

HVAC ABBREVIATIONS

ACC	AIR COOLED CONDENSING UNIT (HVAC)
AFB	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
CD	CEILING DIFFUSER
CU	CONDENSING UNIT (COOLER)
EF	EXHAUST FAN
ER	EXHAUST REGISTER
(E)/EXT'G	EXISTING
HD	HOOD
MAU	MAKEUP AIR UNIT
OB	BLADE DAMPER
RG	RETURN GRILL
RTU	ROOFTOP UNIT
SR	SUPPLY REGISTER
VSC	VARIABLE SPEED CONTROL

SUPPLIER/VENDOR ABBREVIATIONS

CO2AS	TENANT'S CO2 ALARM SUPPLIER
GC	GENERAL CONTRACTOR
HES	TENANT'S HVAC EQUIPMENT SUPPLIER
HS	TENANT'S HOOD SUPPLIER
KE5	TENANT'S KITCHEN EQUIPMENT SUPPLIER
TAB	TENANT'S TEST & BALANCE VENDOR
TCC	TENANT'S CABLING CONTRACTOR
TDC	TENANT'S DUCT CLEANER
TEMS	TENANT'S ENERGY MANAGEMENT SYSTEM SUPPLIER
TLS	TENANT'S LIGHT/LAMP SUPPLIER
TMB	TENANT'S MENU BOARD SUPPLIER
TMS	TENANT'S MILLWORK SUPPLIER
TP	TENANT'S PHONE SUPPLIER
TRS	TENANT'S RAILING SUPPLIER
TSV	TENANT'S SIGN VENDOR
TUV	TENANT'S UV SANITIZER SUPPLIER
WCS	TENANT'S WALK-IN COOLER SUPPLIER
WHS	TENANT'S WATER HEATER SUPPLIER

HVAC GENERAL NOTES

- A. GENERAL NOTES APPLY TO HVAC SHEETS.
- B. WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION, INCLUDING APPLICABLE SECTIONS OF NFPA, THE MECHANICAL CODE, AND ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PURCHASE PERMITS ASSOCIATED WITH THE WORK. OBTAIN INSPECTIONS REQUIRED BY CODE. SEE SHEET G-001 FOR THE PREVAILING CODES.
- C. CONTRACTOR AND SUBCONTRACTORS SHALL REVIEW A COMPLETE SET OF THE CONSTRUCTION DOCUMENTS.
- D. COORDINATE WORK WITH THE WORK OF OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND OF THE EXISTING CONDITIONS AT THE PROJECT SITE.
- E. DRAWINGS FOR THE MECHANICAL WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWING SHALL NOT BE SCALED FOR EXACT MEASUREMENTS, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, OFFSETS, ACCESSORIES, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- F. DUCT DIMENSIONS ON PLANS INDICATE DIMENSIONS OF INTERNAL FREE AREA.
- G. PERFORATED CEILING DIFFUSERS SHALL BE 4-WAY UNLESS NOTED OTHERWISE.
- H. COORDINATE ROOF WORK WITH THE OWNER'S CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
- I. UNLESS NOTED OTHERWISE, RECTANGULAR DUCT ELBOWS GREATER THAN 45° SHALL BE MITERED ELBOWS WITH DOUBLE-THICKNESS TURNING VANES AND RECTANGULAR DUCT ELBOWS 45° OR LESS SHALL BE RADIUSSED ELBOWS WITH AN INSIDE RADIUS OF AT LEAST 1/2 THE WIDTH OF THE DUCT.
- J. REPLACE AIR FILTERS WITH NEW, CLEAN, MERV 7 AIR FILTERS AT TURNOVER.
- K. THE TERM "FURNISH" MEANS SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
- L. PROVIDE LABELING CALLED FOR IN THE HVAC PLANS USING ENGRAVED PHENOLIC PLATES.
- M. PROVIDE P3000 12 GA. UNISTRUT WITH PG FINISH FOR DUCT SUPPORTS AND OTHER UNISTRUT IN AREAS EXPOSED TO VIEW. SLOTTED UNISTRUT AND OTHER UNISTRUT WITH HOLES IS NOT ACCTEABLE.

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

HVAC SYMBOLS

	CEILING DIFFUSER
	CEILING-MOUNTED RETURN REGISTER
	CEILING-MOUNTED EXHAUST REGISTER
	SUPPLY REGISTER
	RETURN REGISTER
	FLEXIBLE DUCT
	MITERED CORNER WITH TURNING VANES
	DUCTWORK INTERNAL FREE DIMENSIONS (WIDTH x HEIGHT)
	RECTANGULAR TO ROUND DUCT TRANSITION
	DUCT-MOUNTED SMOKE DETECTOR
	MOTOR-OPERATED DAMPER
	MANUAL VOLUME DAMPER
	GREASE DUCT CLEANOUT
	MITERED CORNER WITHOUT TURNING VANES
	GRIDPOINT THERMOSTAT
	GRIDPOINT ZONE SENSOR MODULE
	GRIDPOINT SUPPLY PROBE
	PLAN NOTE: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING
	CONNECT TO EXISTING
	EQUIPMENT TAG: SEE EQUIPMENT SCHEDULE ON SHEET M-600 FOR EQUIPMENT INFORMATION
	AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET
	MOTORIZED DAMPER
	FIRE DAMPER W/ ACCESS DOOR
	CD-1 12" ROUND NECK SIZE 550 CFM AIRFLOW

HVAC SPECIFICATIONS

- SECTION 15732 - PACKAGED ROOFTOP AIR-CONDITIONING UNITS
- PART 1 - GENERAL
- 1.1 SECTION REQUIREMENTS
- A. Submittals: Product Data and Shop Drawings.
 - B. Comply with ASHRAE 15.
 - C. EER: Equal to or greater than prescribed by IECC, 2018 Edition.
 - D. Warranties: Submit a written warranty, signed by the manufacturer, agreeing to the repair or replacement of components that fail within 5 years of Substantial Completion.
- PART 2 - PRODUCTS
- 2.1 PACKAGED UNITS, 5 TO 20 TONS
- A. Factory assembled and tested, consisting of compressors, condensers, evaporator coils, condenser and evaporator fans, refrigeration and temperature controls, filters, and dampers.
 - 1. Refer to Rooftop Heating/Cooling Unit Schedule on drawing M600 for capacities, and manufacturers.
 - 2. Evaporator Fans: Belt or direct drive, forward curved centrifugal.
 - 3. Exhaust/Relief Fans: Direct drive, forward curved centrifugal or propeller.
 - 4. Condenser Fans: Direct drive propeller.
 - 5. Refrigerant Coils: Aluminum fins and copper coil.
 - 6. Compressors: Serviceable hermetic or fully hermetic, with safety controls, hot gas bypass, and timed off controls.
 - 7. Heat Exchangers: Gas fired, with gas controls, electronic ignition, high limit cutout, and forced draft proving switch.
 - 8. Economizer controls (Comparative Enthalpy, 100% capacity).
 - 9. Low ambient controls.
 - 10. Smoke Detectors: Photoelectric - In supply and/or return as called for on teh schedule on M-600.
 - 11. Operating Controls: Two stage heating and two stage cooling on units 8-1/2 tons and over.
 - 12. Roof curb.
 - 13. Control Wiring from T-stat to rooftop unit: Shall be 18ga / 7 conductor, rated for plenum applications.
 - 14. Control Wiring from T-stat to remote sensor: Shall be a separate 18ga / 2 conductor shielded, rated for plenum applications.
- PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. Install units level and plumb and firmly anchored.
 - B. Connect gas piping to burner with pipe same size as gas train inlet, and provide union with sufficient clearance for burner removal and service.
 - C. Connect to supply and return hydronic piping with shutoff valve and union or flange at each connection.
 - D. Install ducts to termination in roof mounting frames. Terminate return air duct through roof structure.
 - E. Connect units to wiring systems and to ground.
- END OF SECTION 15732

- SECTION 15810 - DUCTS AND ACCESSORIES
- PART 1 - GENERAL
- 1.1 SECTION REQUIREMENTS
- A. Submittals: Product Data for fire and smoke dampers.
 - B. Comply with NFPA 90A for systems serving spaces more than 25,000 cu. ft. in volume or building Types II, IV, and V construction more than 3 stories in height.
 - C. Comply with NFPA 90B for systems serving spaces in 1 or 2 family dwellings or serving spaces less than 25,000 cu. ft.
 - D. Comply with NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations," Chapter 3, "Duct System," for range hood ducts, except single family residential usage, unless otherwise indicated.
 - E. Comply with UL 181 and UL 181A for ducts and closures.
 - F. Testing, Adjusting, and Balancing Agency Qualifications: AABC certified.
- PART 2 - PRODUCTS
- 2.1 DUCTS
- A. Spiral Duct: Spiral Lock Seam, without insulation, G90 galvanized finish, ASTM A-653/924
 - 1. Basis of Design Manufacturers: Lindab SPIROsafe, alternates to the basis of design must be submitted for review.
 - 2. Fittings: Factory produced standing seam construction with internal sealing. Fittings with a major axis of 36" or smaller shall be 20 gauge. Fittings with a major axis of 37"-48" shall be 18 gauge.
 - B. Galvanized Steel Sheet: Forming steel, ASTM A 653/653M, G90 coating designation.
 - C. Duct Liner: ASTM C 1071, Type II, with an airstream surface coated with a temperature resistant coating. Thickness: 1-1/2 inch. R-value : 6.3.
 - 1. Adhesive: ASTM C 916, Type I.
 - 2. Mechanical Fasteners: Galvanized steel pin, length as required to penetrate liner plus a 1/8 inch projection maximum into the airstream.
 - D. Joint and Seam Tape: Comply with UL 181A.
 - E. Joint and Seam Sealant: Comply with UL 181A.
 - F. Rectangular Metal Duct Fabrication: Comply with SMACNA's "HVAC Duct Construction Standard" for metal thickness, reinforcing types and intervals, tie rod applications, and joint types and intervals.
- 2.2 ACCESSORIES
- A. Volume-Control Dampers: Factory fabricated volume control dampers, complete with required hardware and accessories. Single blade and multiple opposed blade, standard leakage rating, and suitable for horizontal or vertical applications.
 - B. Fire Dampers: Factory-fabricated fire dampers, complete with required hardware and accessories. UL labeled according to UL 555, "Fire Dampers".
 - C. Flexible Connectors: Flame retardant or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.
 - D. Flexible Ducts: Factory fabricated, insulated, round duct, with an outer jacket enclosing 2 inch thick, glass fiber insulation, R-value: 6.0, around a continuous inner liner.
- PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. Duct System Pressure Class: Construct and install each duct system with 2 inch positive and negative duct pressure classifications.
 - B. Conceal ducts from view in finished and occupied spaces. Except where noted as exposed.
 - C. Avoid passing through electrical equipment spaces and enclosures.
 - D. Support and connect metal ducts according to SMACNA's "HVAC Duct Construction Standard".
 - E. Install duct accessories according to applicable portions of details of construction as shown in SMACNA standards.
 - F. Install liner on all supply and return duct.
 - G. Install volume control dampers in lined duct with methods to avoid damage to liner and to avoid erosion of duct liner.
 - H. Install fire and smoke dampers according to manufacturer's UL approved written instructions.
 - I. Install fusible links in fire dampers.
 - J. Provide saddle taps at tees for exposed ductwork.
- 3.2 TESTING, ADJUSTING, AND BALANCING
- A. The owner will supply an independent balance agent to to balance and adjust the HVAC installation. The balance agent will be responsible for any pulley or belt changes required.
 - B. The general contractor is to have trained staffed available during the balancing to correct issues noted by the balance agent.
 - C. The balance agent is to balance airflow within distribution systems, including submains, branches, and terminals to indicated quantities +/- 10%. The hood exhaust system shall be balanced to a tolerance of -0+10% and the make-up air system to a tolerance of -10+0%.
 - D. The balance agent is to supply a copy of the balance report to the owner, engineer and general contractor for review.
- END OF SECTION 15810

- SECTION 15855 - DIFFUSERS, REGISTERS, AND GRILLES
- PART 1 - GENERAL
- 1.1 SECTION REQUIREMENTS
- A. Submittals: None.
- PART 2 - PRODUCTS
- 2.1 OUTLETS AND INLETS
- A. Diffusers:
 - 1. Refer to Grills, Registers, and Diffusers Schedule for equipment schedule
 - 2. Manufacturer: As scheduled (NO SUBSTITUTIONS)
 - 3. Material: As scheduled.
 - 4. Finish: As scheduled.
 - 5. Mounting: As scheduled.
 - B. Wall and Ceiling Registers:
 - 1. Refer to Grills, Registers, and Diffusers Schedule for equipment schedule
 - 2. Manufacturer: As scheduled (NO SUBSTITUTIONS)
 - 3. Material: As scheduled.
 - 4. Finish: As Scheduled.
 - 5. Mounting: Countersunk screw.
 - C. Wall and Ceiling Grilles:
 - 1. Refer to Grills, Registers, and Diffusers Schedule for equipment schedule
 - 2. Manufacturer: As scheduled (NO SUBSTITUTIONS)
 - 3. Material: As scheduled.
 - 4. Finish: As Scheduled.
 - 5. Mounting: Countersunk screw or lay in depending location.
- PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. Coordinate location and installation with duct installation and installation of other ceiling and wall mounted items.
 - B. Locate ceiling diffusers, registers, and grilles, as indicated on general construction "reflected ceiling plans." Unless otherwise indicated, locate units in center of acoustical ceiling panels.
- END OF SECTION 15855
- SECTION 15900 - HVAC INSTRUMENTATION AND CONTROLS
- PART 1 - GENERAL
- 1.1 SECTION REQUIREMENTS
- A. Summary: Electric/electronic control sequences for HVAC systems and equipment.
 - B. Submittals: Shop Drawings detailing operating control sequences of each item of HVAC equipment and system and Product Data for controllers, sensors, operators, control panels, thermostats, humidistats, actuators, control valves and dampers.
 - C. System Description: Control systems consists of sensors, indicators, actuators, final control elements, interface equipment, and other apparatus, accessories, required to operate mechanical systems according to sequences of operation indicated and specified.
 - D. Operation Sequence:
 - 1. Unoccupied Cycle: During unoccupied hours, as set by the Energy Management System, the outside air and return dampers for the HVAC unit close, and the thermostat set point resets to 65° F (user adjustable). Upon a call for heating, the HVAC unit energizes.
 - 2. Occupied Cycle: During occupied hours, as set by the Energy Management System, the outside air and return dampers open to a minimum set point. The furnace and exhaust fans run continuously. Upon a call for heating, the furnace heating energizes. Upon a call for cooling, the condensing unit energizes.
- PART 2 - PRODUCTS (Not Applicable)
- PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. Install control wiring concealed, except in mechanical rooms, and according to requirements specified in Division 16 Sections.
- END OF SECTION 15900

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PROJECT NUMBER:
23036

SHEET TITLE:

MECHANICAL
SPECIFICATIONS,
SYMBOLS, & GENERAL
INFORMATION

SHEET NUMBER:

M-010

2023-DB#3/P#1-4

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HVAC PLAN

SHEET NUMBER:

M-100

KEYNOTES FOR THIS SHEET 1, 2 ETC.

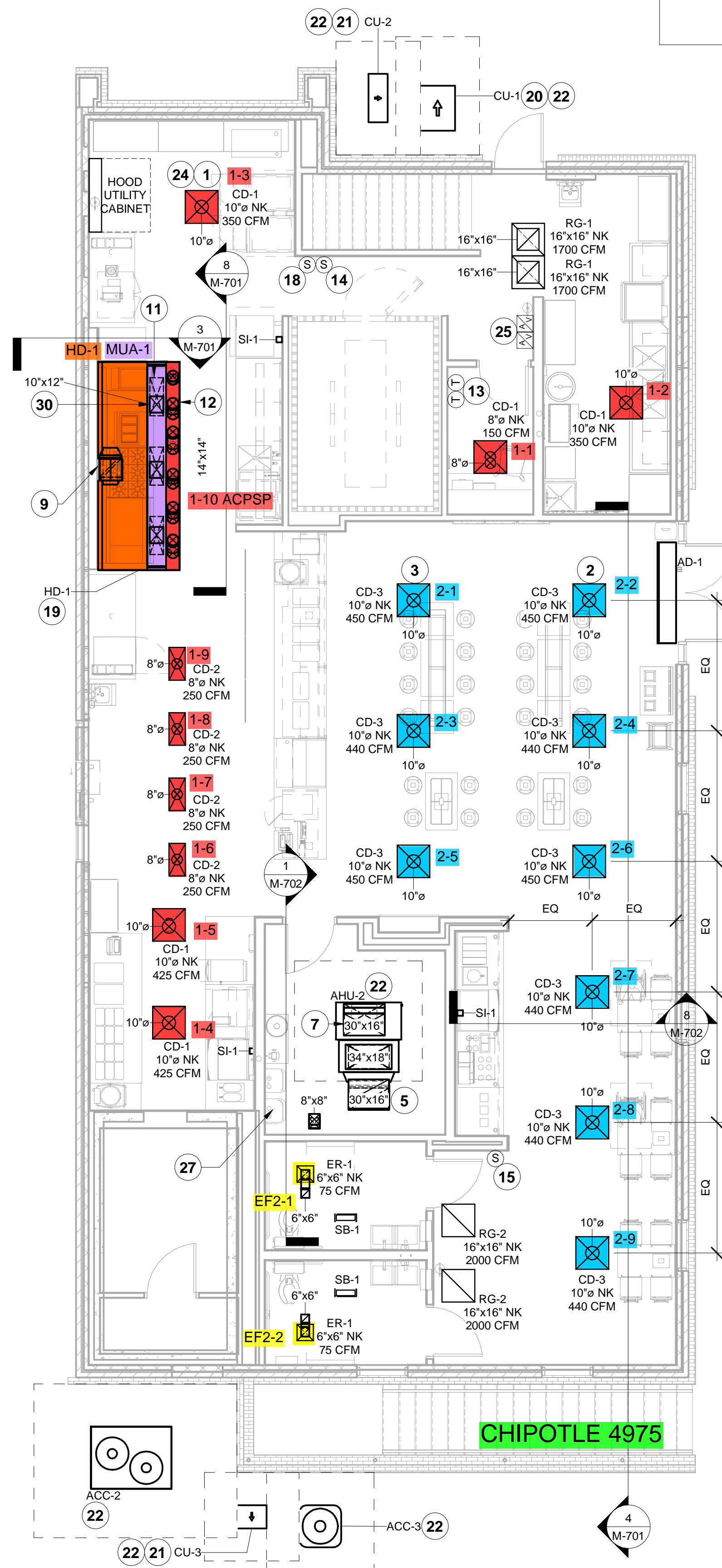
- SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING MOUNTED EQUIPMENT LOCATION. TYPICAL.
- PAINT DUCTWORK VISIBLE THROUGH DINING ROOM SUPPLY REGISTERS BLACK. TYPICAL.
- SEE 2/M-100 FOR ASSOCIATED DUCTWORK IN ATTIC. TYPICAL.
- 16/26 DUCT FOR TRANSITION TO RTU-1 RETURN CONNECTION ON SIDE OF UNIT. RTU-1 SHALL HAVE A SMOKE DETECTOR INSTALLED IN THE RETURN AIR STREAM, PROVIDED AND INSTALLED BY CONTRACTOR. INTERLOCK SMOKE DETECTOR TO RTU-1 OPERATION.
- 30/16 DUCT DOWN FOR TRANSITION TO AHU-2 RETURN CONNECTION ON REAR OF MIXING BOX. AHU-2 SHALL HAVE A SMOKE DETECTOR INSTALLED IN THE RETURN AIR STREAM, PROVIDED & INSTALLED BY CONTRACTOR. INTERLOCK SMOKE DETECTOR TO AHU-2 OPERATION.
- 28/14 DUCT FROM ATTIC SPACE THROUGH ROOF, TRANSITION AS SHOWN AND THEN TRANSITION TO RTU-1 SUPPLY CONNECTION ON SIDE OF UNIT.
- 30/16 DUCT DOWN FOR TRANSITION TO AHU-2. TRANSITION TO AHU-2 SUPPLY CONNECTION ON TOP OF UNIT.
- 14/14 DUCT THROUGH ROOF. TRANSITION TO MAU-1 SUPPLY CONNECTION ON SIDE OF UNIT.
- 16/16 DUCT UP FROM HOOD THROUGH ROOF TO EF-1 COMPLIANT WITH NFPA 96. PROVIDE RADIUSED ELBOWS WITH AN INSIDE RADIUS OF 0.5W AT ELBOWS IN GREASE DUCT.
- 8/8 DUCT FROM EF-2 UP THROUGH ROOF TO GOOSENECK.
- 28/10 DUCT DOWN TO MAKEUP AIR PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL FOR 3.
- 8" DIA. DUCT DOWN TO AC PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL. CAP UNUSED DUCT CONNECTIONS.
- INSTALL GRIDPOINT THERMOSTATS FURNISHED BY TEMS FOR RTU-1 AND AHU-2 AT THIS LOCATION AT 48" AFF. COORDINATE WITH ELECTRICAL SWITCHING IN THIS AREA. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710. LABEL THERMOSTAT WITH CORRESPONDING UNIT.
- INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR RTU-1 AT THIS LOCATION AT 60" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710. LABEL SENSOR WITH CORRESPONDING UNIT.
- INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR AHU-2 AT THIS LOCATION AT 66" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710. LABEL SENSOR WITH CORRESPONDING UNIT.
- INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR RTU-1 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR AHU-2 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- INSTALL REMOTE TEMPERATURE SENSOR FOR HOOD HD-1 AT THIS LOCATION AT 66" AFF. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE (2) #18 G. THERMISTOR CABLE FROM TEMPERATURE SENSOR TO HOOD CONTROL PANEL. LABEL SENSOR "HD-1".
- INSTALL KITCHEN HOOD, HD-1. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL HOOD ACCORDING TO THE REQUIREMENTS OF ITS LISTING, IN COMPLIANCE WITH NFPA 96, THE BUILDING CODE, AND AUTHORITIES HAVING JURISDICTION. HOOD SHALL HAVE AN INTEGRAL DUCT COLLAR TEMPERATURE SENSOR TO AUTOMATICALLY ENERGIZE THE EXHAUST AND MAKEUP AIR FANS IF COOKING TEMPERATURES ARE DETECTED. EXHAUST DUCT SYSTEM TO BE WELDED OR FACTORY-MANUFACTURED WATER AND AIR TIGHT. INSTALL CLEANOUTS PER CODE AND AS SHOWN. INSTALL HOOD PER DETAILS 2, 4, AND 9/M700. CHIPOTLE WILL PROVIDE AN INDEPENDENT TESTING AGENCY FOR TESTING THE INTEGRITY OF THE GREASE DUCT SYSTEM.
- INSTALL REMOTE CONDENSING UNIT FOR WALK-IN COOLER ON GRADE AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, LOW AMBIENT CONTROLS, AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. SEAL PIPING PENETRATIONS THROUGH EXTERIOR WALL. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15. INSTALL THE REFRIGERANT LINE SET TO WITHIN 3'-0" OF THE CONDENSING UNIT. CUT 2-1/2" HOLE IN WALK-IN COOLER ROOF FOR REFRIGERANT LINE SET AND SEAL PER THE COOLER MANUFACTURER'S INSTALLATION INSTRUCTIONS AFTER LINE SET IS INSTALLED.
- INSTALL REMOTE CONDENSER FOR ICE MACHINE ON GRADE. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, LOW AMBIENT CONTROLS AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. SEAL PIPING PENETRATIONS THROUGH EXTERIOR WALL. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15. INSTALL THE REFRIGERANT LINE SET TO WITHIN 3'-0" OF THE REMOTE CONDENSER. IF REFRIGERANT PIPING TO ICE MACHINE IS EXPOSED TO PUBLIC VIEW, CONCEAL WITHIN A STAINLESS STEEL SHROUD AS SHOWN IN THE ARCHITECTURAL DRAWINGS.
- INSTALL HVAC EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- INSTALL EXHAUST FAN EF-1 PER DETAIL 8/M-700 AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL GREASE VIROGUARD SYSTEM FURNISHED BY CHIPOTLE ON EXHAUST FAN EF-1.
- PROVIDE SUPPLY DIFFUSER CONNECTION TO SUPPLY SYSTEM PER DETAIL 6/M-700. TYPICAL.
- PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET. WIRE A UNIT BACK TO EACH SMOKE DETECTOR. MOUNT UNIT 60" AFF. LABEL ANNUNCIATOR WITH CORRESPONDING UNIT. TYPICAL.

