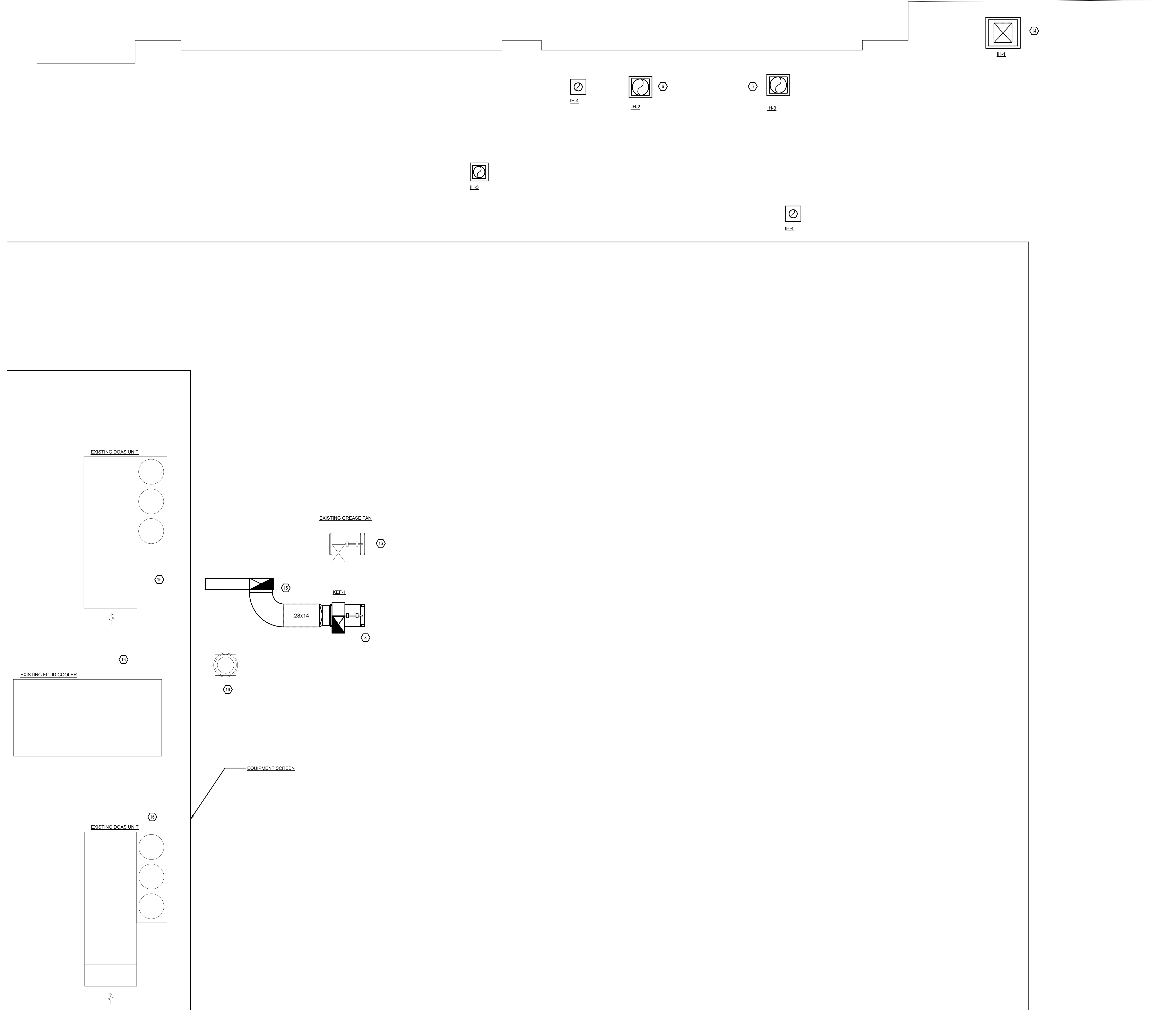




Project: Director's 9320-45242 (9320-45242) - Mechanical - Roof - Plan - 11 - 0323 - 10/20 - By: r.ashley  
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**MECHANICAL SCOPE OF WORK**

TENANT FITOUT PROJECT IN SPACE PREVIOUSLY BUILT OUT BY LANDLORD. PROVIDE AND INSTALL DUCTWORK AND AIR DISTRIBUTION DEVICES TIED TO EXISTING SPLIT SYSTEMS. PROVIDE AND INSTALL ERV AND ASSOCIATED DUCTWORK. PROVIDE AND INSTALL NEW KITCHEN EQUIPMENT, EXHAUST FANS, AND ALL ASSOCIATED DUCTWORK. REFER TO PLANS FOR ADDITIONAL INFORMATION.

**CODES REFERENCED**

- 2017 OHIO MECHANICAL CODE
- 2017 OHIO BUILDING CODE
- ASHRAE 90.1-2010

**HVAC DESIGN CONDITIONS**

<b>COOLING</b>	<b>HEATING</b>
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 72

**GENERAL NOTES**

- FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.
- COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.
- COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.
- INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.
- REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.
- MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.
- PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.
- PROVIDE AND INSTALL NEW DUCTWORK AS INDICATED. COORDINATE WITH STRUCTURE, ARCHITECTURAL ELEMENTS, AND OTHER TRADES.
- PROVIDE AND INSTALL NEW AIR DEVICES. BALANCE TO CFM INDICATED. COORDINATE FINAL COLOR/FINISH WITH ARCHITECT.
- ANY EQUIPMENT THAT IS SUBSTITUTED SHALL FIT IN THE SPACE PROVIDED WITH ADEQUATE ROOM FOR SERVICING, INCLUDING SUBSTITUTE EQUIPMENT NAMED IN THE SPECIFICATIONS. SUBMIT A 1/4" SCALE DRAWING OF ALL EQUIPMENT SUBSTITUTED FOR APPROVAL PRIOR TO INSTALLATION, INCLUDING, BUT NOT LIMITED TO, STRUCTURAL AND ARCHITECTURAL IMPACT, CLEARANCE REQUIREMENTS AND UTILITY REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE ALL NEW ELECTRICAL AND PLUMBING REQUIREMENTS WITH THE ELECTRICAL AND PLUMBING CONTRACTORS.
- MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL BE LISTED AND LABELED AS HAVING A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723.
- HOOD AND FANS ARE SUPPLIED AND INSTALLED BY FOOD SERVICE CONTRACTOR. ALL HOOD AND HOOD MAKE UP AIR DRAWINGS ARE FOR REFERENCE AND REQUIREMENTS FOR OTHER TRADES.
- REFER TO FOOD SERVICE DRAWINGS FOR KITCHEN EQUIPMENT SCHEDULES AND DETAILS.
- MAINTAIN CODE REQUIRED CLEARANCE TO COMBUSTIBLES FOR ALL GAS-FIRED EQUIPMENT.
- EXISTING FURNACES TO BE DE-ENERGIZED AND BE WRAPPED IN PLASTIC WITH ALL OPENINGS SEALED AIR-TIGHT DURING DUST PRODUCING ACTIVITIES.
- ALL CONSTRUCTION ACTIVITIES TO BE COORDINATED WITH LANDLORD A MINIMUM OF TWO WEEKS IN ADVANCE PRIOR TO STARTING WORK.

