

**MECHANICAL LAYOUT & REQUIREMENTS
SPECIFIC TO THE HOOD SYSTEMS &
ASSOCIATED DUCTWORK / FANS.**

GREASE DUCT SPECIFICATION - SINGLE WALL

FURNISH SINGLE-WALL, FACTORY BUILT, GREASE DUCT FOR USE WITH TYPE I KITCHEN HOODS, WHICH CONFORMS TO THE REQUIREMENTS OF NFPA-96. PRODUCTS SHALL BE ETL LISTED TO UL-1978 FOR VENTING AIR AND GREASE VAPORS FROM COMMERCIAL COOKING OPERATIONS AS DESCRIBED IN NFPA-96. THE DUCT WALL SHALL BE CONSTRUCTED OF .036 THICK TYPE 430 STAINLESS STEEL AND BE AVAILABLE IN DIAMETERS 8" THROUGH 24". ALL SUPPORTS, FAN ADAPTERS, HOOD CONNECTIONS, FITTINGS AND EXPANSION JOINTS REQUIRED TO INSTALL GREASE DUCT SHALL BE INCLUDED. ROOF PENETRATIONS SHALL COMPLY WITH LISTED CLEARANCE TO COMBUSTIBLES, SEE "CLEARANCE TO COMBUSTIBLES" GUIDE FOR DETAILS. THE GREASE DUCT WILL TERMINATE AT THE FAN ADAPTER PLATE, WILL BE FULLY WELDED TO THE FAN ADAPTER PLATE AND THE FAN ADAPTER PLATE WILL BE FASTENED TO THE CURB USING A SUITABLY SIZED FASTENER PROVIDED BY OTHERS; SEE PAGE 12 OF THE "INSTALLATION, OPERATION AND MAINTENANCE MANUAL" FOR DETAILS. GREASE DUCT JOINTS SHALL BE HELD TOGETHER BY MEANS OF FORMED VEE CLAMPS AND SEALED WITH 3M FIRE BARRIER 2000+. SCREWS USED TO SECURE THE VEE CLAMPS SHALL BE OF THE HEX-HEAD TYPE WITH FLANGED STOPS AND TAPERED "LEAD IN" THREADS FOR EASY STARTING. NUTS SHALL BE RETAINED BY MEANS OF A FREE-FLOATING CAGE TO ALLOW EASY ALIGNMENT. SINGLE-WALL GREASE DUCT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S "INSTALLATION, OPERATION AND MAINTENANCE MANUAL", ETL LISTING AND STATE AND LOCAL CODES. GREASE DUCT INSTALLED OUTSIDE OF THE BUILDING SHALL BE PROTECTED AGAINST ACCIDENTAL DAMAGE OR VANDALISM. SUPPORT VERTICALLY INSTALLED GREASE DUCT FROM THE BUILDING STRUCTURE USING RIGID STRUCTURAL SUPPORTS. ANCHOR SUPPORTS TO THE STRUCTURE BY WELDING OR BOLTING STEEL EXPANSION ANCHORS OR CONCRETE INSERTS. SUPPORT HORIZONTALLY INSTALLED GREASE DUCT FROM THE BUILDING STRUCTURE USING ABOVE METHOD OR USE DUCT MATE, WIRE ROPE & CLUTCHERS, PART NUMBERS WR20 & CL20. 1/2" THREADED ROD AND SADDLES MAY ALSO BE USED FOR THE SUPPORT OF HORIZONTAL GREASE DUCT. FANS SHALL BE SUPPORTED INDEPENDENTLY FROM THE GREASE DUCT SECTIONS. PROTECT GREASE DUCT FROM TWISTING OR MOVEMENT CAUSED BY FAN TORQUE OR VIBRATION.

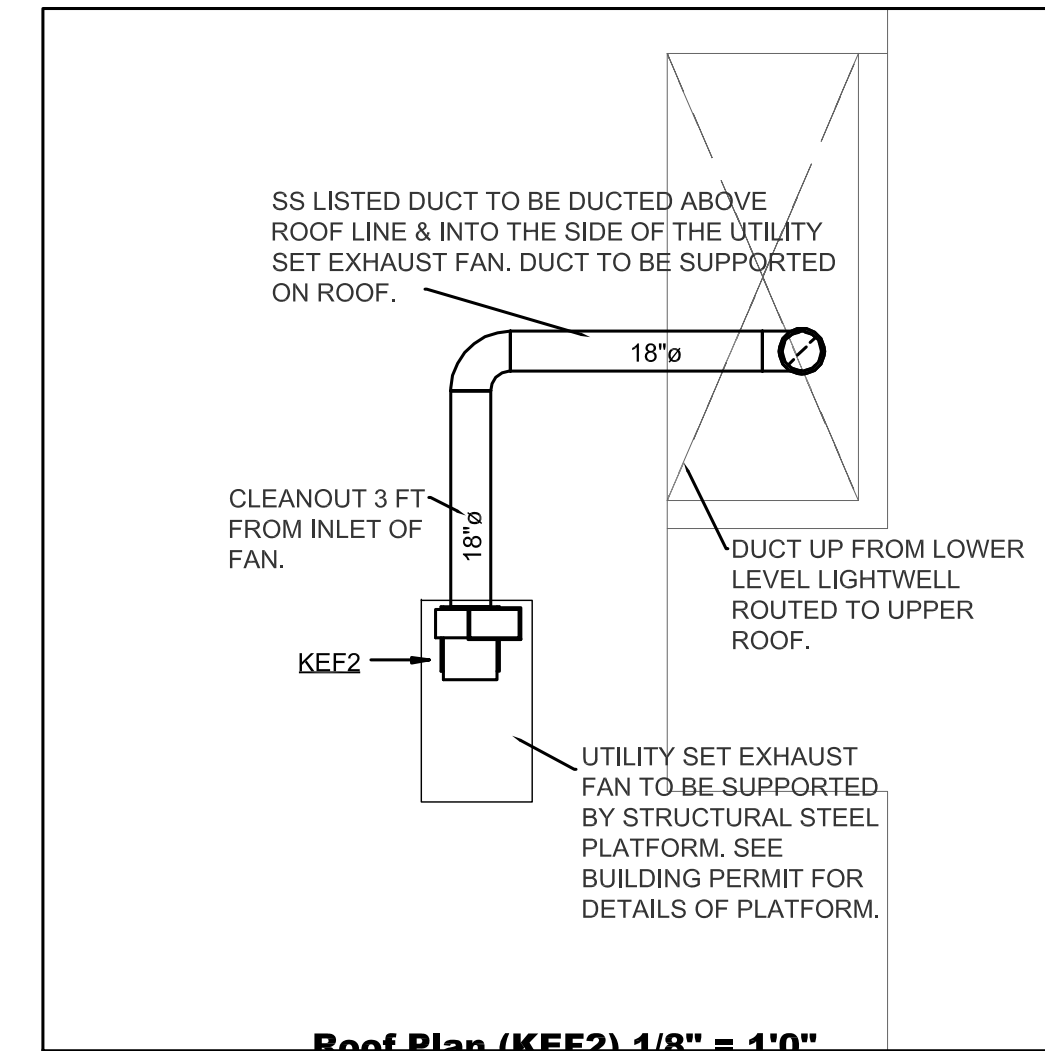
Key Notes (Exhaust Systems)

