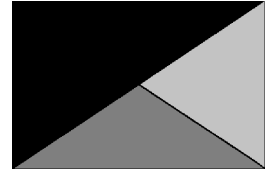
| A-12-400 | TYPE - NECK SIZE - CFM | EF#1 | EXHAUST FAN #1 (TYP.) |
|----------|---|------|---------------------------------|
| | SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP | AC#1 | AIR CONDITIONING UNIT #1 (TYP.) |
| | SPIN-IN HARD FLEXIBLE DIFFUSER | | RETURN/EXHAUST (TYP.) |
| | 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 |
| | | | CLOSED AIR PATTERN DEFLECTOR |
| | AIR DOOR SWITCH | | GAS INFRARED HEATER (TYP.) |
| | ELECTRIC INFRARED HEATER | | BELOW GRADE |
| | | | 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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6/20/25

CHICK-FIL-A
Stafford & Heard FSU

99 Stafford Street
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FSR#05916

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

M-001

IECC COMMISSIONING REQUIREMENTS FOR MECHANICAL

IECC COMMISSIONING REQUIREMENTS

C408.1 MECHANICAL SYSTEMS SHALL BE DOCUMENTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS.

C408.1.1 - PROVIDE AN OPERATION AND MAINTENANCE MANUAL WHICH INCLUDES THE FOLLOWING:

1. PROVIDE HVAC EQUIPMENT SUBMITTAL DATA.
2. PROVIDE MANUFACTURER'S OPERATION AND MAINTENANCE MANUALS FOR HVAC EQUIPMENT. ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
3. PROVIDE THE NAME AND ADDRESS OF AT LEAST ONE HVAC SERVICE AGENCY.
4. PROVIDE HVAC CONTROL SYSTEM MAINTENANCE AND CALIBRATION INFORMATION INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCES. TENANT DESIRED DRAWINGS AT CONTROL DEVICES OR IN SYSTEM PROGRAMMING INSTRUCTIONS.
5. PROVIDE A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SETPOINTS.

C408.2 COMMISSIONING OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS.

C408.2.1 - A COMMISSIONING PLAN SHALL BE DEVELOPED IN ACCORDANCE WITH THIS SECTION AND SHALL INCLUDE THE FOLLOWING ITEMS.

1. A NARRATIVE DESCRIPTION OF THE ACTIVITIES TO BE PERFORMED.
2. A LIST OF THE SYSTEMS AND EQUIPMENT REQUIRED TO BE COMMISSIONED.
3. A LIST OF THE TEST FUNCTIONS TO BE PERFORMED ON THE CORRESPONDING EQUIPMENT.
4. CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED.
5. MEASURABLE CRITERIA FOR PERFORMANCE.

C408.2.2 - MECHANICAL SYSTEMS SHALL UNDERGO TEST AND BALANCE AND SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS AS WELL AS THE 2018 IECC. AIR AND WATER FLOW RATES SHALL BE MEASURED AND ADJUSTED TO DELIVER FINAL FLOW RATES WITHIN THE TOLERANCES PROVIDED IN THE CONSTRUCTION SPECIFICATIONS.

C408.2.2.1 - CONDUCT AIR SYSTEMS TEST AND BALANCE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION AND THE CONSTRUCTION SPECIFICATIONS.

C408.2.2.2 - CONDUCT WATER SYSTEMS TEST AND BALANCE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION AND THE CONSTRUCTION SPECIFICATIONS.

C408.2.3 - PERFORM FUNCTIONAL PERFORMANCE TESTING IN ACCORDANCE WITH THE FOLLOWING SECTIONS.

C408.2.3.1 - PERFORM FUNCTIONAL PERFORMANCE TESTING FOR HVAC EQUIPMENT IN ORDER TO DEMONSTRATE THE OPERATION OF COMPONENTS, SYSTEM AND SYSTEM-TO-SYSTEM INTERACTION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER REQUIREMENTS. TESTING SHALL INCLUDE FULL-LOAD, PART-LOAD, AND EMERGENCY OPERATING CONDITIONS AND SHALL COVER ALL OPERATING MODES LISTED IN THE SEQUENCE OF OPERATIONS AS DEFINED IN THE CONSTRUCTION DOCUMENTS.

C408.2.3.2 - HVAC SYSTEMS SHALL BE TESTED IN ORDER TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED AND ADJUSTED TO OPERATE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS. HVAC CONTROL SYSTEMS SHALL BE TESTED FOR ALL OPERATING MODES LISTED IN THE SEQUENCE OF OPERATIONS AS DEFINED IN THE CONSTRUCTION DOCUMENTS.

C408.2.3.3 - AIRSIDE ECONOMIZERS SHALL UNDERGO FUNCTIONAL PERFORMANCE TESTING IN ORDER TO ENSURE OPERATIONAL MODES ARE FUNCTIONING IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

C408.2.4 - COMPLETE A PRELIMINARY COMMISSIONING REPORT OUTLINING TEST PROCEDURES AND RESULTS IN ACCORDANCE WITH THIS SECTION. THE REPORT SHALL IDENTIFY:

1. ITEMIZATION OF DEFICIENCIES FOUND DURING TESTING REQUIRED BY THIS SECTION THAT HAVE NOT BEEN CORRECTED AT THE TIME OF REPORT PREPARATION.
2. DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF THE REPORT PREPARATION DUE TO CLIMATIC CONDITIONS.
3. CLIMATIC CONDITIONS REQUIRED FOR PERFORMANCE OF THE DEFERRED TESTS.
4. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
5. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS, INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.

C408.2.4.1 - THE OWNER SHALL RECEIVE A COPY OF THE PRELIMINARY COMMISSIONING REPORT BEFORE FINAL INSPECTION BY THE CODE OFFICIAL OCCURS.

C408.2.4.2 - THE PRELIMINARY COMMISSIONING REPORT SHALL BE MADE AVAILABLE TO THE PROJECT CODE OFFICIAL UPON REQUEST.

C408.2.5 - COMMISSIONING DOCUMENTATION OUTLINED IN SECTION C408 SHALL BE PROVIDED TO THE OWNER WITHIN 90 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

C408.2.5.1 - PROVIDE AIR AND WATER SYSTEM TEST AND BALANCE REPORTS IN ACCORDANCE WITH SECTION C408.2.2.

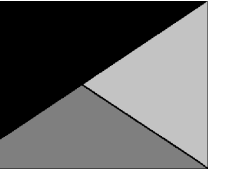
C408.2.5.2 - PROVIDE A FINAL COMMISSIONING REPORT TO THE OWNER INCLUDING THE FOLLOWING:

1. RESULTS OF THE FUNCTIONAL TESTS.
2. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
3. FUNCTIONAL PERFORMANCE TESTING PROCEDURES USED DURING THE COMMISSIONING PROCESS, INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE, PROVIDED FOR REPEATABILITY.
4. LIST OUT ANY DEFERRED TESTS STILL OUTSTANDING DUE TO CLIMATIC CONDITIONS.

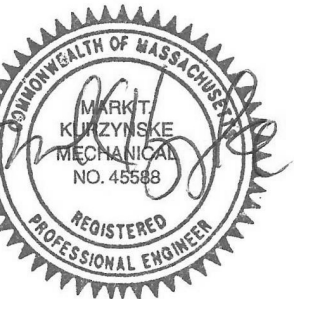
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30-LS-05916-M-002-COMMISSIONING REQUIREMENTS - MECHANICAL



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FSR#05916

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SHEET

COMMISSIONING

REQUIREMENTS -

MECHANICAL

SHEET NUMBER

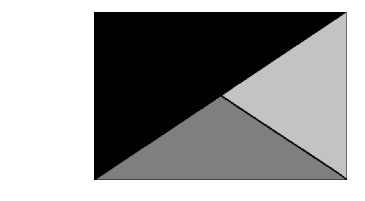
M-002

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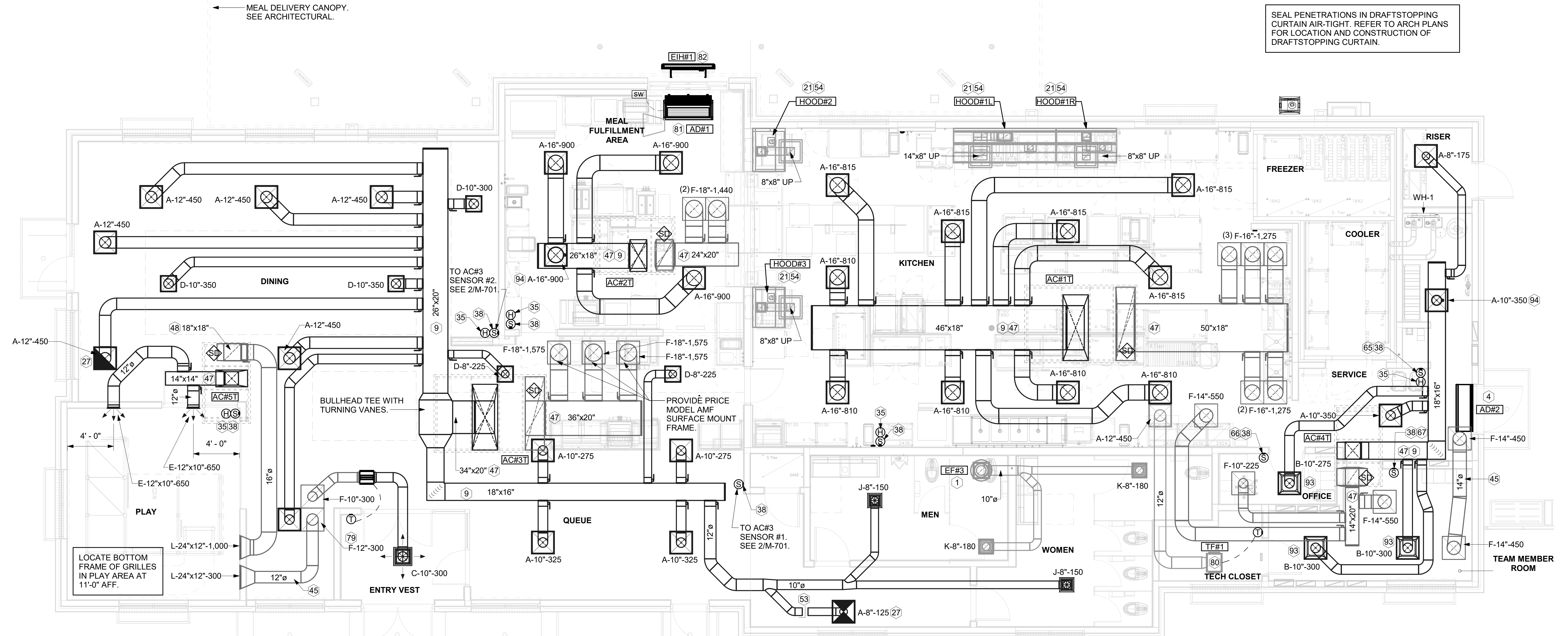
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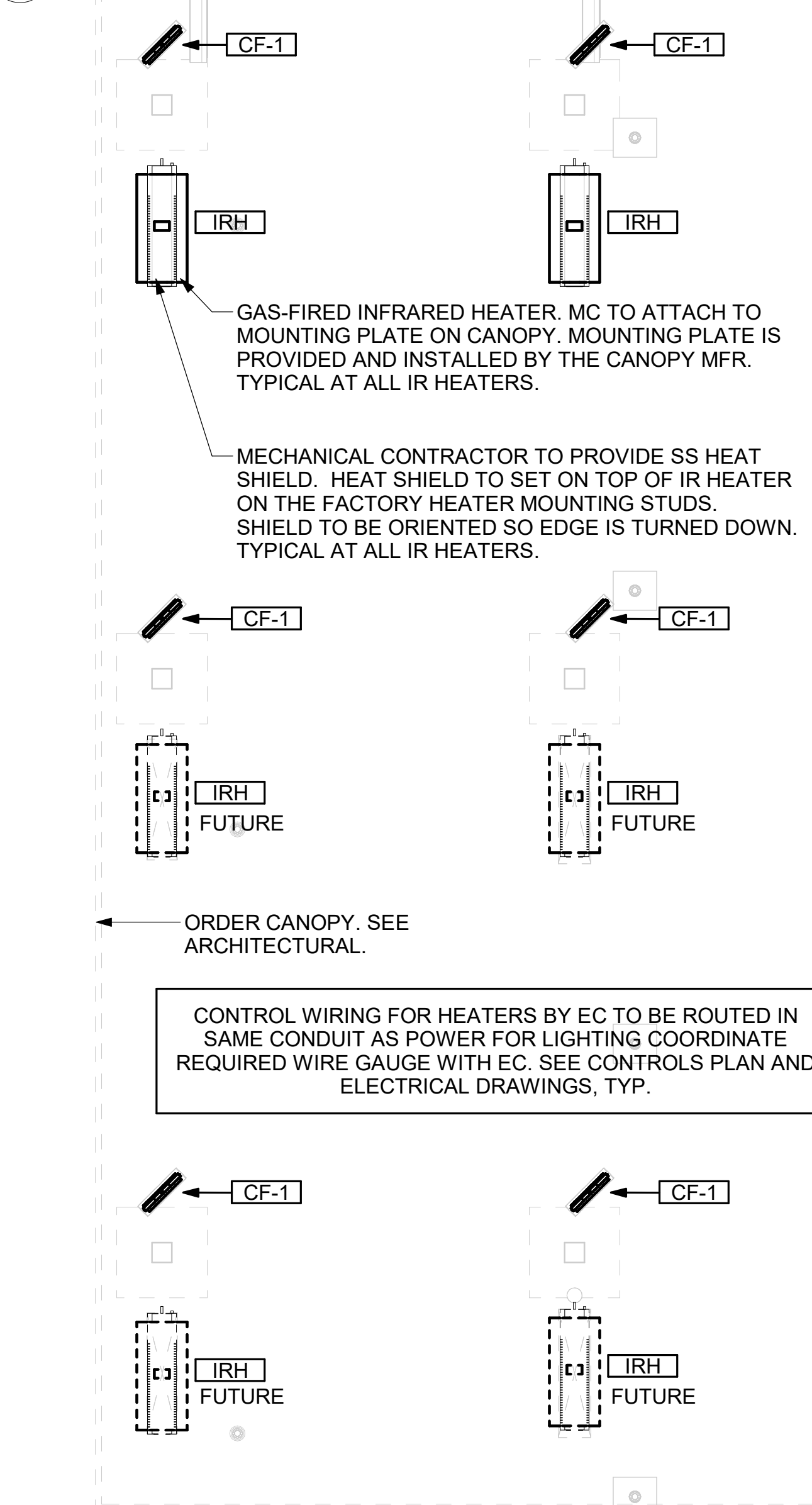
SHEET
EQUIPMENT AND
DUCTWORK PLAN -
TRANE
SHEET NUMBER

M-101T

SEAL PENETRATIONS IN DRAFTSTOPPING CURTAIN AIR-TIGHT. REFER TO ARCH PLANS FOR LOCATION AND CONSTRUCTION OF DRAFTSTOPPING CURTAIN.



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



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

| Mark | SUPPLY AIR | RETURN AIR | OUTSIDE AIR | EXHAUST AIR | BUILDING POSITIVE PRESSURE | |
|-------|------------|------------|-------------|-------------|----------------------------|-----|
| AC#1T | 8,125 | 6,375 | 1,750 | 0 | | |
| AC#2T | 3,600 | 4,375 | 720 | 0 | | |
| AC#3T | 6,125 | 3,975 | 1,400 | 0 | | |
| AC#4T | 1,750 | 1,325 | 425 | 0 | | |
| AC#5T | 1,300 | 1,325 | 300 | 0 | | |
| EF#1 | 0 | 0 | 0 | 1,913 | | |
| EF#2 | 0 | 0 | 0 | 1,402 | | |
| EF#3 | 0 | 0 | 0 | 360 | | |
| | 20,900 | 17,375 | 4,595 | 3,675 | | 920 |

FANS SHALL HAVE MINIMUM 2 STAGES OF FAN CONTROL. VALUES SHOWN IN TABLE ABOVE ARE FOR FULL FAN SPEED. MINIMUM FAN SPEED FOR LOW COOLING OR ECONOMIZER SHALL BE SET AT 66% OF VALUE SHOWN IN TABLE ABOVE. OUTSIDE AIR VALUES SHOWN IN TABLE ABOVE SHALL REMAIN THE SAME AT ALL FAN SPEEDS.

H.E.S. SYSTEM
MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-701 FOR MORE INFORMATION.

KEY NOTES

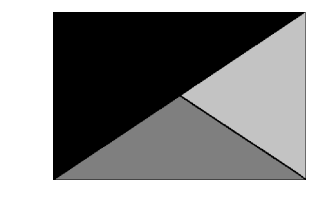
- 10" UP THRU ROOF.
- AIR CURTAIN MOUNTED OVER DOOR HEADER AT 7'-2" AFF TO BOTTOM OF UNIT. PROVIDE BLOCKING IN WALL BEHIND AIR CURTAIN. USE FACTORY PRE-PUNCHED MOUNTING HOLES ON BACK SIDE OF AIR CURTAIN ONLY. ATTACH AIR CURTAIN TO WALL USING 3/8" LAG BOLTS. LENGTH AS REQUIRED TO FULLY PENETRATE BLOCKING. LOCATE MAGNETIC CONTACT TYPE MICROSWITCH IN DOOR FRAME ON STRIKE SIDE.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
- MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
- MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.
- TRANSFER AIR DUCT. NO BALANCING DAMPERS AT GRILLES.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE SUPPLY DUCT, PROVIDE ELBOWS WITH TURNING VANES. WHERE RETURN DUCT, NO TURNING VANES IN ELBOWS. HORIZONTAL DUCT MINIMUM 10" ABOVE CEILING TO BOTTOM OF DUCT.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. STOP VERTICAL DROP A MINIMUM OF 10" ABOVE CEILING.
- RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
- SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- TO AC#4, SENSOR #1. SEE 2/M-701.
- TO AC#4, SENSOR #2. SEE 2/M-701.
- TO AC#4, SENSOR #3. SEE 2/M-701.
- PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT, OCCUPIED/UNOCCUPIED TERMINALS. MOUNT THERMOSTAT ON WALL AT 4'-0" AFF. OCCUPIED SETPOINTS: 75 DEG. F COOLING, 69 DEG. F HEATING; UNOCCUPIED SETPOINTS: 85 DEG. F COOLING, 55 DEG. F HEATING.
- CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN. MOUNT THERMOSTAT FOR RECIRCULATING FAN ON WALL AT 4'-0" AFF.
- MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.
- ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 50 CFM.
- TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK. TYP.