**KEYED SHEET NOTES**

- SPLIT SYSTEMS INSTALLATION COMPLETED BY LANDLORD AS PART OF LANDLORD BUILD-OUT UNDER SEPARATE PERMIT. VERIFY SPLIT SYSTEMS ARE INSTALLED COMPLETE WITH ALL COMPONENTS LISTED BELOW. IF AN COMPONENT LISTED IS NOT INSTALLED IMMEDIATELY INFORM GC/TENANT.
  - HIGH EFFICIENCY GAS FURNACE (1200 CFM/120 MBH)
  - 14 SEER OUTDOOR CONDITIONING UNIT (5-TON)
  - RETURN DUCT STUB-OUT WITH FILTER RACK
  - RETURN DUCT SMOKE DETECTOR TIED TO FIRE ALARMS
  - CONCENTRIC VENT TERMINATION KIT
  - RSJL CONDENSATE AND GAS PIPING
  - CONDENSATE NEUTRALIZATION KIT AND PIPE
  - 7-DAY PROGRAMMABLE THERMOSTAT
  - WET SWITCH
- CONNECT NEW DUCTWORK TO EXISTING.
- NOT USED.
- NOT USED.
- PROVIDE AND INSTALL NEW ENERGY RECOVERY VENTILATOR PER MANUFACTURER REQUIREMENTS AND RECOMMENDATIONS. PROVIDE AND INSTALL FULL SIZE ACCESS PANEL FOR MAINTENANCE AND FILTER CHANGES. COORDINATE WITH ARCHITECTURAL CEILING PLAN.
- NEW OUTSIDE AND EXHAUST AIR DUCTS FROM ERV UP TO WEATHER-PROOF HOODS ON LOWER ROOF. COORDINATE WITH LANDLORDS ROOFING CONTRACTOR IN ORDER TO MAINTAIN ROOF WARRANTY.
- RELOCATE EXISTING THERMOSTATS TO LOCATIONS INDICATED. EXTEND LOW VOLTAGE COMMUNICATION WIRE AS REQUIRED. PROGRAM THERMOSTATS BASED ON TENANT INPUT.
- HOODS, HOOD FANS, HOOD CONTROLS, MAKE-UP AIR UNIT, MAKE-UP AIR UNIT CONDENSING UNIT, WALK-IN COOLING FREEZERS AND WALK IN COOLER/FREEZER CONDENSING UNITS PROVIDED AND INSTALLED BY OTHERS COMPLETE. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL ASSOCIATED DUCTWORK AS PART OF THIS SCOPE. REFER TO KITCHEN NOTES FOR ADDITIONAL REQUIREMENTS.
- ROUTE DISH HOOD EXHAUST DUCTWORK TO FAN ON LOWER ROOF.
- ROUTE GREASE DUCT UP THROUGH ROOF FROM 2-HR RATED SHAFT TO UTILITY SET GREASE FAN. MAINTAIN ALL CODE REQUIRED CLEARANCES PER MANUFACTURER REQUIREMENTS/RECOMMENDATIONS.
- COORDINATE MAKE-UP AIR UNIT LOCATION WITH ADJACENT EQUIPMENT, STRUCTURE, INFRASTRUCTURE, AND ROLL UP DOORS. MAINTAIN ALL REQUIRED CLEARANCES.
- PROVIDE AND INSTALL NEW PATIO HEATERS PER MANUFACTURER REQUIREMENTS AND RECOMMENDATIONS. COORDINATE WITH OTHER TRADES.
- CONNECT OUTDOOR AIR DUCTWORK TO FURNACE RETURN AIR DUCT. ROUTE OUTDOOR AIR TAP TO WEATHER-PROOF HOOD ON LOWER ROOF. COORDINATE WITH LANDLORDS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
- ROUTE MAU OUTDOOR AIR TAP TO WEATHER-PROOF HOOD ON LOWER ROOF. COORDINATE WITH LANDLORDS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
- FACE MOUNTED DEFLECTORS TO BE ANGLED DOWN TO CREATE A BLANKET OF AIR IN FRONT OF THE HOOD. COORDINATE EXACT DEFLECTION WITH THE KITCHEN VENTILATION/ HOOD CONTRACTOR TO ENSURE PROPER HOOD CAPTURE.
- EXISTING ROOFTOP EQUIPMENT TO REMAIN AS-IS.



ISSUANCE	DATE	NO.	DESCRIPTION
	03/11/2022	1	PERMIT

**CRG - LIVERY MONTGOMERY**

9320 Montgomery Road  
Montgomery, Ohio 45242

PR-02058

**ENGINEERED BUILDING SYSTEMS INC.**

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DRAWN BY: ZWS  
CHECKED BY: SSS

PROJECT NO.: 9298

SCALE: AS NOTED

DATE: 03-11-2022

DRAWING TITLE: MECHANICAL PLAN

SHEET NO.: M101

**MECHANICAL ROOF PLAN**

SCALE: 1/4" = 1'-0"



E:\Project\_Directories\9200-9298\9298 - Perry - Construction Documents\9298-1201-MECHANICAL-36741.dwg - EBS - Plot Date/Time: Mar 11, 2025 - 14:06m - By: r.hughes  
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**2018 IMC COMMERCIAL KITCHEN HOOD COMMISSIONING INFORMATION (TYPE 1 HOODS)**

**507.6 PERFORMANCE TEST**

A PERFORMANCE TEST SHALL BE CONDUCTED UPON COMPLETION AND BEFORE FINAL APPROVAL OF THE INSTALLATION OF A VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES. THE TEST SHALL VERIFY THE RATE OF EXHAUST AIRFLOW REQUIRED BY SECTION 507.5, MAKEUP AIRFLOW REQUIRED BY SECTION 508 AND PROPER OPERATION AS SPECIFIED IN THIS CHAPTER. THE PERMIT HOLDER SHALL FURNISH THE NECESSARY TEST EQUIPMENT AND DEVICES REQUIRED TO PERFORM THE TESTS.