KEYNOTES FOR THIS SHEET 1, 2 ETC.

- INSTALL REME HALO AIR PURIFIER FURNISHED BY TUV IN RTU PER DETAIL 5/M-700. SEE ELECTRICAL DRAWINGS FOR POWER CONNECTION INFORMATION. INSTALL UV WARNING STICKERS ON FACE OF ENCLOSURE PER DETAIL AND ON ANY RTU ACCESS DOOR(S) THROUGH WHICH THE REME HALO WOULD BE VISIBLE IF OPENED.
- MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER FLUE TERMINATION AND OUTSIDE AIR INTAKES. MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER COMBUSTION AIR INTAKE AND EXHAUST OUTLETS. SEE PLUMBING DRAWINGS FOR MORE INFORMATION ON WATER HEATER FLUE AND COMBUSTION AIR TERMINATIONS.

KEYNOTES FOR THIS SHEET 1, 2 ETC.

- 10'-0" MIN. CLEARANCE FROM OUTER EDGE OF EXHAUST FAN TO FRESH AIR INTAKES. TYPICAL.
- PROVIDE MIN. 24" HORIZONTAL DUCT RUN BEFORE TURNS OR BRANCHES. INSTALL MIN. 6"x10" REMOVABLE ACCESS PANELS ON BOTH THE UPSTREAM AND DOWNSTREAM SIDE OF FURNACE. PANELS MUST BE ACCESSIBLE. DUCT COMBUSTION AIR INTAKE AND FLUE DUCTS UP THROUGH ROOF. TERMINATE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS & COORDINATE LOCATION WITH CHIPOTLE D.M. & CHIPOTLE C.M.. SEE FURNACE I.O.M. FOR ADDITIONAL MANUFACTURER INSTALLATION REQUIREMENTS. DRAIN BURNER DRIP PAN PER MANUFACTURER RECOMMENDATIONS AND DISCHARGE TO CLOSEST FLOOR DRAIN OR MOP SINK, VIA AIR GAP.
- DUCT CONNECTOR BETWEEN MAU PLENUMS, SEE HOOD MAU DUCTWORK SECTION ON M-710.
- PROVIDE DUCT INSULATION BOARD ON ALL EXTERIOR DUCT, MINIMUM R-8, WITH ASJ OR FSK FACING. AFTER FACING HAS BEEN INSTALLED, INSTALL ALUMAGUARD PEEL AND STICK, SELF-HEALING, UV STABLE, BITUMEN MEMBRANE BY POLYGUARD PRODUCTS, INC..

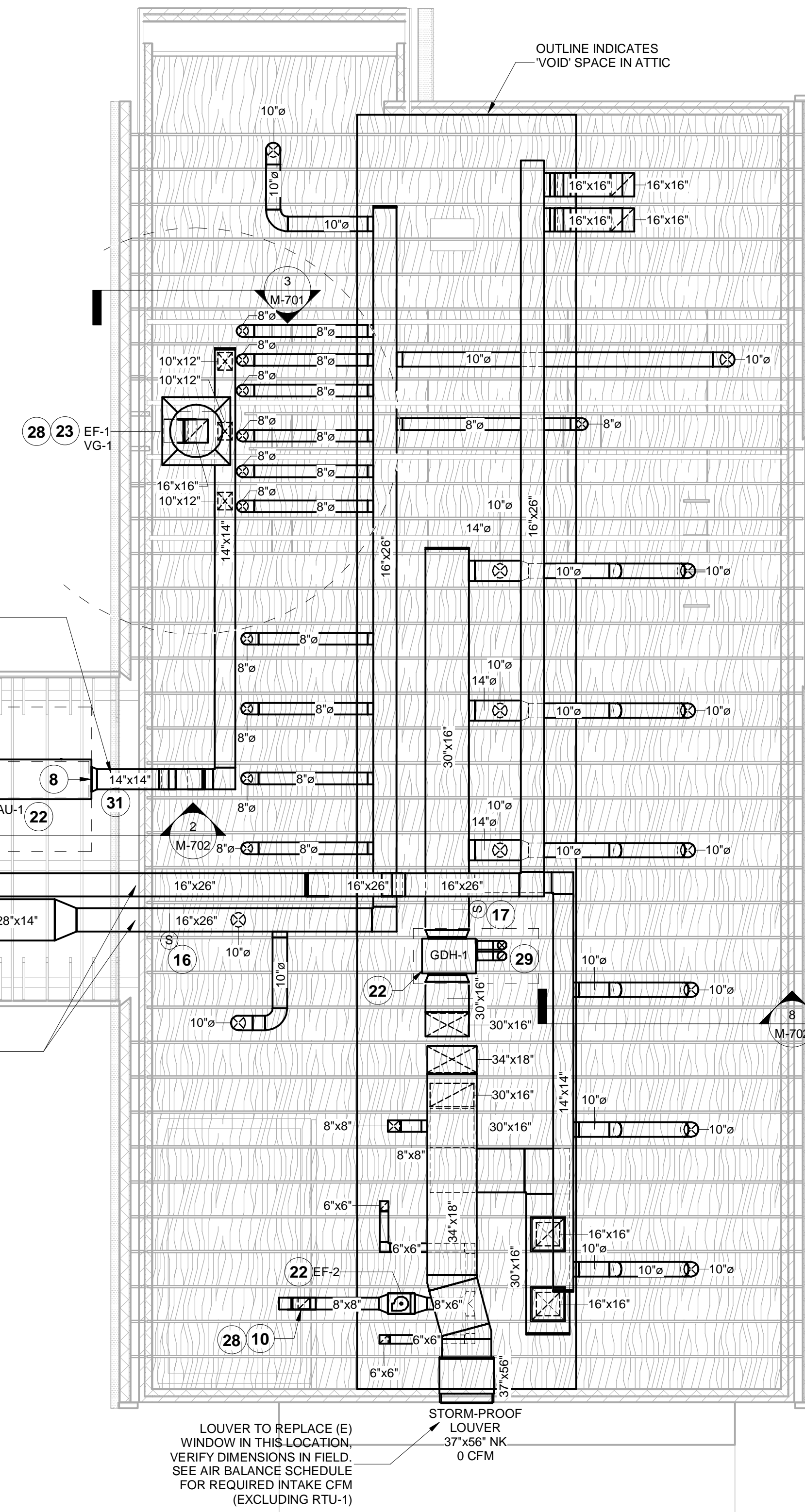


1 HVAC PLAN
3/16" = 1'-0"

DUCT SIZE NOTED AT AIR TERMINALS AND/OR DUCT DROPS ON PLANS IS INSIDE CLEAR DIMENSION AND DOES NOT INCLUDE INSULATION. ALL DUCTWORK HAS BEEN LOCATED TO WORK WITH SPACING BETWEEN TRUSSES AND RUN THROUGH THEIR WEBBING (WHERE APPLICABLE). VERIFY TRUSS SPACING, DEPTH, AND WEBBING IN FIELD AND MODIFY DUCT ROUTING AS REQUIRED.

LOCATE UNIT SO THAT MANUFACTURER CLEARANCES ARE MET AND THE DUCT MAIN LINES UP WITH THE TRUSS VOID BEFORE PENETRATING THE ROOF.

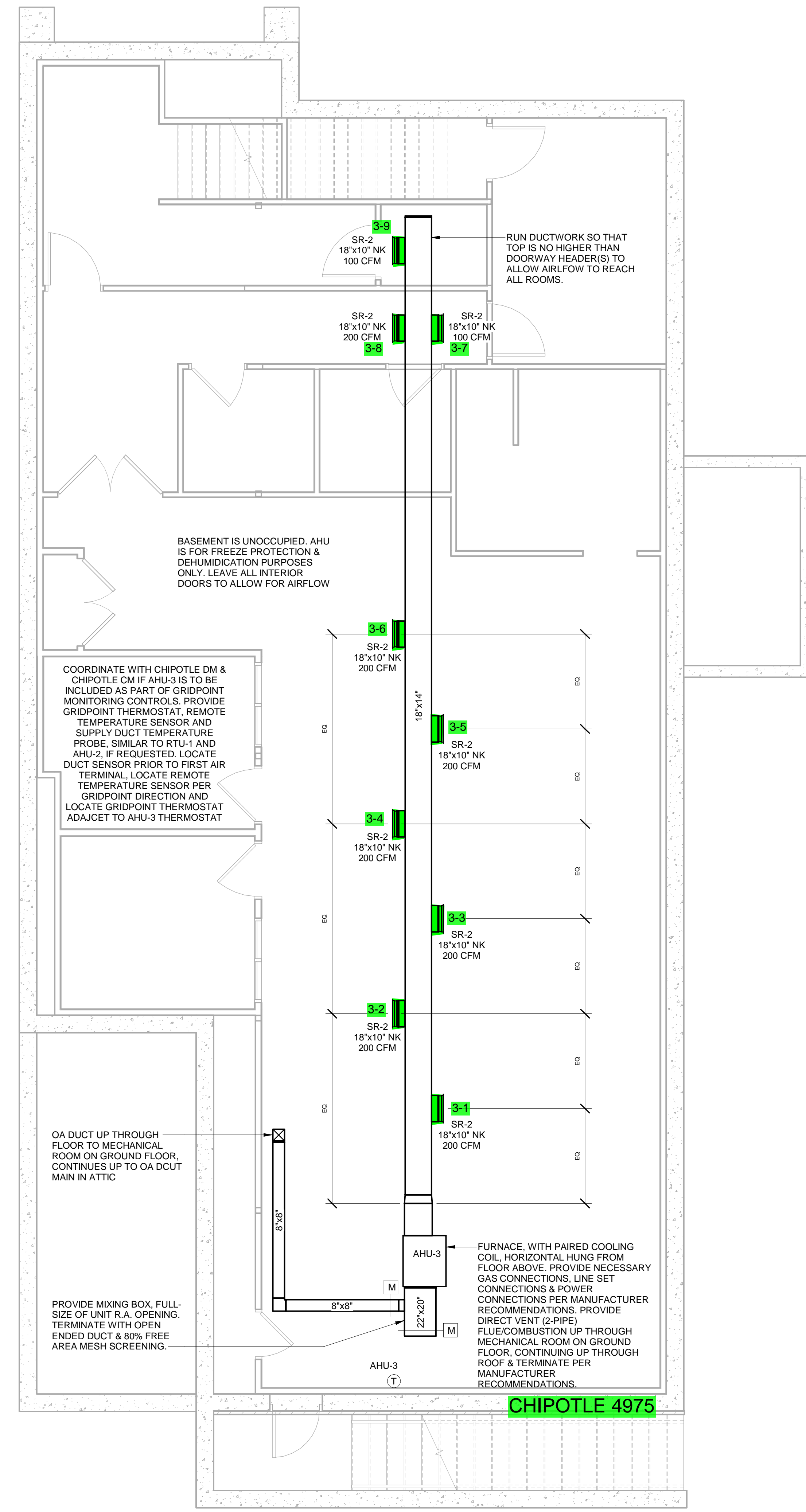
LOCATE UNIT SO THAT MANUFACTURER CLEARANCES ARE MET. TRANSITION THE DUCT SIZE AND OFFSET AS SHOWN SO THAT THE DUCT MAIN LINES UP WITH THE TRUSS VOID BEFORE PENETRATING THE ROOF.



2 HVAC ROOF / ATTIC PLAN
3/16" = 1'-0"

2023-DB#3/P#1-4

2023-DB#3/P#1-4



1 HVAC BASEMENT PLAN
1/4" = 1'-0"

Consultant:

Polaris
Consulting Engineers, PC

214 W. Main Street, Suite 208
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STORE NO.: 4975
DOUGLASSVILLE
15 MAPLEWOOD DRIVE,
DOUGLASSVILLE, PA, 19518

REV. DATE	DESCRIPTION
10/06/2023	PERMIT SET

PROFESSIONAL SEAL

Michael L. Wilson, P.E.
PA License #PE-033493-E

PROFESSIONAL IN CHARGE: Michael L. Wilson, P.E.
DRAWN BY: PCE
CHECKED BY: AJS

PROJECT NUMBER:
23036

SHEET TITLE:
HVAC BASEMENT PLAN

SHEET NUMBER:
M-101

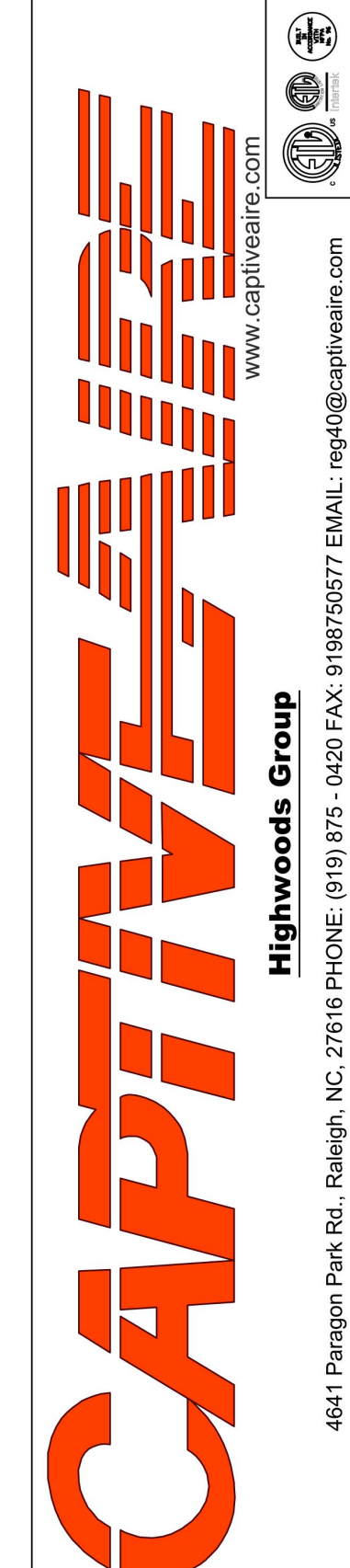
HOOD SHOP DRAWING PRODUCED BY
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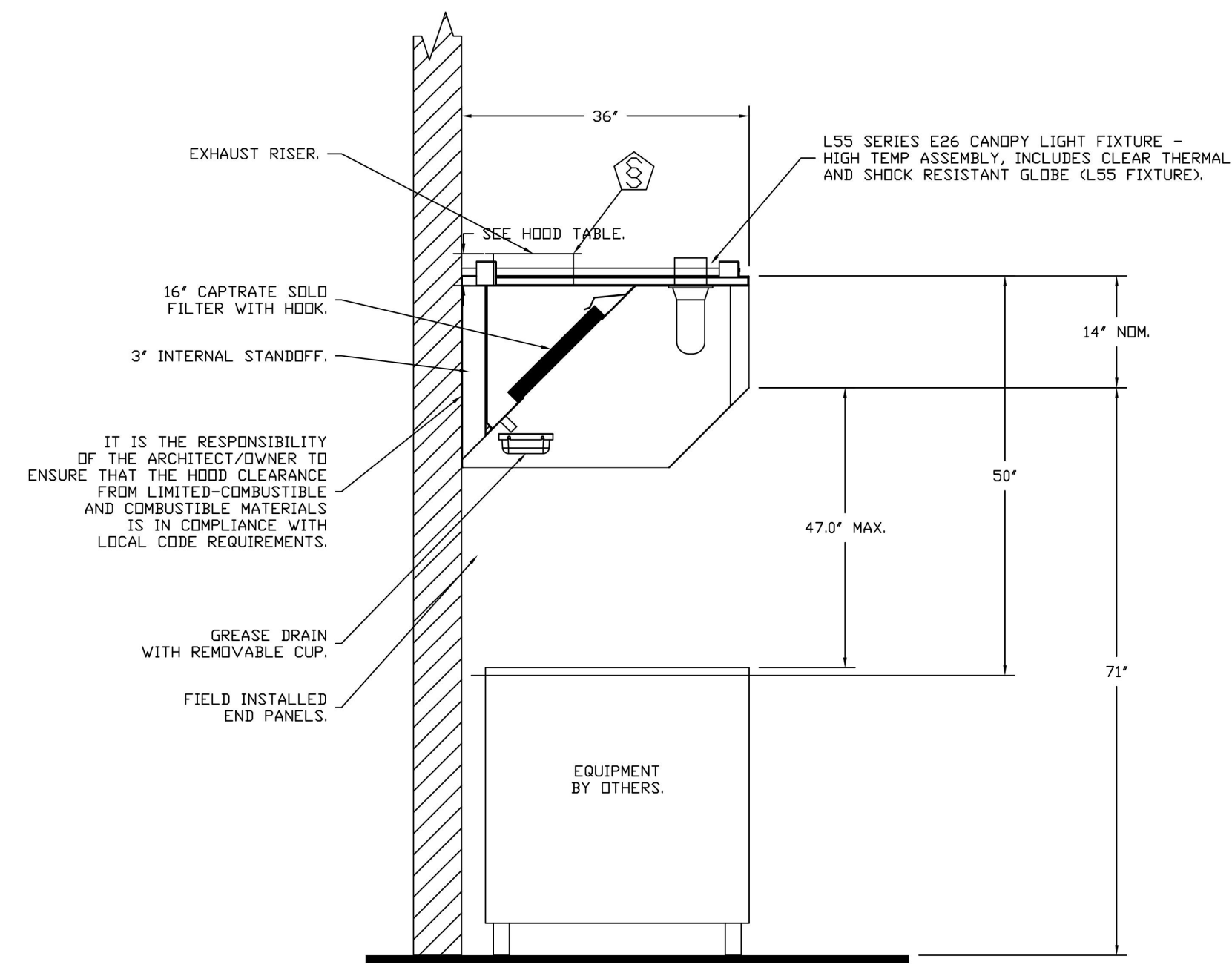
23036