- ① CAPTIVE-AIRE ETL LISTED HOOD IN ACCORDANCES TO UL710 SEE CAPTIVE-AIRE SHOP DWGS. TYPICAL OF ALL HOODS (TOTAL 7 HOODS FOR PHASE 1)
- ② STAINLESS STL. WALL PANEL BELOW & RIGHT & LEFT OF HOOD FROM FLOOR TO CEILING. ALSO 18" PASS THE HOOD TO LEFT & RIGHT (MINIMUM). THIS IS TYPICAL OF ALL SYSTEMS PER OMC 507.2.6
- ③ CANOPY TYPE HOODS, TO OVERHANG ON FRONT BY 6" FROM COOKING SERVICE (SEE CAPTIVE-AIRE LISTING SHEET).
- ④ METAL STUD & SHEET ROCK PER OMC 507.2.6
- ⑤ HANGING ROD UP TO CONCRETE SLAB ABOVE & SECURE. SEE CAPTIVE AIRE HOOD DWGS FOR ADDITIONAL DETAILS.
- ⑥ 18" DIA CAPTIVE-AIRE LISTED STAINLESS STEEL GREASE DUCT WITH QTY (2) LAYERS OF LISTED FIRE WRAP FOR ZERO CLEARANCE & RATED SHAFT PER OMC 506.3.11.2 & MANUFACTURER OF FIRE WRAP (SEE SHEET H1-2.3 FOR WRAP & C.A.S. DUCTWORK DETAILS)
- ⑦ 12" DIA CAPTIVE-AIRE LISTED STAINLESS STEEL GREASE DUCT WITH QTY (2) LAYERS OF LISTED FIRE WRAP FOR ZERO CLEARANCE & RATED SHAFT PER OMC 506.3.11.2 & MANUFACTURER OF FIRE WRAP (SEE SHEET H1-2.3 FOR WRAP & C.A.S. DUCTWORK DETAILS)
- ⑧ 14" DIA CAPTIVE-AIRE LISTED STAINLESS STEEL GREASE DUCT WITH QTY (2) LAYERS OF LISTED FIRE WRAP FOR ZERO CLEARANCE & RATED SHAFT PER OMC 506.3.11.2 & MANUFACTURER OF FIRE WRAP (SEE SHEET H1-2.3 FOR WRAP & C.A.S. DUCTWORK DETAILS)
- ⑨ 24" DIA CAPTIVE-AIRE LISTED STAINLESS STEEL GREASE DUCT WITH QTY (2) LAYERS OF LISTED FIRE WRAP FOR ZERO CLEARANCE & RATED SHAFT PER OMC 506.3.11.2 & MANUFACTURER OF FIRE WRAP (SEE SHEET H1-2.3 FOR WRAP & C.A.S. DUCTWORK DETAILS)
- ⑩ 22" DIA CAPTIVE-AIRE LISTED STAINLESS STEEL GREASE DUCT WITH QTY (2) LAYERS OF LISTED FIRE WRAP FOR ZERO CLEARANCE & RATED SHAFT PER OMC 506.3.11.2 & MANUFACTURER OF FIRE WRAP (SEE SHEET H1-2.3 FOR WRAP & C.A.S. DUCTWORK DETAILS)
- ⑪ GREASE CLEANOUT DOOR (REMOVABLE BY HAND) PER OMC 506.3.9
- ⑫ HOOD TO BE SUPPLIED WITH LISTED 12" CABINET TO HOUSE THE FIRE SYSTEM & LISTED CAPTIVE-AIRE CONTROL PANEL (SEE C.A.S. DRAWINGS).
- ⑬ CAPTIVE-AIRE LISTED UL762 & UL705 EXHAUST FAN TO BE WALL MOUNTED ON EXTERIOR WALL & POINTED AWAY FROM ANY INTAKE INTO SPACE. FANS TO BE A MINIMUM OF 10 FT ABOVE ELEVATION.
- ⑭ VENTED CURB MOUNTED EXTERIOR OF BUILDING IN LOWER WELL. EXHAUST DUCT THEN ROUTES UP SIDE OF BUILDING & THE UP TO KEF-2 10 FT OFF THE EDGE OF THE ROOF (MIN).
- ⑮ NOT UTILIZED
- ⑯ LISTED GREASE DUCT IS CAPPED OFF & SEALED TO BE UTILIZED FOR PHASE 2 OF THE PROJECT IN 2024.
- ⑰ EXHAUST FANS DISCHARGE AT 45 DEGREES PER OMC 506.3.13.3. EXCEPTION. SEE H1-2.3 FOR DETAILS.
- ⑱ SEE H1-2.2 FOR MUA1 & SUPPLY DUCT DETAIL

SINGLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE INSTALLATION AND OPERATION MANUAL
- DUCT WORK SHALL SLOPE NO MORE THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT

DUCT DIAMETER	HORIZONTAL SUPPORT (FT)	VERTICAL WALL SUPPORT (FT)	VERTICAL CURB SUPPORT (FT)
12"	10'	10'	24'
14"	10'	10'	24'
16"	10'	10'	24'
18"	10'	10'	24'
22"	10'	10'	24'
24"	10'	10'	24'

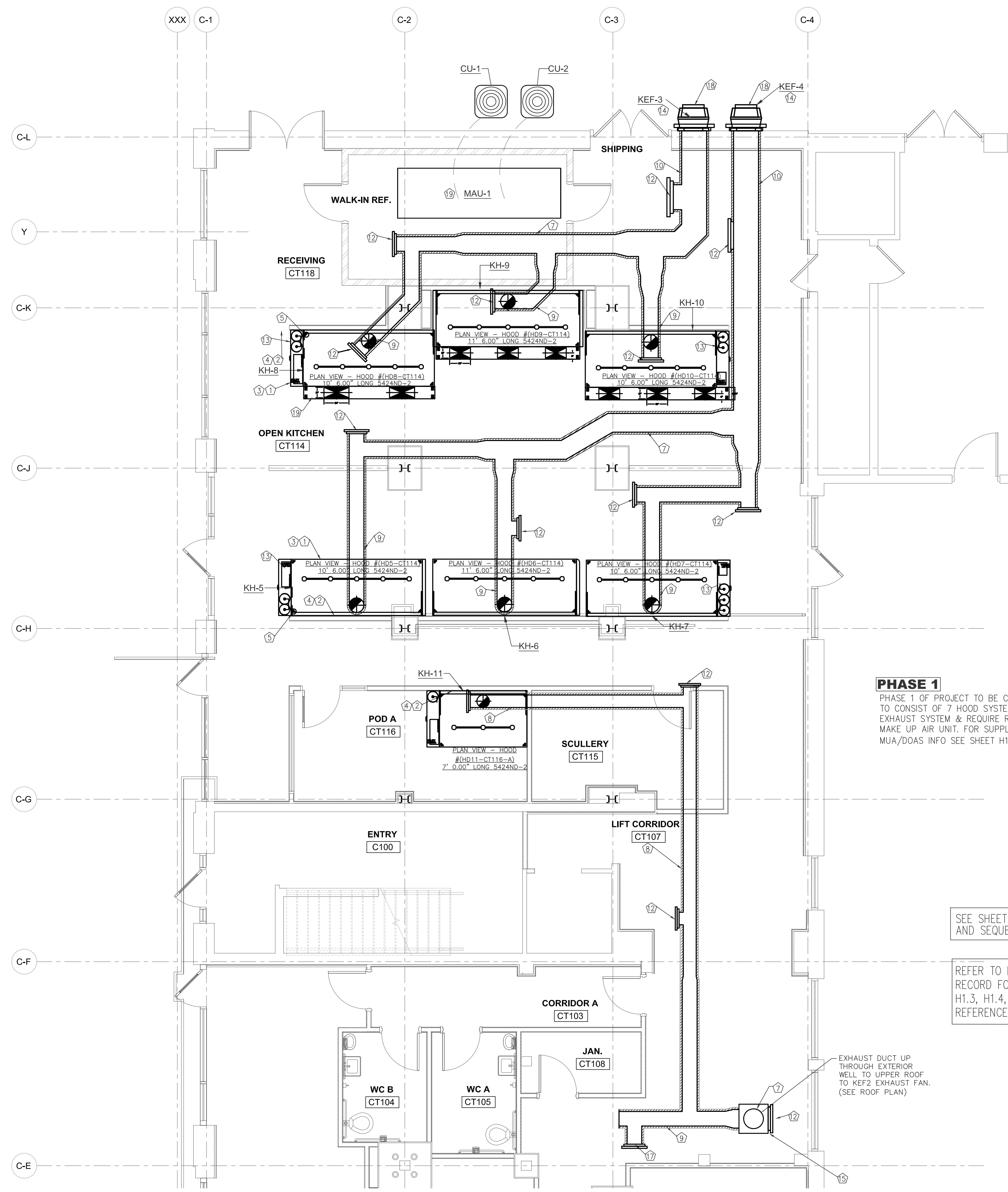


PHASE 1
PHASE 1 OF PROJECT TO BE COMPLETED IN 2023 TO CONSIST OF 7 HOOD SYSTEMS WITH ASSOCIATED EXHAUST SYSTEM & REQUIRE RTU-DOAS UNIT & MAKE UP AIR UNIT. FOR SUPPLY DUCT & MUA/DOAS INFO SEE SHEET H1-2.2