**507.6.1 CAPTURE AND CONTAINMENT TEST**

THE PERMIT HOLDER SHALL VERIFY CAPTURE AND CONTAINMENT PERFORMANCE OF THE EXHAUST SYSTEM. THIS FIELD TEST SHALL BE CONDUCTED WITH ALL APPLIANCES UNDER THE HOOD AT OPERATING TEMPERATURES, WITH ALL SOURCES OF OUTDOOR AIR PROVIDING MAKEUP AIR FOR THE HOOD OPERATING AND WITH ALL SOURCES OF RECIRCULATED AIR PROVIDING CONDITIONING FOR THE SPACE IN WHICH THE HOOD IS LOCATED OPERATING. CAPTURE AND CONTAINMENT SHALL BE VERIFIED VISUALLY BY OBSERVING SMOKE OR STEAM PRODUCED BY ACTUAL OR SIMULATED COOKING, SUCH AS WITH SMOKE CANDLES, SMOKE PUFFERS, AND SIMILAR MEANS. SMOKE BOMBS SHALL NOT BE USED.

**RECOMMENDED HOOD TESTING PROCEDURE (COORDINATE ANY ADDITIONAL TESTING REQUIREMENTS WITH HUNTSVILLE, ALABAMA BUREAU OF CONSTRUCTION CODES):**

THE PURPOSE OF EXHAUST HOOD SMOKE CAPTURE TESTING IS TO ENSURE CONTAINMENT OF HEAT, STEAM, VAPORS, OBNOXIOUS ODORS, SMOKE, AND FUMES EMITTED BY THE COOKING EQUIPMENT AND TO PREVENT CONDENSATION ACCUMULATION AND DRIPPAGE. THEREFORE, CAPTURE NEEDS TO BE EVALUATED AT ALL EXPOSED SIDES OF THE HOOD, IN ORDER TO ENHANCE STATEWIDE UNIFORMITY IN THE EVALUATION OF KITCHEN EXHAUST SYSTEMS WITH SMOKE. THE FOLLOWING PROCEDURES SHALL BE REQUIRED.

WHILE PERFORMING A SMOKE TEST CONSIDERATION SHALL BE TAKEN NOT TO ADVERSELY AFFECT THE OPERATION OF OTHER MECHANICAL EQUIPMENT INSTALLED.

A FINAL VENTILATION BALANCE REPORT SHALL BE SUBMITTED PRIOR TO THE CAPTURE AND CONTAINMENT TEST. THE VENTILATION BALANCE REPORT SHALL AGREE WITH THE AIR QUANTITIES STIPULATED ON THE APPROVED PLANS AND SPECIFICATIONS FOR THE INSTALLATION.

BUILDING PRESSURE SHALL BE VERIFIED, NOT TO EXCEED 0.02" WATER COLUMN NEGATIVE. THIS SHALL BE VERIFIED WITH ALL EQUIPMENT IN NORMAL OPERATION AND WITH ALL THE WINDOWS AND DOORS CLOSED.

**TEST CONDITIONS:**

MOVEMENT OF PERSONS IS TO BE MINIMIZED. INTERIOR OR EXTERIOR DOORS, WINDOWS, DRIVE-THRU WINDOWS, AND ROOF HATCHES ARE TO BE KEPT CLOSED. ALL EQUIPMENT (EXHAUST, MAKE-UP AIR, ROOFTOP UNIT, ETC) THAT MAY AFFECT THE PERFORMANCE OF THE HOOD SHALL BE ACTIVATED DURING THE TEST.

**EQUIPMENT NEEDED:**

1. SMOKE CANDLES (CARTRIDGES): BURN TIME MINIMUM 45 SECONDS, VOLUME 50 CUBIC FEET, MEASURES 0.5" DIA. X 375" L, WEIGHT 0.0 OX; SMOKE
2. TEST CONTAINER: METAL CYLINDRICAL, CONTAINER APPROXIMATELY 6" IN DIAMETER AND 7" HIGH.

**TEST LOCATIONS:**

1. LOCATE THE TEST CONTAINER ON THE COOKING SURFACE OR INSIDE THE COOKING VESSEL OR CAVITY AS NECESSARY.
2. WHERE THE TEST LOCATION IS TO BE THE COOKING SURFACE, ADJUST THE CENTERLINE OF THE TEST CONTAINER INWARD 12 INCHES FROM THE LEADING EDGE OF THE COOKING SURFACE AND 12 INCHES FROM THE HOOD END, MEASURED HORIZONTALLY.
3. WHERE ENDS ARE EXPOSED, THE TEST CONTAINER IS TO BE LOCATED 12 INCHES FROM THE WALL AND 12 INCHES INWARD FROM THE OPEN HOOD END, MEASURED HORIZONTALLY.
4. EACH SUBSEQUENT TEST LOCATION IS TO BE 36 INCHES TO THE LEFT OR RIGHT FROM THE PREVIOUS TEST LOCATION UNTIL THE FULL LENGTH OF THE HOOD IS TESTED.