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30-LS-05916-M-101T-EQUIPMENT AND DUCTWORK PLAN - TRANE



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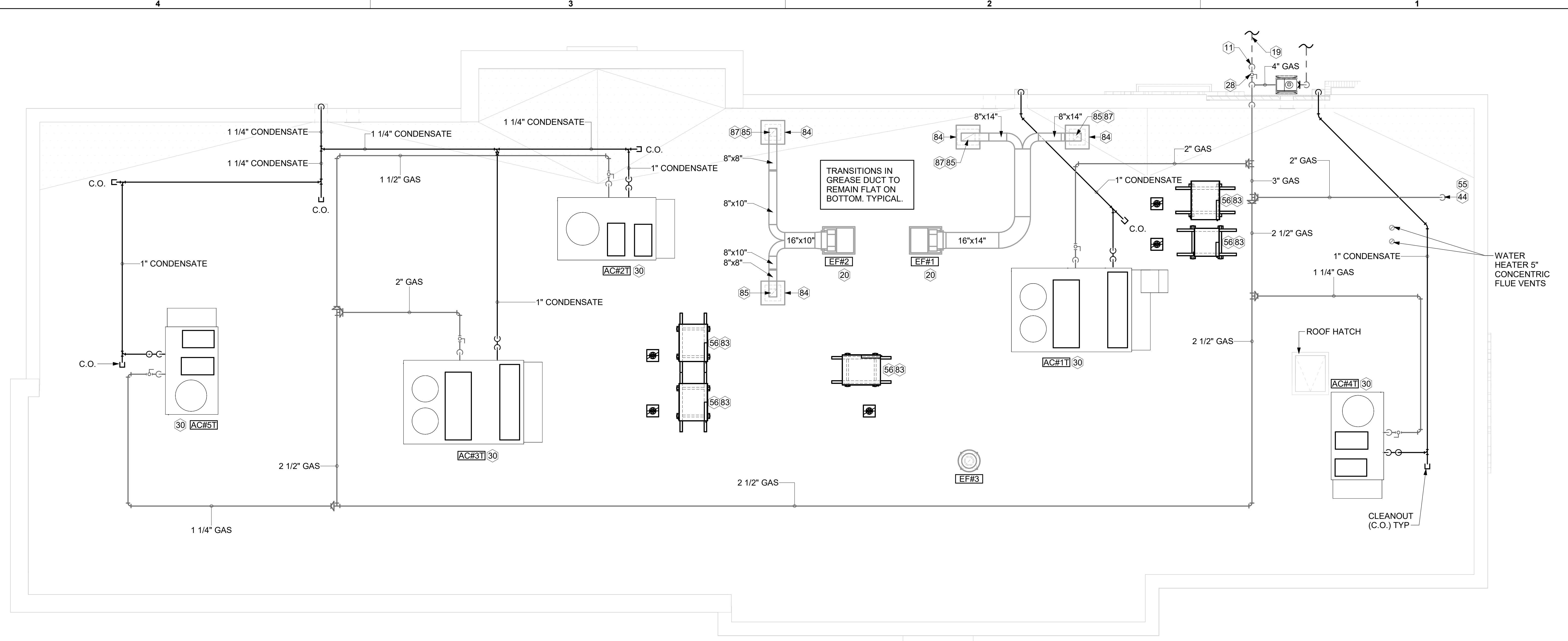
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SHEET
EQUIPMENT ROOF PLAN - TRANE

SHEET NUMBER
M-102T

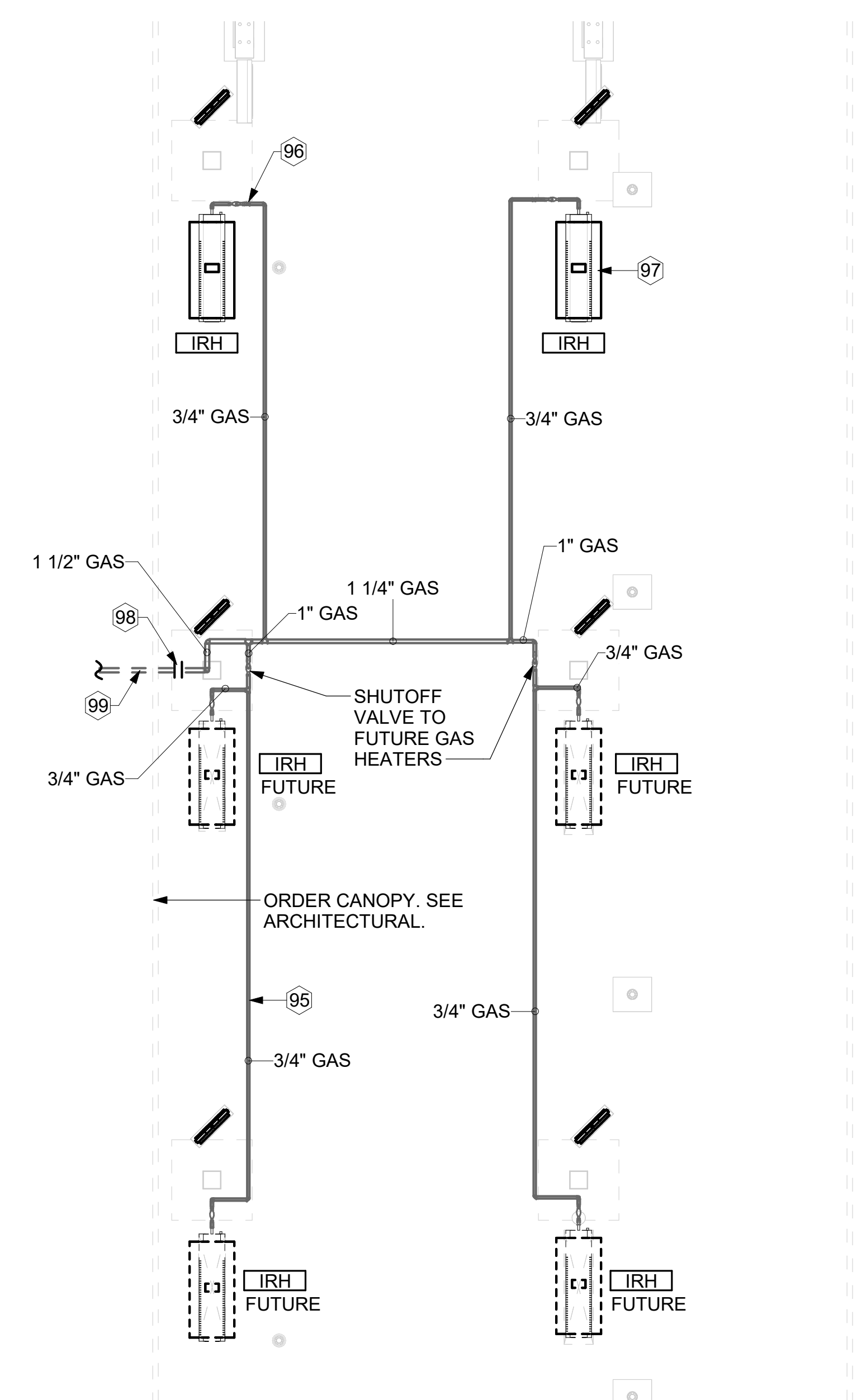


1 EQUIPMENT ROOF PLAN - TRANE
1/4" = 1'-0"

KEY NOTES

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

| 3. GAS LOAD SCHEDULE | |
|---------------------------------|--|
| EQUIPMENT | GAS LOAD |
| AC#1T | 400,000 BTUS |
| AC#2T | 240,000 BTUS |
| AC#3T | 400,000 BTUS |
| AC#4T | 150,000 BTUS |
| AC#5T | 130,000 BTUS |
| IRH (2 @ 50,000 BTU EA.) | 100,000 BTUS |
| IRH (FUTURE 4 @ 50,000 BTU EA.) | 200,000 BTUS |
| WATER HEATER | 398,000 BTUS |
| TOTAL FUTURE CONNECTED LOAD | 2,018,000 BTUS |
| REMARKS: | 1. EQUIVALENT TO 2,018.0 CFH 2. 7" W.C. DELIVERY PRESSURE 3. DEVELOPED LENGTH: 250 FT. (METER TO AC#2) 4. GAS PIPING SIZED FOR FUTURE LOAD 5. PIPE SIZED PER IFGC TABLE 402.4(2) |



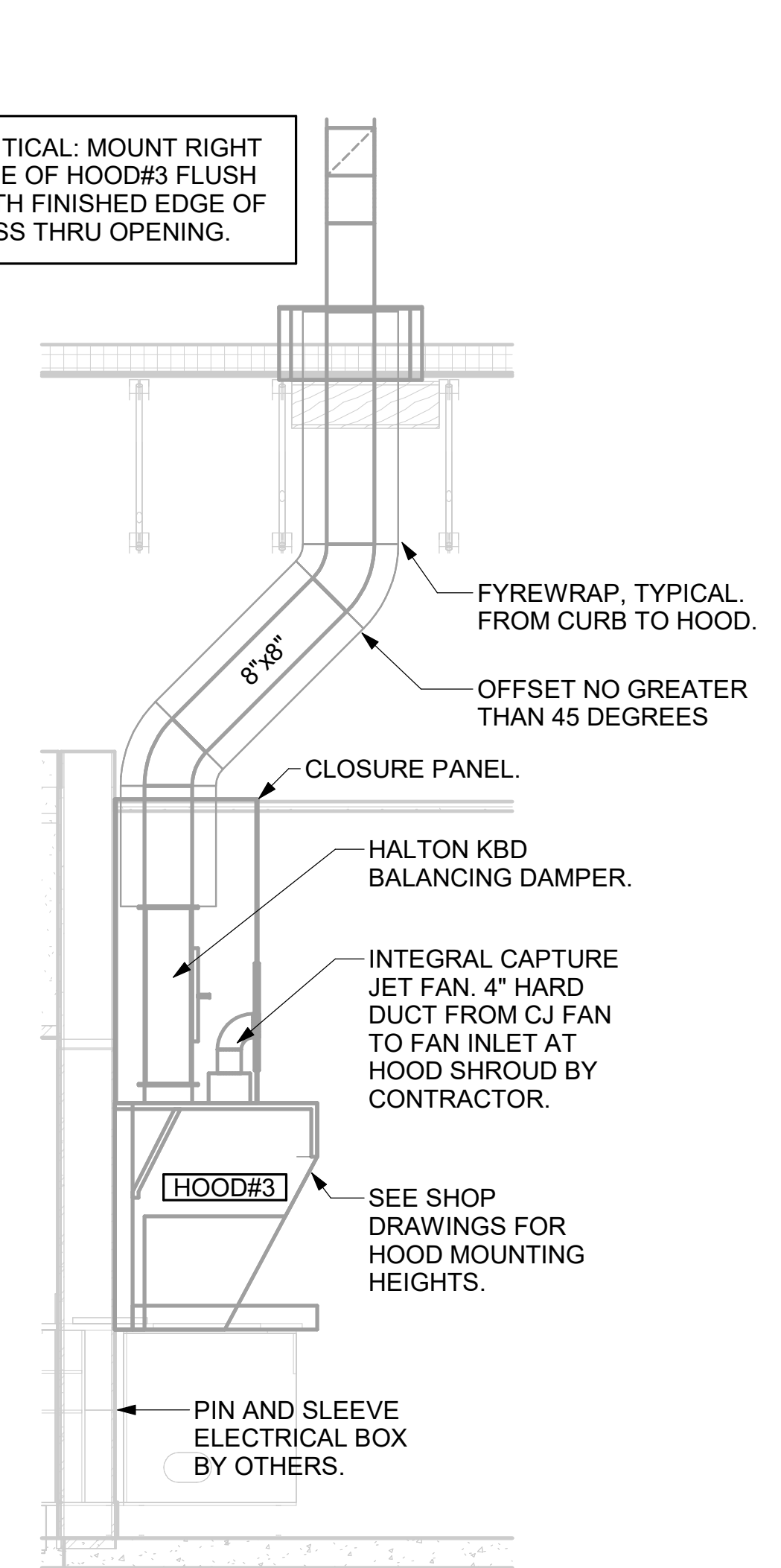
2 ORDER CANOPY GAS PIPING PLAN
1/4" = 1'-0"

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30-LS-05916-M-102T-EQUIPMENT ROOF PLAN - TRANE

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

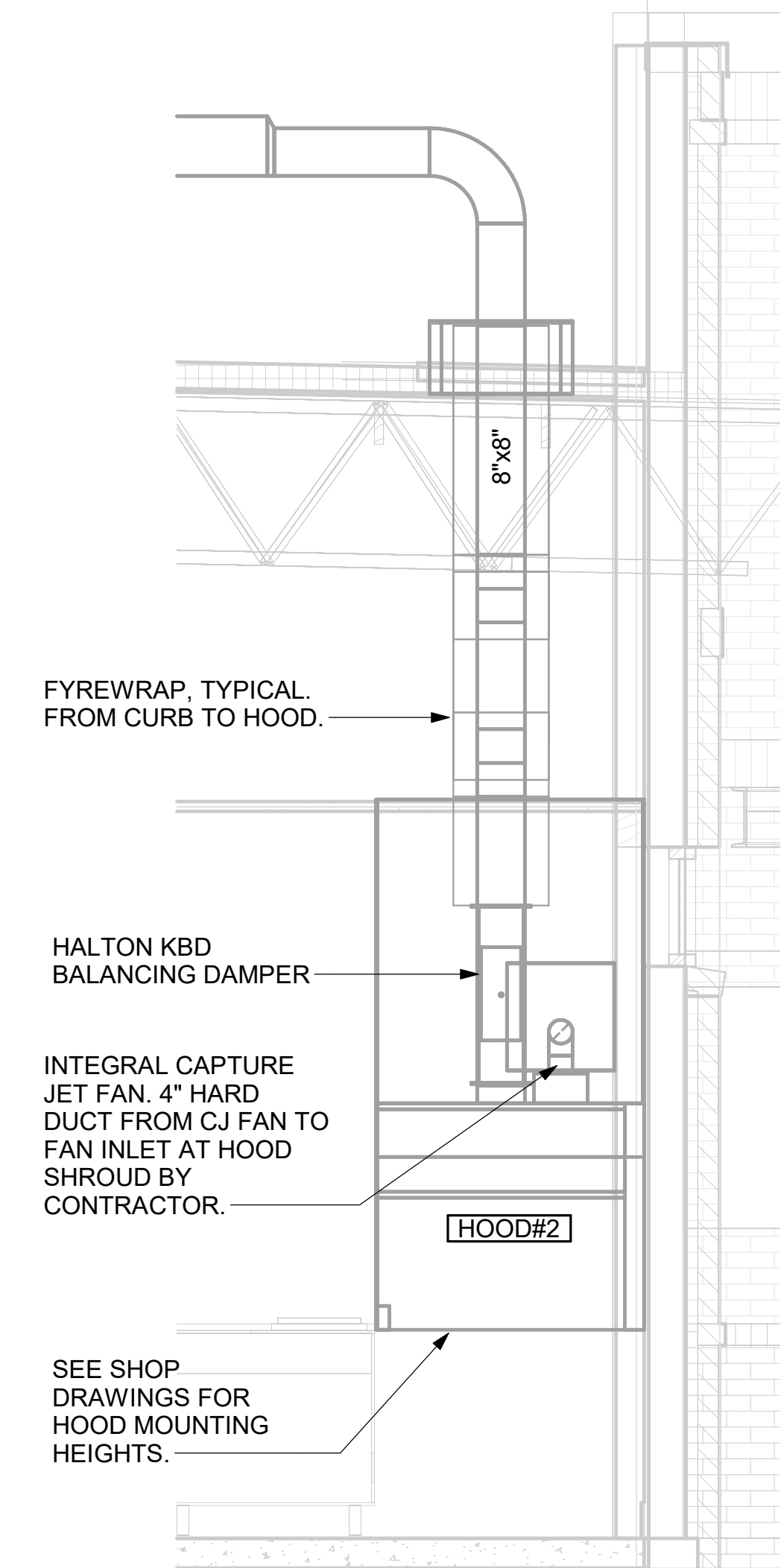
CLEANOUT DOOR NOTE:
 DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.