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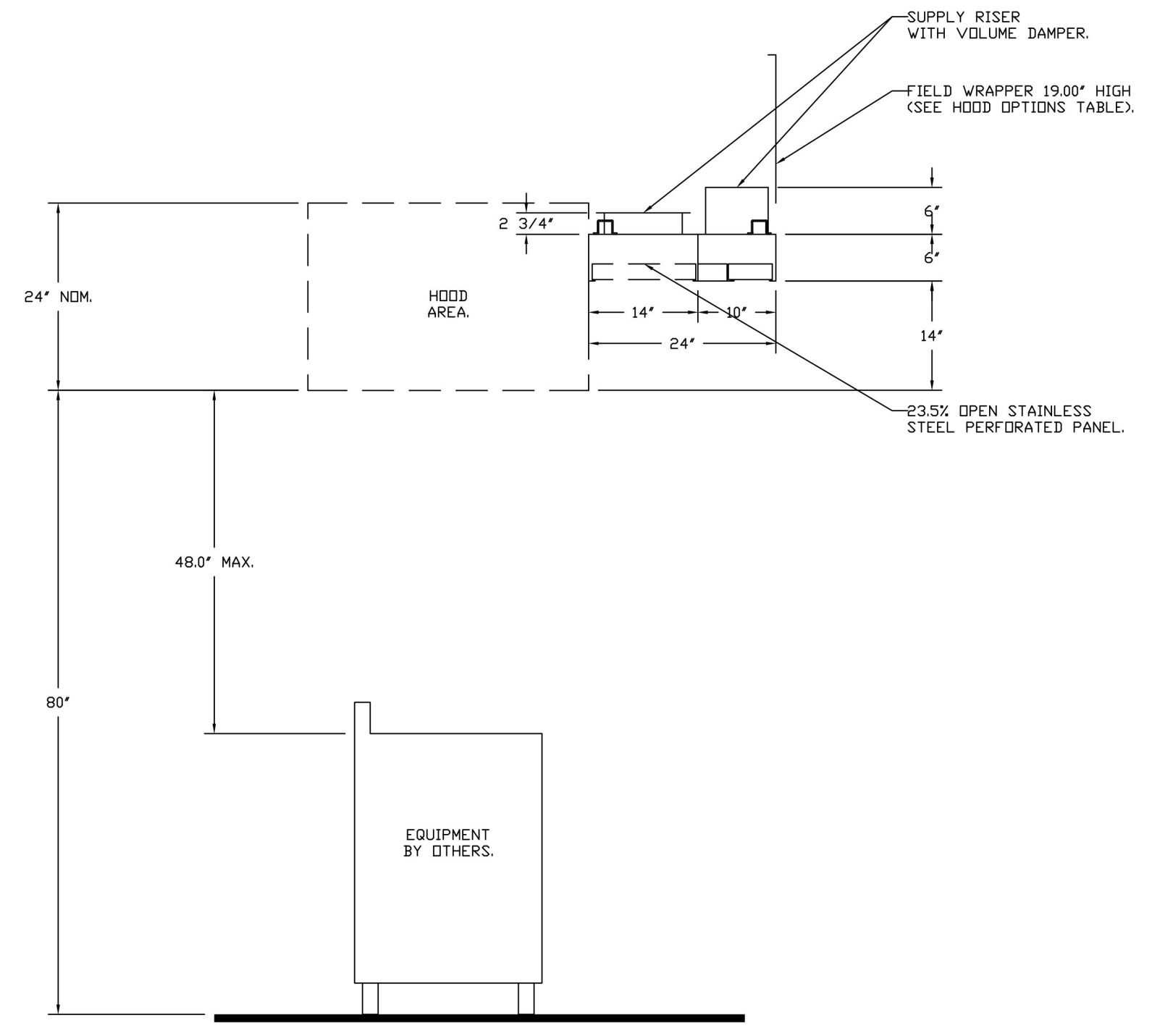
CAPTIVEAIRE
DRAWINGS

SHEET NUMBER:

M-402



SECTION VIEW - MODEL 3650BD-2
HOOD - #1



SECTION VIEW - MODEL 246MISC ACPSP-ONLY
HOOD - #2

FIRE SYSTEM INFORMATION - JOB#6232702

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	32	WALL UTILITY CABINET LEFT	N/A

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS

SHEET NO.
2

2023-DB#3/P#1-4

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PROJECT NUMBER:
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SHEET TITLE:
CAPTIVEAIRE
DRAWINGS

SHEET NUMBER:
3

M-403

REVISIONS	
DESCRIPTION	DATE

CAPTIVEAIRE
Highwoods Group
4841 Pringon Park Rd., Raleigh, NC 27616 PHONE: (919) 875-0420 FAX: 9198759577 EMAIL: rog40@captivaire.com

CHIPOTLE DOUGLASSVILLE #4975
15 Maplewood Drive,
Douglassville, PA, 19518

DATE: 9/29/2023
DWG.#:
6232702
DRAWN BY:
SCALE:
3/4" = 1'-0"
MASTER DRAWING
SHEET NO.
3

EXHAUST FAN INFORMATION - JOB#6232702

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDNES
1	EF-1	1	DUI80HFA	CAPTIVEAIRE	2869	1.200	1174	DDP,PREMIUM	2.000	1.2600	3	208	8.3	663 FPM	183	14.3
2	EF-2	1	CFA 200CA	CAPTIVEAIRE	150	0.500	673	GENERALPURPOSE	0.170	0.1260	1	115	1.8		32	N/A

MUA FAN INFORMATION - JOB#6232702

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLDWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MDCP	WEIGHT (LBS)	SDNES
3	MAU-1	1	A1-D.250-15D	15MF-1-MDD	A1-D.250	1000	1746	0.500	1879	DDP,PREMIUM	2.000	1.0520	3	208	6.1	7.7A	15A	504	17.4

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
3	MAU-1	119278	109736	59°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF-1	1	GREASE BOX
		1	REMOVE HINGE KIT LABEL FROM THE FAN BASE
		1	2 YEAR PARTS WARRANTY
2	EF-2	1	STRAIGHT THROUGH DISCHARGE - ASSEMBLY - CFA INLINE
		1	RDI- RADIATION DAMPER
		1	CEILING VIBRATION HANGERS
3	MAU-1	1	FAN CONTROL - 3 AMP FAN MOUNTED SPEED CONTROL FOR CFA CEILING FANS
		1	2 YEAR PARTS WARRANTY
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING - MEETS AMCA CLASS 1A RATING
		1	LDV FIRE START
		1	OPPOSITE SIDE HEATER CONTROLS
		1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI
		1	FREEZE/STAT
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY
1	2 YEAR PARTS WARRANTY		

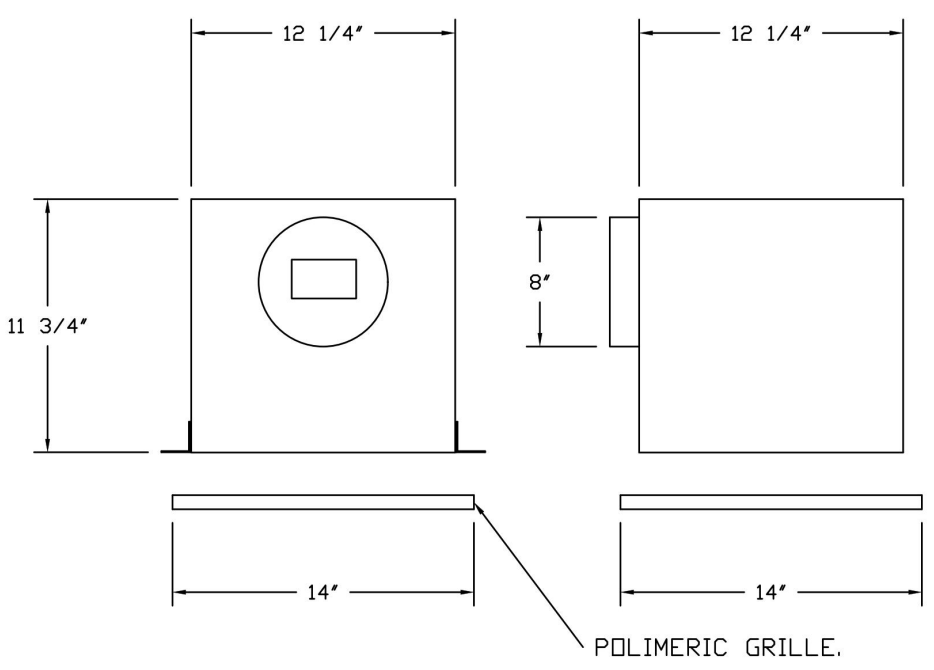
FAN ACCESSORIES

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

CURB ASSEMBLIES

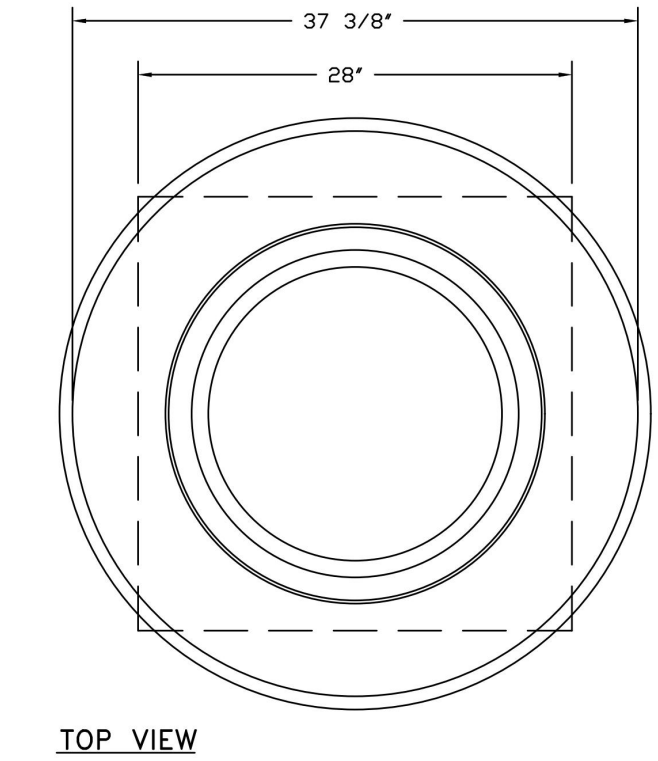
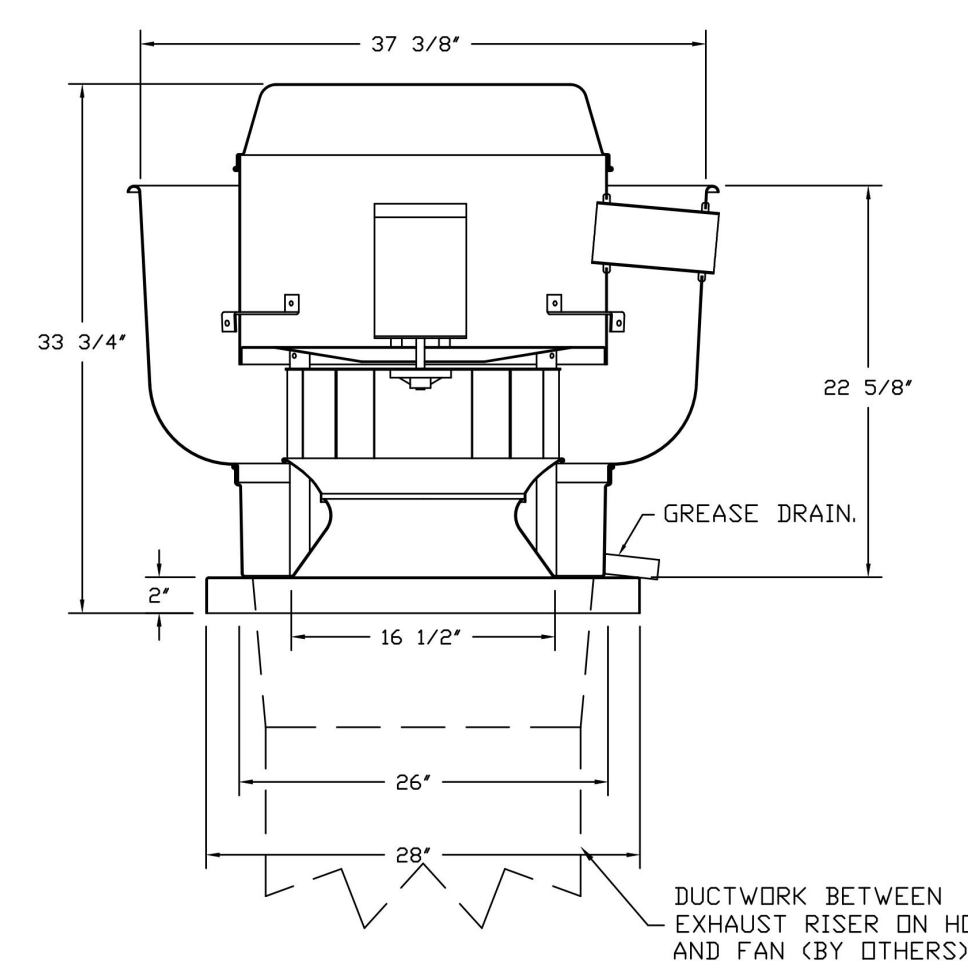
NO	DN FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	EF-1	37 LBS	CURB	26.500"W X 26.500"L X 20.000"H 7.960:12.000 PITCH ALONG LENGTH, RIGHT VENTED.
3	# 3	MAU-1	65 LBS	CURB	21.000"W X 71.000"L X 20.000"H INSULATED.

FAN #2 CFA 200CA - EXHAUST FAN (EF-2)

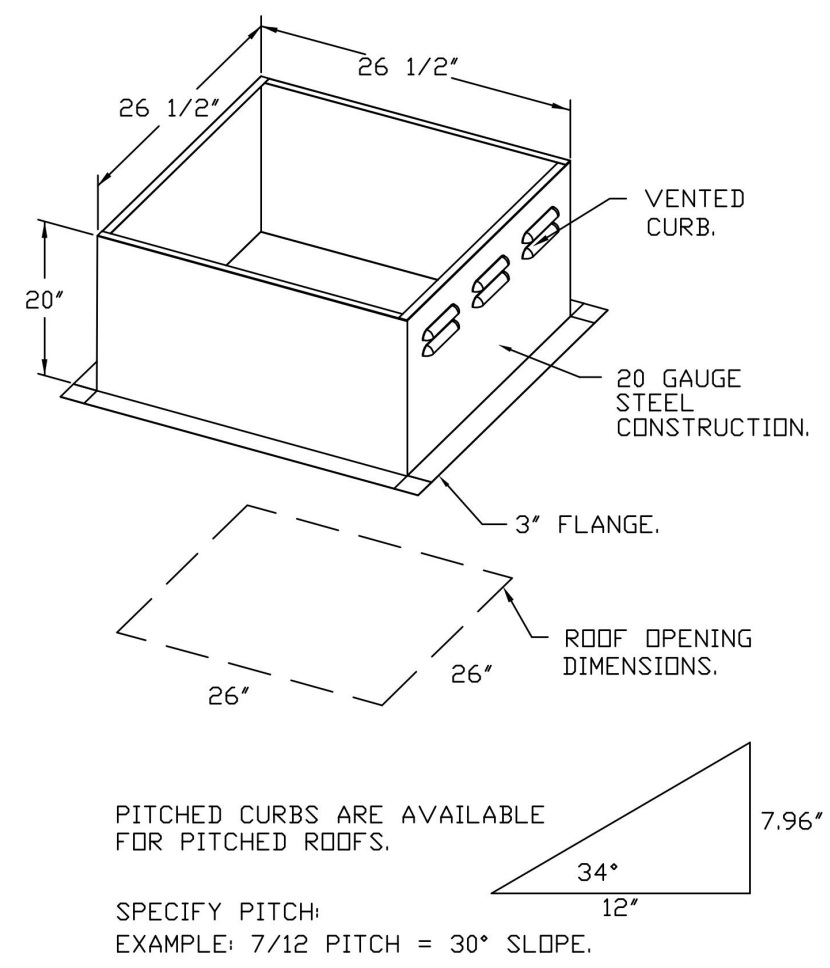


- FEATURES:**
- 1/2" ACOUSTIC HOUSING INSULATION.
 - 20 GA. GALVANIZED STEEL HOUSING.
 - PLUG TYPE DISCONNECT.
 - BUILT IN AUTOMATIC BACKDRAFT DAMPER.
 - AMCA SOUND & AIR CERTIFIED.
 - UL LISTED.
 - CAN BE INSTALLED IN CEILING OR WALL.
 - 8 POSITION MOUNTING BRACKETS.
- OPTIONS**
- STRAIGHT THROUGH DISCHARGE - ASSEMBLY - CFA INLINE.
 - RDI- RADIATION DAMPER.
 - CEILING VIBRATION HANGERS.
 - FAN CONTROL - 3 AMP FAN MOUNTED SPEED CONTROL FOR CFA CEILING FANS.
 - 2 YEAR PARTS WARRANTY.

FAN #1 DUI80HFA - EXHAUST FAN (EF-1)



- FEATURES:**
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
 - ROOF MOUNTED FANS.
 - RESTAURANT MODEL.
 - UL705 AND UL762 AND ULC-S645
 - VARIABLE SPEED CONTROL.
 - INTERNAL WIRING.
 - THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
 - HIGH HEAT OPERATION 300°F (149°C).
 - GREASE CLASSIFICATION TESTING.
 - NEMA 3R SAFETY DISCONNECT SWITCH.
- NORMAL TEMPERATURE TEST**
- EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.
- ABNORMAL FLARE-UP TEST**
- EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.
- OPTIONS**
- GREASE BOX.
 - REMOVE HINGE KIT LABEL FROM THE FAN BASE.
 - 2 YEAR PARTS WARRANTY.



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.
SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE.

EF-1 REQUIRES 33.56 DEGREE PITCHED CURB.
VERIFY ROOF PITCH IN FIELD AND CONTACT CAPTIVE AIRE WITH ANY DISCREPANCIES

HOOD SHOP DRAWING PRODUCED BY
MANUFACTURER - FOR REFERENCE ONLY

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Polaris
Consulting Engineers, PC
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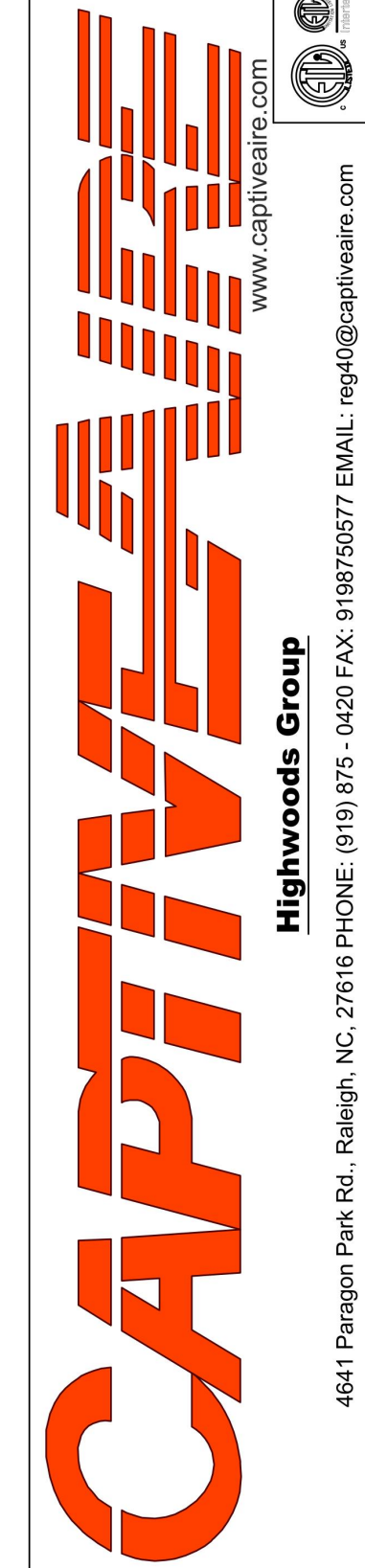
PROJECT NUMBER:
23036

SHEET TITLE:
CAPTIVEAIRE
DRAWINGS

SHEET NUMBER:

M-404

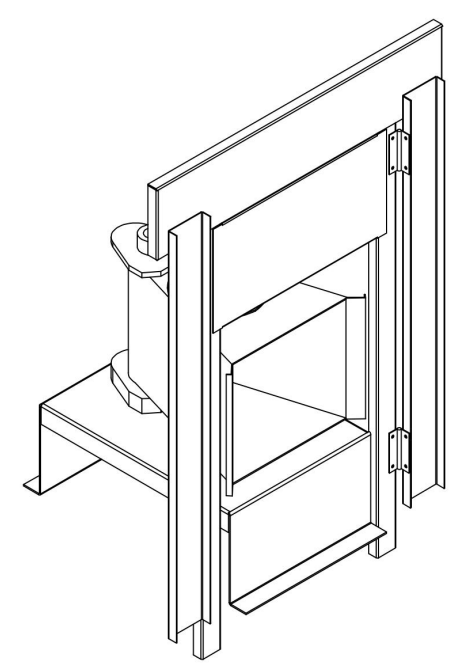
REVISIONS	
DESCRIPTION	DATE



CHIPOTLE DOUGLASSVILLE #4975
15 Maplewood Drive,
Douglassville, PA, 19518

DATE: 9/29/2023
DWG.#:
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SCALE:
3/4" = 1'-0"
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SHEET NO.
4