**COOKING EQUIPMENT:**

1. THE COOKING EQUIPMENT SHALL BE TESTED AND OPERATED IN A MANNER SIMILAR TO NORMAL USAGE.
2. WHEN DEEP-FAT FRYERS ARE INCLUDED IN A BANK OF COOKING EQUIPMENT, THE FRYERS MAY BE OPERATED USING WATER IN PLACE OF OIL AND THE TEMPERATURE ADJUSTED TO PRODUCE SIMMERING, NOT VIGOROUS BOILING, WATER. (IF OIL IS USED, IT MUST BE DISCARDED FOLLOWING THE EVALUATION IN ORDER TO PREVENT POTENTIAL FOOD CONTAMINATION). THE TEST CONTAINER IS TO BE LOCATED IN OR ON THE SURFACE OF THE FRYER (BASKETS).
3. WHEN OVENS ARE INSTALLED (EXCEPT CONVECTION, RANGE, AND COMBI-OVENS), ONLY THE TOP CAVITY DOOR IS TO BE OPEN AND THE HEAT/STEAM SOURCE ACTIVATED FOR ALL COMPARTMENTS. OPEN MEANS A POSITION 90 DEGREES FROM THE CLOSED POSITION. THE CENTERLINE OF THE TEST CONTAINER IS TO BE LOCATED INWARD A MINIMUM OF 12 INCHES FROM THE FRONT EDGE AND INSIDE THE OVEN CAVITY. NOTE: RANGE OVENS ARE TO BE OPERATED BUT NOT TESTED IF THE RANGE TOP GAS-FIRED BURNERS OR THE ELECTRIC HEATING ELEMENTS ARE TO BE TESTED.
4. CONVECTION AND COMBI-OVENS ARE TO OPERATE WITH ALL DOORS CLOSED. THE HEAT SOURCE ACTIVATED IN ALL COMPARTMENTS, AND THE AIR CIRCULATING FANS) ACTIVATED. LOCATE THE TOP LIP OF THE TEST CONTAINER 42" ABOVE THE FLOOR AND IN CONTACT WITH THE FRONT OF THE OVEN. WHERE OVENS ARE INSTALLED SO AS TO BE AT THE ENDS OF THE HOOD AND A FULL SIZE CURTAIN OR WALL IS NOT INSTALLED, THE LIP OF THE TEST CONTAINER IS TO BE LOCATED LEVEL WITH THE TOP OF THE OVEN CABINET.
5. CONVEYOR-TYPE OVENS SHALL BE SET AT OPERATING TEMPERATURES AND THE AIR CIRCULATING FANS) ACTIVATED. TEST CONTAINER SHALL BE PLACED AT EACH END OF THE OVEN OPENINGS.
6. WHEN RANGE TOPS, GAS-FIRED BURNERS, OR ELECTRIC HEATING ELEMENTS ARE INSTALLED, OPEN COOKING CONTAINERS FILLED WITH WATER ARE TO BE LOCATED ON 25% OF THE BURNERS AND HEATED SURFACES AND ALLOWED TO HEAT TO 180 DEGREES F. A MINIMUM OF 5% OF THE RANGE SURFACE AND HEATING DEVICES AND RANGE OVENS ARE TO BE ACTIVATED.
7. BRAZING UNITS, STEAM JACKETED KETTLES, CHINESE WOK RANGES, AND

**NOTE TO CONTRACTORS**

- A. EXISTING CONDITIONS SHOWN ON PLANS ARE BASED ON EXISTING DRAWINGS PROVIDED BY LANDLORD/AND/OR CONTRACTOR. EXISTING CONDITIONS INDICATED ON PLANS ARE BY NO MEANS BASED ON ACTUAL AS-BUILT CONDITIONS. CONTRACTORS ARE RESPONSIBLE FOR CONDUCTING PRE-BID SITE VISIT TO DEVELOP AN UNDERSTANDING OF THE FULL SCOPE OF WORK ASSOCIATED WITH THESE DOCUMENTS. CONTRACTOR RESPONSIBLE FOR MODIFYING THE EXISTING SYSTEMS AS REQUIRED TO MEET DESIGN INTENT CONVEYED IN THESE DOCUMENTS. COORDINATE FULL SCOPE OF WORK WITH OWNER AND ALL OTHER TRADES.
- B. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE COURSE OF ACTION WITH APPROVAL FROM THE OWNER AND GENERAL CONTRACTOR. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.
- C. MECHANICAL CONTRACTOR TO VERIFY EXISTING SPLIT SYSTEMS ARE IN GOOD CONDITION AND OPERATING PER ORIGINAL MANUFACTURER PARAMETERS. IF ANY ISSUES ARE FOUND WITH EXISTING EQUIPMENT MECHANICAL CONTRACTOR TO IMMEDIATELY NOTIFY THE CLIENT AND GENERAL CONTRACTOR.
- D. **ATTENTION CONTRACTORS!** KITCHEN EQUIPMENT SHOWN ON EBS SHEETS ARE BASED ON DESIGN/SELECTIONS PROVIDED BY OTHERS. IF EQUIPMENT PROVIDED/INSTALLED BY FOOD EQUIPMENT VENDOR DEVIATES FROM CURRENT BASIS OF DESIGN INCLUDED IN THESE PLANS NOTIFY THE TENANT AND ENGINEER IMMEDIATELY TO DETERMINE BEST PATH FORWARD.