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



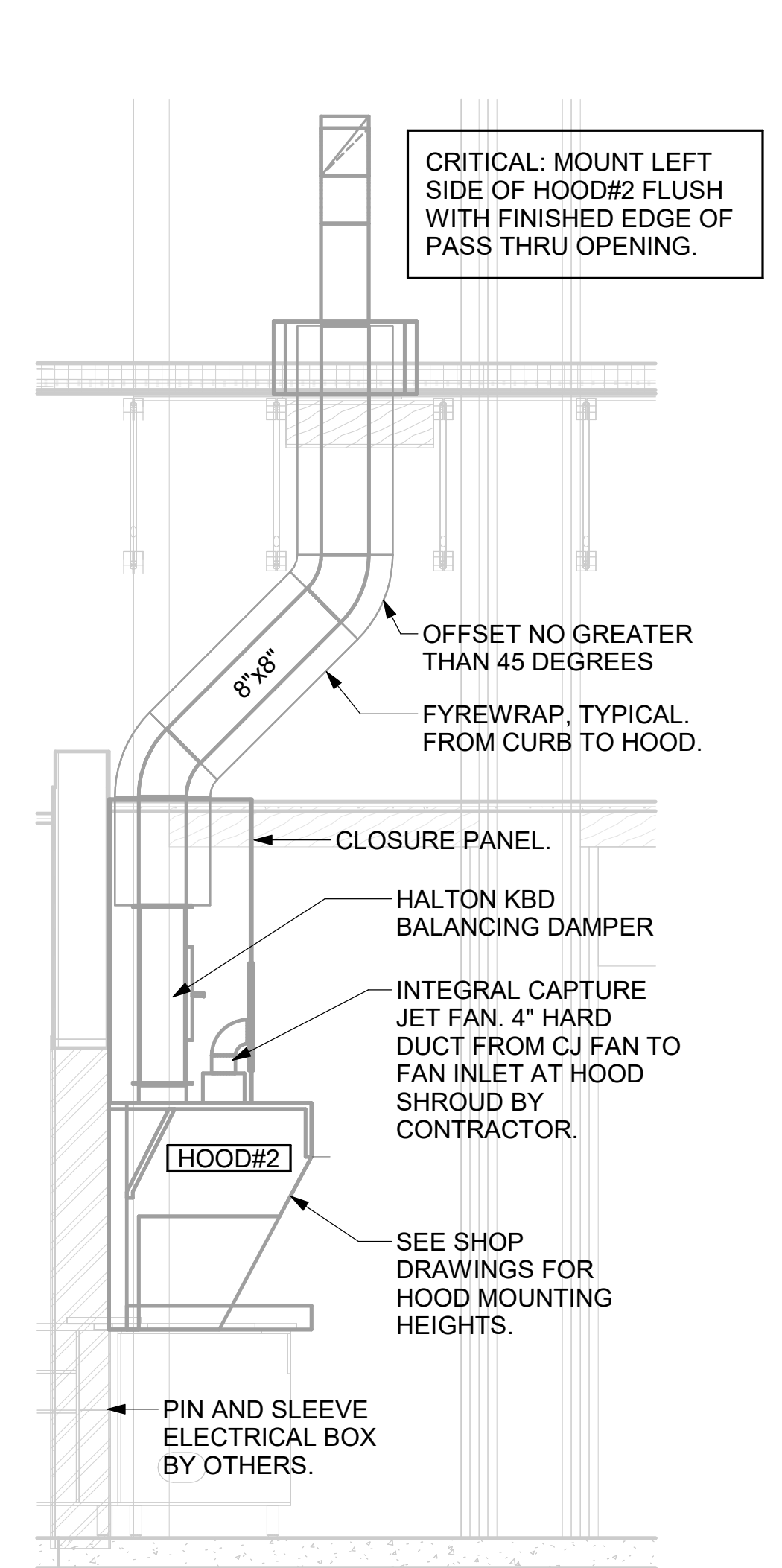
6 HOOD ELEVATION - HOOD#3
 NOT TO SCALE

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

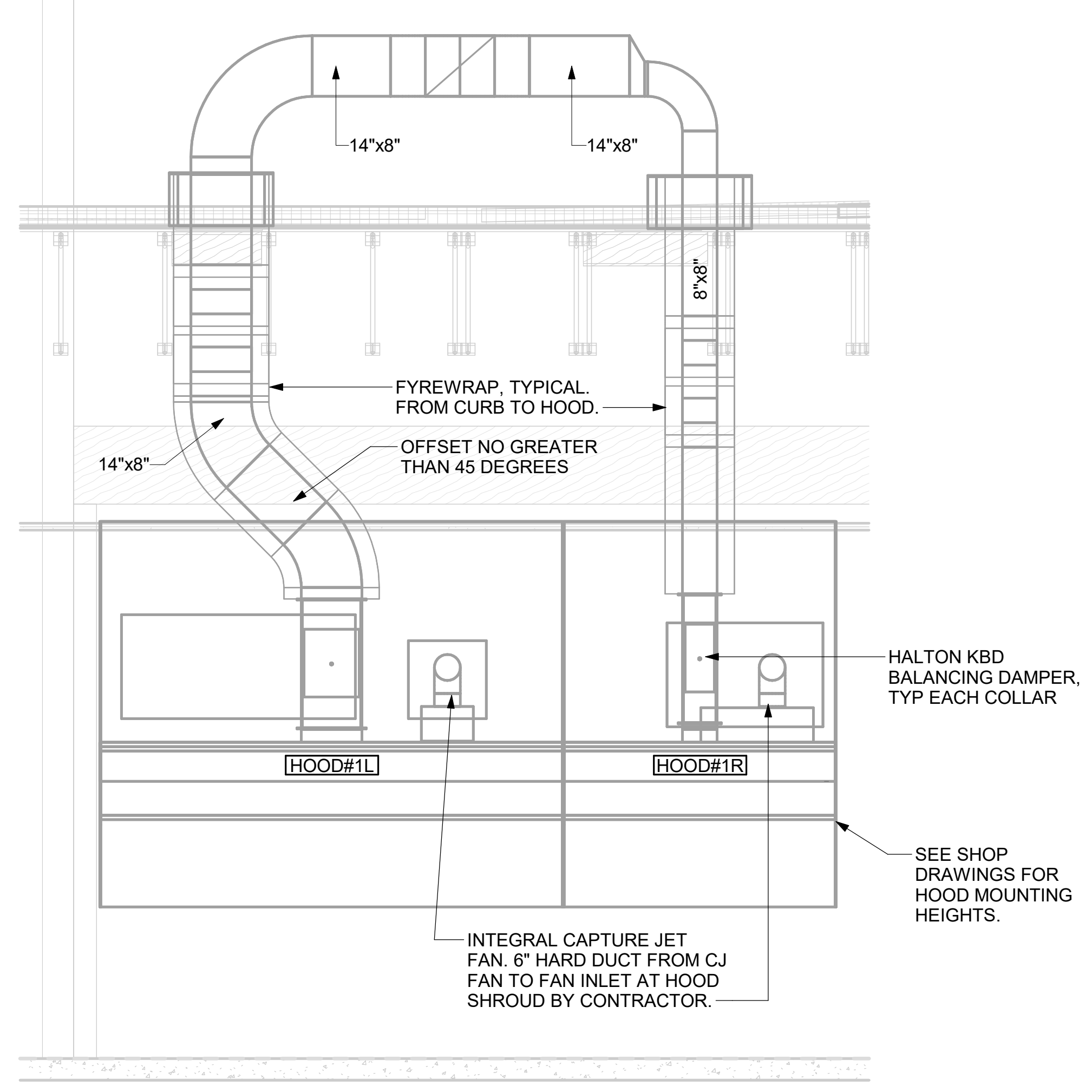


5 HOOD ELEVATION - HOOD#2 - FRONT
 NOT TO SCALE

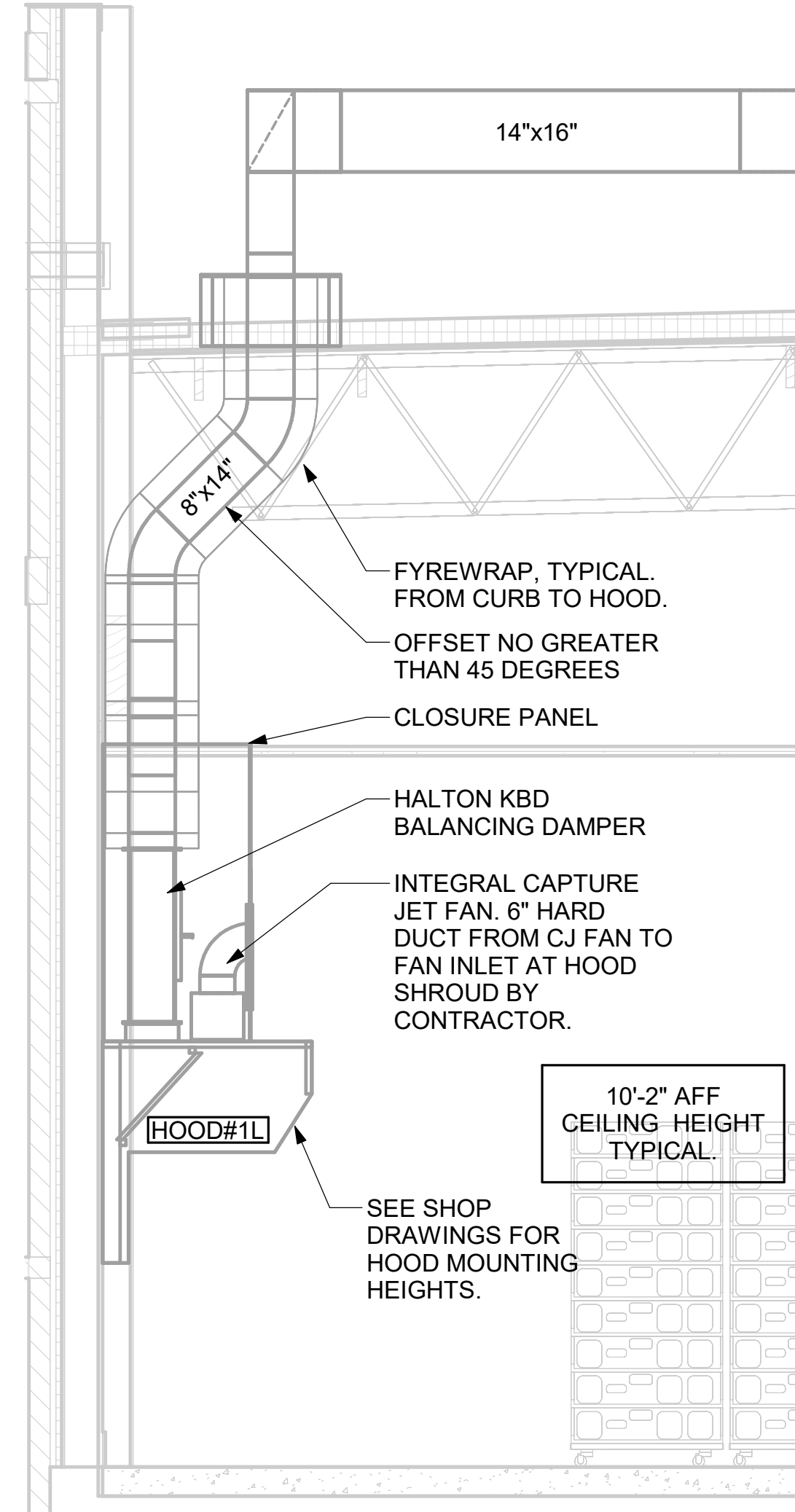
CRITICAL: MOUNT LEFT SIDE OF HOOD#2 FLUSH WITH FINISHED EDGE OF PASS THRU OPENING.



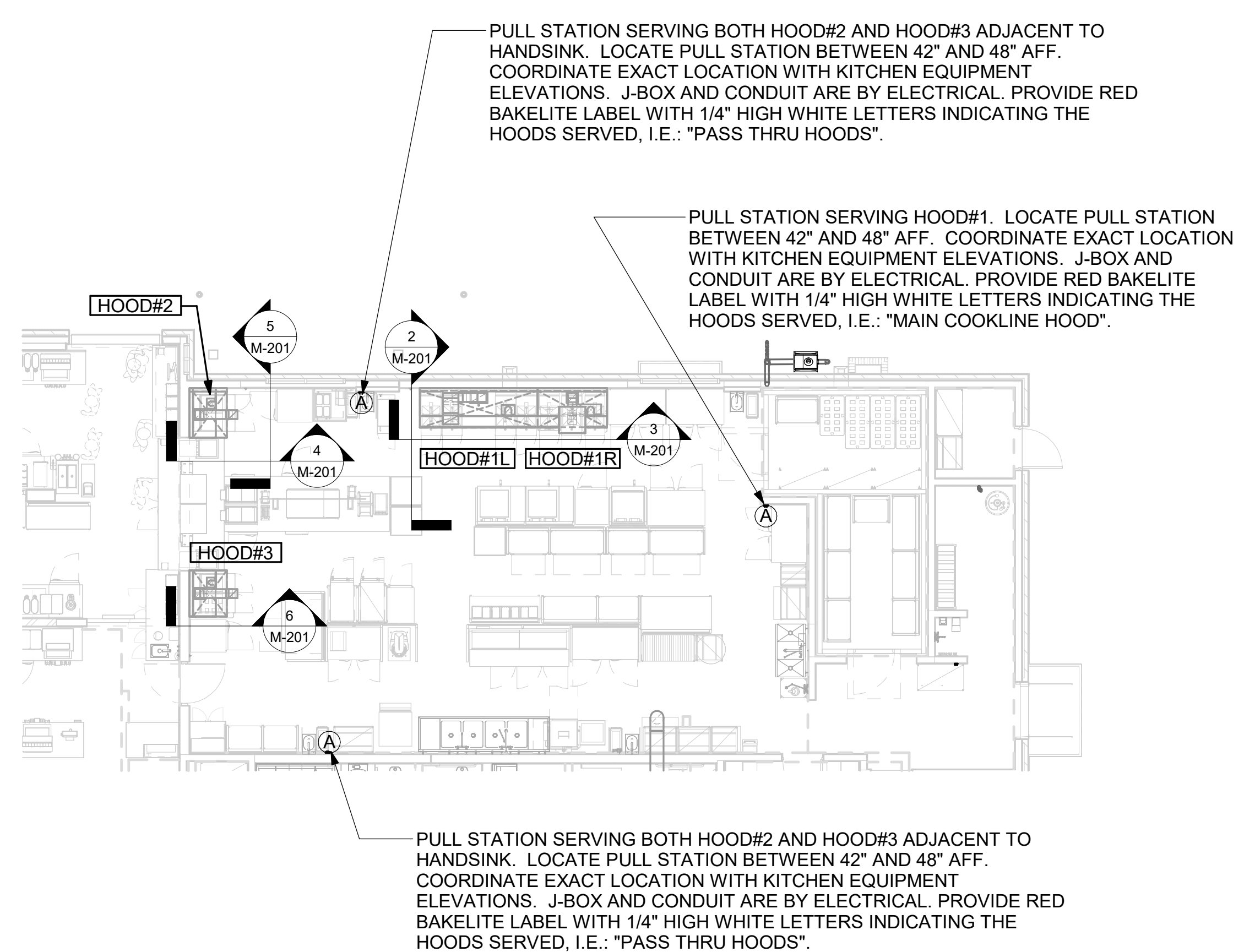
4 HOOD ELEVATION - HOOD#2 - SIDE
 NOT TO SCALE



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



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



1 HOOD LAYOUT
 NOT TO SCALE



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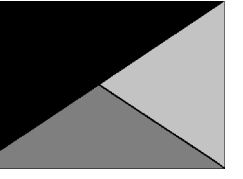
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 SHEET EXHAUST HOOD ELEVATIONS
 SHEET NUMBER **M-201**

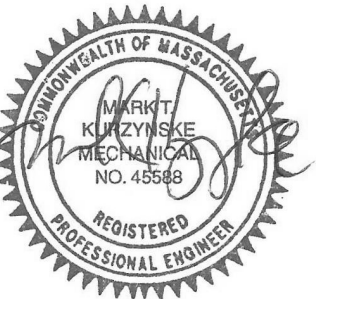
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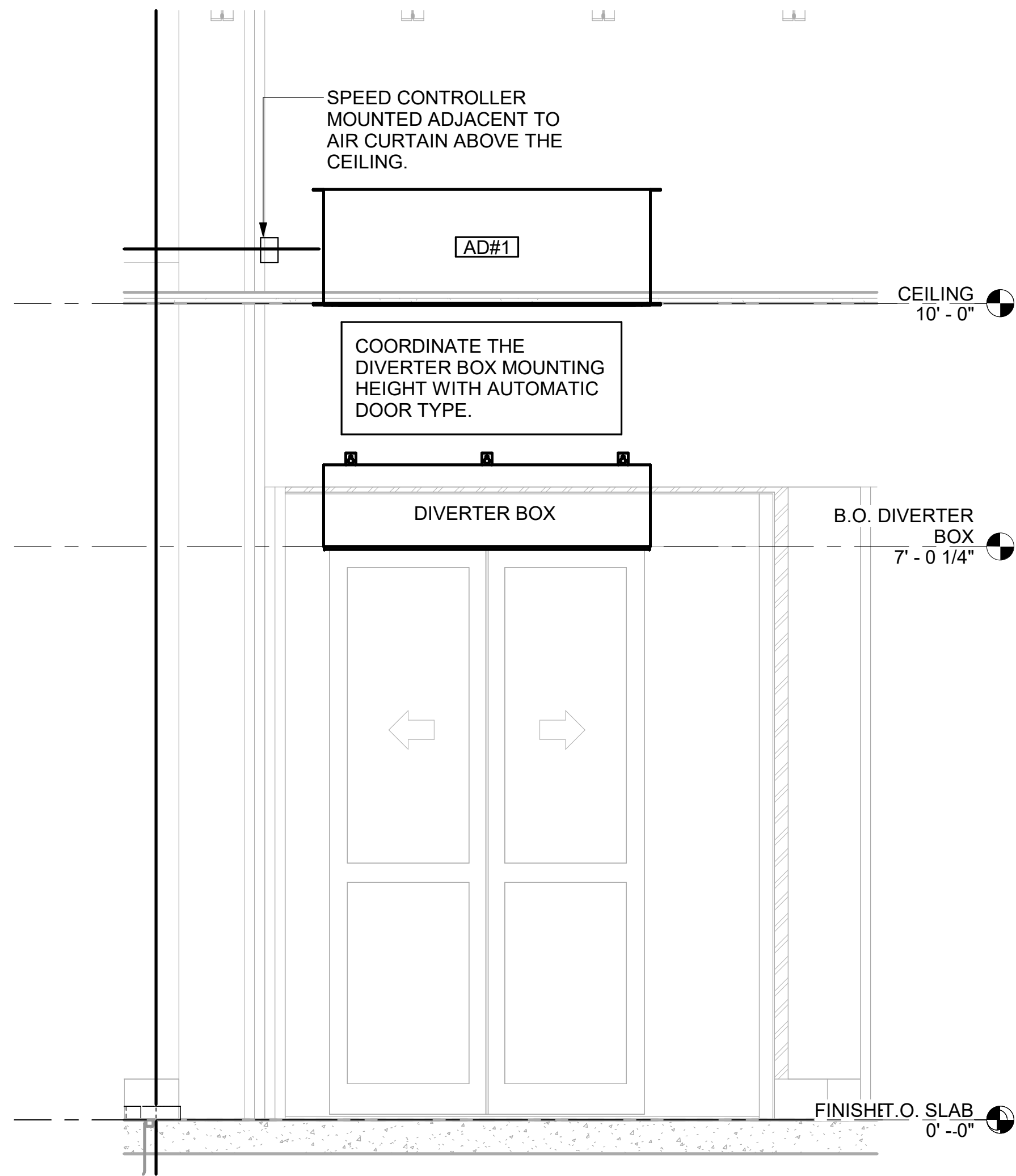
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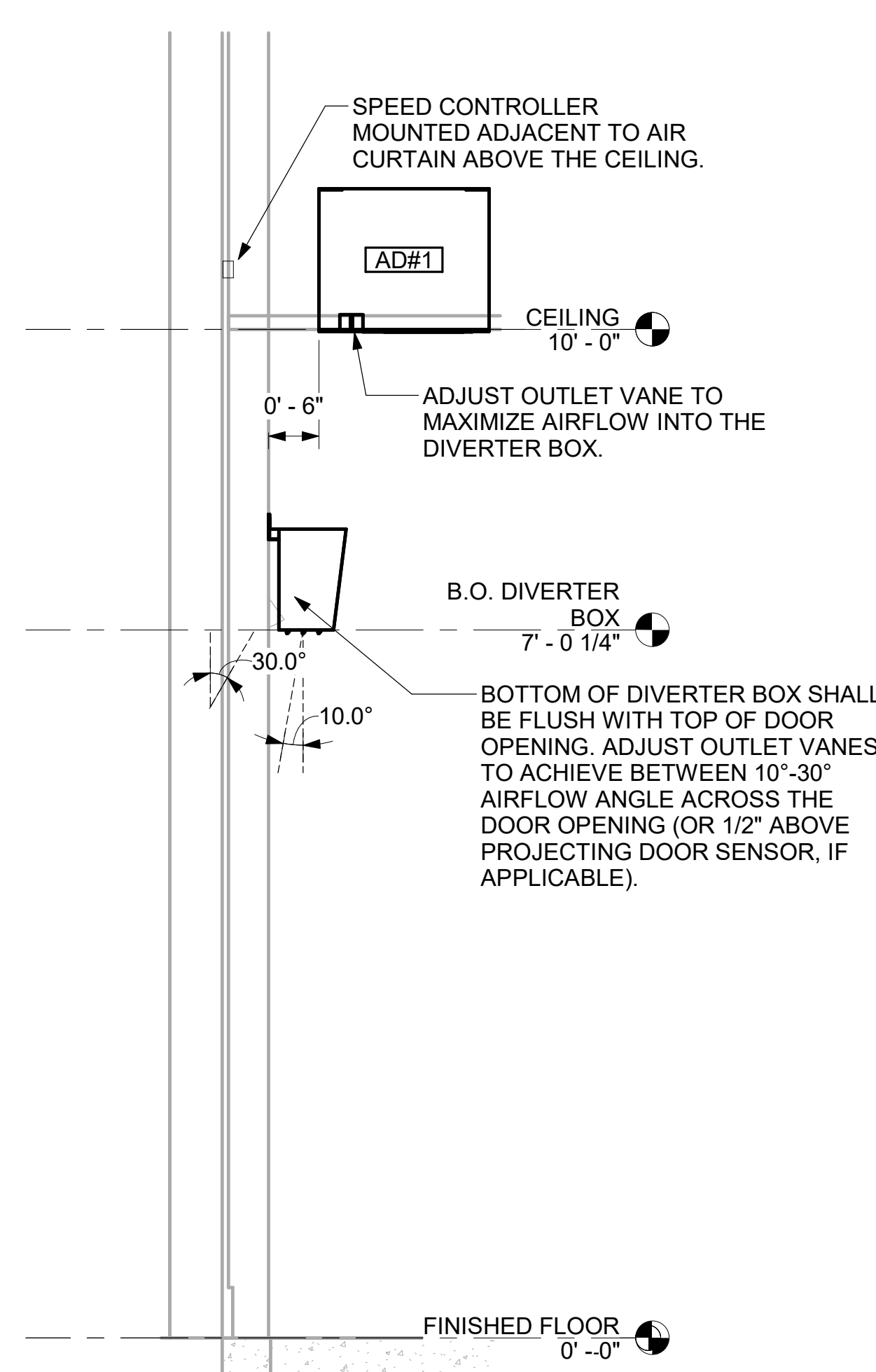
SHEET SECTIONS