DIRECT FIRED (DF) PROFILE PLATE ASSEMBLY

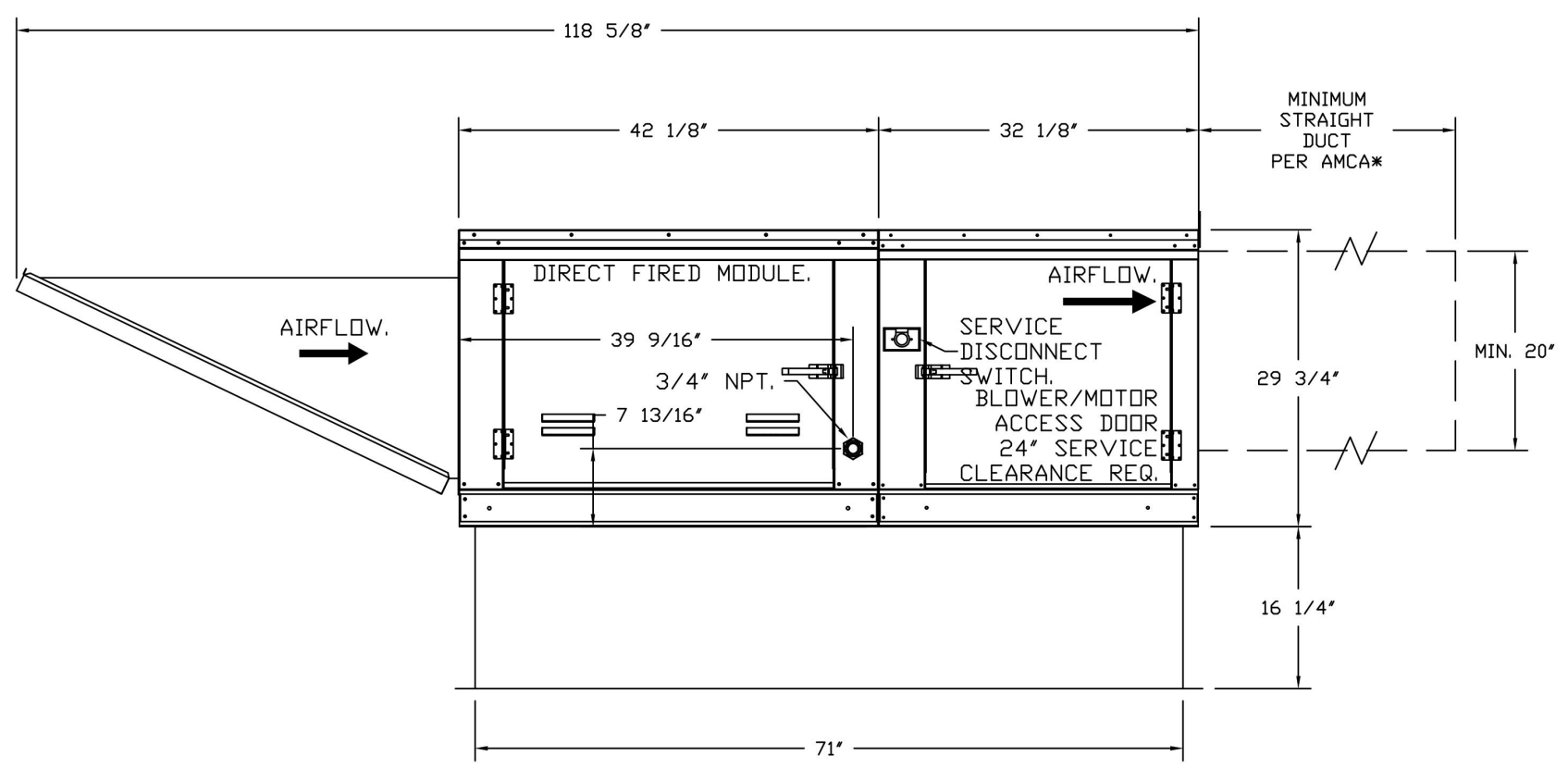
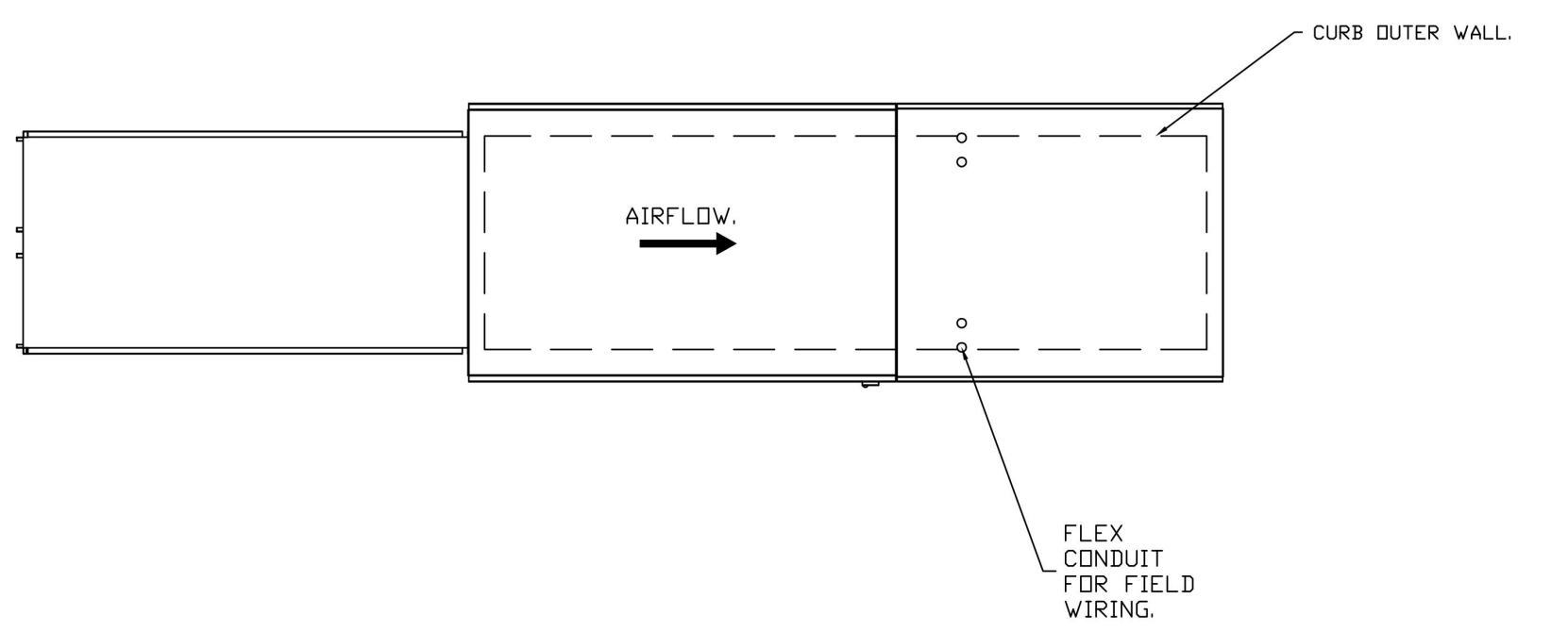
DIRECT FIRED PROFILE PLATE SPECIFICATIONS:
DESCRIPTION:
DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO. US6699838B2), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER. PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 5PPM OF CARBON MONOXIDE (CO), AND 0.5PPM OF NITROGEN DIOXIDE (NO2). DIRECT FIRED UNITS SHALL BE CONFIGURED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.
APPLICATION:
SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.
CERTIFICATIONS:
ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY WITH COMBINED SAFETY STANDARDS ANSI Z83.4 AND CSA 3.7 (NDN-RECIRCULATING DF HEATERS) AND ANSI Z83.18 (RECIRCULATING DF HEATERS).
GENERAL CONSTRUCTION:
-PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
-PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
-PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
-DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
-SPRING HINGES SHALL BE MADE FROM PLATED STEEL.



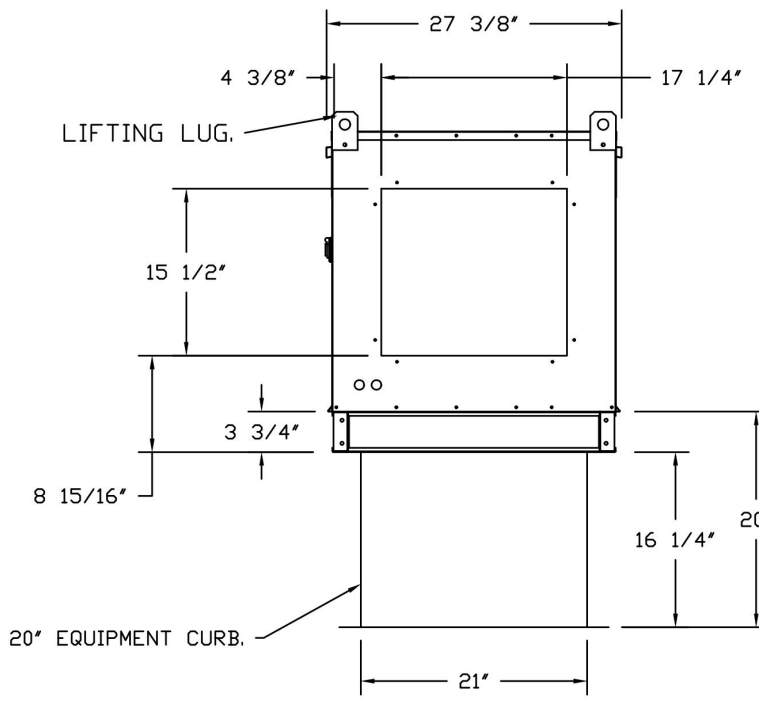
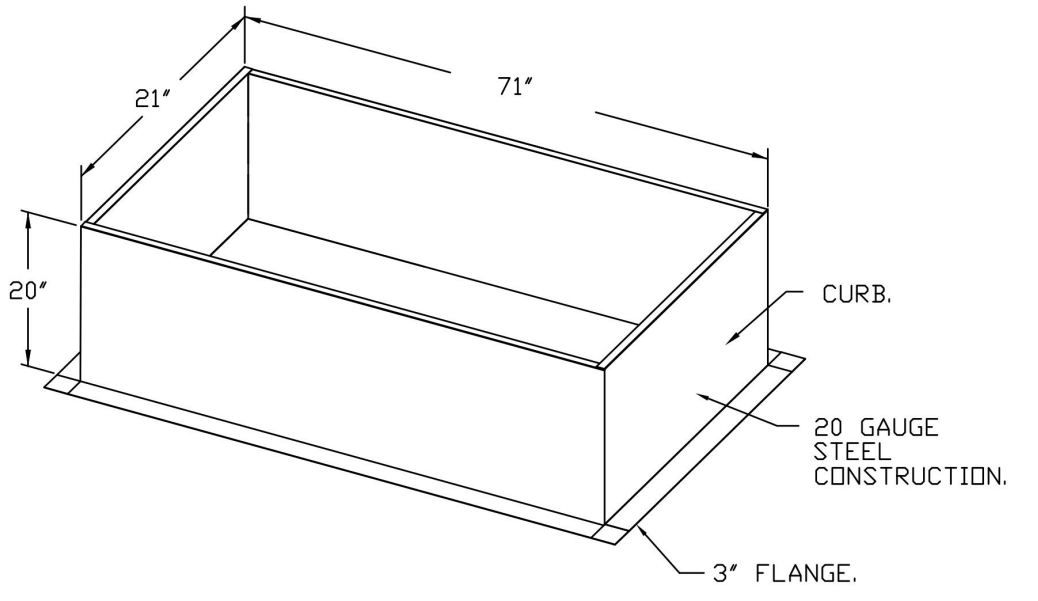
SUPPLY SIDE HEATER INFORMATION:
WINTER TEMPERATURE = 16°F. TEMP. RISE = 59°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY.
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 110054.
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 119624.
OUTPUT BTUs AT ALTITUDE OF 80 FT. = 109356.
INPUT BTUs AT ALTITUDE OF 80 FT. = 119278.

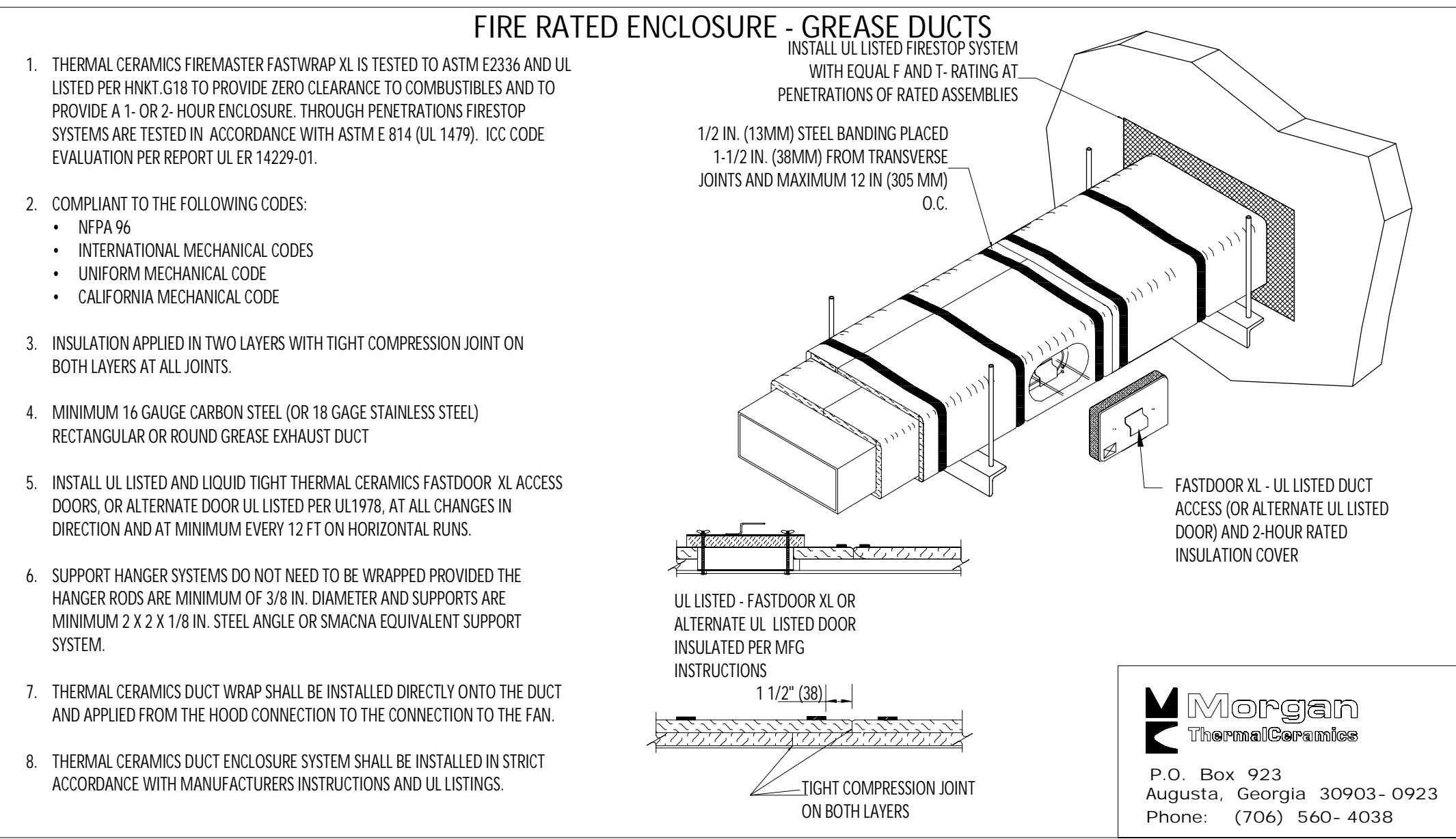
- FAN #3 A1-D250-15D - HEATER (MAU-1)
1. DIRECT GAS FIRED HEATED MAKE-UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN.
2. INTAKE HOOD WITH EZ FILTERS.
3. SIDE DISCHARGE - AIR FLOW LEFT -> RIGHT.
4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
5. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE.
6. MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, TFBERS ACTUATOR INCLUDED.
7. LOW FIRE START - ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
8. MOUNT MOTOR AND CONTROLS ON OPPOSITE SIDE OF HEATER.
9. CLOGGED FILTER SWITCH WITH NOTIFICATION ON HMI.
10. FREEZE/STAT FACTORY SET AT 35°F AND 10 MINUTES.
11. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRED PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
12. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
13. 2 YEAR PARTS WARRANTY.

NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20" X 20".



OPTIONS:
- FULL BOTTOM CORNERS.

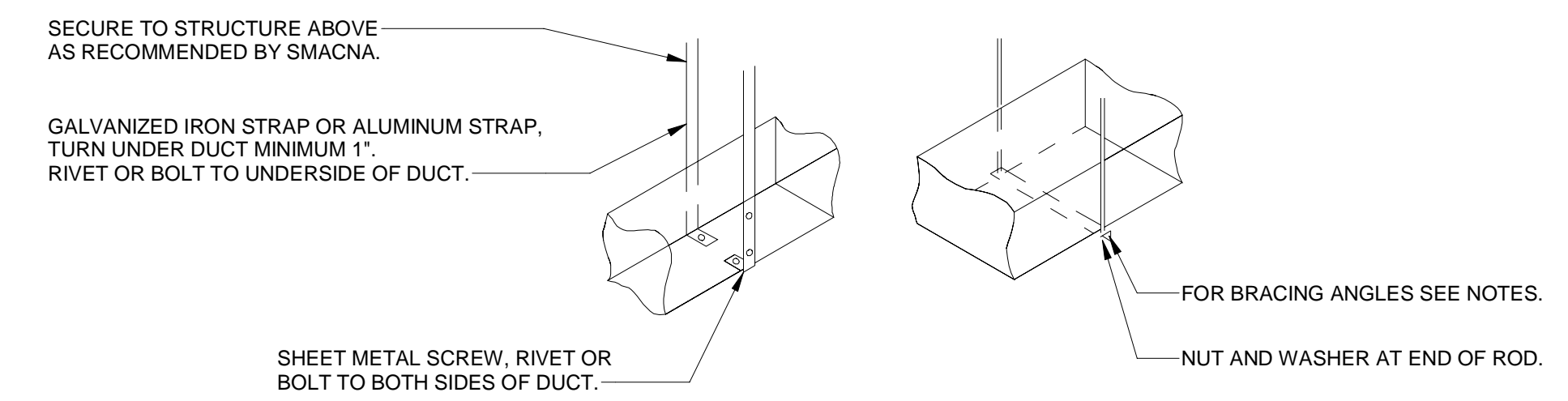




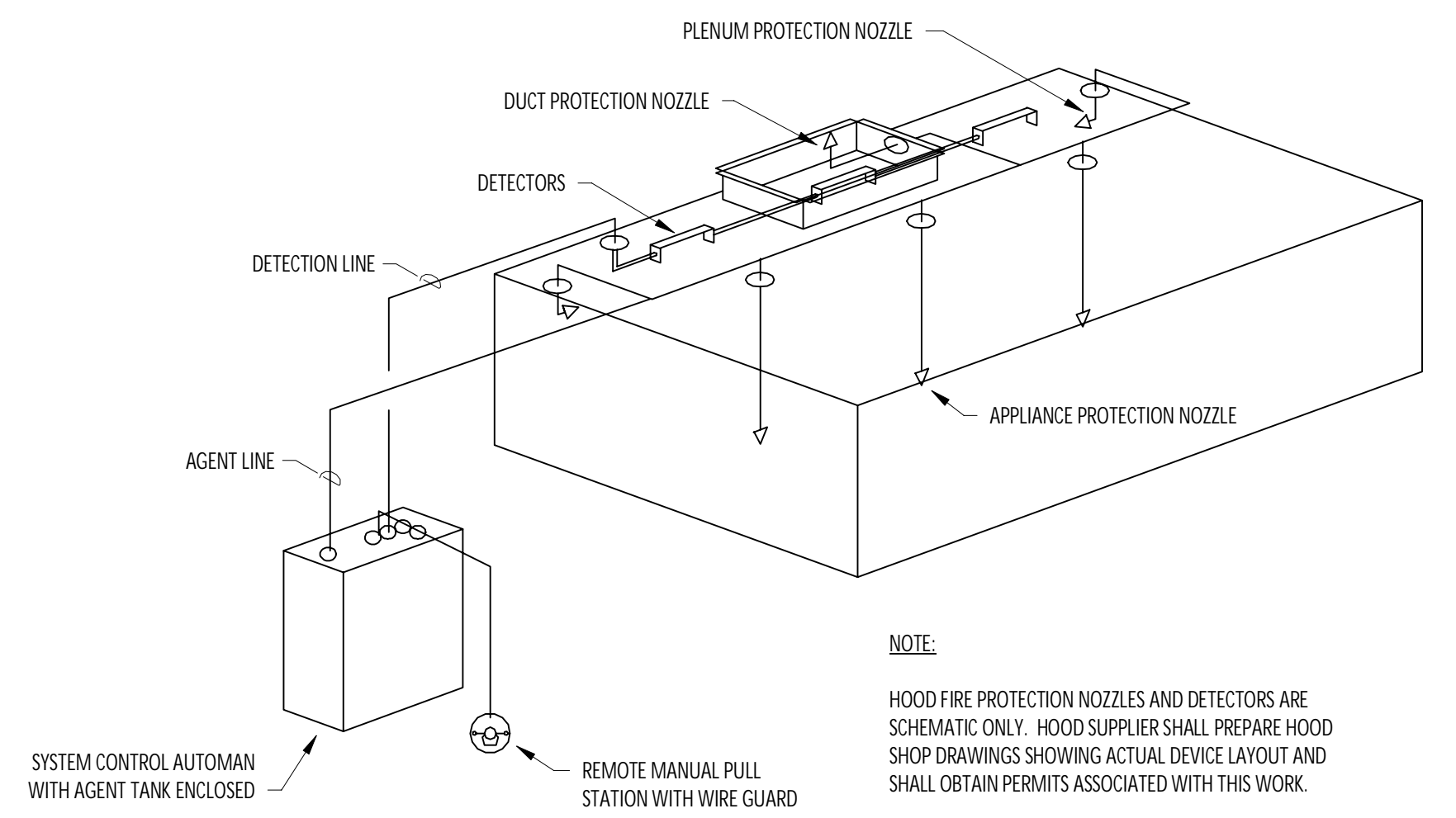
1 FIREMASTER DUCT WRAP - UL HNKT-G18 NOT TO SCALE

RECTANGULAR DUCT HANGER SCHEDULE (MINIMUM SIZES)