SEE SHEET H1-2.2 FOR AIR BALANCE SCHEDULE AND SEQUENCE OF OPERATIONS

REFER TO BUILDING/HVAC PERMITS FOR ENGINEER OF RECORD FOR THE HVAC SYSTEM DRAWING SHEETS H1.2, H1.3, H1.4, H0.1, H0.2 INCLUDED IN THIS SET FOR REFERENCE ONLY

EXHAUST DUCT UP THROUGH EXTERIOR WELL TO UPPER ROOF TO KEF2 EXHAUST FAN. (SEE ROOF PLAN)



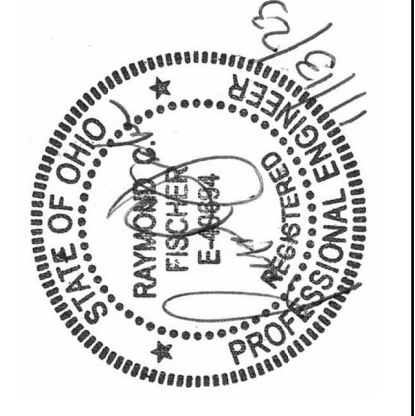
Exhaust System(s) Plan Layout

SCALE: 3/16" = 1'-0"

DATE:	10/31/23
DRAWN BY:	KCM