SHEET NUMBER

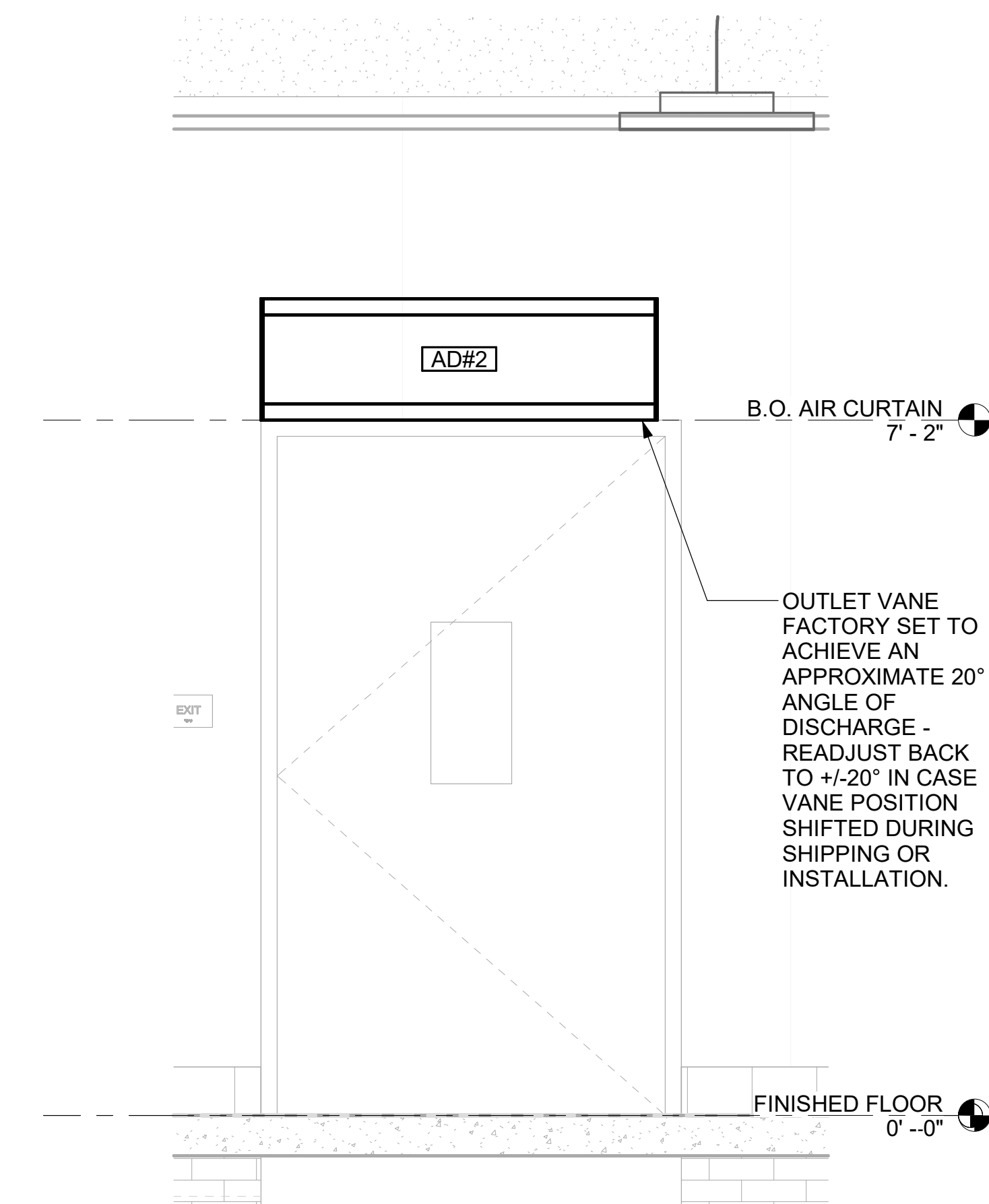
M-301



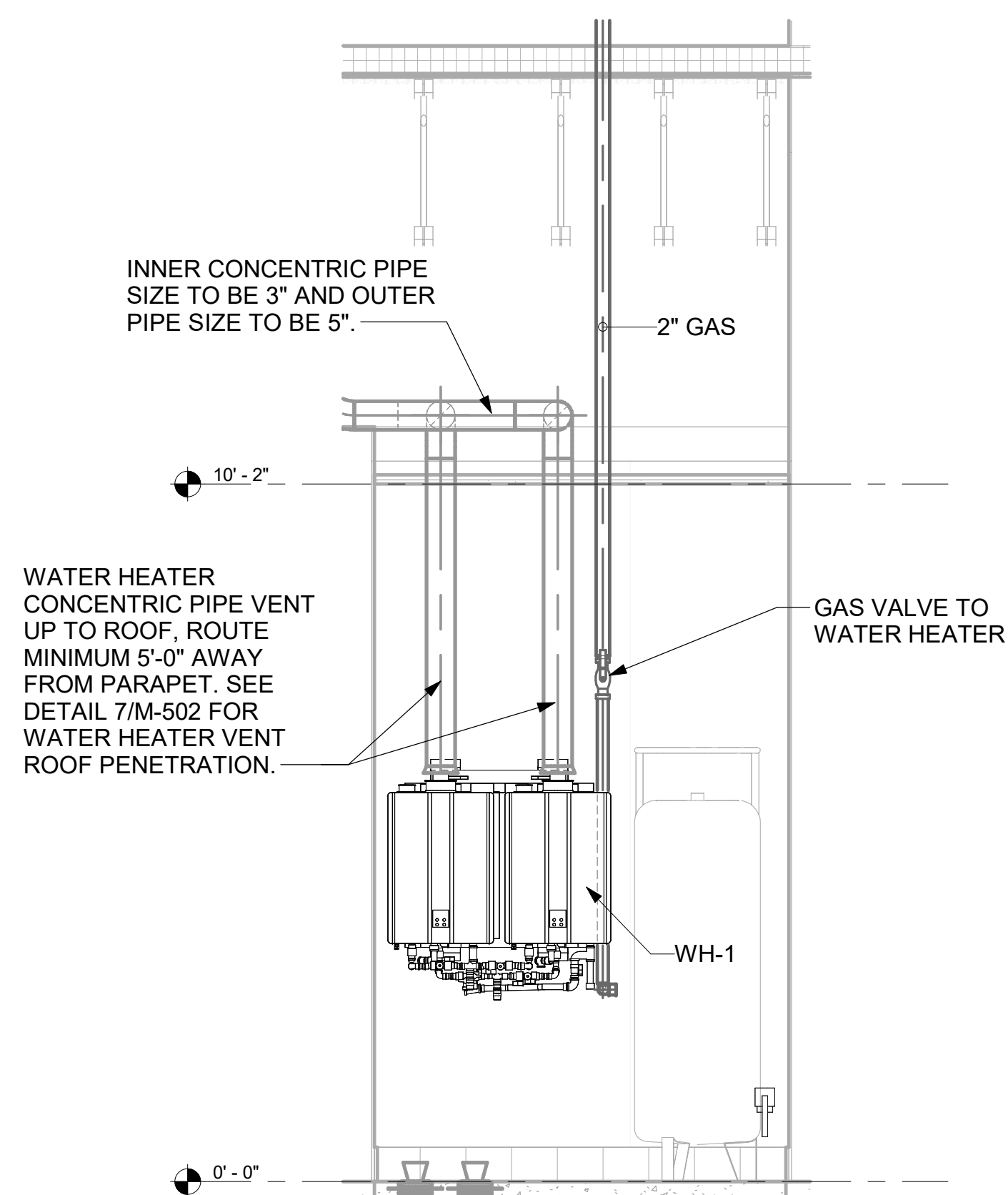
2 AD#1 FRONT VIEW
3/4" = 1'-0"



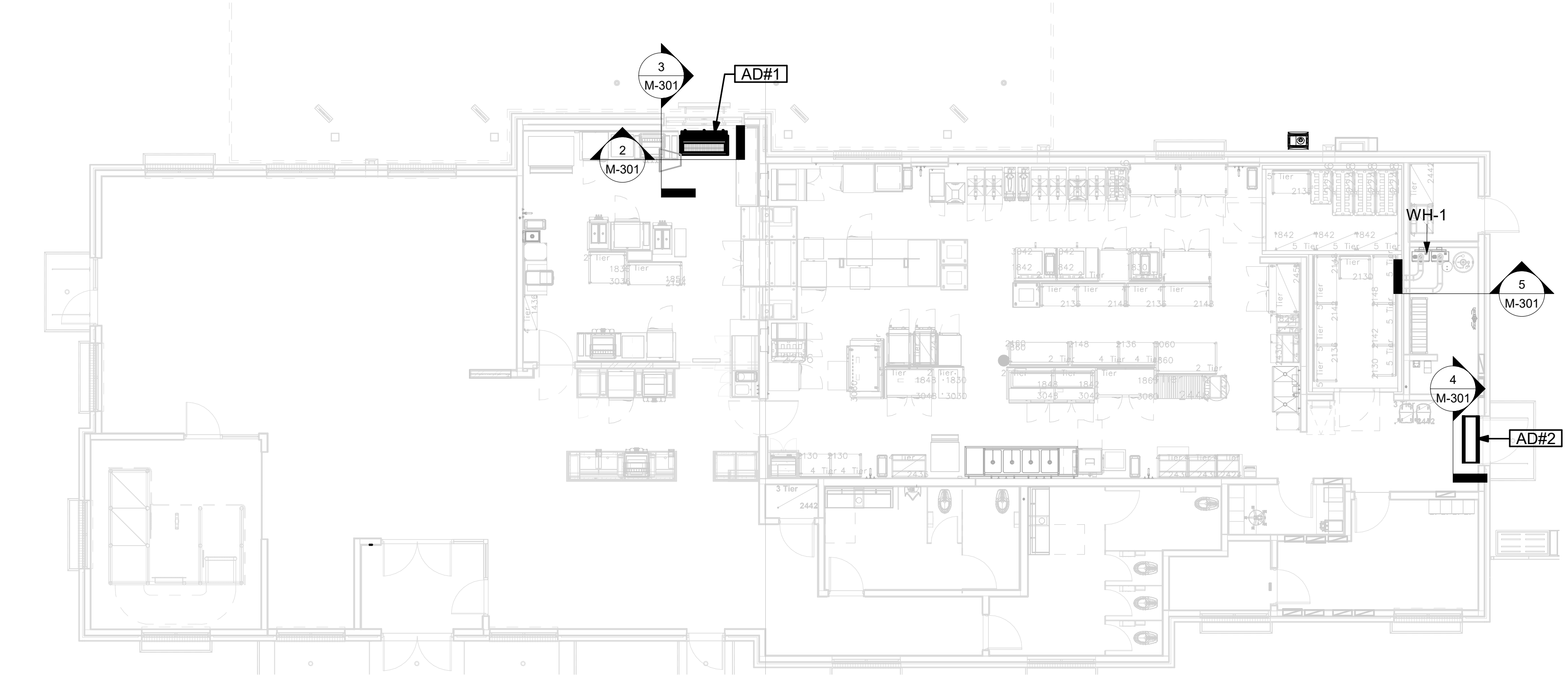
3 AD#1 SIDE VIEW
3/4" = 1'-0"