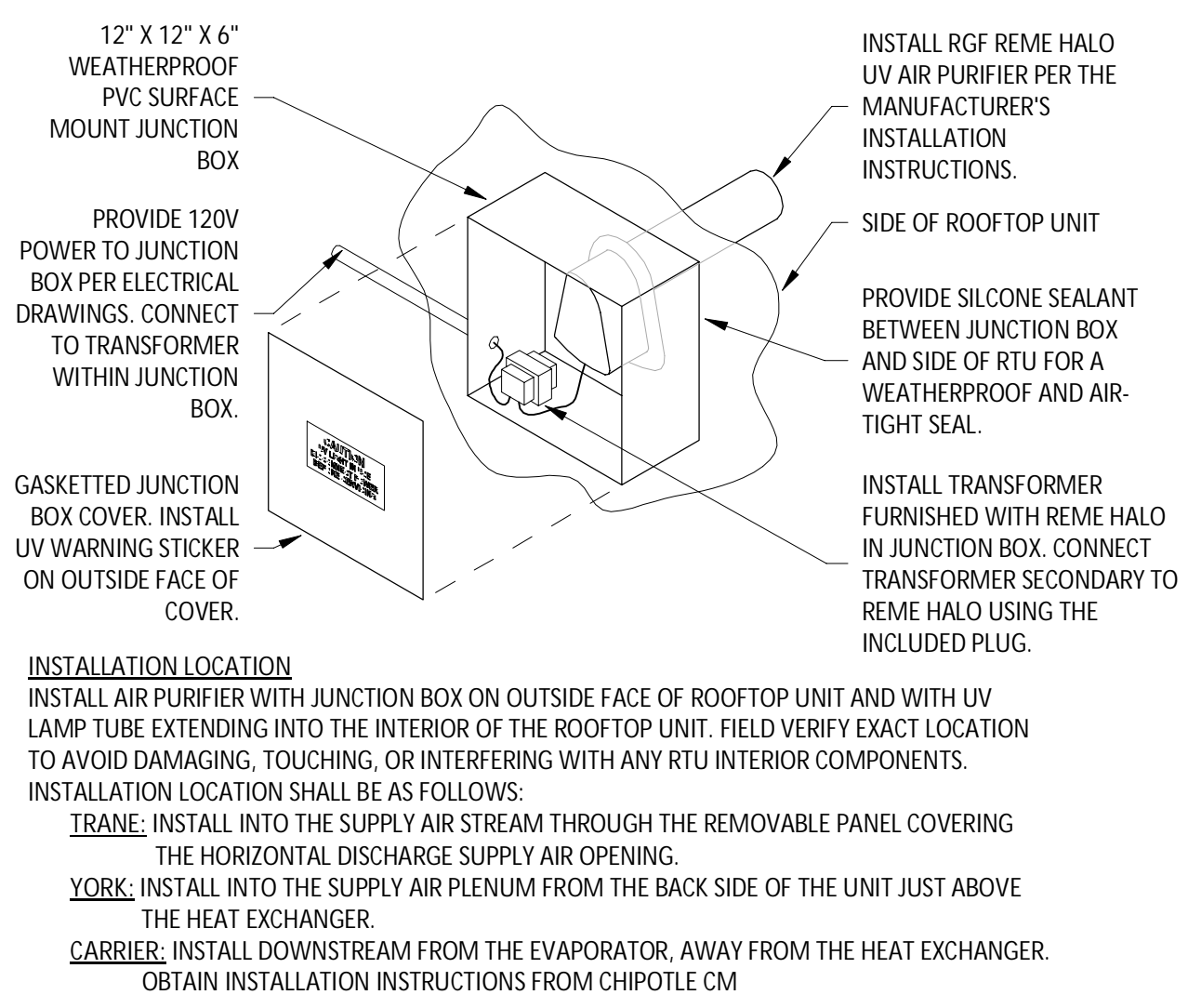
HALF DUCT PERIMETER RANGE	PAIR AT 10' SPACING		PAIR AT 8' SPACING		PAIR AT 5' SPACING		PAIR AT 4' SPACING	
	STRAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD
P/2-30"	1"x22 GA.	10 GA. (0.135")	1"x22 GA.	10 GA. (0.135")	1"x22 GA.	12 GA. (0.106")	1"x22 GA.	12 GA. (0.106")
P/2-72"	1"x18 GA.	3/8"	1"x20 GA.	1/4"	1"x22 GA.	1/4"	1"x22 GA.	1/4"
P/2-96"	1"x16 GA.	3/8"	1"x18 GA.	3/8"	1"x20 GA.	3/8"	1"x22 GA.	1/4"
P/2-120"	1-1/2"x16 GA.	1/2"	1"x16 GA.	3/8"	1"x18 GA.	3/8"	1"x20 GA.	1/4"
P/2-168"	1-1/2"x16 GA.	1/2"	1"x16 GA.	1/2"	1"x16 GA.	3/8"	1"x18 GA.	3/8"
P/2-192"	-	1/2"	1-1/2"x16 GA.	1/2"	1"x16 GA.	3/8"	1"x16 GA.	3/8"



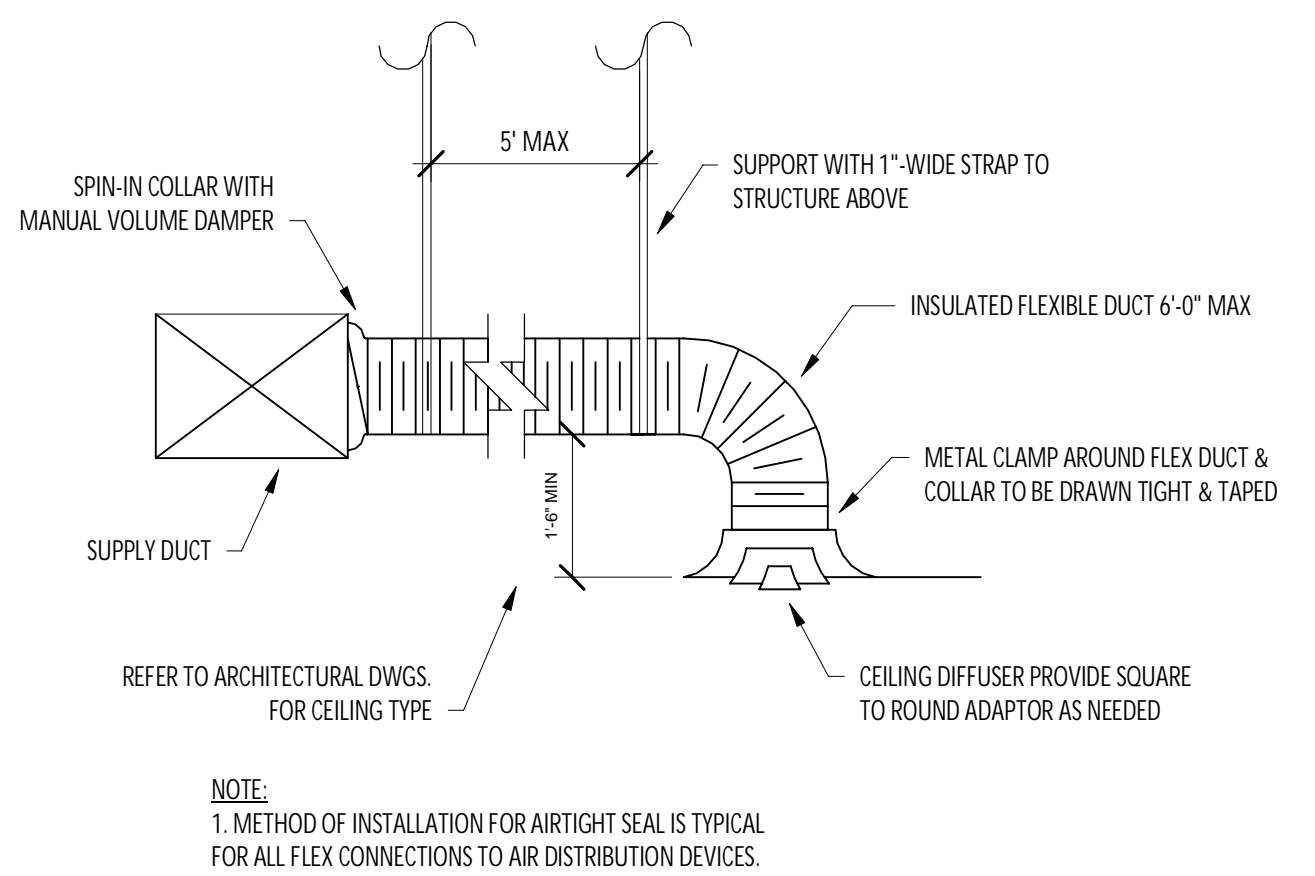
3 HVAC - DUCT HANGER DETAILS NOT TO SCALE



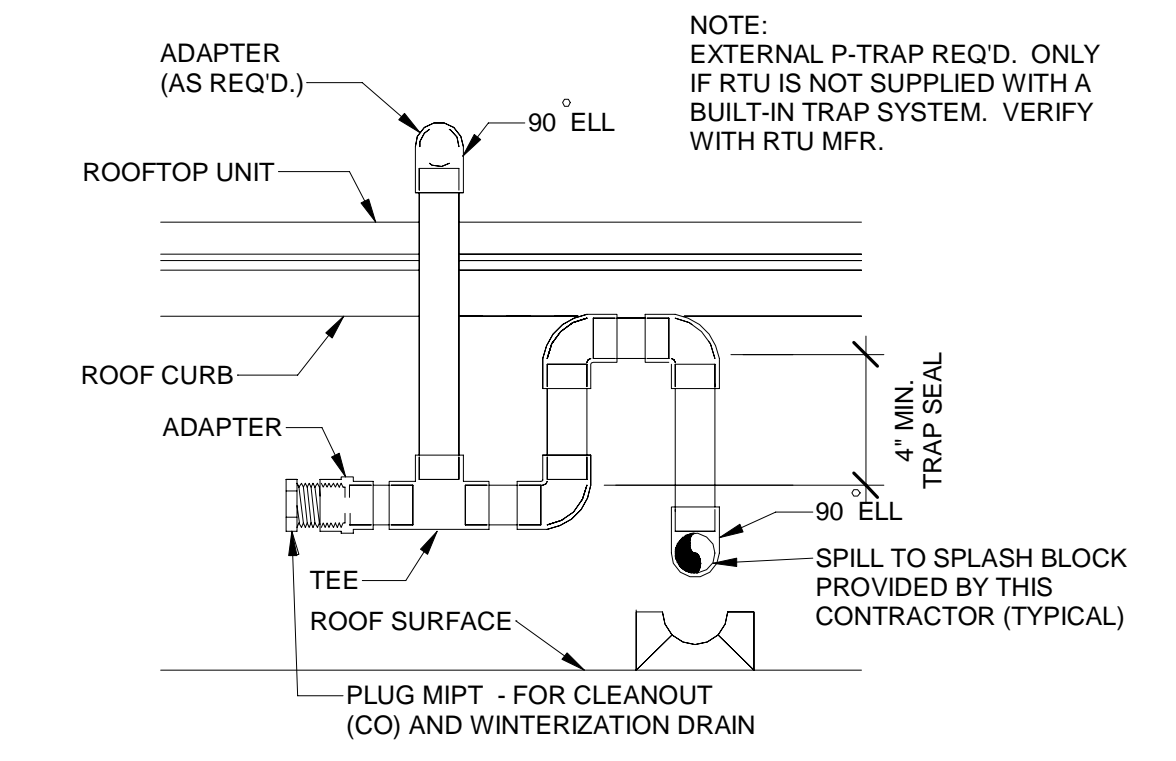
4 HVAC - FIRE SUPPRESSION SYSTEM SCHEMATIC NOT TO SCALE



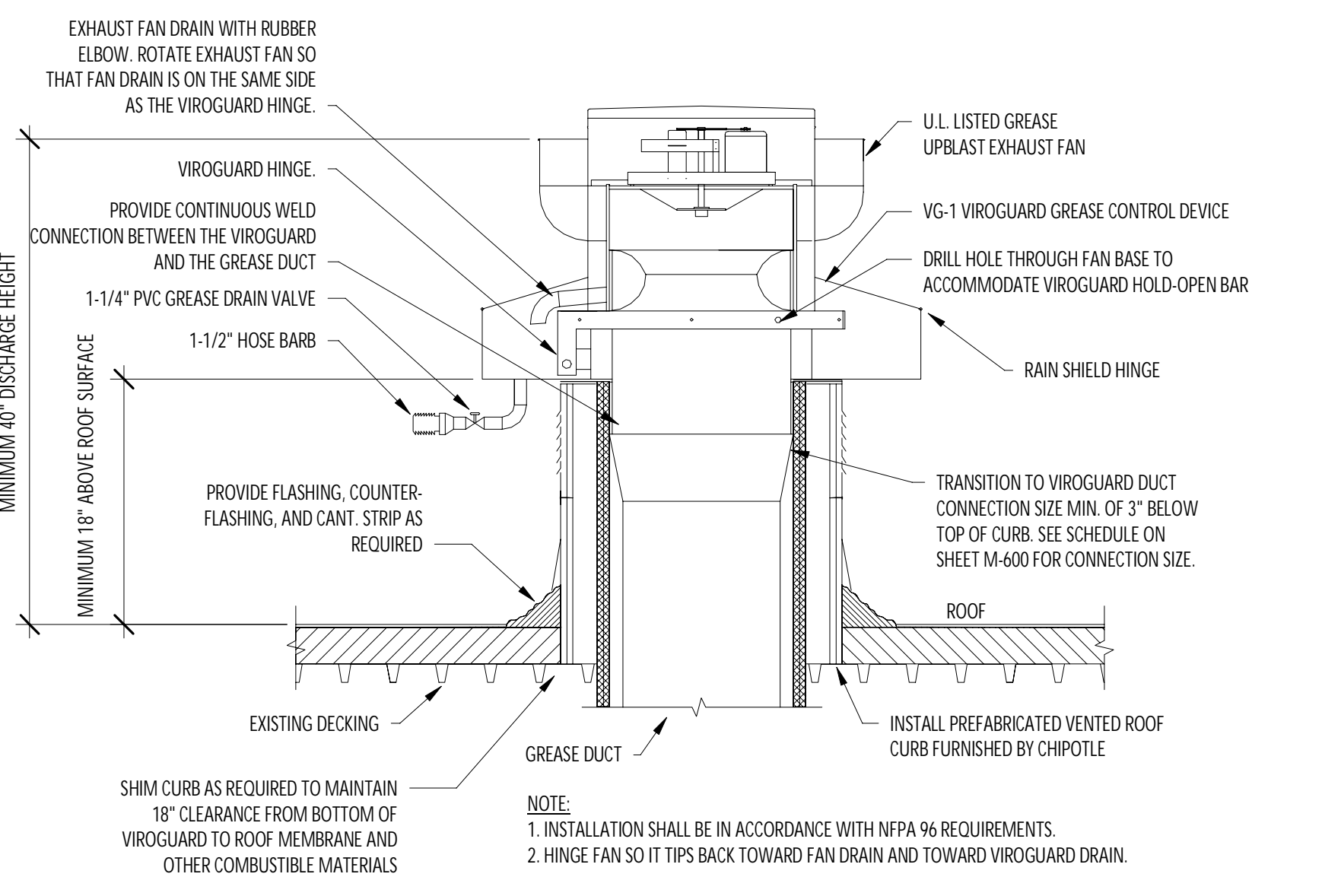
5 UV AIR PURIFIER INSTALLATION NOT TO SCALE



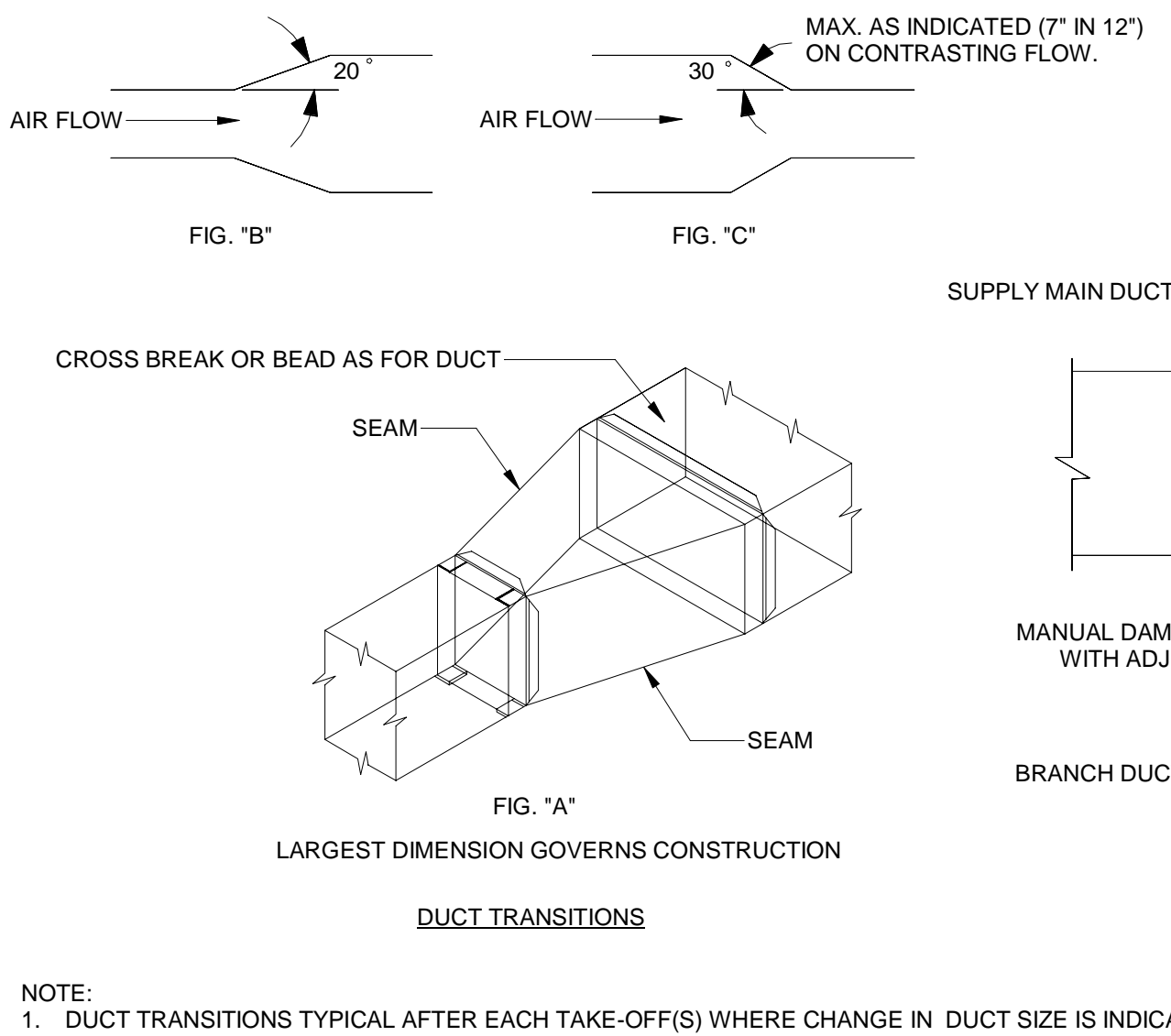
6 HVAC - DIFFUSER CONNECTION NOT TO SCALE



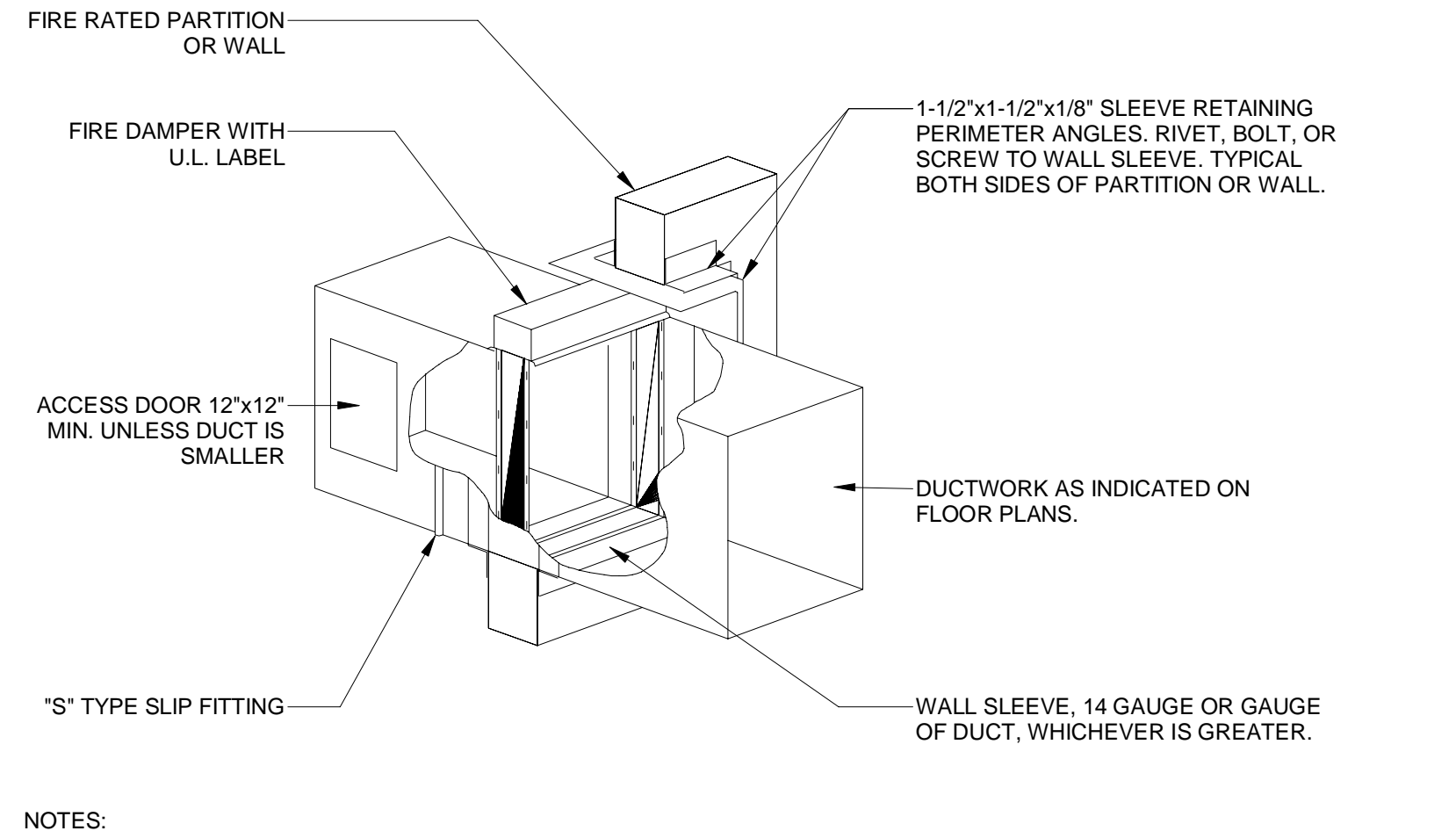
7 HVAC - CONDENSATE PIPING FROM RTU NOT TO SCALE