SCALE	3/16" = 1'-0"
REVISION	DATE

6888 KITCHENS HDS - Arcade
32 South Ludlow Street,
Dayton, OH, 45402
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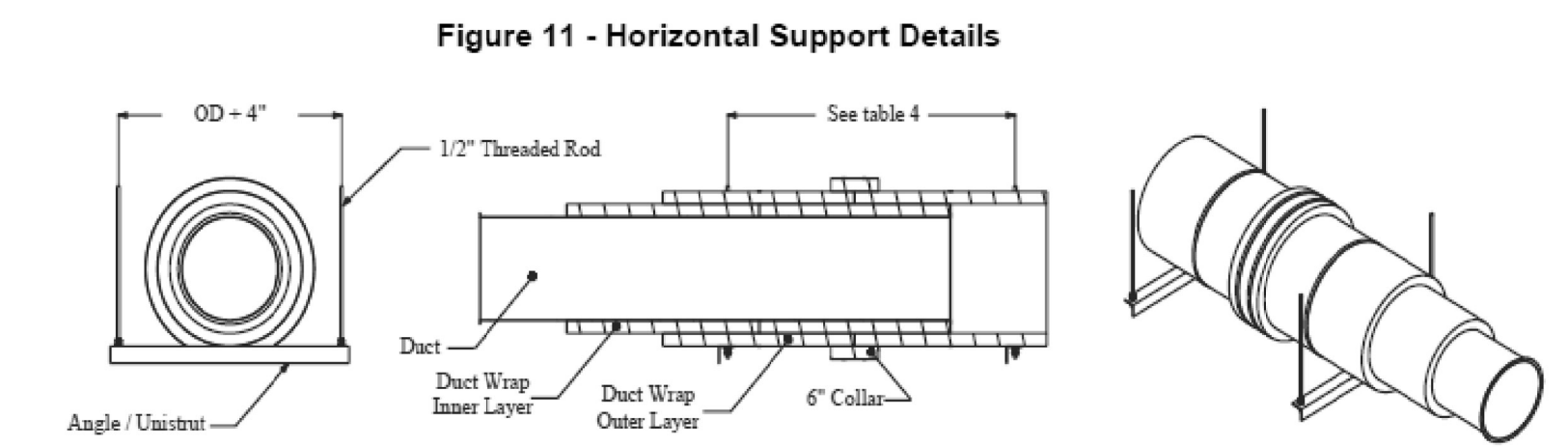
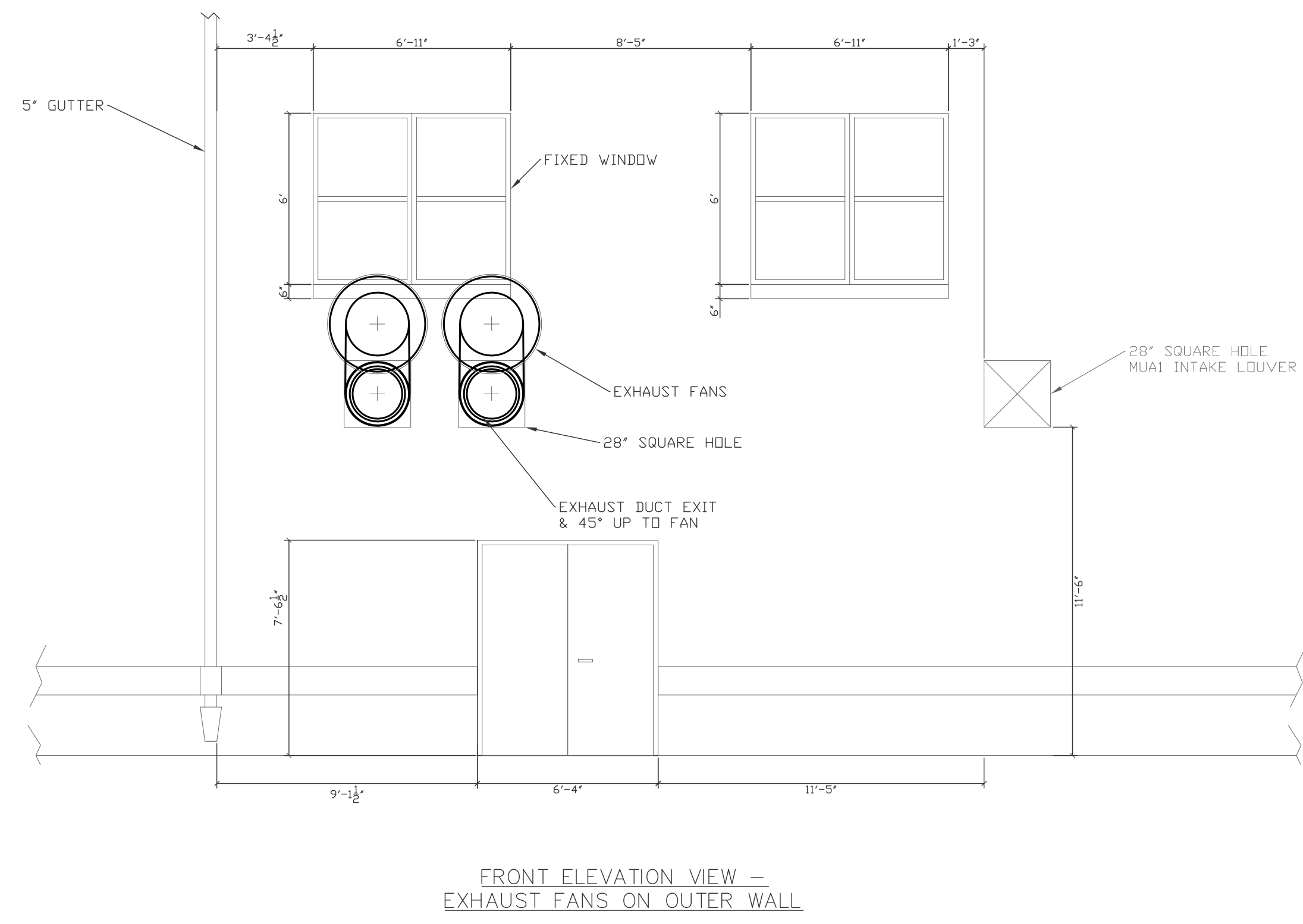
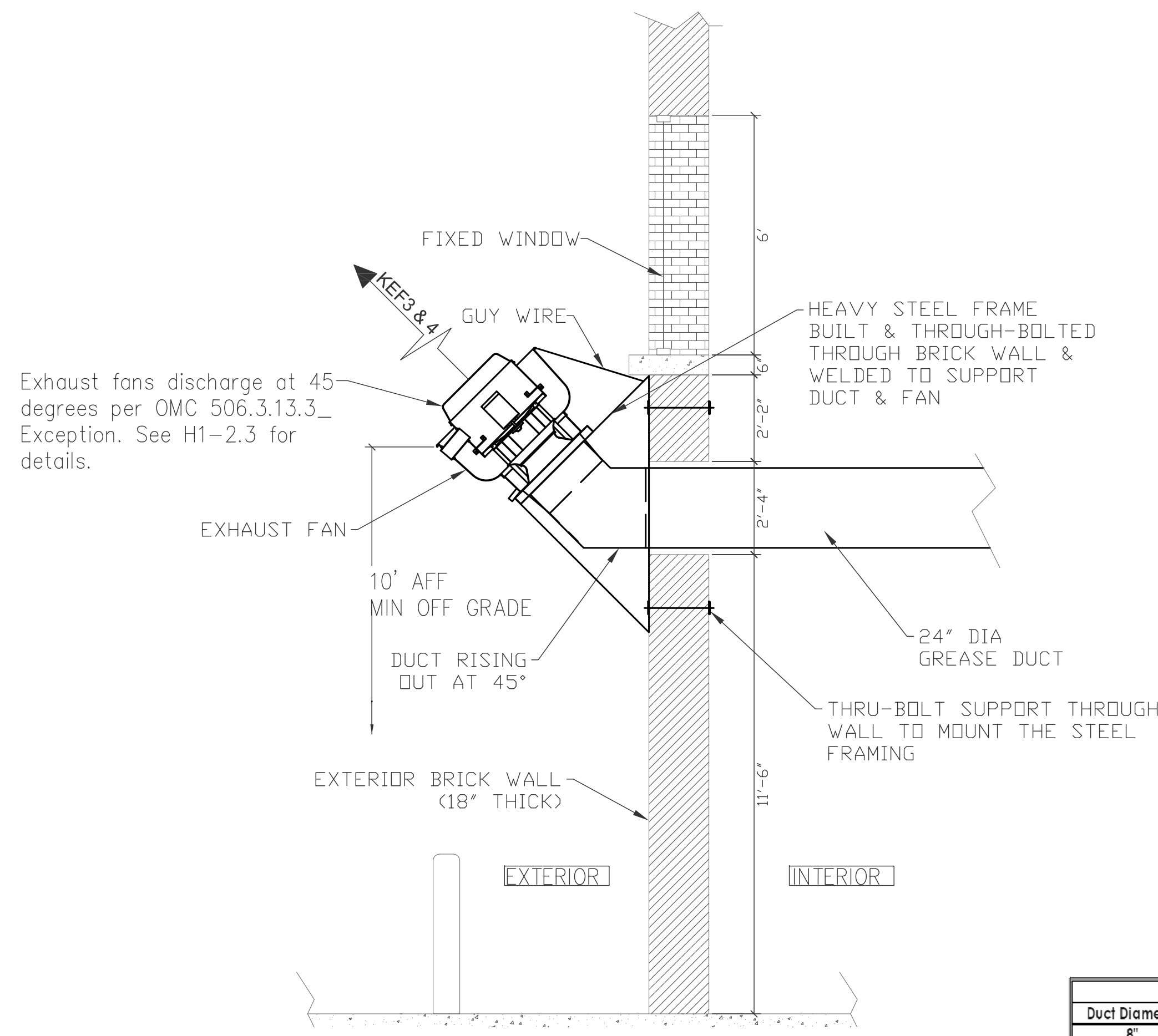
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Cleveland, Ohio 44002
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H1-2.1
EXHAUST SYSTEMS