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

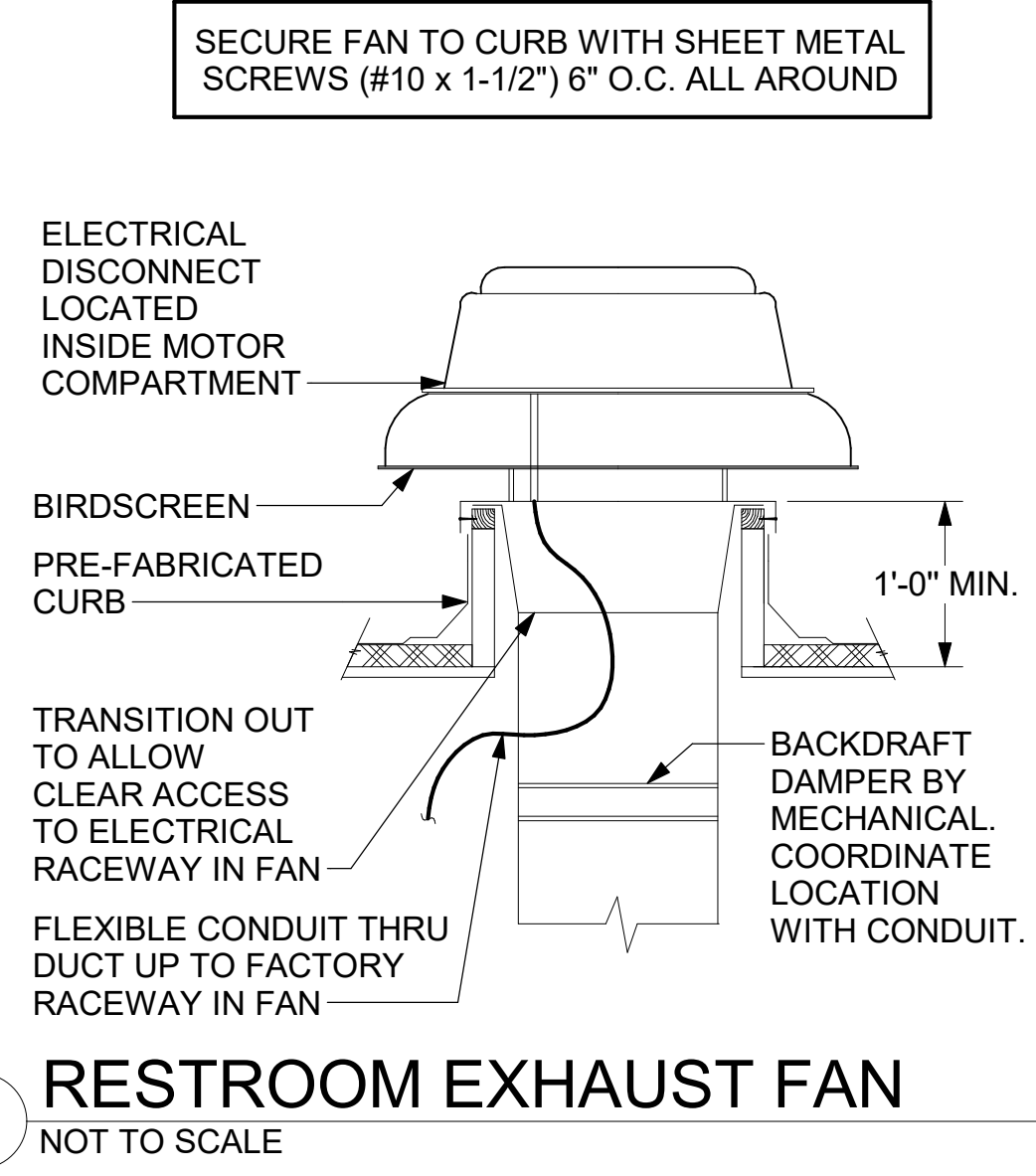


5 WATER HEATER GAS PIPING AND VENTING
NOT TO SCALE

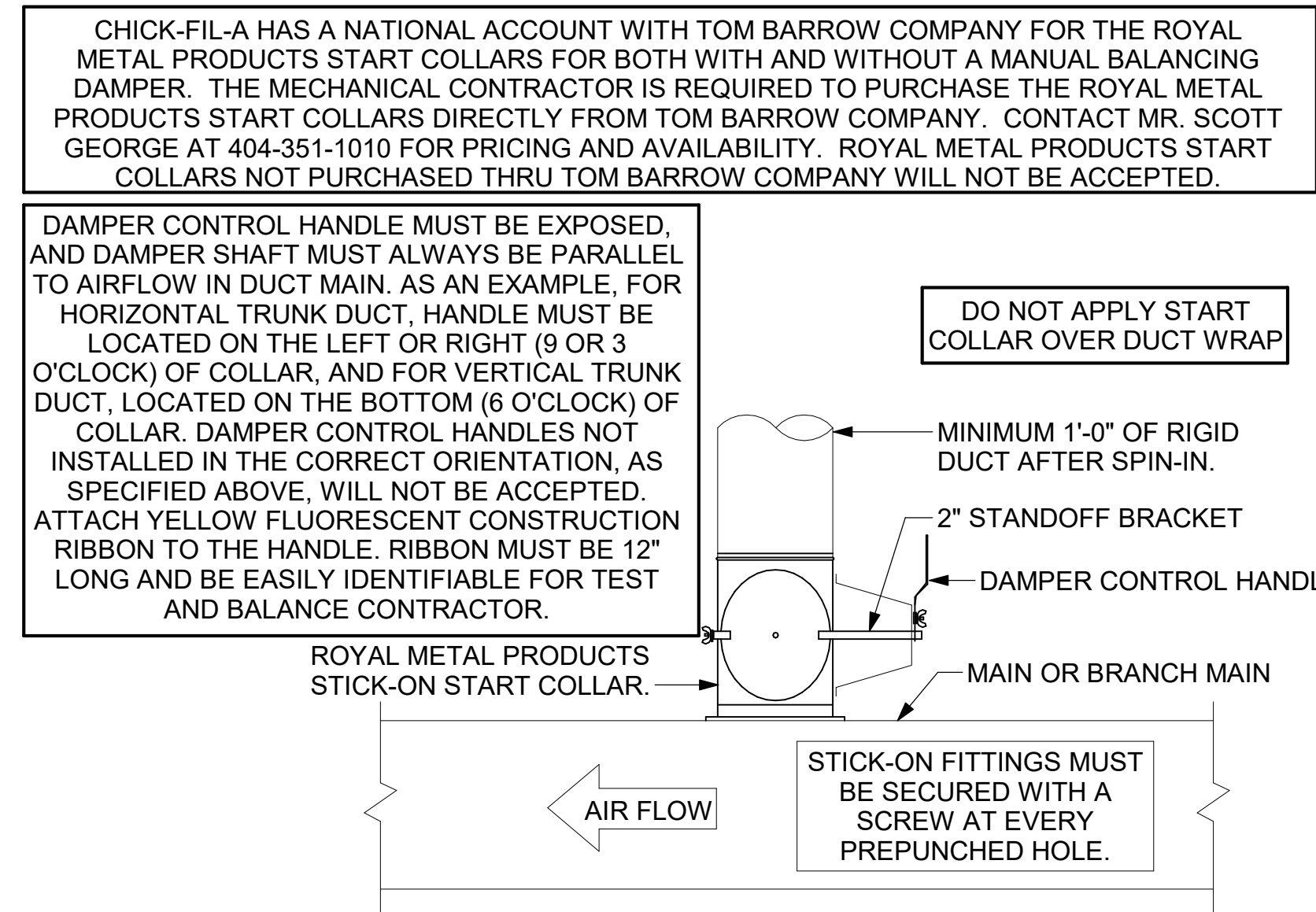


1 VARIOUS SECTIONS
1/8" = 1'-0"

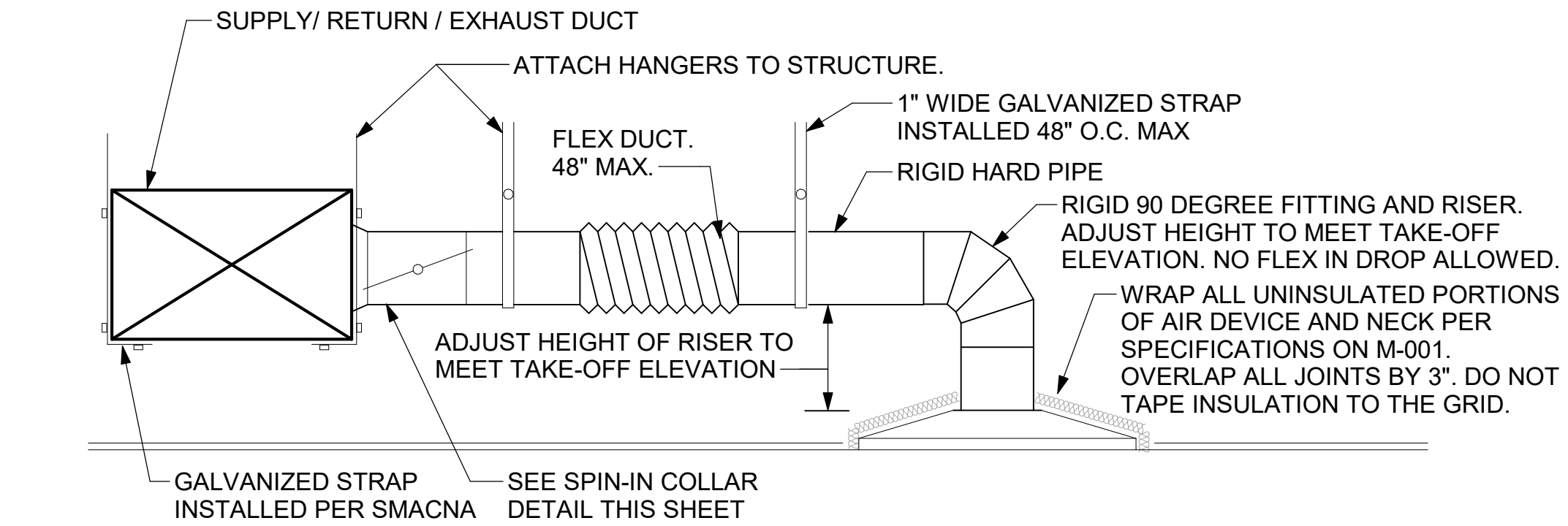
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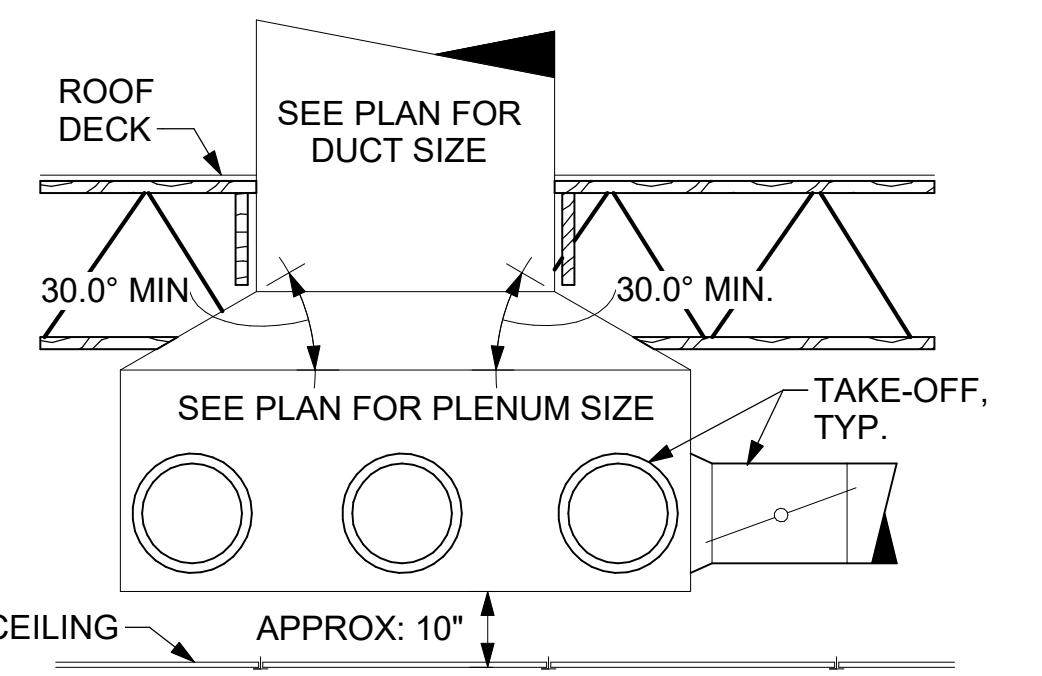
3 RESTROOM EXHAUST FAN
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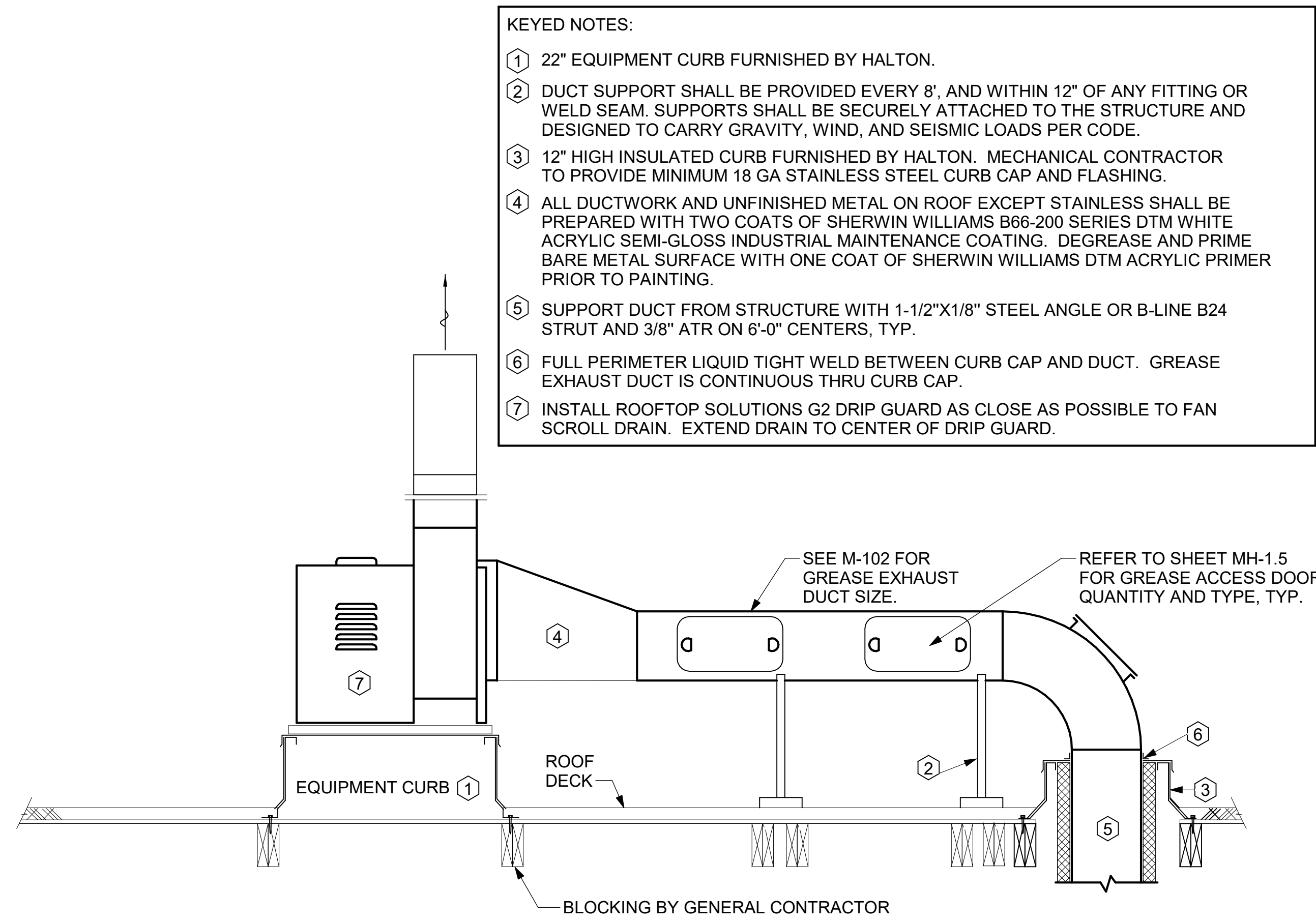
2 START COLLAR - LARGE
NOT TO SCALE



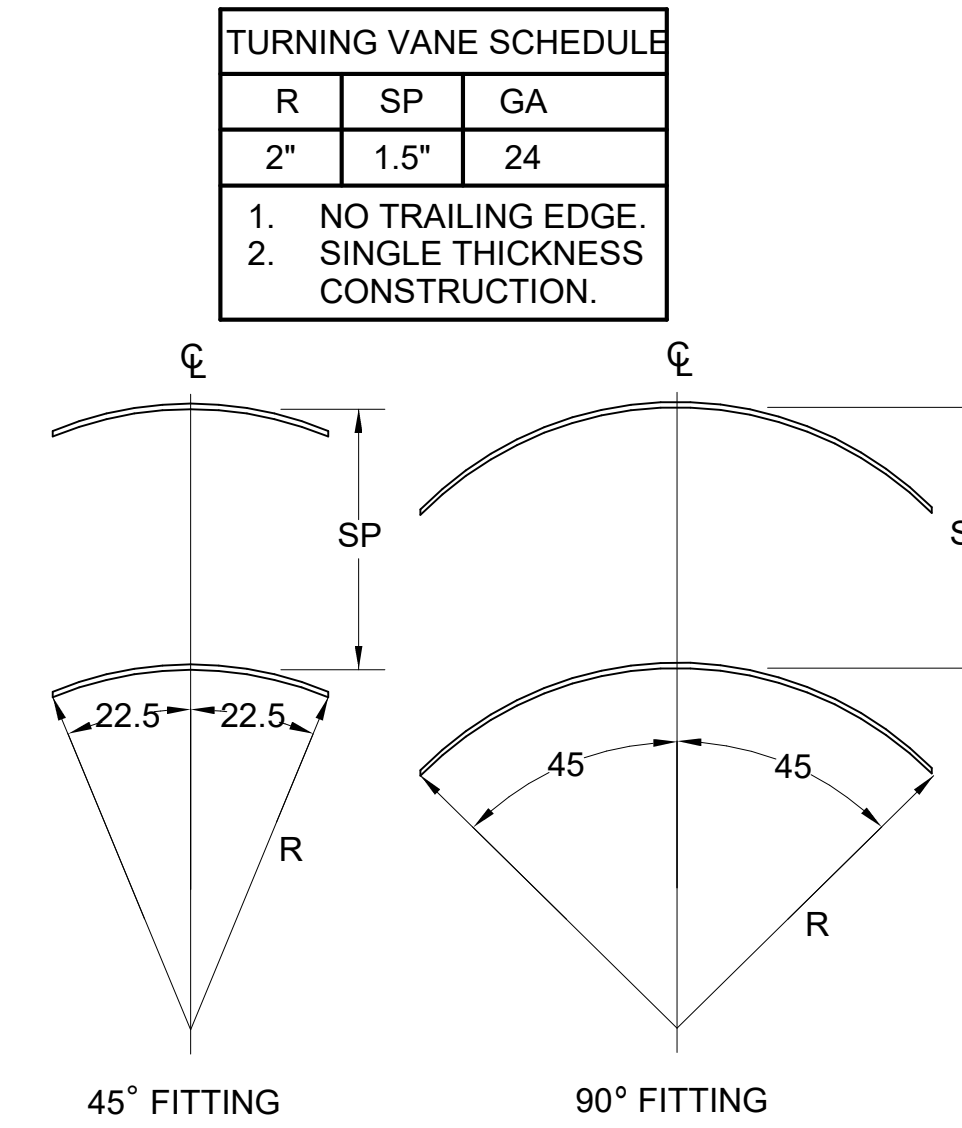
1 SAG/RAG/GRILLE TAKE-OFF - LARGE
NOT TO SCALE



6 RETURN DROP GEOMETRY
NOT TO SCALE



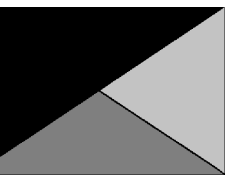
5 KITCHEN HOOD EXHAUST FANS
NOT TO SCALE