8 GREASE EXHAUST FAN NOT TO SCALE



9 HVAC - DUCT TRANSITION DETAILS NOT TO SCALE



10 HVAC - FIRE DAMPER DETAIL NOT TO SCALE



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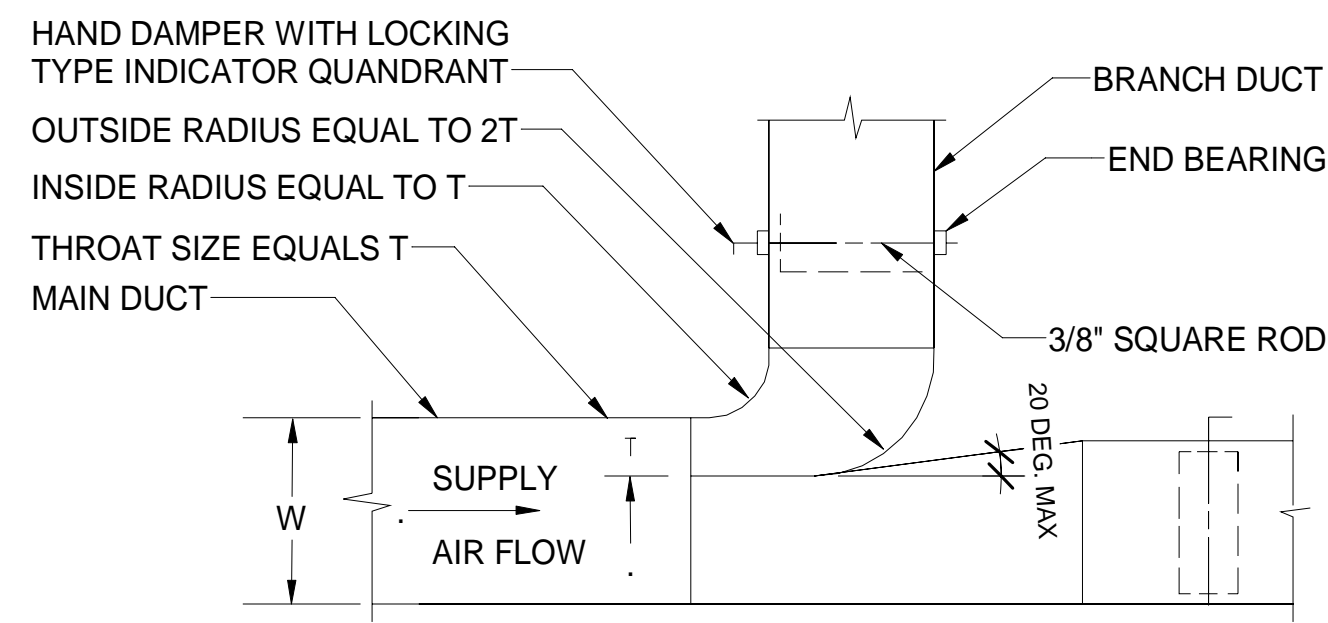
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SHEET TITLE:

HVAC DETAILS

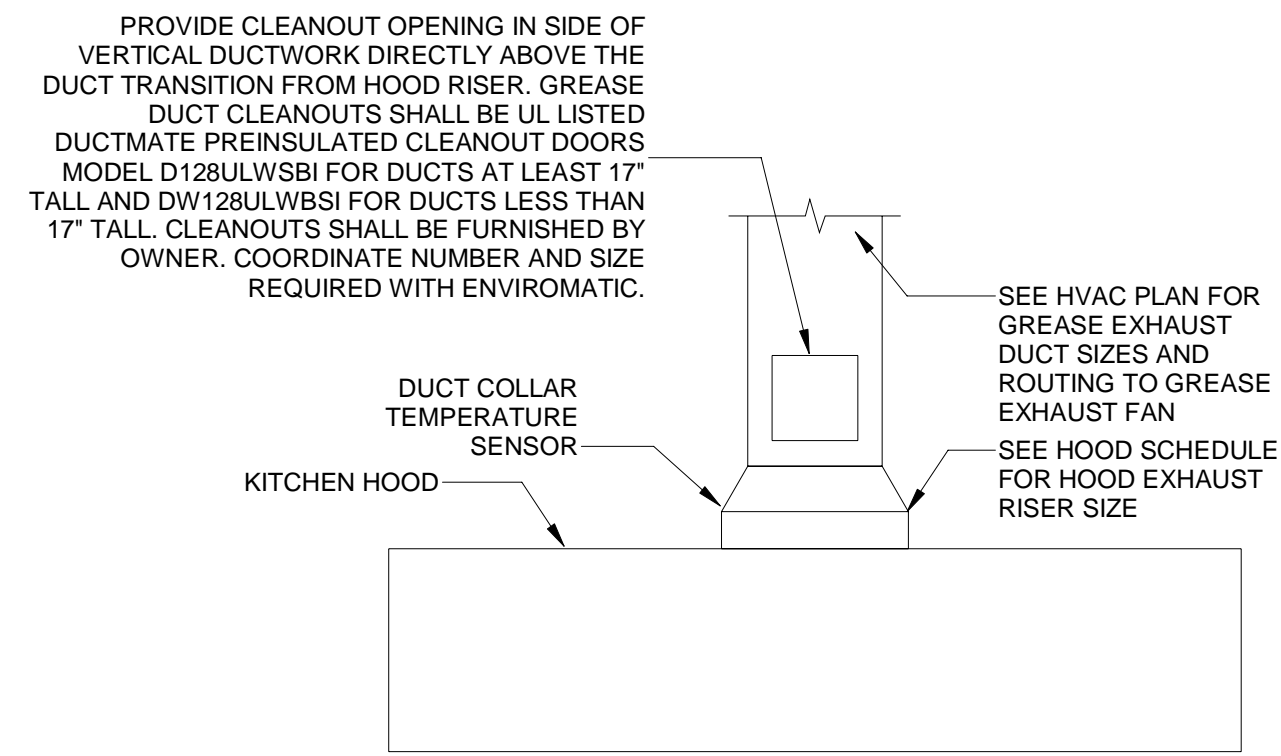
SHEET NUMBER:

M-700

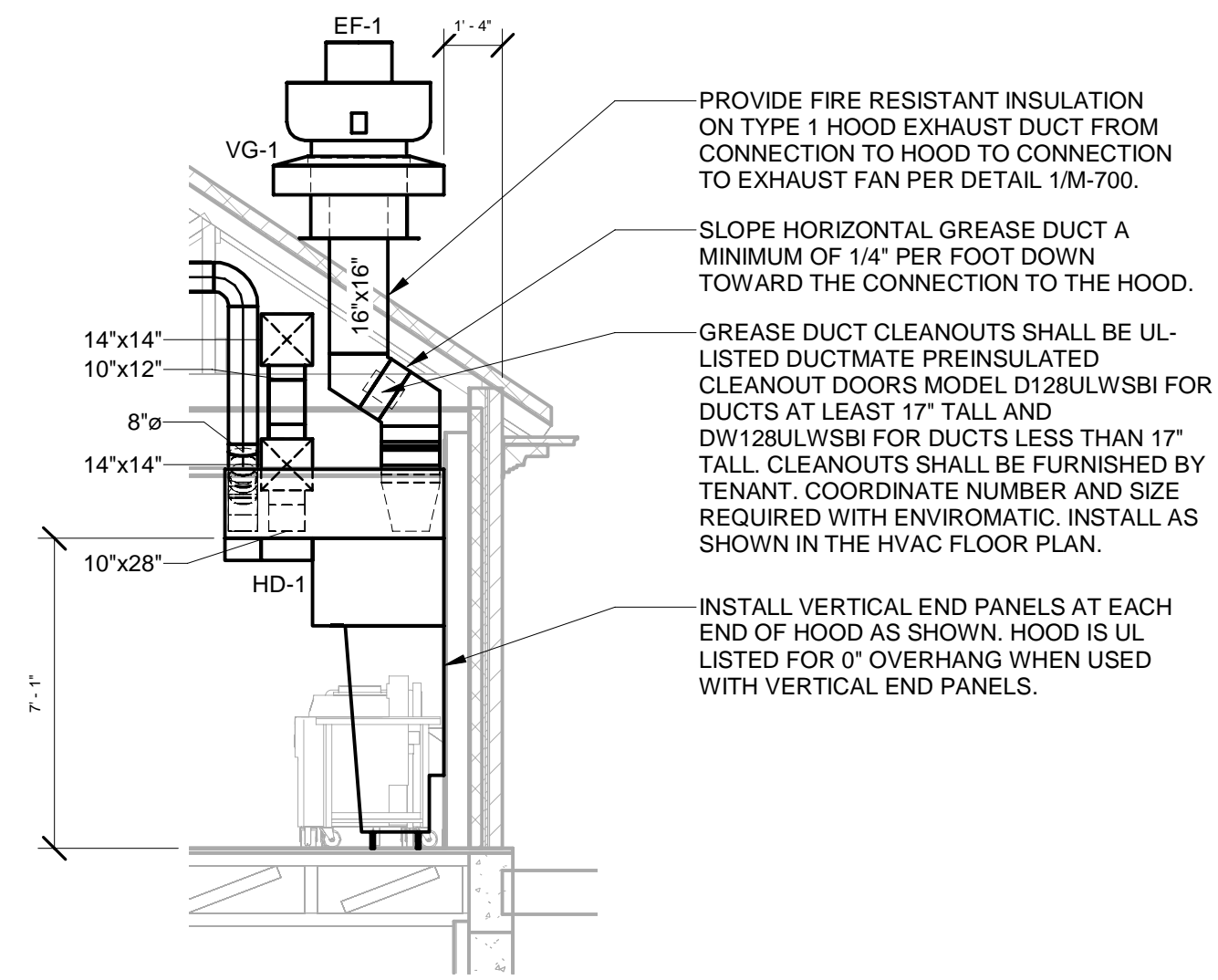


- NOTES:
1. FURNISH THIS TYPE CONNECTION FOR BRANCHES WITH MORE THAN 200 CFM. MUST BE USED WHEN W IS GREATER THAN, OR EQUAL TO 36".
 2. MINIMUM T = 4".

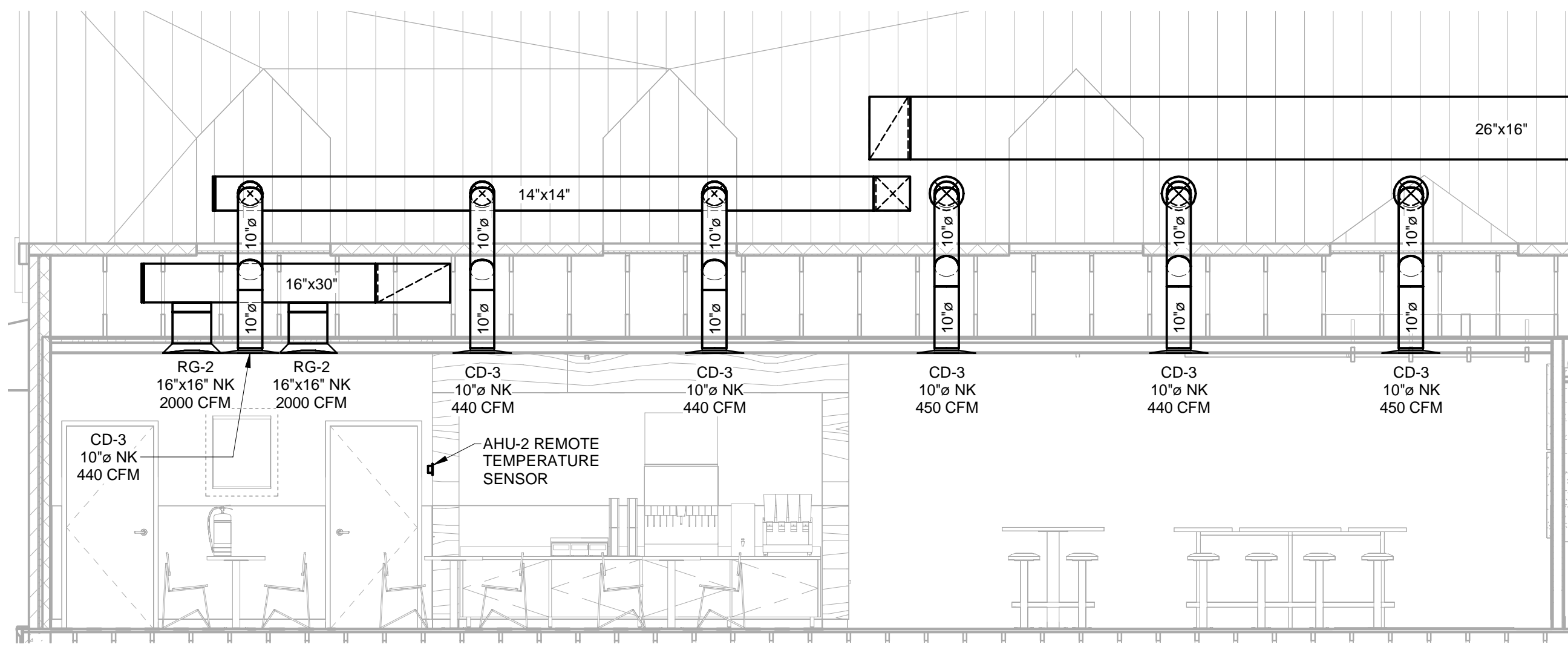
1 HVAC - RECTANGULAR DUCT BRANCH
NOT TO SCALE



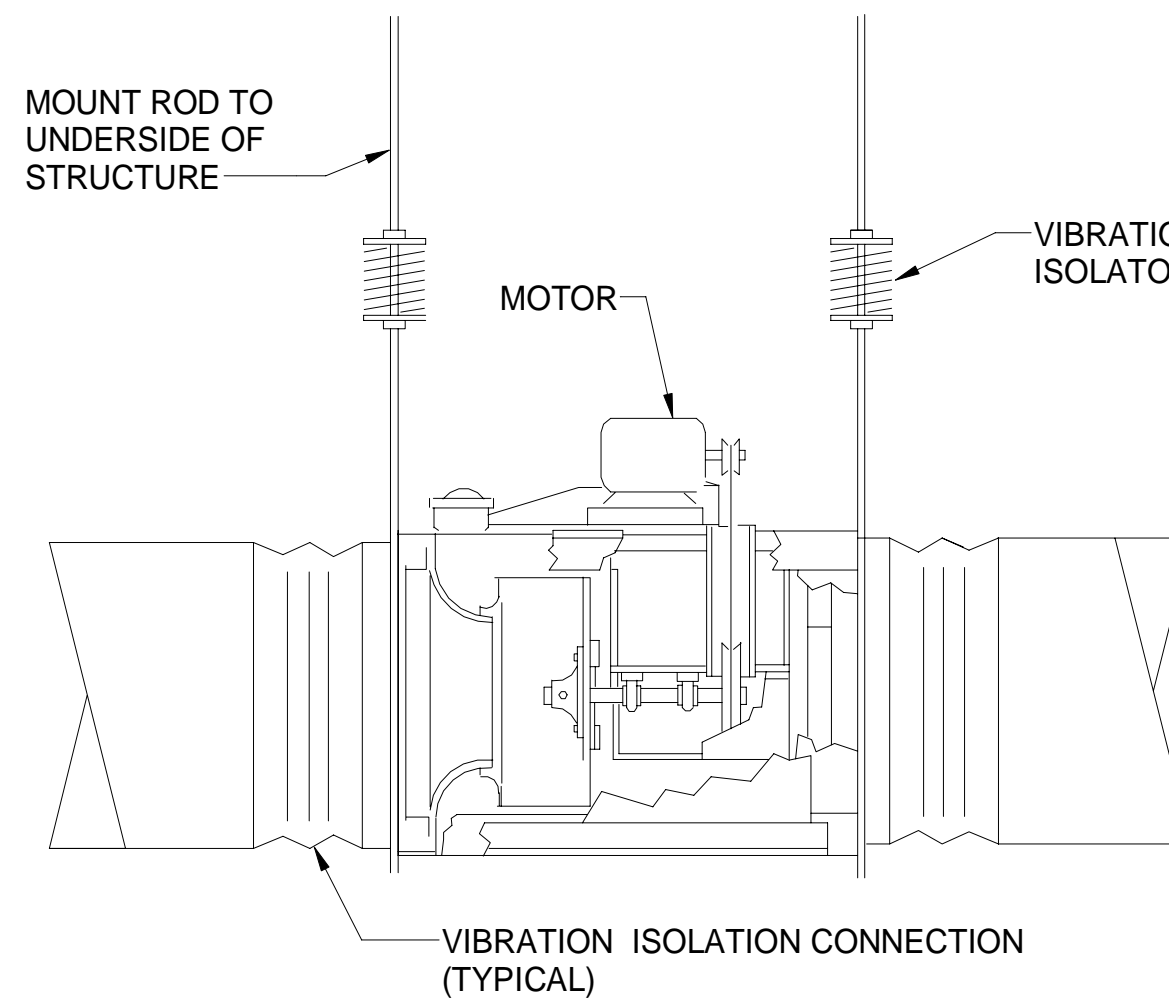
2 HVAC - GREASE EXHAUST DUCT AT HOOD
NOT TO SCALE



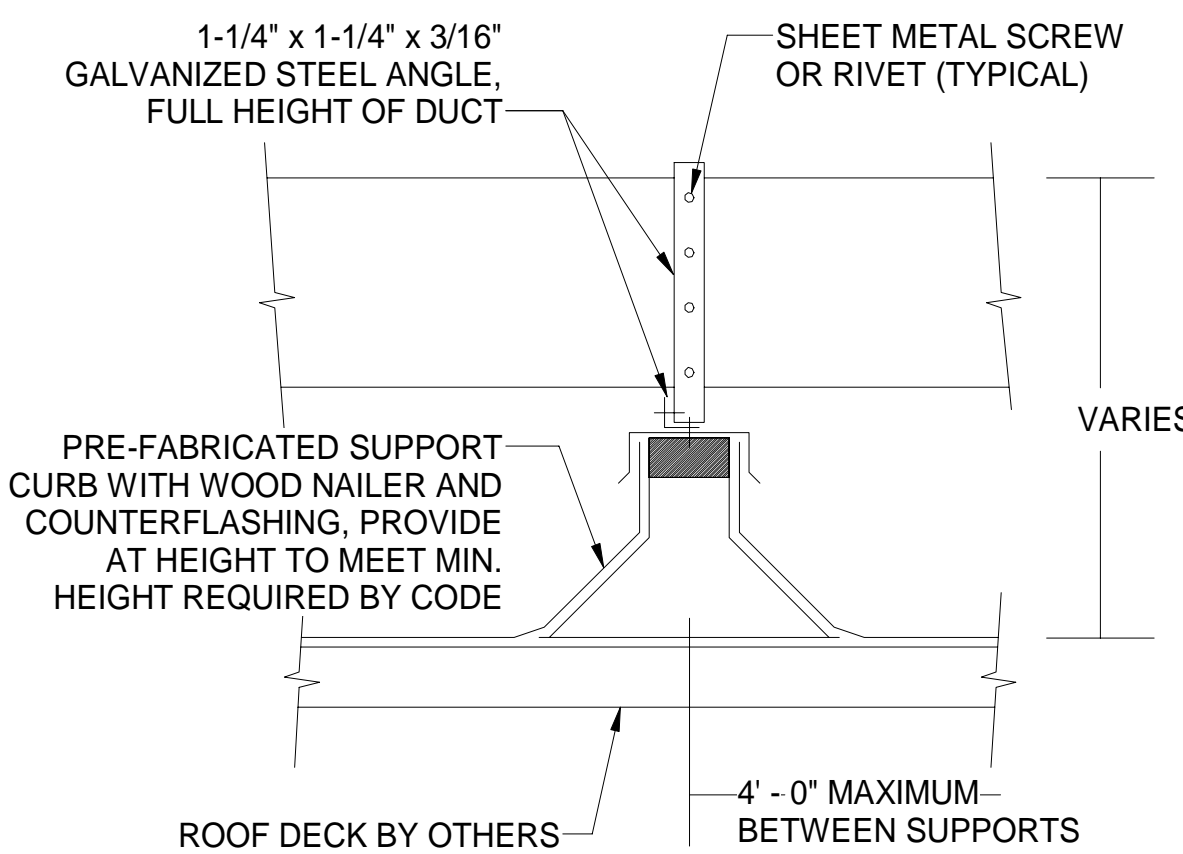
3 HVAC - HOOD DUCTWORK SECTION
1/4" = 1'-0"