Horizontal Support & Support Spacing

Horizontal duct runs are supported using either 2 x 2 x 1/8" angle or Unistrut. Horizontal support spacing is shown in Table 4. When cutting the angle or Unistrut to length there must be a minimum of 2" on either side of the duct or duct wrap. It is important that the 1/2" threaded rod suspending the angle or Unistrut does not rub against the duct or duct wrap. Once the angle has been cut to length it is suspended using 1/2" threaded rod (minimum). Appropriate sized holes are drilled/punched in either end of the angle. The 1/2" threaded rod is secured to the angle or Unistrut using appropriate sized grade 5 hardware. Washers are used on the top and bottom before installing nuts. Double nuts are used to make sure bottom nuts do not come loose, see Figure 11.

Diameter	Horizontal Support Spacing (Feet)
8"	10'
10"	10'
12"	10'
14"	10'
16"	10'
18"	10'
20"	10'
22"	10'
24"	10'

FireMaster® FastWrap® XL
 Commercial Kitchen Grease Duct Enclosure System
 Air Ventilation Duct Enclosure System
 1 or 2 Hour Shaft Alternative / Zero Clearance to Combustibles

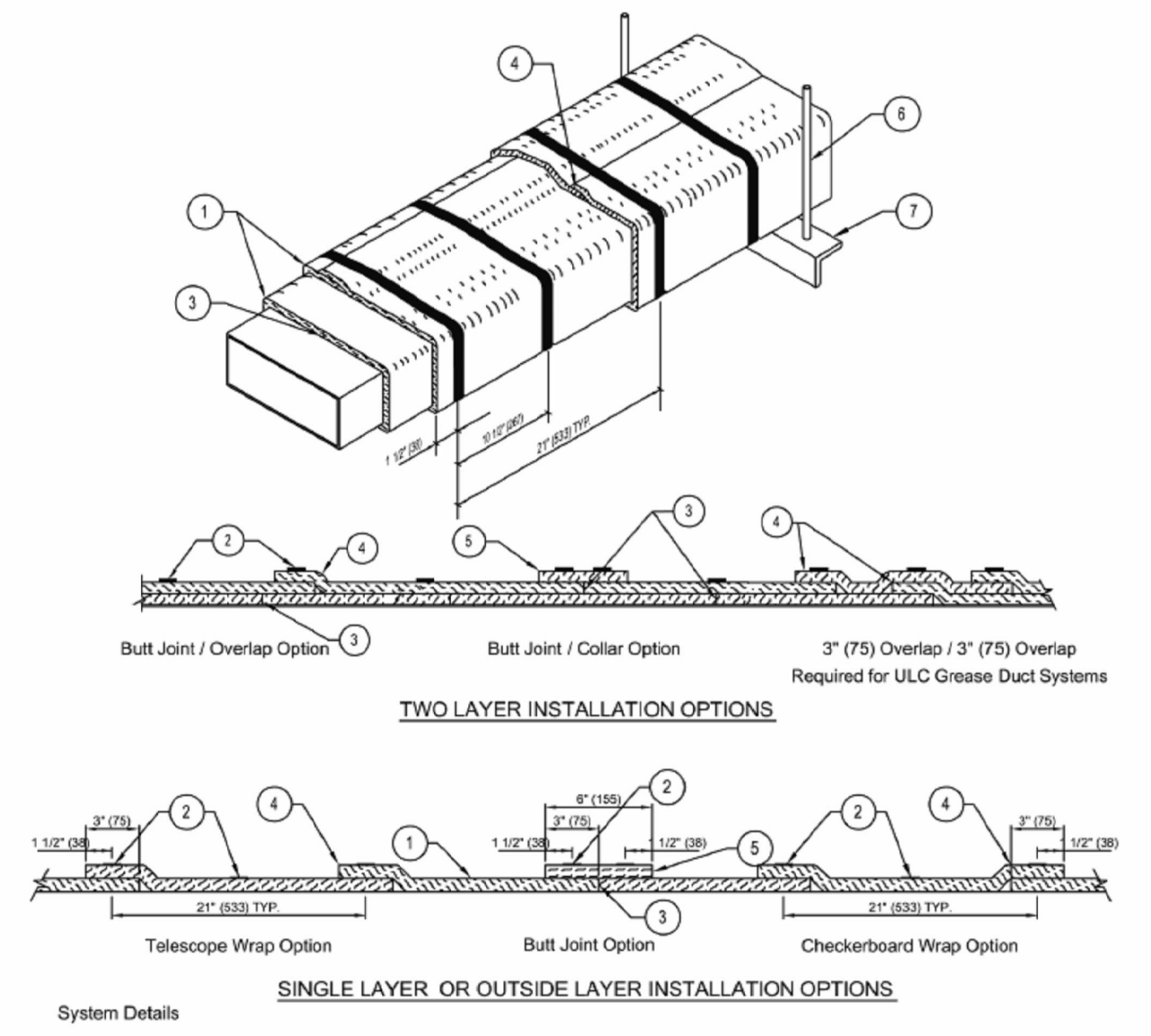
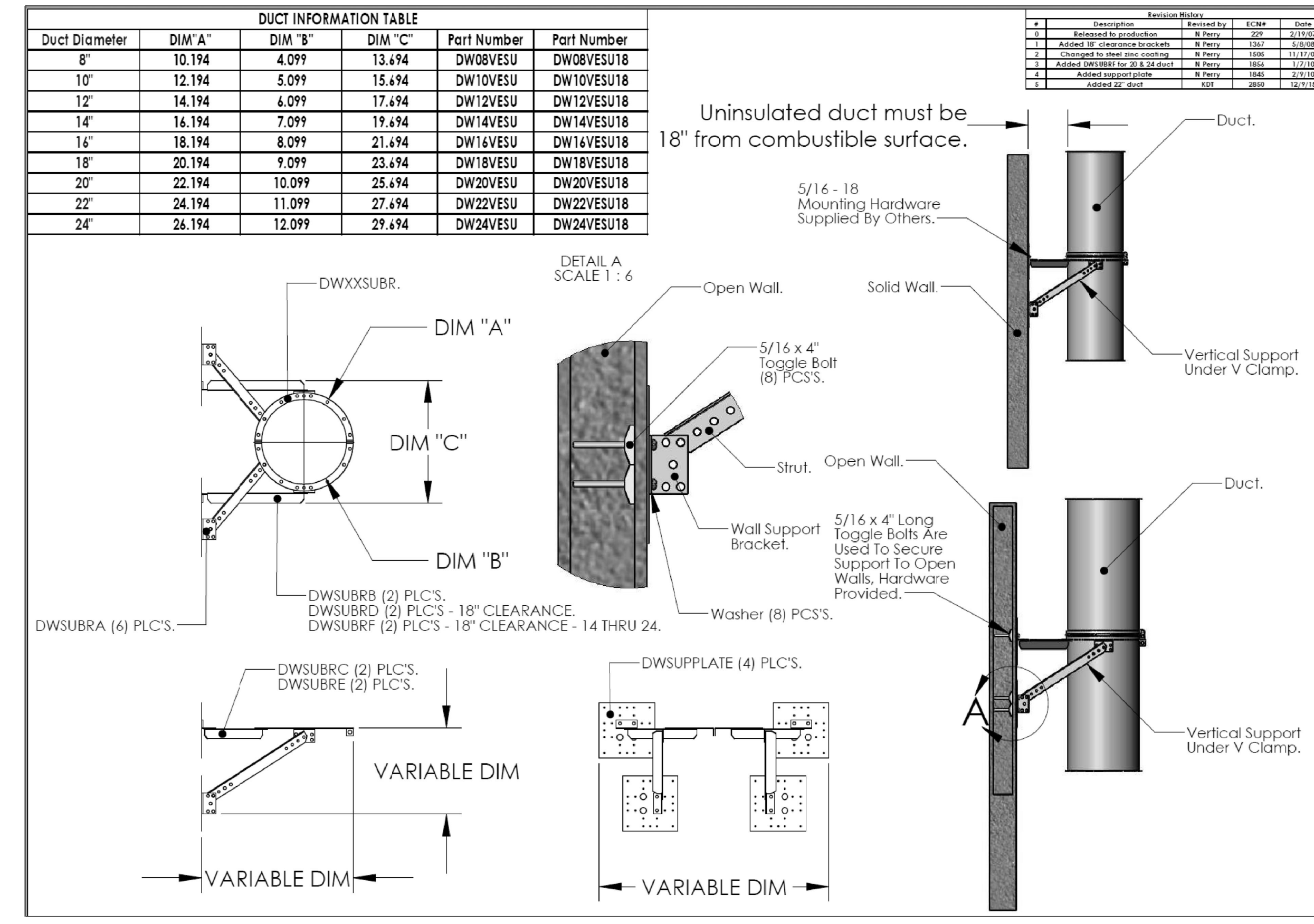