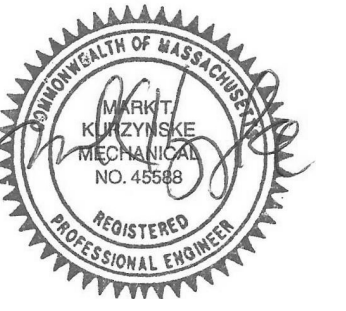
4 TURNING VANES
NOT TO SCALE



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6/20/25

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Stafford & Heard FSU

99 Stafford Street
Worcester, MA 01603

FSR#05916

BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 24.05
PRINTED FOR:
ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25010.CD.S
DATE 06/20/2025
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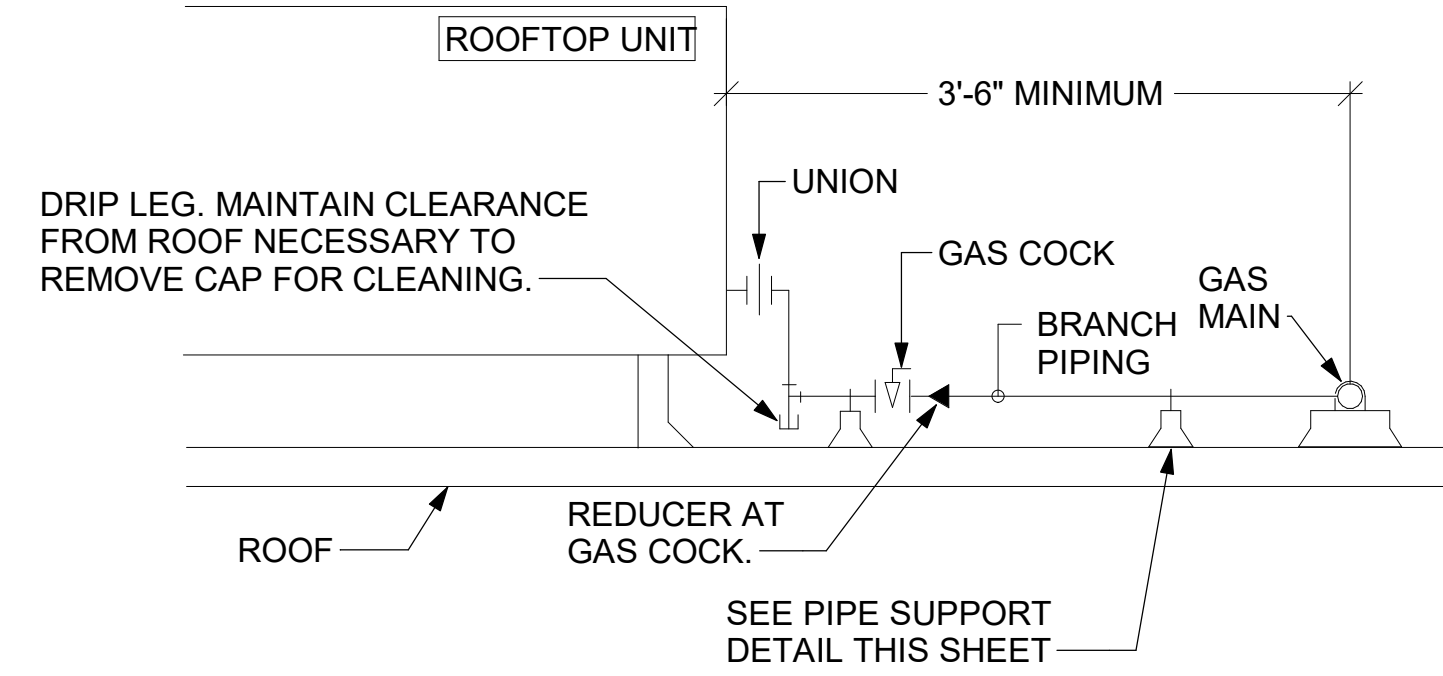
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SHEET DETAILS

SHEET NUMBER

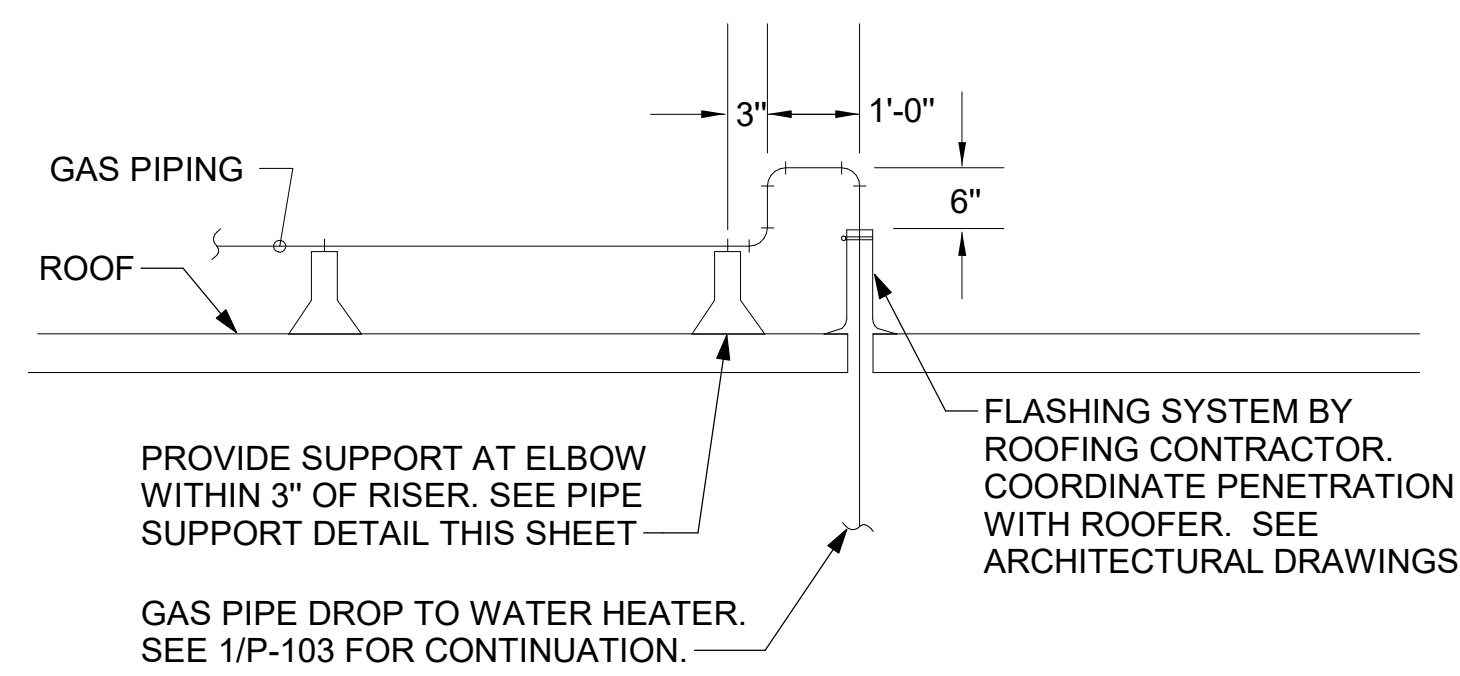
M-501

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

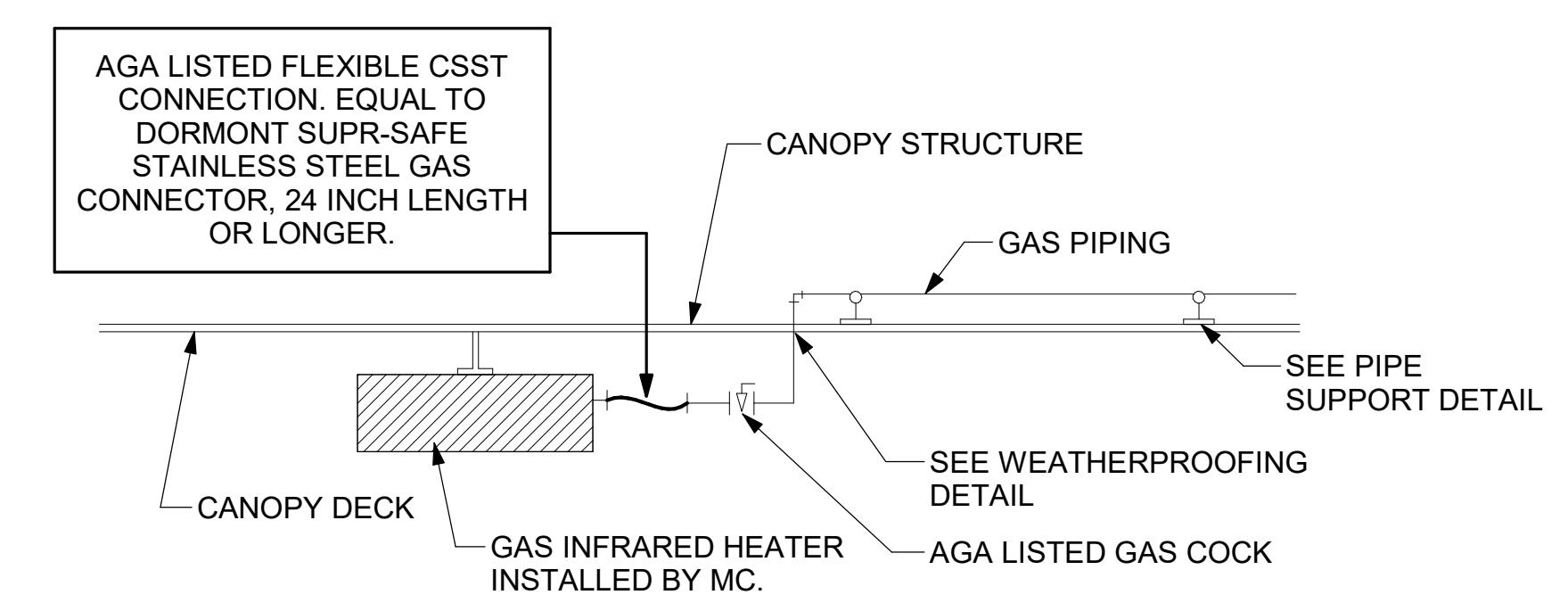


3 GAS PIPING AT RTU
NOT TO SCALE

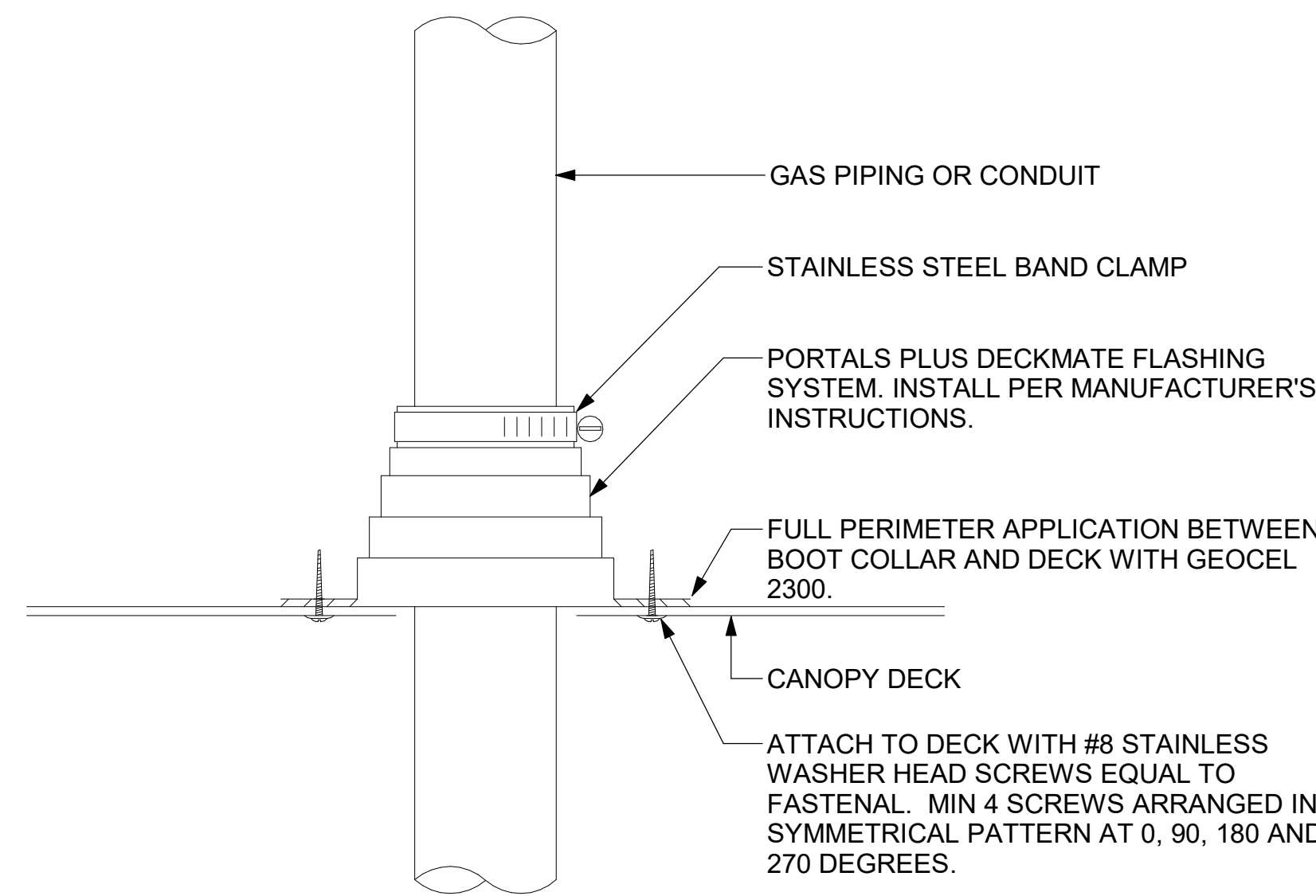
OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



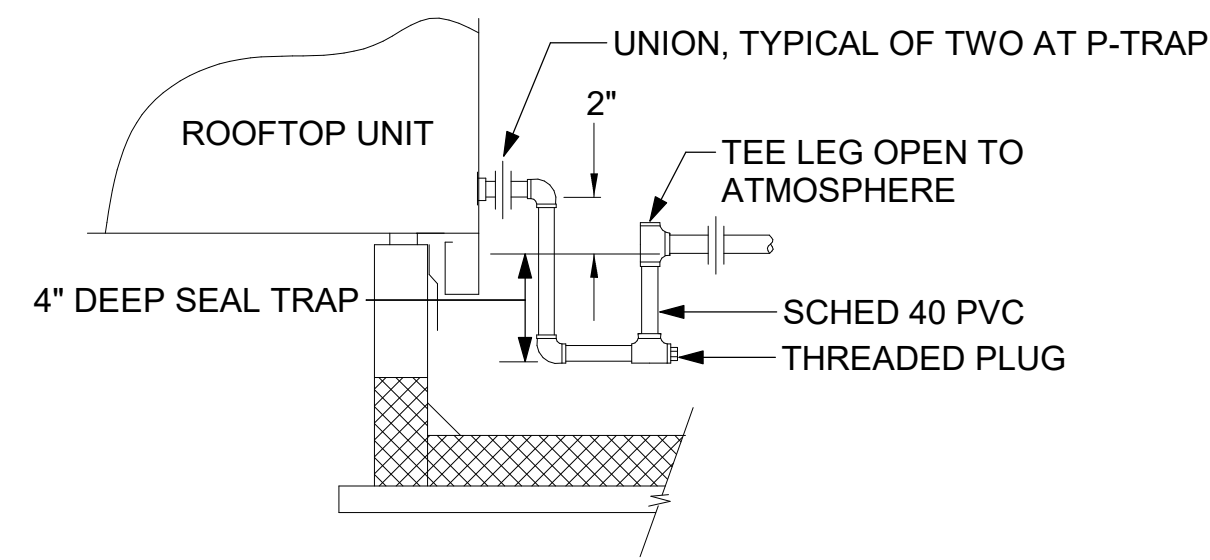
2 GAS PIPE DROP TO WATER HEATER
NOT TO SCALE