4 HVAC - DINING ROOM SECTION
1/4" = 1'-0"

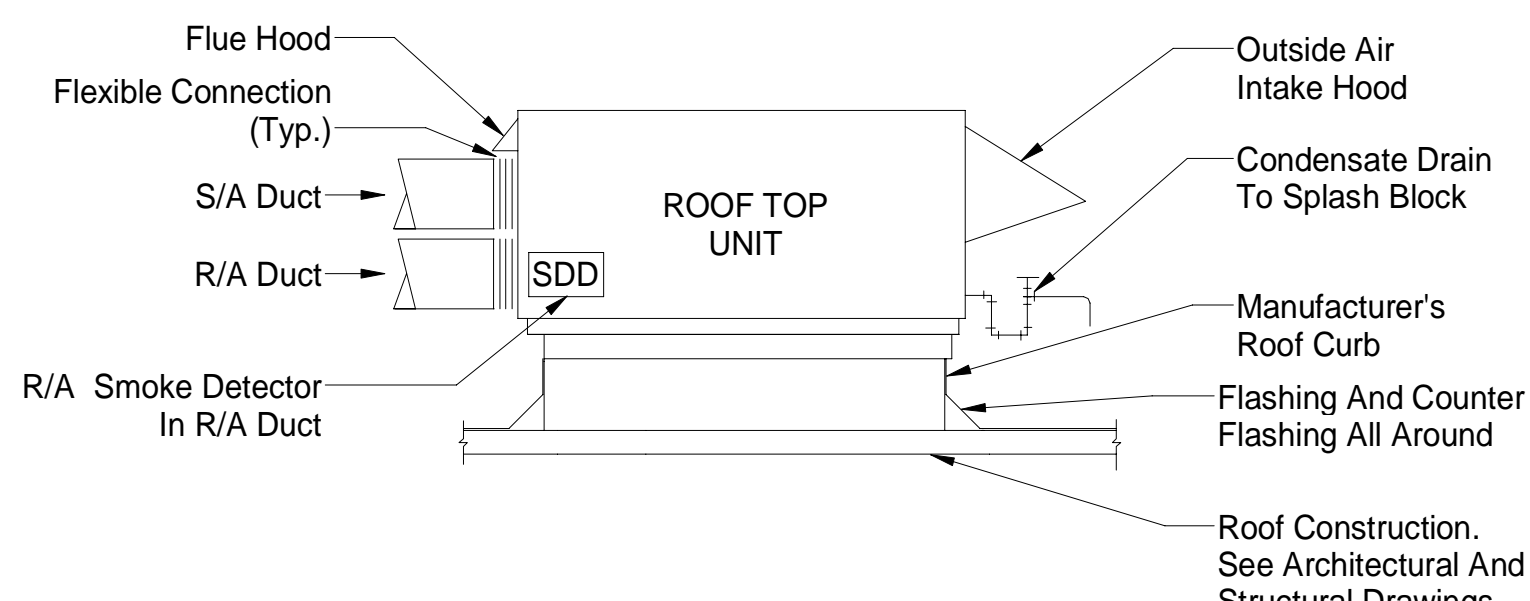


5 HVAC - IN-LINE EXHAUST FAN
1/8" = 1'-0"



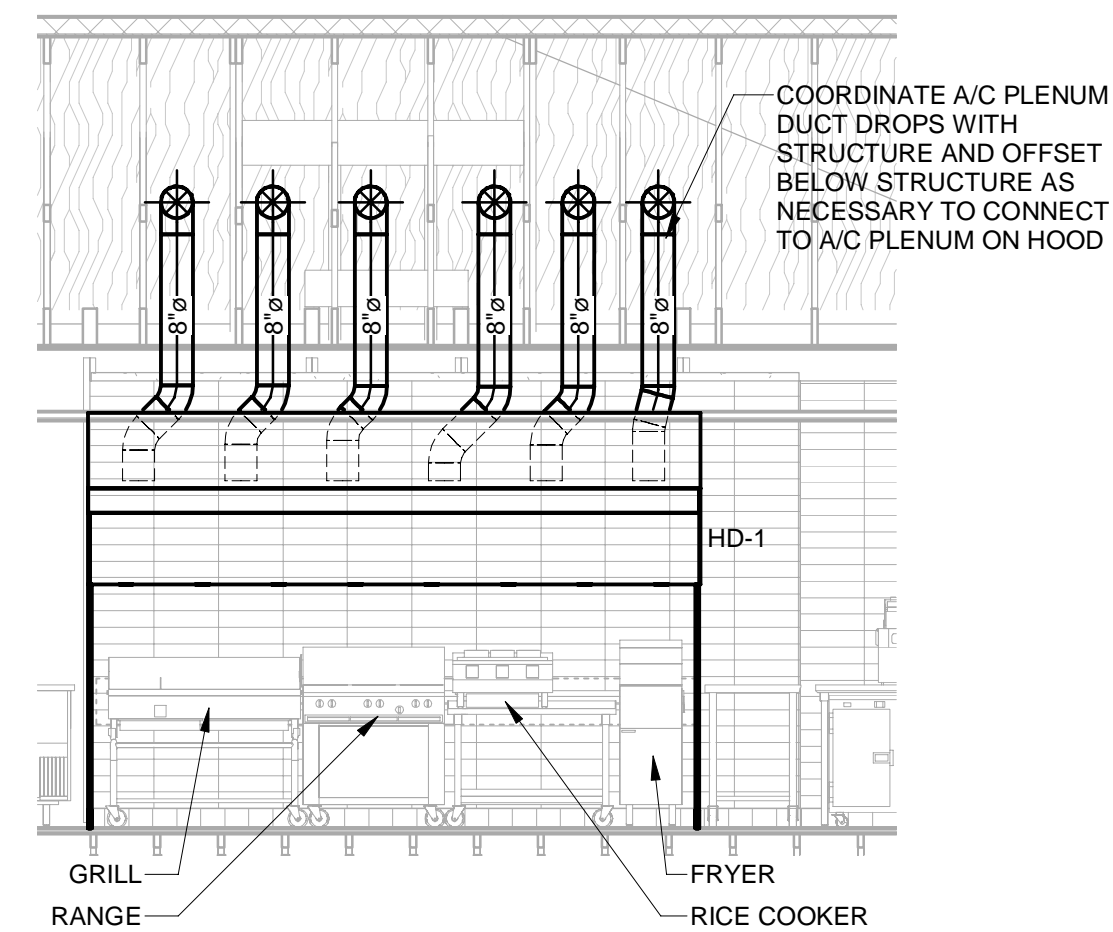
- NOTES:
- HVAC CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE EXISTING ROOFING WHERE NEW EQUIPMENT AND DUCT CURBS ARE TO BE SET AND WHERE NEW DUCT PENETRATIONS THROUGH THE ROOF OCCUR. HVAC CONTRACTOR SHALL BE RESPONSIBLE TO CUT NEW ROOF OPENINGS FOR NEW DUCTWORK, PIPING, ETC. AFTER SETTING OF THE DUCT AND EQUIPMENT CURBS, PROVIDE NEW ROOF FLASHING AND COUNTER FLASHING. IF THE ROOF HAS BEEN INSTALLED WITHIN THE PAST 5 YEARS THE HVAC CONTRACTOR SHALL HIRE THE SERVICES OF THAT ROOFING CONTRACTOR TO INSTALL ALL CURBS AND DUCT PENETRATIONS SO NOT VOID ROOF GUARANTEES. COORDINATE THE ABOVE WITH THE OWNER AND THE ARCHITECT.

6 HVAC - ROOFTOP DUCT SUPPORT CURB DETAIL
NOT TO SCALE

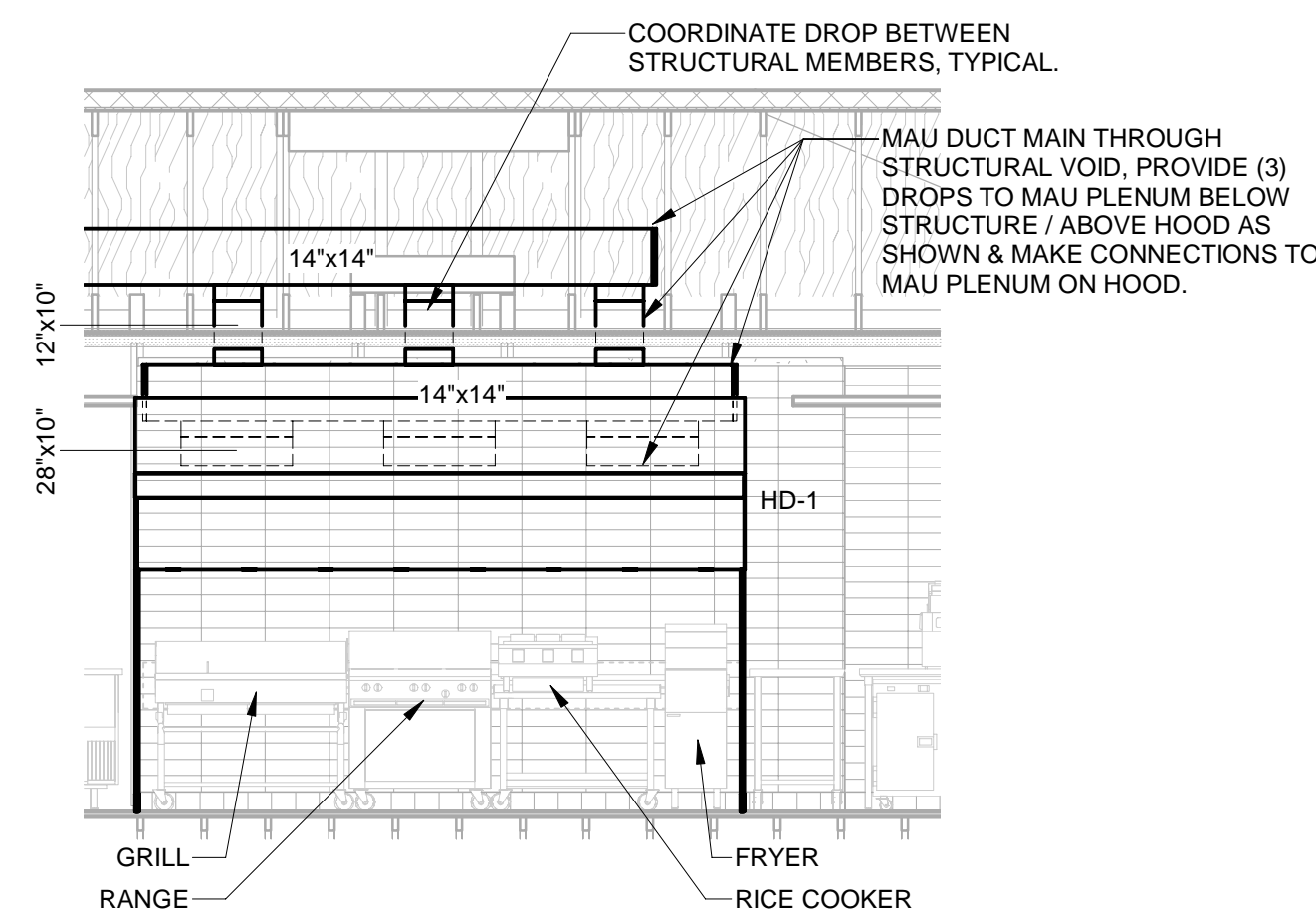


- NOTES:
1. This detail shall serve as a standard for installation for all rooftop units. Refer to floor plans for exact requirements for each unit.
 2. Supply and return air connections are schematic. Refer to plan sheets for actual orientation.
 3. S/A smoke detector furnished with unit and wired by Electrical Contractor to shut down unit when smoke is detected. R/A smoke detector to be provided and wired by Electrical Contractor to shut down unit when smoke is detected.

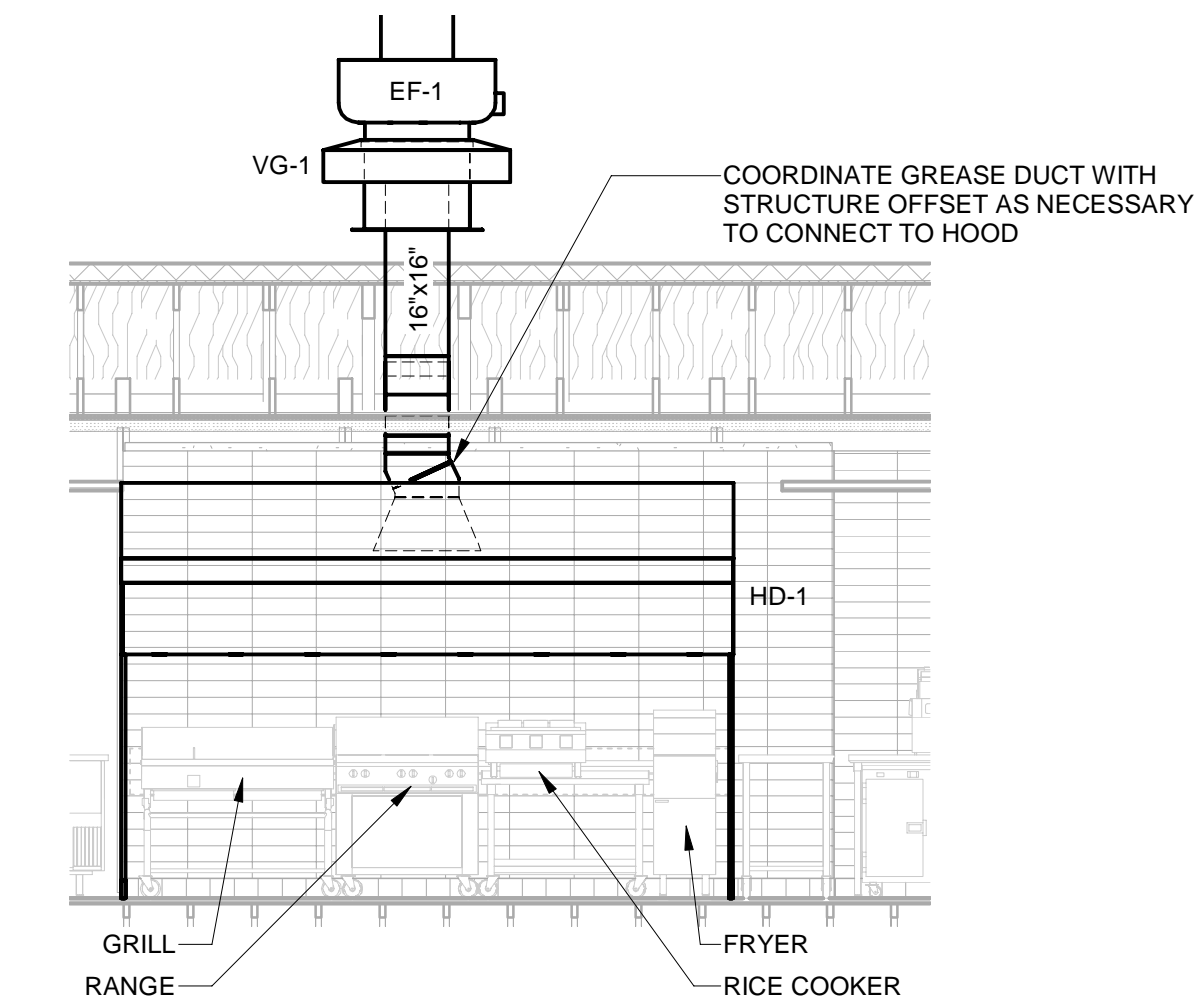
7 HVAC - ROOFTOP UNIT MOUNTING DETAIL
NOT TO SCALE