FIGURE 1

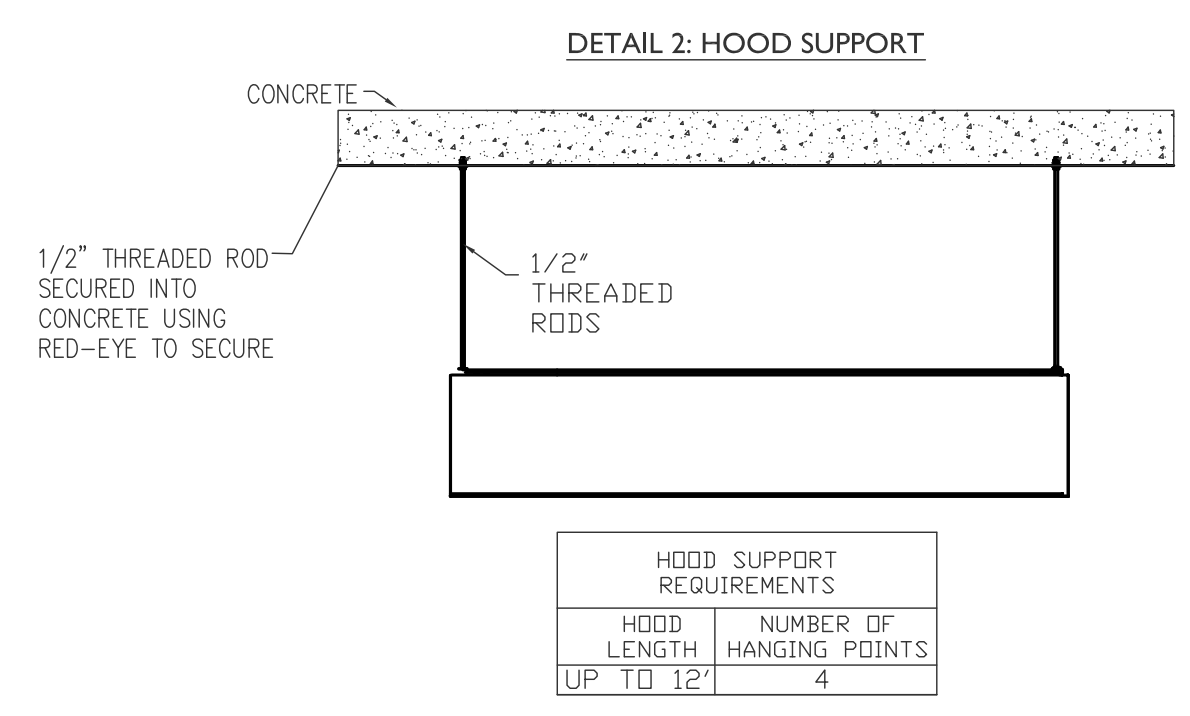
- Two Layers of FireMaster FastWrap XL Blanket for Grease Duct Enclosures
- One Layer of FireMaster FastWrap XL Blanket for Air Ventilation Duct Enclosures
- Steel banding minimum 1/2" (13) wide by 0.015" (0.4) thick.
- Tight butt joints on inner layer (ULC Grease Duct requires 3" (75) overlap)
- Min. 3" (75) overlap on perimeter and between adjacent blanket on outside layer
- Optional 6" FireMaster FastWrap XL collar