1 GAS CONNECTION AT APPLIANCE
NOT TO SCALE

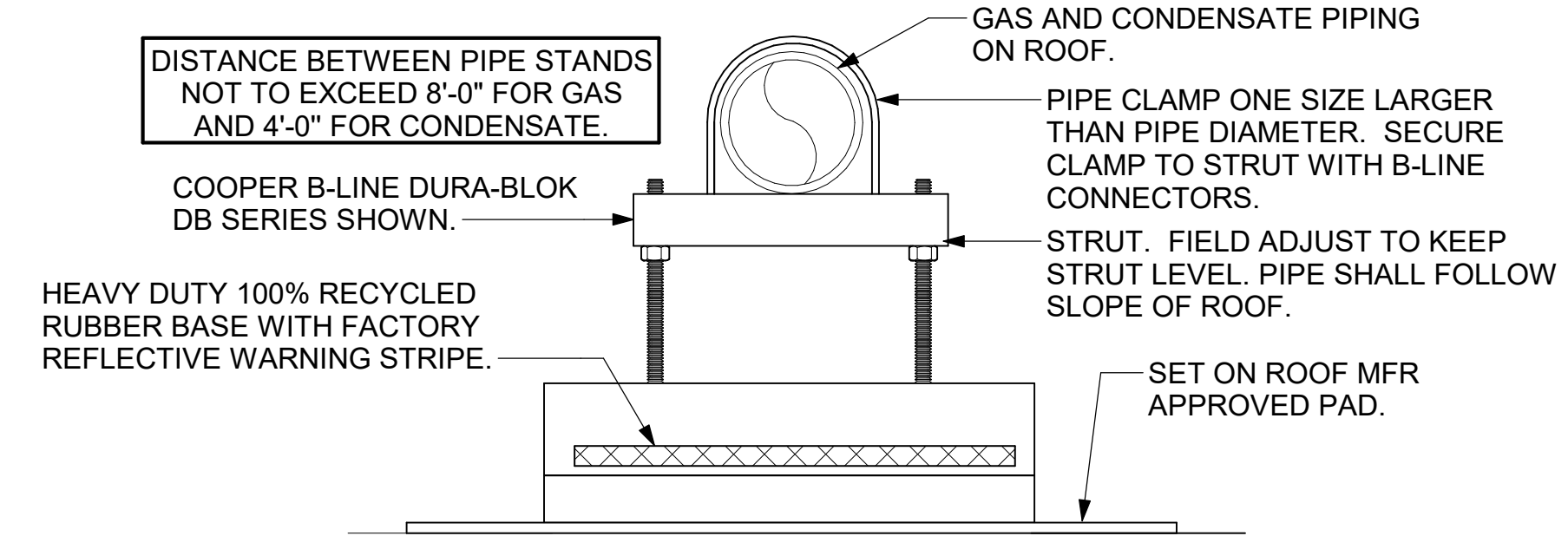


6 WEATHERPROOFING AT CANOPY PENETRATION
NOT TO SCALE

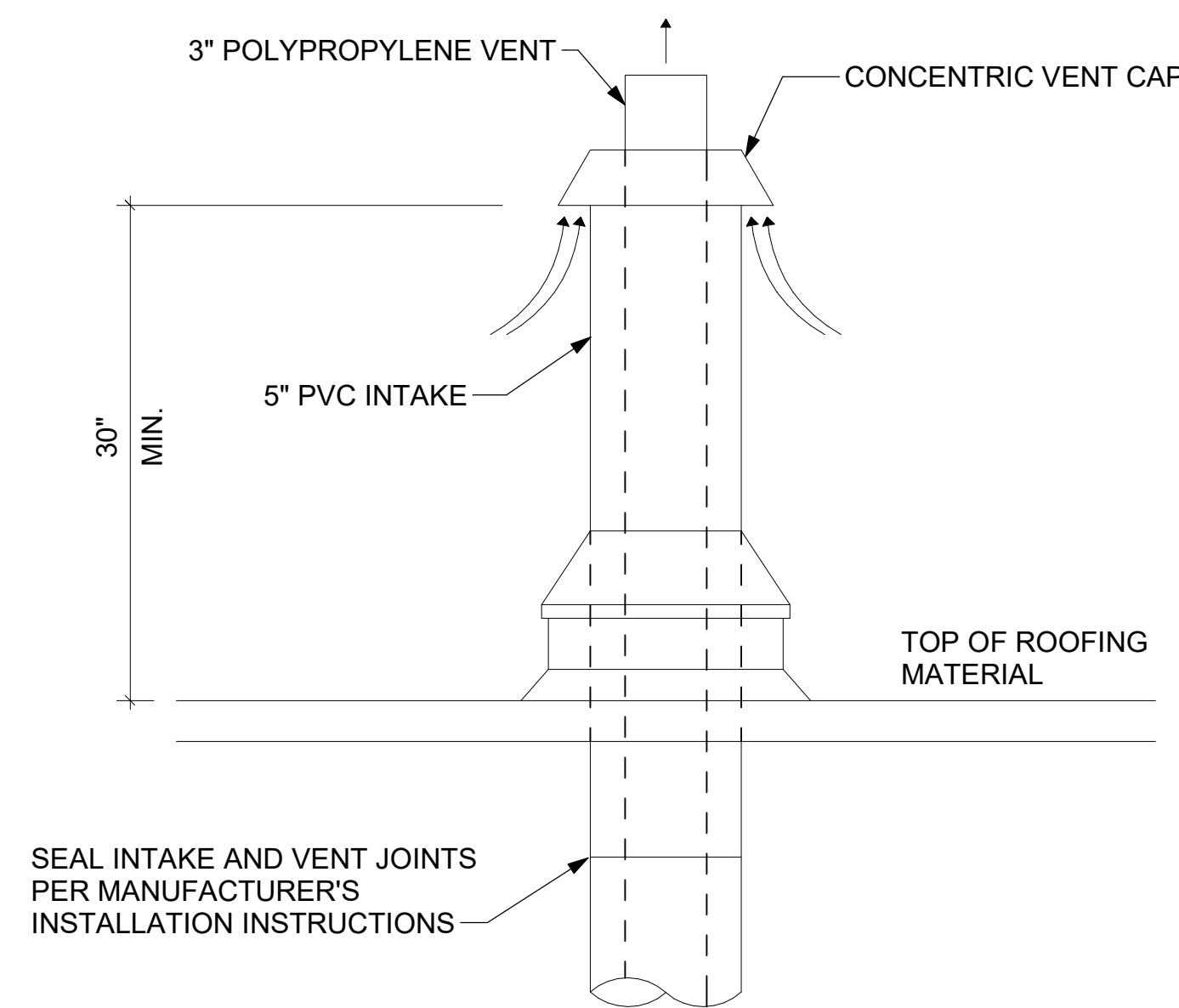


5 CONDENSATE DRAIN PIPING
NOT TO SCALE

- 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

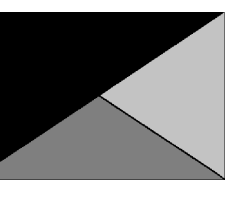


7 WATER HEATER VENT ROOF PENETRATION
NOT TO SCALE

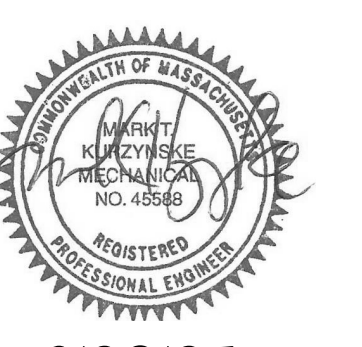


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ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25010.CD.S
DATE 06/20/2025
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SHEET DETAILS

SHEET NUMBER

M-502

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 | |
|---------|--|-----------|------|-----------|--------------|--------------|----------|----|-------------|-------------------|----------------------|-------------------|--------------------|-------------|-------|---------|----------|-----------------------------------|--|
| ACH#1 | TRANE | YHK300A3S | 10.8 | 15.5 | 2938.00 lbf | 8,125 | 1,750 | 6 | 0.8 | 267.9 | 189.8 | 400 | 324 | 208 | 3 | 124 | 150 | 1,3,4,5,6,7,8,9,10,11,12,13,14,15 | |
| ACH#2 | TRANE | YHK120A3S | 11.6 | 16.3 | 1655.00 lbf | 3,600 | 720 | 3 | 0.8 | 125.1 | 91.2 | 240 | 194.4 | 208 | 3 | 66 | 90 | 1,3,4,5,6,7,8,9,10,11,12,13,14,15 | |
| ACH#3 | TRANE | YHK210A3S | 11.9 | 16.5 | 2823.00 lbf | 6,125 | 1,400 | 6 | 0.8 | 216 | 158.1 | 400 | 324 | 208 | 3 | 101 | 125 | 1,3,4,5,6,7,8,9,10,11,12,13,14,15 | |
| ACH#4 | TRANE | YHK060A3S | 12.2 | 16.4 | 1101.00 lbf | 1,750 | 425 | 3 | 0.8 | 61.2 | 41.9 | 150 | 121.5 | 208 | 3 | 34 | 45 | 2,3,4,5,6,7,8,9,10,11,12,13,15 | |
| ACH#5 | TRANE | YHK048A3S | 12.2 | 16.4 | 1177.00 lbf | 1,300 | 300 | 3 | 0.8 | 48.1 | 31.8 | 130 | 103.5 | 208 | 3 | 38 | 50 | 1,3,4,5,6,7,8,9,10,11,12,13,15 | |
| NOTES | MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS. NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004. | | | | | | | | | | | | | | | | | | |
| REMARKS | <ol style="list-style-type: none"> DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST. DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST. 14" HIGH ROOF CURB. SEE DETAIL 2/M-701T 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 HIGH FAULT SCCR (65K) AND FACTORY PROVIDED CIRCUIT BREAKER. 2" MERV 8 THROW AWAY FILTERS. HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS. FACTORY INSTALLED COIL HAIL GUARD. HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR. FACTORY CONFIGURED PHASE LOSS PROTECTION. FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH. FRESH AIR TEMPERING KIT. FACTORY STAINLESS STEEL HEAT EXHANGER. | | | | | | | | | | | | | | | | | | |

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 | 1,204 | 0.13 | 80 @ 0.30" | BACKSHELF | 14"X8" | 107" | 36" | 38" | HALTON | KVL-2-IC | 1 |
| HOOD#1R | 709 | 0.13 | 47 @ 0.30" | BACKSHELF | 8"X8" | 63" | 36" | 38" | HALTON | KVL-2-IC | 1 |
| HOOD#2 | 701 | 0.3 | 30 @ 0.29" | BACKSHELF | 8"X8" | 45" | 34" | 38" | HALTON | KVL-C-IC | 1 |
| HOOD#3 | 701 | 0.3 | 30 @ 0.29" | BACKSHELF | 8"X8" | 42" | 34" | 38" | HALTON | KVL-C-IC | 1 |
| NOTES | DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS). NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004. | | | | | | | | | | |
| REMARKS | 1. REFER TO HOOD SHOP DRAWINGS FOR HOOD CONSTRUCTION AND OPTIONS. PRELIMINARY HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-1.1, MH-1.2, AND MH-1.3. | | | | | | | | | | |

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 | 0.00 | 50.0 | | 48" | 13.4" | 13.4" | BRACKET | 120 | 1 | 0.4 | 20 | WB50 | SPACE-RAY | 1, 5, 6, 7 |
| NOTES | <ul style="list-style-type: none"> NATIONAL ACCOUNT NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004. CONFIRM HEATER QUANTITY WITH CANOPY SHOP DRAWINGS. | | | | | | | | | | | | | |
| REMARKS | <ol style="list-style-type: none"> STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. PROVIDE BLACK HEATER WITH HIGH TEMPERATURE COATING, AND MANUFACTURER MOUNTING BRACKETS. PROVIDE BROMIC WALL MOUNTED ELECTRIC HEATER MODEL: BH0420033 FOR 220-240V SITES. STEEL BURNER WITH CERAMIC BURNER TILES. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO CANOPY DECK, FACING FORWARD, 12" LATERALLY FROM THE LONG SIDE OF THE HEATER. STAINLESS STEEL HEAT SHIELDS. | | | | | | | | | | | | | |

FAN SCHEDULE

| MARK | FAN CFM | ESP (in-wg) | MOTOR RPM | HP | AREA SERVED | VOLTAGE (V) | PHASE | FLA (A) | MOCP (A) | MODEL | MANUFACTURER | REMARKS |
|---------|---|-------------|-----------|-------|-----------------|-------------|-------|---------|----------|-------------|--------------|-------------------------|
| CF-1 | 1,900 | 0.01 | 1,625 | 0.1 | OUTDOOR CANOPY | 120 | 1 | 1.1 | 20 | U-18-TE-HD | TPI | 20,21,22 |
| EF#1 | 1,913 | 0.75 | 1,747 | 0.75 | HOOD#1 | 120 | 1 | 13.8 | 25 | KEFB-14-CFA | HALTON | 1,2,3,4,5,6,7,8,9,10,11 |
| EF#2 | 1,402 | 0.95 | 1,522 | 0.75 | HOOD#2 & HOOD#3 | 120 | 1 | 13.8 | 25 | KEFB-14-CFA | HALTON | 1,2,3,4,5,6,7,8,9,10,11 |
| EF#3 | 360 | 0.375 | 1,207 | 0.125 | RESTROOMS | 120 | 1 | 2.2 | 20 | XRED-095-VG | ACCUREX | 1,3,11,12,13,14,15,16 |
| TF#1 | 450 | 0.3 | 1,070 | 0.127 | TECH CLOSET | 120 | 1 | 2.5 | 20 | SP-A510-VG | GREENHECK | 1,17,18,19 |
| TF#2 | 300 | 0.3 | 1,725 | 0.167 | VESTIBULE | 115 | 1 | 1.3 | 20 | XID-7-VG | ACCUREX | 1,17,20 |
| NOTES | NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004 | | | | | | | | | | | |
| REMARKS | <ol style="list-style-type: none"> FANS SUPPLIED BY HALTON. U.L. 705 LISTED AND LABELED FOR RESTUARANT APPLICATIONS. FACTORY INSTALLED PREWIRED DISCONNECT SWITCH. 22" HIGH ROOF CURB. INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034. FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR. FACTORY DRAIN CONNECTION. FACTORY BOLTED ACCESS DOOR ON SCROLL. FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE, SPARE BELT, AND BELT TENSIONER. FACTORY INSTALLED OUTLET WITH QUICK RELEASE, HINGED ACCESS, AND GRAVITY BACKDRAFT DAMPER. INTEGRAL THERMAL OVERLOAD. BIRDSCREEN. BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 3/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. FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR THE SOUTHWEST REGION. | | | | | | | | | | | |

AIR DEVICE SCHEDULE - LARGE BLDG

| MARK | DESCRIPTION | LOCATION | NECK SIZE | FACE SIZE | FRAME TYPE | REMARKS |
|---------|--|---------------------------|-----------|-----------|------------|-----------|
| 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 / TEAM ROOM | VARIES | 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/ KITCHEN | VARIES | 16"x16" | LAY-IN | 1,2,3,5,6 |
| E | PRICE MODEL 22 DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY GRILLE. FRONT BLADE PARALLEL TO LONG SIDE. | PLAY AREA | 12"x10" | 14"x12" | SURFACE | 1 |
| 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 |
| J | PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS. | RESTROOMS | 10"x10" | 15"x15" | BEVELLED | 1,3,4,5,6 |
| K | PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE. | RESTROOMS / ENTRY | 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 | 24"x12" | 26"x14" | SURFACE | 1 |
| NOTES | NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004 | | | | | |
| REMARKS | <ol style="list-style-type: none"> STANDARD OFF WHITE FINISH. PROVIDE PRICE MODEL AMF SURFACE MOUNT FRAME. SEE DRAWING M-101 FOR THROW TRANSITION. PROVIDE FACTORY MOUNTED MODEL VCS3 NECK DAMPER AND FIELD INSTALLED RECTANGULAR TO ROUND TRANSITION. PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY. FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 1/M-501. FACTORY INSULATED R-6 BACKPAN. PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER. | | | | | |

AIR DOOR SCHEDULE

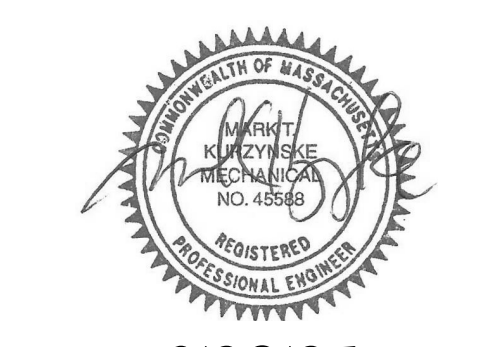
| MARK | CFM | VELOCITY (FPM) | HEATING (KW) | MOTOR HP | MCA (A) | MOCP (A) | VOLTAGE (V) | PHASE | AREA SERVED | MODEL | MANUFACTURER | REMARKS |
|---------|--|----------------|--------------|----------|---------|----------|-------------|-------|-------------|-----------|--------------|---------|
| AD#1 | 1,543 | 2,338 | 10 | 0.75 | 42 | 45 | 208 | 3 | DRIVE THRU | CHA-1-48E | POWERED AIRE | 1,2,3,5 |
| AD#2 | 3,867 | 4,218 | 0 | 0.75 | 10 | 15 | 120 | 1 | REAR DOOR | RBT-1-48 | POWERED AIRE | 4 |
| NOTES | NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004 | | | | | | | | | | | |
| REMARKS | <ol style="list-style-type: none"> FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER ABOVE CEILING. FACTORY WIRED DISCONNECT. FACTORY PROVIDED, FIELD INSTALLED BY MC, REMOTE WALL SWITCHES FOR HEATING ON/OFF AND FAN ON/AUTO SWITCH. SEE DETAILS ON M-702. FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET. PROVIDE WITH A DIVERTER BOX. PROVIDE WITH MOUNTING BRACKETS PER MANUFACTURER'S RECOMMENDATIONS. | | | | | | | | | | | |



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6/20/25

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FSR#05916
 BUILDING TYPE / SIZE: P-14 LS BN
 RELEASE: 24.05
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CONSULTANT PROJECT # 25010.CD.S
 DATE 06/20/2025
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SHEET
 EQUIPMENT SCHEDULES
 - TRANE

SHEET NUMBER
M-601T

VENTILATION SCHEDULE

| General | | Ventilation | | | | | | | | | | | | | | Exhaust | | | | | Served by | |
|-------------------|-----------|--------------|-----------------------------------|--------------|------------------------------------|---|------------------------|---|--|--|------------------------------|------------------------------|---------------------------------|----------------------------|-------------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------|-----------|--------------------|
| Room # | Room Name | Area Az ft2 | People | | | Area | | | | | | 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 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 | Actual Outdoor Airflow CFM | 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 | 1,287 | 20 | 26 | 7.5 | 195 | 0.12 | 154 | 349 | 0.8 | 436 | 8,125 | 0.05 | 1,750 | 0.7 | 901 | - | - | - | 3,315 | AC#1 | EF-1 / EF-2 |
| Total Area | | 1,287 | | | | Total Vbz | 349 | Total Supply Airflow | | | 8,125 | 1,750 | Actual Outdoor Airflow | | | | | | | | | |
| | | | | | | Diversity (D) | 1.00 | Maximum Zp | | | 0.05 | | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (You) | 349 | System Ventilation Efficiency (Ev) | | | 1.00 | | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | 349 | | | | | | | | | | | | | | | |

VENTILATION SCHEDULE

| General | | Ventilation | | | | | | | | | | | | | | Exhaust | | | | | Served by | |
|-------------------|-----------------------|-------------|-----------------------------------|--------------|------------------------------------|---|------------------------|---|--|--|------------------------------|------------------------------|---------------------------------|----------------------------|-------------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------|-----------|--------------------|
| Room # | Room Name | Area Az ft2 | People | | | Area | | | | | | 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 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 | Actual Outdoor Airflow CFM | 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 | Meal Fulfillment Area | 418 | 15 | 7 | 7.5 | 53 | 0.12 | 50 | 103 | 0.8 | 129 | 3,600 | 0.04 | 720 | - | - | - | - | - | - | AC#2 | - |
| Total Area | | 418 | | | | Total Vbz | 103 | Total Supply Airflow | | | 3,600 | 720 | Actual Outdoor Airflow | | | | | | | | | |
| | | | | | | Diversity (D) | 1.00 | Maximum Zp | | | 0.04 | | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (You) | 103 | System Ventilation Efficiency (Ev) | | | 1.00 | | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | 103 | | | | | | | | | | | | | | | |