8 HVAC - A/C HOOD ELEVATION
1/4" = 1'-0"

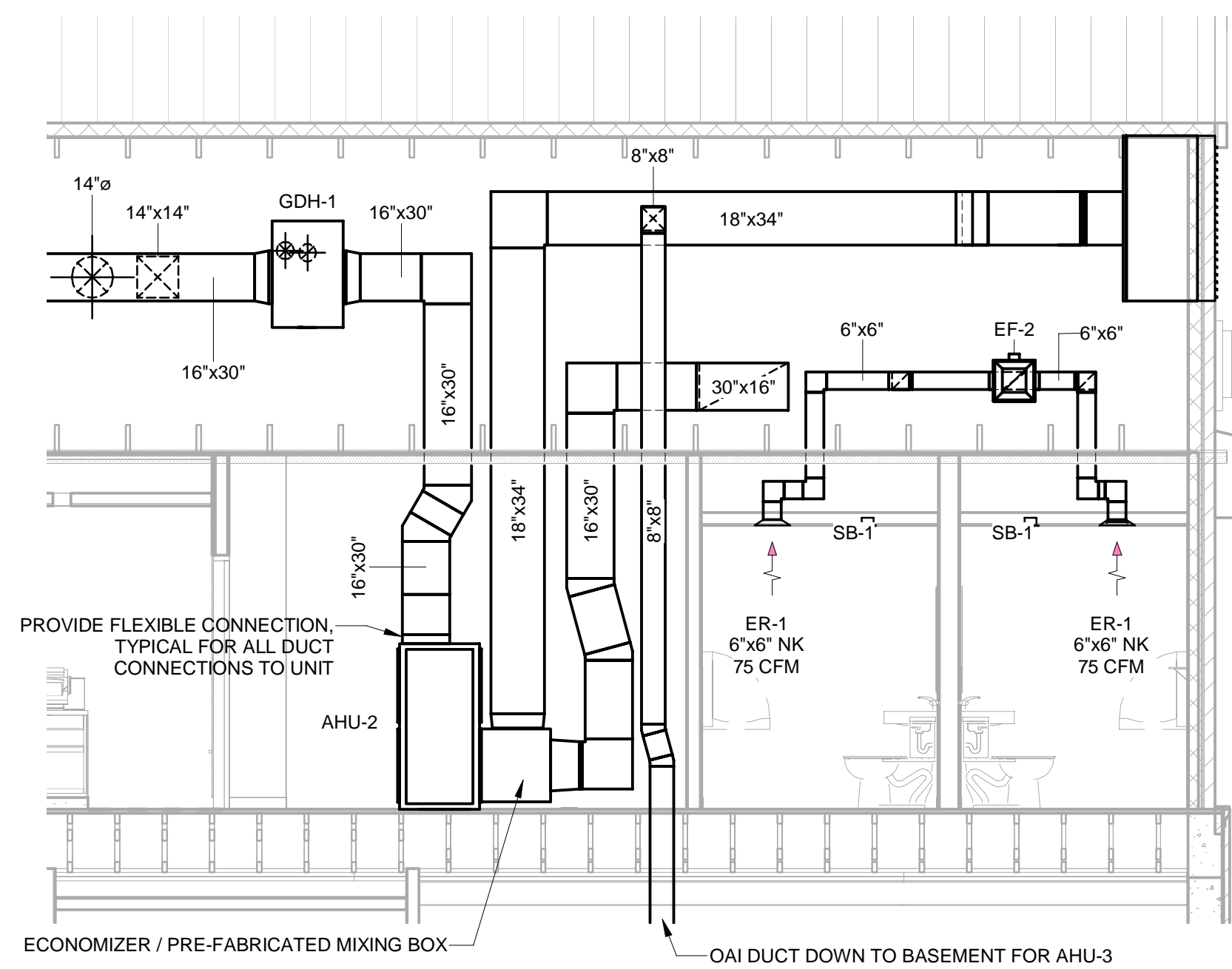


9 HVAC - HOOD MAU DUCTWORK SECTION
1/4" = 1'-0"

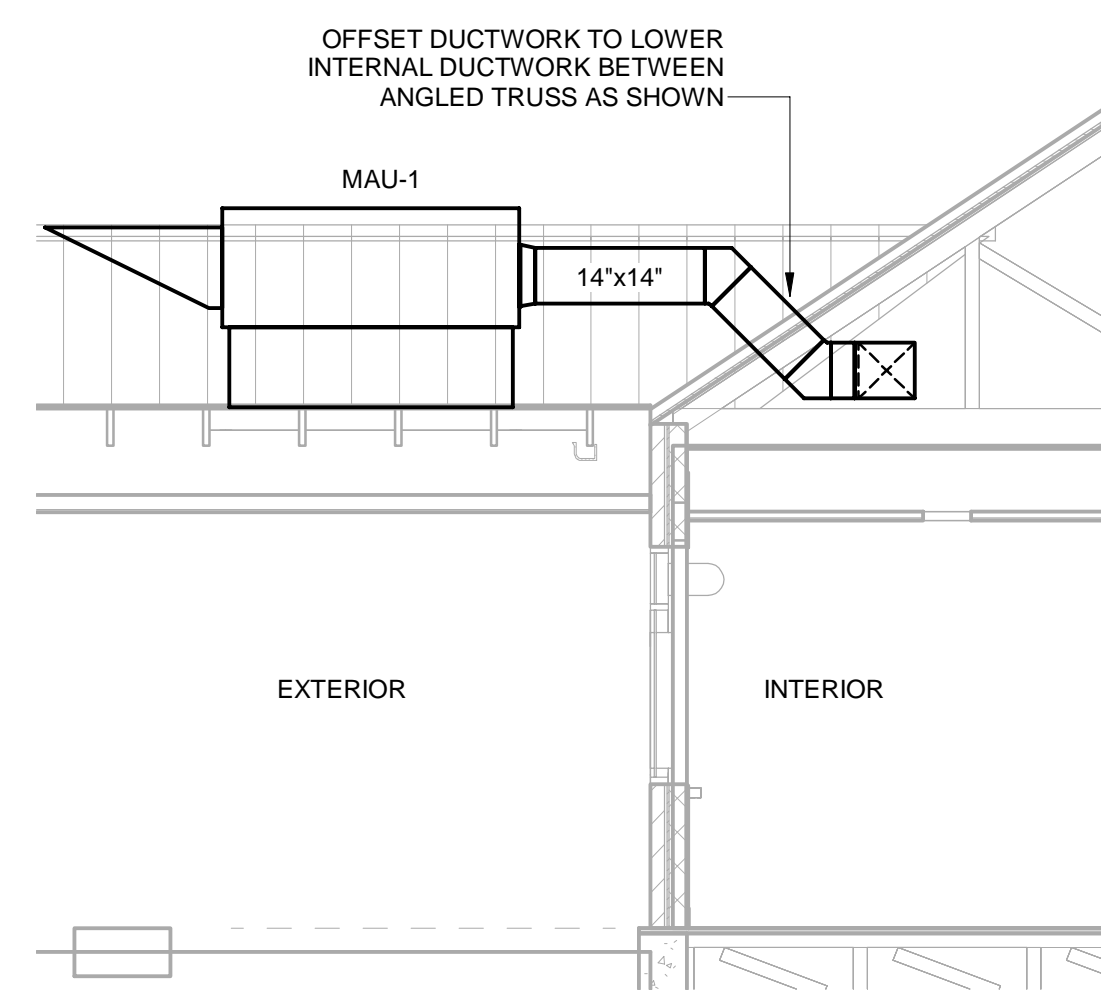


10 HVAC - HOOD EXHAUST DUCTWORK SECTION 1
1/4" = 1'-0"

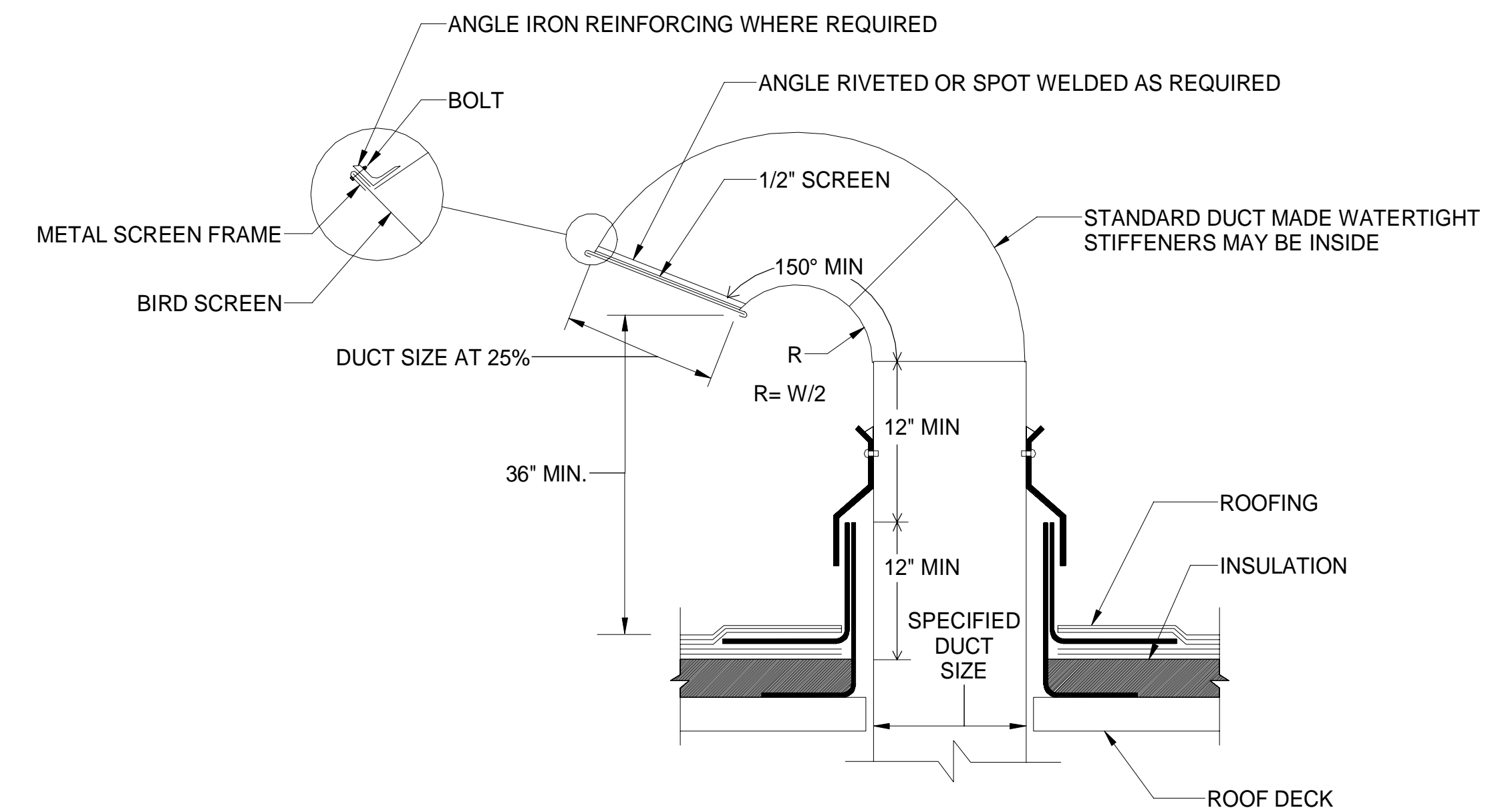




1 HVAC - AHU-2 SECTION
1/4" = 1'-0"

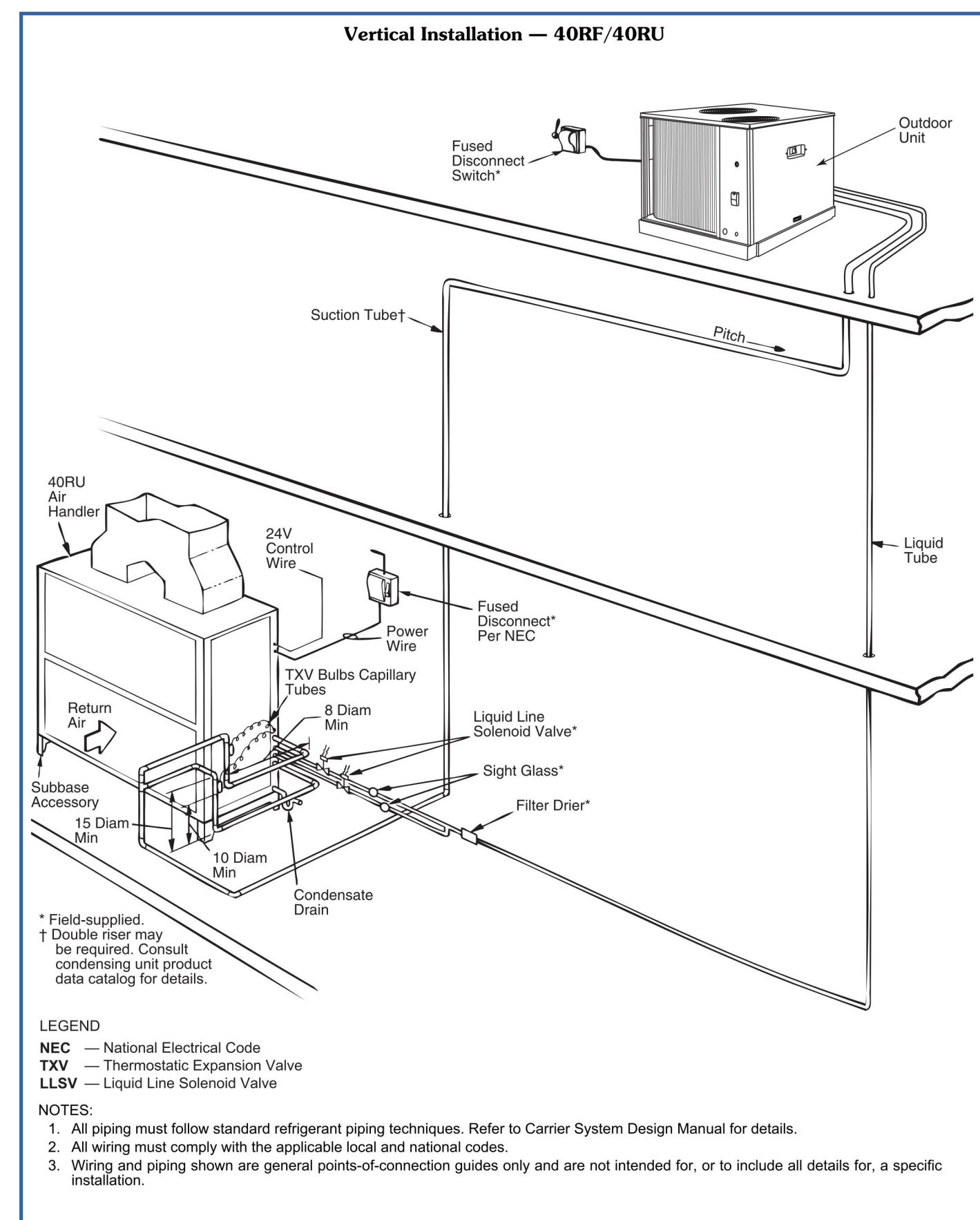


2 HVAC - MAU SECTION
1/4" = 1'-0"

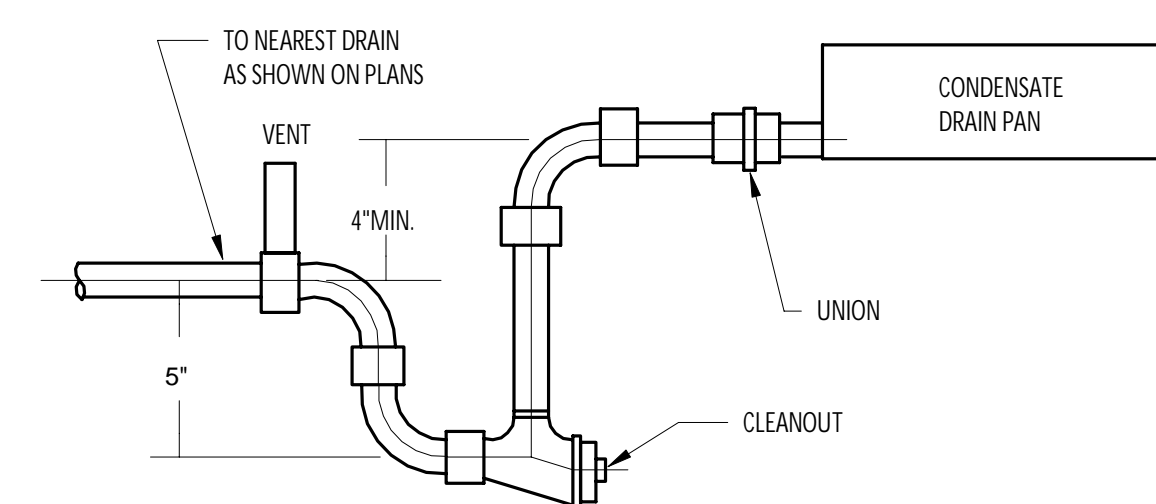


3 HVAC - GOOSENECK DETAIL
NOT TO SCALE

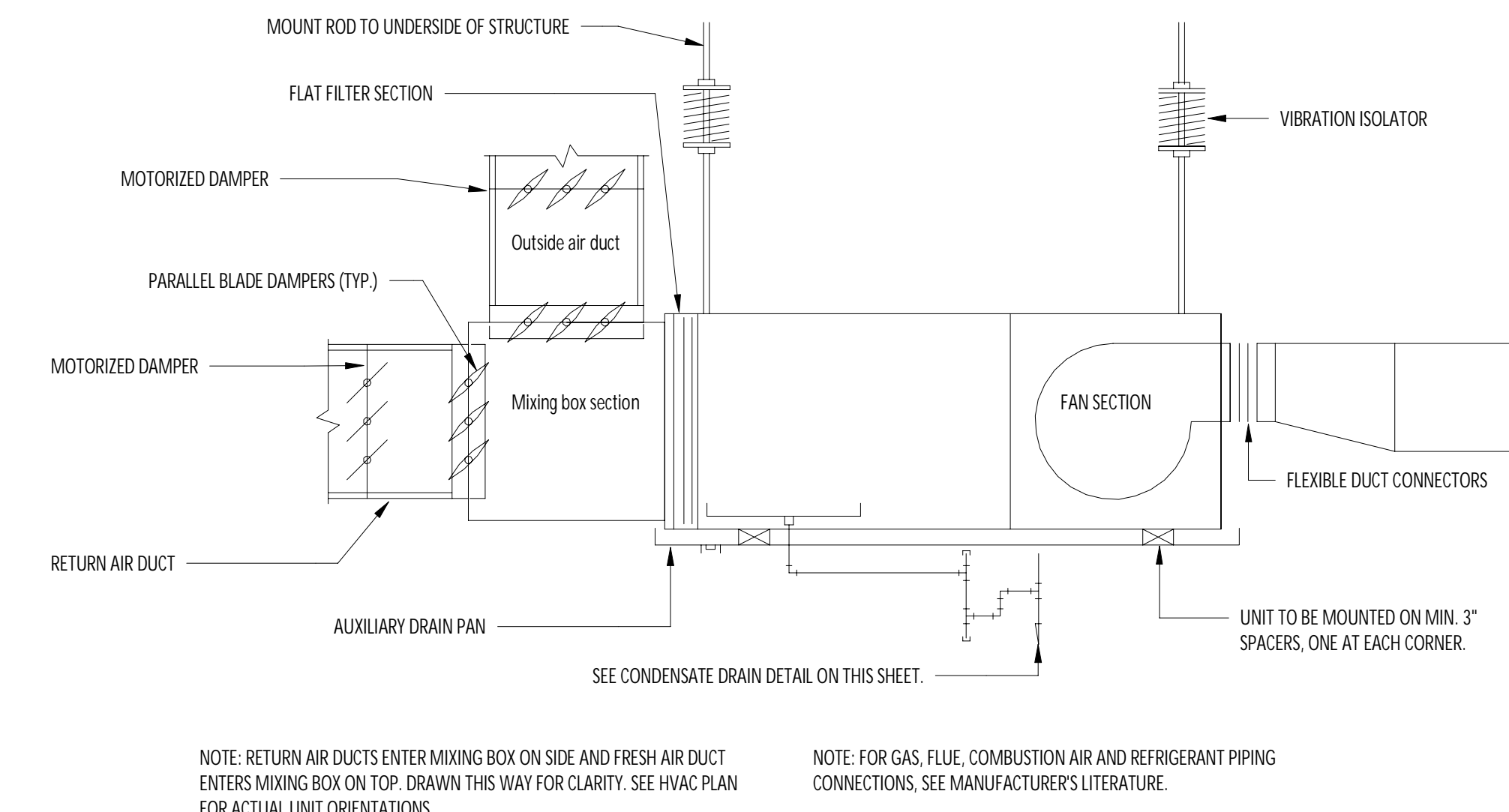
Typical piping and wiring diagrams (cont)



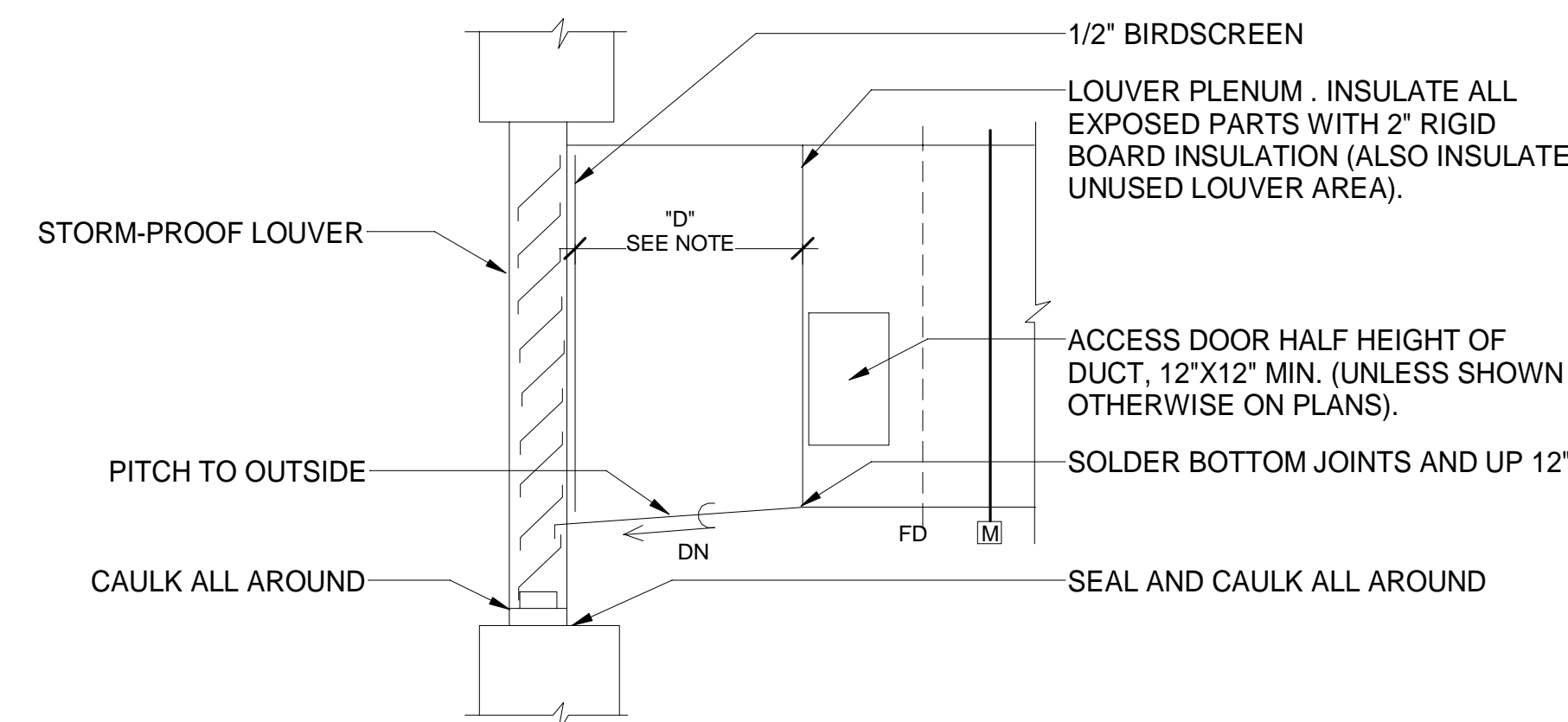
4 HVAC - SPLIT SYSTEM PIPING & WIRING SCHEMATIC
NOT TO SCALE



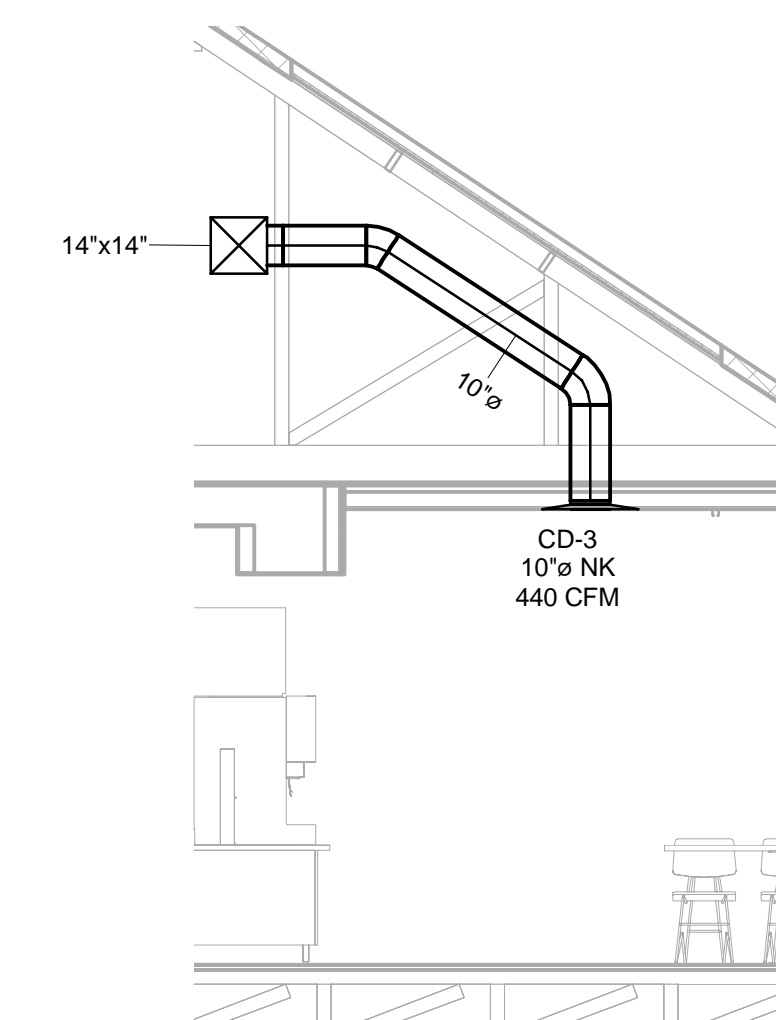
5 HVAC - CONDENSATE COOLING COIL DRAIN PAN
NOT TO SCALE



6 HVAC - BASEMENT AHU SCHEMATIC
NOT TO SCALE



7 HVAC - MOTORIZED WALL LOUVER
NOT TO SCALE



8 HVAC - TYPICAL DINING AREA SUPPLY DUCT DETAIL
1/4" = 1'-0"

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