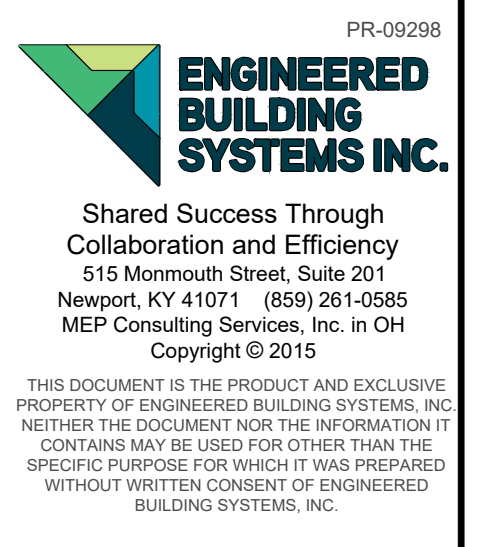
**COMMERCIAL KITCHEN NOTES**

- A. PROVIDE KITCHEN EXHAUST HOOD, DUCTWORK, AND ASSOCIATED EXHAUST FAN MAKEUP AIR UNIT FOR A COMPLETE AND OPERATIONAL KITCHEN VENTILATION SYSTEM. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH SECTION 507 AND 508 OF THE 2018 IMC. PROVIDE ALL EQUIPMENT INTERLOCKS AS NECESSARY.
- B. TYPE I HOODS SHALL BE CONSTRUCTED OF A MINIMUM 18 GAGE STEEL OR 20 GAGE STAINLESS STEEL (IMC 507.4). DUCTS SERVING THESE HOODS SHALL BE CONSTRUCTED OF A MINIMUM 16 GAGE STEEL, 18 GAGE STAINLESS, OR OTHER APPROVED CONSTRUCTION.
- C. JOINTS, SEAMS, AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID-TIGHT WELD OR BRAZE MADE ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM. PENETRATIONS ARE NOT REQUIRED TO BE WELDED OR BRAZED WHERE SEALED BY DEVICES THAT ARE LISTED FOR THE APPLICATION. INTERNAL WELDING OR BRAZING SHALL NOT BE PROHIBITED PROVIDED THAT THE JOINT IS FORMED OR GROUND SMOOTH AND IS PROVIDED WITH READY ACCESS FOR INSPECTION (IMC 506.3.2).
- D. DUCT JOINT TYPES: DUCT JOINTS SHALL BE BUTT JOINTS, WELDED FLANGE JOINTS WITH A MAXIMUM FLANGE DEPTH OF 1/2 INCH OR OVERLAPPING DUCT JOINTS OF EITHER THE TELESCOPING OR BELL TYPE. OVERLAPPING JOINTS SHALL BE INSTALLED TO PREVENT LEDGES AND OBSTRUCTIONS FROM COLLECTING GREASE OR INTERFERING WITH GRAVITY DRAINAGE TO THE INTENDED COLLECTION POINT. THE DIFFERENCE BETWEEN THE INSIDE CROSS-SECTIONAL DIMENSIONS OF OVERLAPPING SECTIONS OF DUCTS SHALL NOT EXCEED 1/4 INCH. THE LENGTH OF OVERLAP FOR (IMC 506.3.2.1).
- E. DUCT-TO-HOOD JOINTS: THESE JOINTS SHALL BE MADE WITH CONTINUOUS INTERNAL OR EXTERNAL LIQUID-TIGHT WELDED OR BRAZED JOINTS. SUCH JOINTS SHALL BE SMOOTH, ACCESSIBLE FOR INSPECTION, AND WITHOUT GREASE TRAPS (IMC 506.3.2.2).
- F. DUCT-TO-EXHAUST FAN CONNECTIONS: THESE CONNECTIONS SHALL BE FLANGED AND GASKETED AT THE BASE OF THE FAN (IMC 506.3.2.3).
- G. VIBRATION ISOLATION: A VIBRATION ISOLATION CONNECTOR FOR CONNECTING A DUCT TO A FAN SHALL CONSIST OF NONCOMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN OR SHALL BE A COATED-FABRIC FLEXIBLE DUCT CONNECTOR LISTED AND LABELED FOR THE APPLICATION. VIBRATION ISOLATION CONNECTORS SHALL BE INSTALLED ONLY AT THE CONNECTION OF THE DUCT TO THE FAN INLET (IMC 506.3.2.4).
- H. GREASE DUCT CLEANOUTS AND OPENINGS: PROVIDE OPENINGS FOR PROPER OPERATION AND MAINTENANCE OF THE SYSTEM. ANY PORTION OF SYSTEM HAVING SECTIONS NOT PROVIDED WITH ACCESS SHALL BE OPEN OR DISCHARGE SHALL BE PROVIDED WITH CLEANOUT OPENINGS (I.E. ANY CHANGE IN DIRECTION OF DUCTWORK). CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING DOORS CONSTRUCTED OF STEEL, THICKNESS NOT LESS THAN THAT OF THE DUCT. DOORS SHALL HAVE A SUBSTANTIAL METHOD OF LATCHING, SUFFICIENT TO HOLD THE DOOR TIGHTLY CLOSED. DOOR ASSEMBLIES, INCLUDING ANY FRAMES AND GASKETING, SHALL BE APPROVED FOR THE PURPOSE, AND SHALL NOT HAVE FASTENERS THAT PENETRATE THE DUCT. LISTED AND LABELED ACCESS DOOR ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THE LISTING (IMC 506.3.8).
- I. HORIZONTAL DUCT CLEANOUTS: CLEANOUTS LOCATED ON HORIZONTAL SECTIONS OF DUCTS SHALL BE SPACED NOT MORE THAN 20 FEET APART. THE CLEANOUTS SHALL BE LOCATED ON THE SIDE OF THE DUCT WITH THE OPENING NOT LESS THAN 1-1/2 INCHES ABOVE THE BOTTOM OF THE DUCT AND NOT LESS THAN 1 INCH BELOW THE TOP OF THE DUCT. THE OPENING MINIMUM DIMENSIONS SHALL BE 12 INCHES ON EACH SIDE, WHERE THE DIMENSIONS OF THE SIDE OF THE DUCT PROHIBIT THE CLEANOUT INSTALLATION PRESCRIBED HEREIN, THE OPENINGS SHALL BE ON THE TOP OF THE DUCT OR THE BOTTOM OF THE DUCT WHERE LOCATED ON THE TOP OF THE DUCT, THE OPENING EDGES SHALL BE A MINIMUM OF 1 INCH FROM THE EDGES OF THE DUCT WHERE LOCATED IN THE BOTTOM OF THE DUCT. CLEANOUT OPENINGS SHALL BE DESIGNED TO PROVIDE INTERNAL DAMMING AROUND THE OPENING. SHALL BE PROVIDED WITH GASKETING TO PRECLUDE GREASE LEAKAGE. SHALL PROVIDE FOR DRAINAGE OF GREASE DOWN THE DUCT AROUND THE DAM AND SHALL BE APPROVED FOR THE APPLICATION WHERE THE DIMENSIONS OF THE SIDES, TOP OR BOTTOM OF THE DUCT PRECLUDE THE INSTALLATION OF THE PRESCRIBED MINIMUM-SIZE CLEANOUT OPENING. THE CLEANOUT SHALL BE LOCATED ON THE DUCT FACE THAT AFFORDS THE LARGEST OPENING DIMENSION AND SHALL BE INSTALLED WITH THE OPENING EDGES AT THE PRESCRIBED DISTANCES FROM THE DUCT EDGES AS PREVIOUSLY SET FORTH IN THIS SECTION (IMC 506.3.9).
- J. GREASE DUCT ENCLOSURE: GREASE DUCTS CONSTRUCTED IN ACCORDANCE WITH IMC SECTION 506.3.1 SHALL BE ENCLOSED BY A FIELD-APPLIED GREASE DUCT ENCLOSURE THAT IS A LISTED AND LABELED MATERIAL, SYSTEM, PRODUCT OR METHOD OF CONSTRUCTION SPECIFICALLY EVALUATED FOR SUCH PURPOSE IN ACCORDANCE WITH ASTM E 2336. THE SURFACE OF THE DUCT SHALL BE CONTINUOUSLY COVERED ON ALL SIDES FROM THE POINT AT WHICH THE DUCT ORIGINATES TO THE OUTLET TERMINAL. SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LISTING AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. EXPOSED DUCT WRAP SYSTEMS SHALL BE PROTECTED WHERE SUBJECT TO PHYSICAL DAMAGE (IMC 506.3.11).
- K. GREASE EXHAUST OUTLETS THAT TERMINATE ABOVE THE ROOF SHALL HAVE THE DISCHARGE OPENING LOCATED NOT LESS THAN 40 INCHES ABOVE THE ROOF SURFACE (IMC 506.3.13.1).
- L. GREASE EXHAUST OUTLETS THROUGH EXTERIOR WALLS SHALL BE LOCATED SO AS NOT TO CREATE A PUBLIC NUISANCE OR FIRE HAZARD. OTHER EXTERIOR OPENINGS SHALL NOT BE LOCATED WITHIN 3 FEET OF SUCH TERMINATIONS (IMC 506.3.13.2).
- M. GREASE EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM PARTS OF THE SAME OR CONTIGUOUS BUILDINGS, ADJACENT BUILDINGS AND ADJACENT PROPERTY LINES AND SHALL BE LOCATED NOT LESS THAN 10 FEET ABOVE ADJOINING GRADE LEVEL. EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM OR NOT LESS THAN 3 FEET ABOVE AIR INTAKE OPENINGS INTO ANY BUILDING. (IMC 506.3.13.3).