VENTILATION SCHEDULE

| General | | Ventilation | | | | | | | | | | | | | | Exhaust | | | | | Served by | |
|-------------------|--------------|--------------|-----------------------------------|--------------|------------------------------------|---|------------------------|---|--|--|------------------------------|------------------------------|---------------------------------|----------------------------|-------------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------|-----------|--------------------|
| Room # | Room Name | Area Az ft2 | People | | | Area | | | | | | 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 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 | Actual Outdoor Airflow CFM | 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 | 1,026 | 100 | 103 | 7.5 | 773 | 0.18 | 185 | 958 | 0.8 | 1,198 | 4,050 | 0.30 | 926 | - | - | - | - | - | - | AC#3 | - |
| 2 | Queueing | 563 | 15 | 9 | 7.5 | 68 | 0.12 | 68 | 136 | 0.8 | 170 | 1,650 | 0.10 | 377 | - | - | - | - | - | - | AC#3 | - |
| 3 | Men's RR | 176 | - | - | - | - | - | - | - | 0.8 | - | 150 | - | 34 | - | - | Continuous | 50 | 150 | 180 | AC#3 | EF-3 |
| 4 | Women's RR | 204 | - | - | - | - | - | - | - | 0.8 | - | 150 | - | 34 | - | - | Continuous | 50 | 150 | 180 | AC#3 | EF-3 |
| 5 | RR Vestibule | 110 | - | - | - | 0.06 | 7 | 7 | 7 | 0.8 | 9 | 125 | 0.05 | 29 | - | - | - | - | - | - | AC#3 | - |
| Total Area | | 2,079 | | | | Total Vbz | 1,101 | Total Supply Airflow | | | 6,125 | 1,400 | Actual Outdoor Airflow | | | | | | | | | |
| | | | | | | Diversity (D) | 1.00 | Maximum Zp | | | 0.30 | | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (You) | 1,101 | System Ventilation Efficiency (Ev) | | | 0.80 | | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | 1,376 | | | | | | | | | | | | | | | |

VENTILATION SCHEDULE

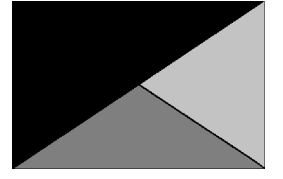
| General | | Ventilation | | | | | | | | | | | | | | Exhaust | | | | | Served by | |
|-------------------|--------------------|-------------|-----------------------------------|--------------|------------------------------------|---|------------------------|---|--|--|------------------------------|------------------------------|---------------------------------|----------------------------|-------------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------|-----------|--------------------|
| Room # | Room Name | Area Az ft2 | People | | | Area | | | | | | 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 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 | Actual Outdoor Airflow CFM | 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 | 149 | 50 | 8 | 5 | 40 | 0.06 | 9 | 49 | 0.8 | 61 | 600 | 0.10 | 146 | - | - | - | - | - | - | AC#4 | - |
| 2 | Riser Room | 41 | - | - | - | - | 0.12 | 5 | 5 | 0.8 | 6 | 175 | 0.03 | 43 | - | - | - | - | - | - | AC#4 | - |
| 3 | Service / Beverage | 193 | - | - | - | - | 0.12 | 24 | 24 | 0.8 | 30 | 700 | 0.04 | 170 | - | - | - | - | - | - | AC#4 | - |
| 4 | Office | 46 | 5 | 1 | 5 | 5 | 0.06 | 3 | 8 | 0.8 | 10 | 275 | 0.04 | 66 | - | - | - | - | - | - | AC#4 | - |
| Total Area | | 428 | | | | Total Vbz | 86 | Total Supply Airflow | | | 1,750 | 425 | Actual Outdoor Airflow | | | | | | | | | |
| | | | | | | Diversity (D) | 1.00 | Maximum Zp | | | 0.10 | | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (You) | 86 | System Ventilation Efficiency (Ev) | | | 1.00 | | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | 86 | | | | | | | | | | | | | | | |

VENTILATION SCHEDULE

| General | | Ventilation | | | | | | | | | | | | | | Exhaust | | | | | Served by | |
|-------------------|-----------|-------------|-----------------------------------|--------------|------------------------------------|---|------------------------|---|--|--|------------------------------|------------------------------|---------------------------------|----------------------------|-------------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------|-----------|--------------------|
| Room # | Room Name | Area Az ft2 | People | | | Area | | | | | | 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 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 | Actual Outdoor Airflow CFM | 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 | Play Area | 250 | 7 | 2 | 20 | 40 | 0.18 | 45 | 85 | 0.8 | 106 | 1,300 | 0.08 | 300 | - | - | - | - | - | - | AC#5 | - |
| Total Area | | 250 | | | | Total Vbz | 85 | Total Supply Airflow | | | 1,300 | 300 | Actual Outdoor Airflow | | | | | | | | | |
| | | | | | | Diversity (D) | 1.00 | Maximum Zp | | | 0.08 | | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (You) | 85 | System Ventilation Efficiency (Ev) | | | 1.00 | | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | 103 | | | | | | | | | | | | | | | |



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



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



6/20/25

CHICK-FIL-A
Stafford & Heard FSU

99 Stafford Street
Worcester, MA 01603

FSR#05916

BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 24.05
PRINTED FOR:
ISSUED FOR CONSTRUCTION
REVISION SCHEDULE

NO. DATE DESCRIPTION

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25010.CD.S
DATE 06/20/2025
DRAWN BY BLM

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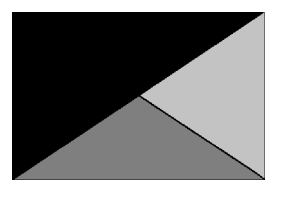
SHEET VENTILATION SCHEDULES

SHEET NUMBER

M-602



Chick-fil-A
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 Atlanta, Georgia
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6/20/25

CHICK-FIL-A
 Stafford & Heard FSU
 99 Stafford Street
 Worcester, MA 01603

FSR#05916

BUILDING TYPE / SIZE: P-14 LS BN
 RELEASE: 24.05
 PRINTED FOR
 ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |

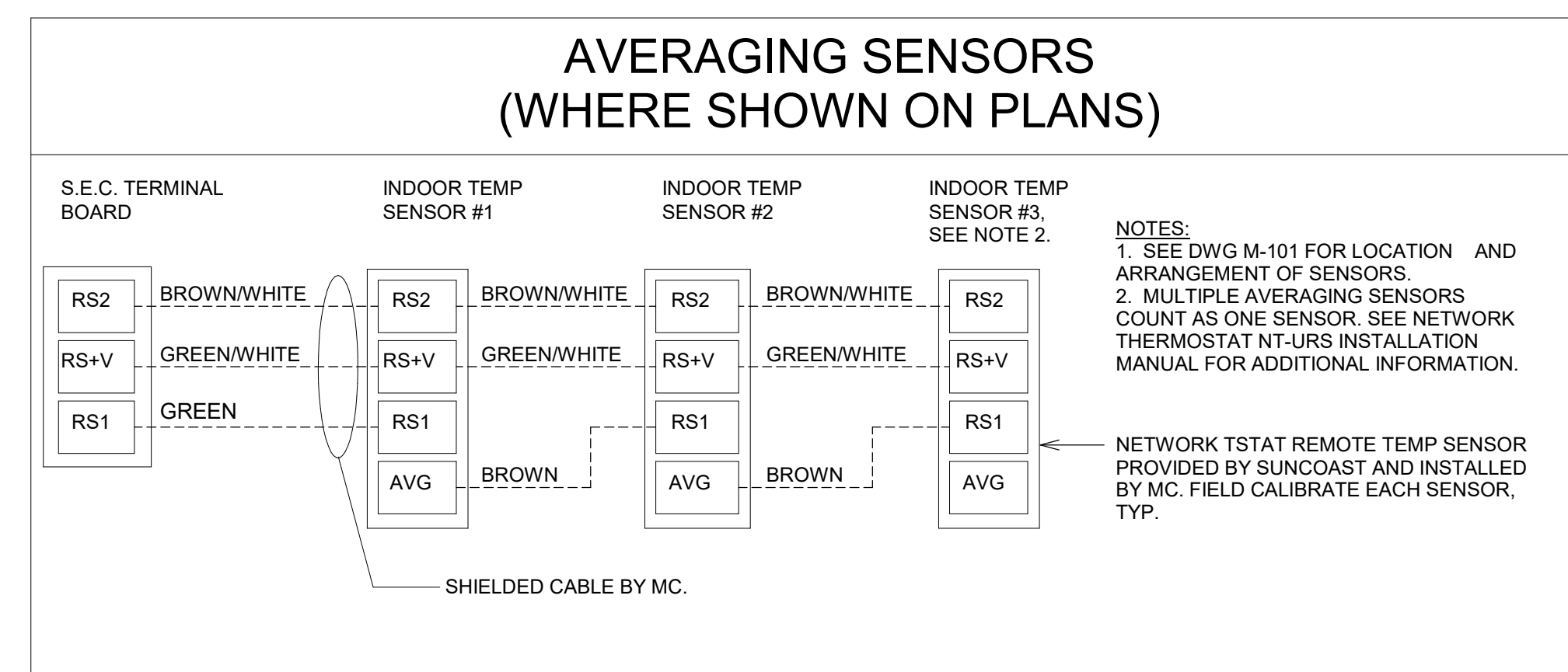
ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 25010.CD.S
 DATE 06/20/2025
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SHEET CONTROL WIRING DIAGRAMS - TRANE

SHEET NUMBER **M-701T**

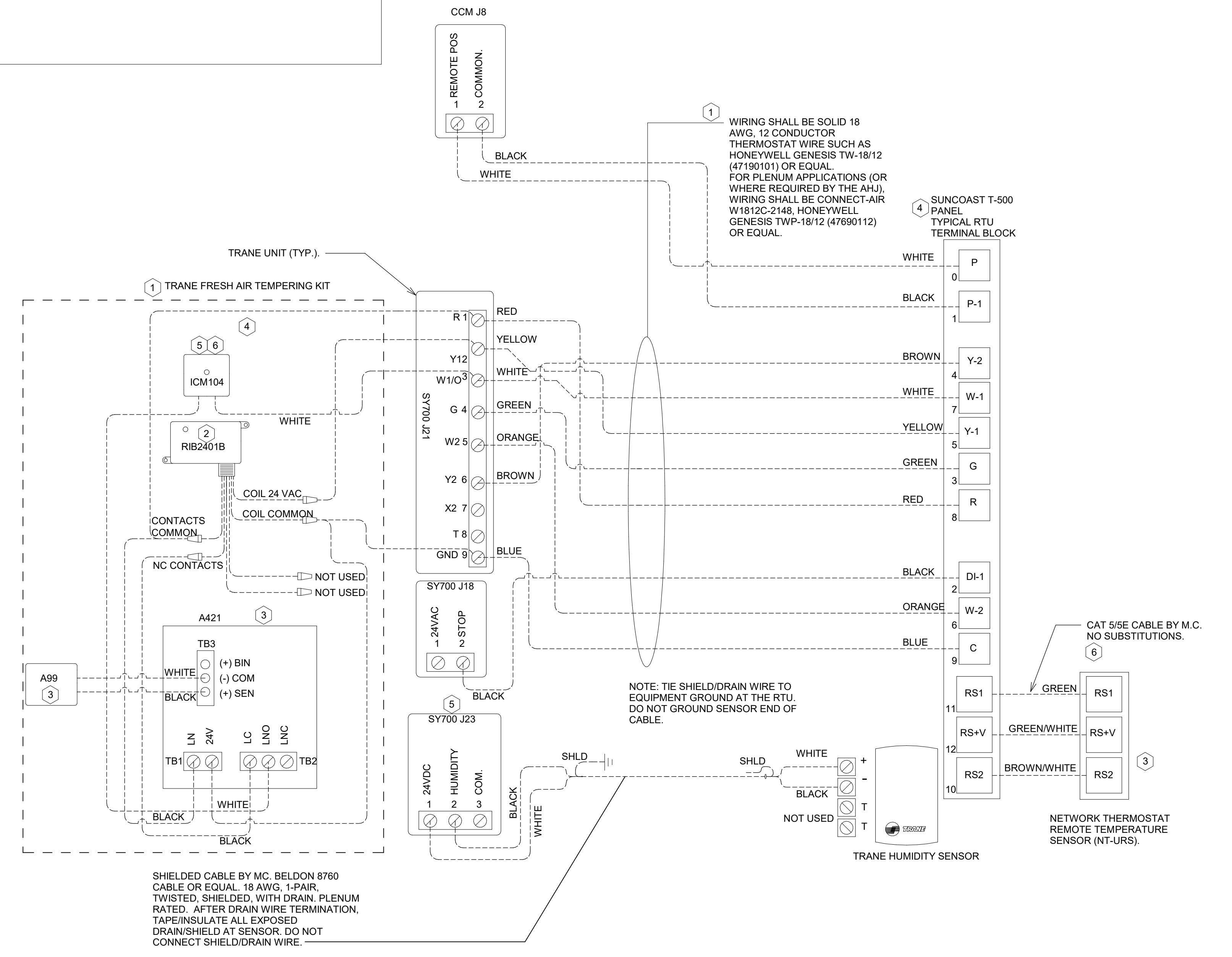


- KEYED NOTES:**
1. LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
 2. WIRING TO HUMIDITY SENSOR TO BE MADE WITH SINGLE 18/2 SENSOR CABLE: BELDEN 8760 OR EQUAL.
 3. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY M.C. SENSOR IS INTENDED TO BE SURFACE MOUNTED 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 5/5E CABLE BY M.C. NO SUBSTITUTIONS.

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

- LEGEND**
- S.E.C. SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF TEMPFAN CONTROL PANEL) LOCATED IN KITCHEN
 - MC MECHANICAL CONTRACTOR
 - AC SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL, ENERGIZED BY PUTTIN STORE SWITCH IN "STORE OCCUPIED" POSITION
 - AN SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL, DEENERGIZED WHEN ANSUL FIR SUPPRESSION SYSTEM IS ACTIVATED AS NOTED
- 18 AWG MIN WIRING BY MECH CONTRACTOR
 - FACTORY ANNUNCIATOR DETECTOR WIRING
 - FACTORY TRANE WIRING
- ALL LOW VOLTAGE CABLING BY M.C. ONLY USE CABLE SPECIFIED. NO SUBSTITUTIONS
 - LOW VOLTAGE WIRING BY S.E.C.
 - LINE VOLTAGE BY ELECTRICIAN OR S.E.C.

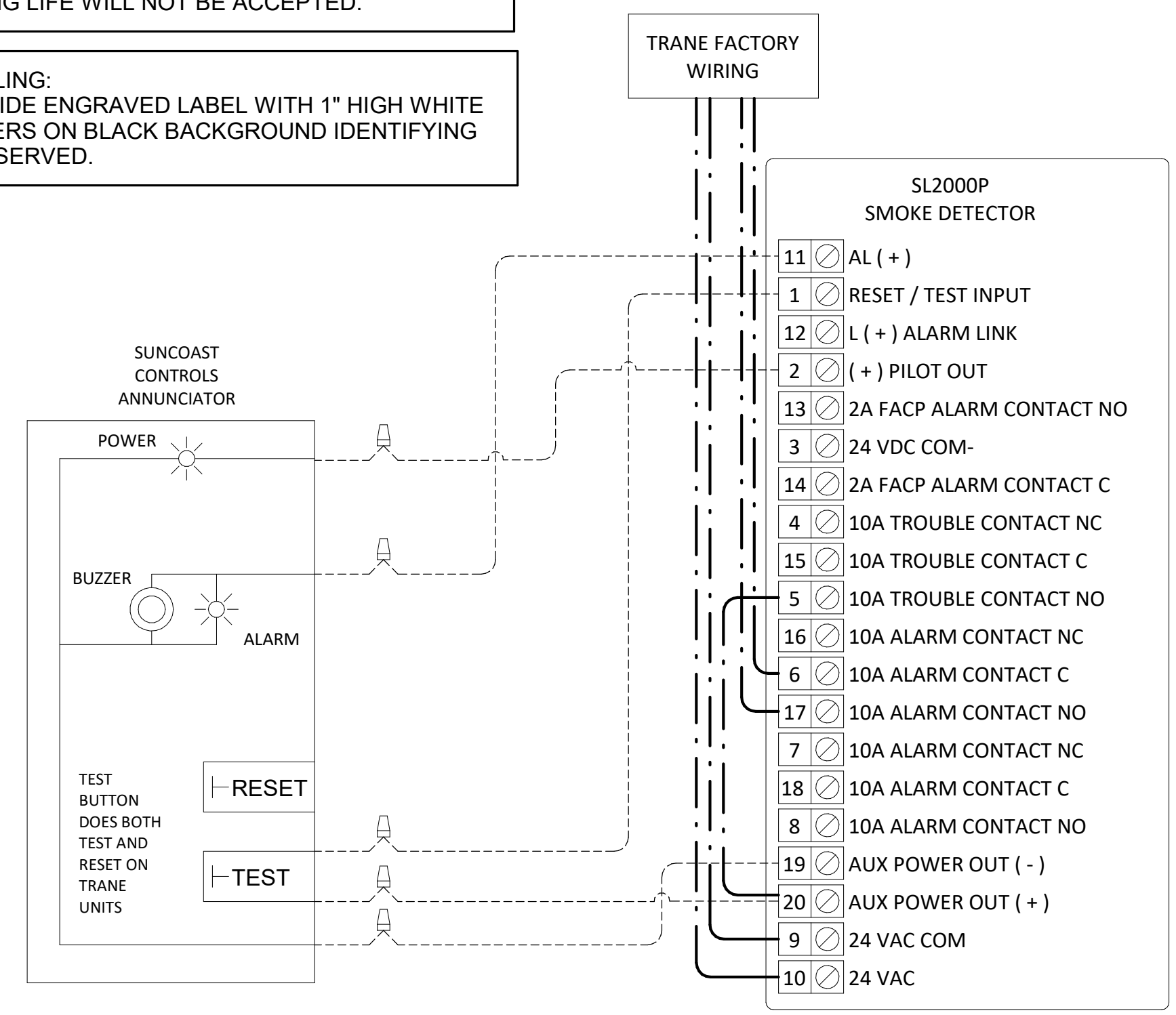
- FRESH AIR TEMPERING KEYED NOTES:**
1. INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.
 2. RIB2401B SPDT RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
 3. JCI A421 TEMPERATURE CONTROLLER FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN RTU CONTROL CABINET. CONTRACTOR SHALL INSTALL TRANE FURNISHED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE8001-1 SENSOR DUCT MOUNTING PLATE FURNISHED BY TRANE. DO NOT RUN WIRING INSIDE DUCTWORK. SET A421 CONTROLLER PARAMETERS TO THE FOLLOWING:
 • RELAY ON TEMPERATURE: 58°F
 • RELAY OFF TEMPERATURE: 80°F
 4. 18 AWG MIN. LOW VOLTAGE WIRING BY M.C.
 5. ICM104 TIME DELAY RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF ROOFTOP UNIT.
 6. SET TIME DELAY RELAY (ICM104) TO 15 MINUTES.



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

2 ROOFTOP UNIT CONTROL WIRING - TRANE
 NOT TO SCALE

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