System Details	6 - Hangers	7 - Trapeze Supports
Grease Duct - per ASTM E2336	Min 3/8" (5) Rod	Min. 2" (50) x 2" (50) x 1/8" (3) angle
Grease Duct - per ULC Protocol	Min 1/2" (13) Rod	Min. 2" (50) x 2" (50) x 3/16" (5) angle
Grease Duct - per ULC Protocol with Maximum Area 195 m ² (0.1 m ²)	Min 3/8" (5) Rod	Min. 1-1/2" (38) x 1-1/2" (38) x 5/32" (4) angle
HVAC Duct - per ISO 6944	Min 1/2" (13) Rod	Min. 2" (50) x 2" (50) x 3/16" (5) angle
HVAC Duct - per ISO 6944 with Maximum Area 387 m ² (0.25 m ²)	Min 3/8" (5) Rod	Min. 1-1/2" (38) x 1-1/2" (38) x 5/32" (4) angle

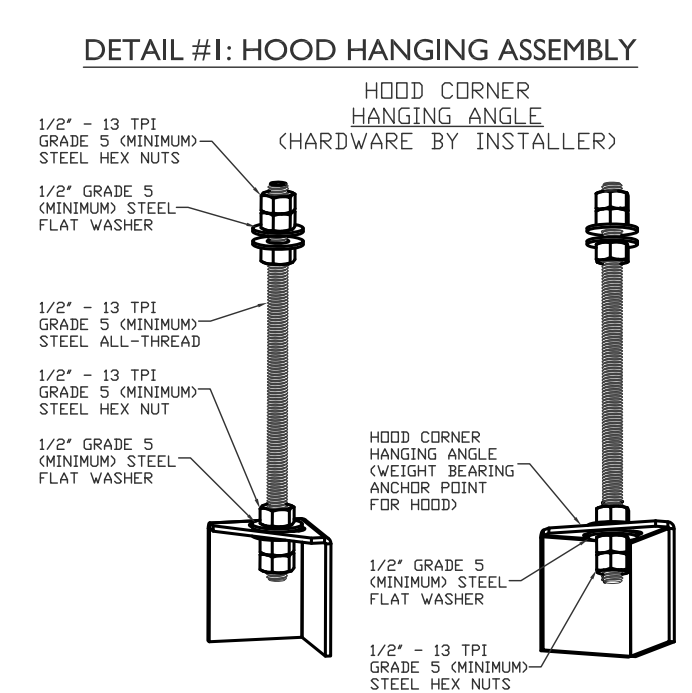
The integrity of Firemaster duct systems is linked to the quality of the installation.



Duct Diameter	DIM "A"	DIM "B"	DIM "C"	Part Number	Part Number
8"	10.194	4.099	13.694	DW08VESU	DW08VESU18
10"	12.194	5.099	15.694	DW10VESU	DW10VESU18
12"	14.194	6.099	17.694	DW12VESU	DW12VESU18
14"	16.194	7.099	19.694	DW14VESU	DW14VESU18
16"	18.194	8.099	21.694	DW16VESU	DW16VESU18
18"	20.194	9.099	23.694	DW18VESU	DW18VESU18
20"	22.194	10.099	25.694	DW20VESU	DW20VESU18
22"	24.194	11.099	27.694	DW22VESU	DW22VESU18
24"	26.194	12.099	29.694	DW24VESU	DW24VESU18



HOOD LENGTH	NUMBER OF HANGING POINTS
UP TO 12'	4

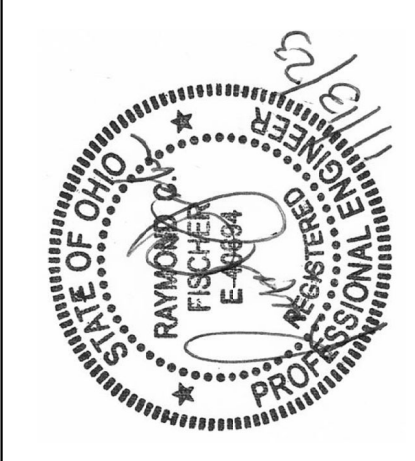


ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

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FIRE-WRAP DETAILS

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