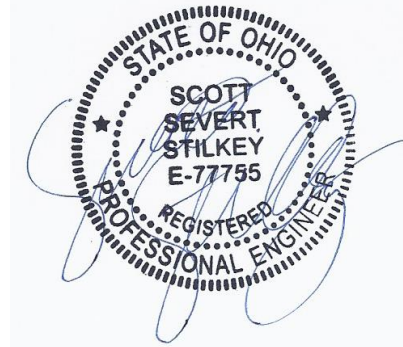


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	1	PERMIT	03/11/2022

**CRG - LIVERY MONTGOMERY**  
 9320 Montgomery Road  
 Montgomery, Ohio 45242



DRAWN BY: ZWS      CHECKED BY: SSS  
 PROJECT NO.: 9298  
 SCALE: AS NOTED  
 DATE: 03-11-2022  
 DRAWING TITLE:  
 MECHANICAL  
 DETAILS AND  
 SCHEDULES  
 SHEET NO.  
**M201**



**HOOD INFORMATION - JOB#5159811**

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)					TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG		PATENT NUMBERS
										WIDTH	LENG	HEIGHT	DIA	CFM			VEL	SP	
1	HOOD 1 LEFT	5424 ND-2-PSP-F	CAPTIVEAIRE	10' 0"	600 DEG	I	HEAVY	230	2300		4"	16"	2300	1647	-1.026"	1955	430 SS WHERE EXPOSED	LEFT ALONE	AC-PSP (UNITED STATES) - US PATENT 7963830 B2 AC-PSP WALL (CANADA) - CA PATENT 2820509 AC-PSP ISLAND (CANADA) - CA PATENT 2520330
2	HOOD 1 RIGHT	5424 ND-2-PSP-F	CAPTIVEAIRE	11' 0"	600 DEG	I	HEAVY	190	2090		4"	16"	2090	1497	-0.830"	1935	430 SS WHERE EXPOSED	RIGHT ALONE	
3	HOOD 2 DISH	5424 VMB-G-PSP-F	CAPTIVEAIRE	8' 0"	700 DEG	II	N/A	131	1050		4"	12"	525	668	-0.051"	945	430 SS 100%	ALONE ALONE	

**HOOD INFORMATION**

HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	UTILITY CABINET(S)		ELECTRICAL	SWITCHES	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
												TYPE	SIZE				
1	HOOD 1 LEFT	CAPTRATE SOLO FILTER	7	16"	16"	85% SEE FILTER SPEC	5	L55 SERIES E26	NO							YES	588 LBS
2	HOOD 1 RIGHT	CAPTRATE SOLO FILTER	8	16"	16"	85% SEE FILTER SPEC	6	L55 SERIES E26	NO	RIGHT	12"x54"x24"	TANK FS	4.0/4.0/4.0		1 LIGHT	NO	1125 LBS
3	HOOD 2 DISH						0			WALL MNT	12"x42"x24"				1 FAN	NO	323 LBS

**HOOD OPTIONS**

HOOD NO	TAG	OPTION
1	HOOD 1 LEFT	FIELD WRAPPER 18.00" HIGH FRONT, LEFT.
		BACKSPLASH 122.00" HIGH X 320.00" LONG 430 SS VERTICAL.
		LEFT SIDESPLASH 122.00" HIGH X 72.00" LONG 430 SS VERTICAL.
2	HOOD 1 RIGHT	RIGHT SIDESPLASH 122.00" HIGH X 72.00" LONG 430 SS VERTICAL.
		BACKSPLASH - INSIDE CORNER 80.00" HIGH X 2.00" LEG LENGTH 430 SS VERTICAL.
		BACKSPLASH - OUTSIDE CORNER 80.00" HIGH X 2.00" LEG LENGTH 430 SS VERTICAL.
3	HOOD 2 DISH	LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
		BALANCE DAMPERS.
		STRUCTURAL FRONT PANEL.

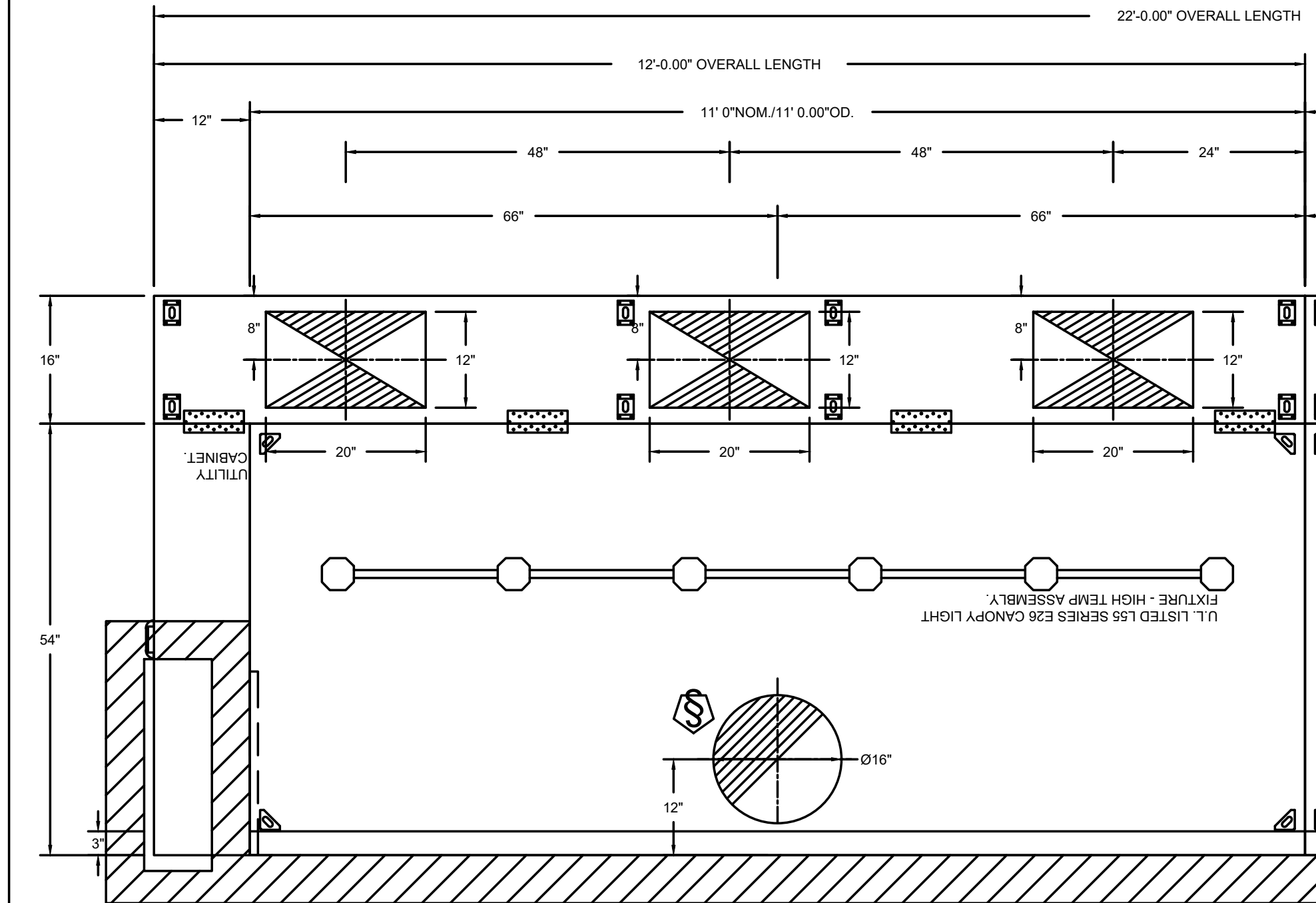
**WALL-MOUNT UTILITY CABINET**

HOOD NO	LOCATION	SIZE	TYPE	FIRE SYSTEM	SIZE	ELECTRICAL	SWITCHES	WEIGHT
2	WALL MNT	12"x42"x24"	TANK FS		4.0/4.0/4.0	DCV-2111_MA4	1 LIGHT 1 FAN	240.00 LBS

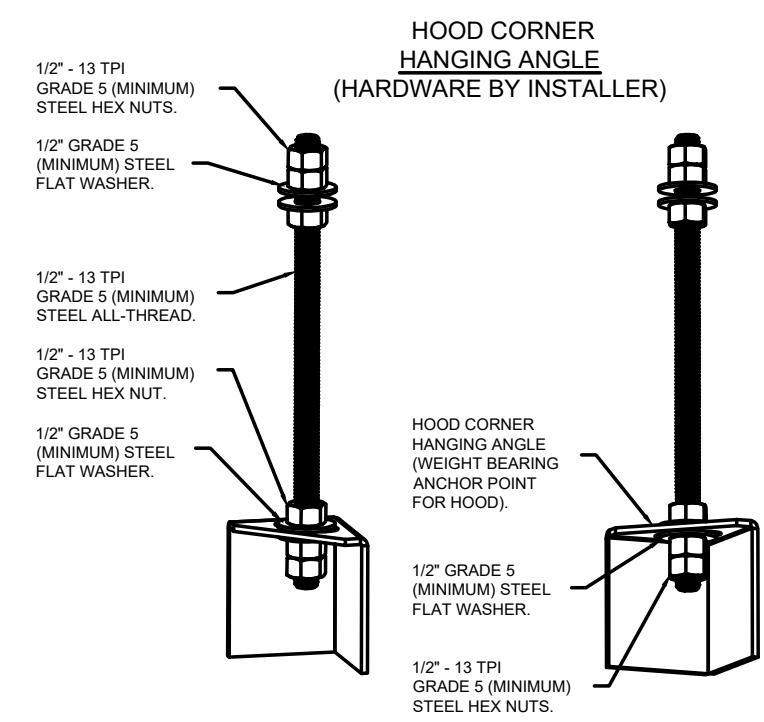
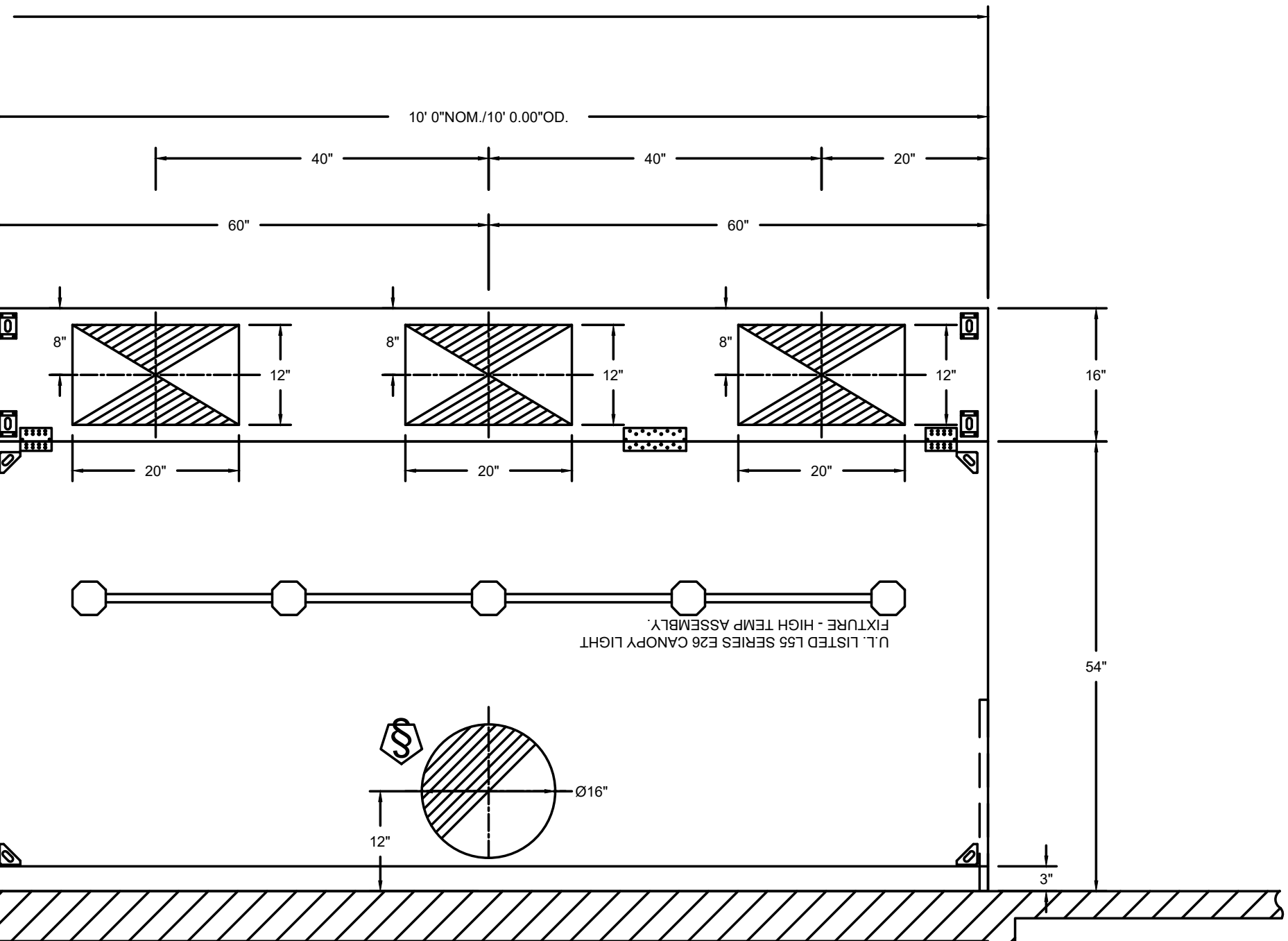
**PERFORATED SUPPLY PLENUM(S)**

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)			SP
							WIDTH	LENG	DIA	
1	HOOD 1 LEFT	Front	120"	16"	6"	MJA	12"	20"	650	0.226"
						MJA	12"	20"	650	0.226"
						MJA	12"	20"	650	0.226"
2	HOOD 1 RIGHT	Front	144"	16"	6"	MJA	12"	20"	645	0.222"
						MJA	12"	20"	645	0.222"
						MJA	12"	20"	645	0.222"
3	HOOD 2 DISH	Front	96"	12"	6"	MJA	10"	20"	472	0.149"
						MJA	10"	20"	472	0.149"
						MJA	10"	20"	472	0.149"

**PLAN VIEW - HOOD #2 (HOOD 1 RIGHT)**  
11' 0.00" LONG 5424ND-2-PSP-F



**PLAN VIEW - HOOD #1 (HOOD 1 LEFT)**  
10' 0.00" LONG 5424ND-2-PSP-F



**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.

**SPECIFICATION: CAPTRATE GREASE-STOP SOLO FILTER**

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

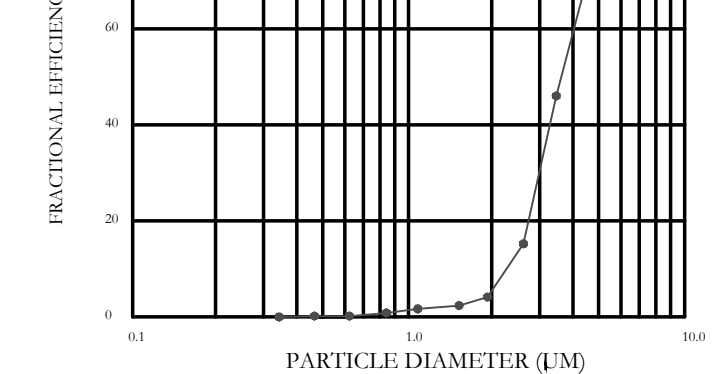
UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

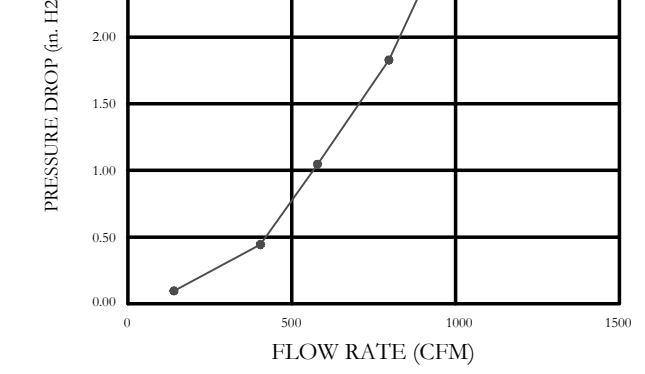
THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.

MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

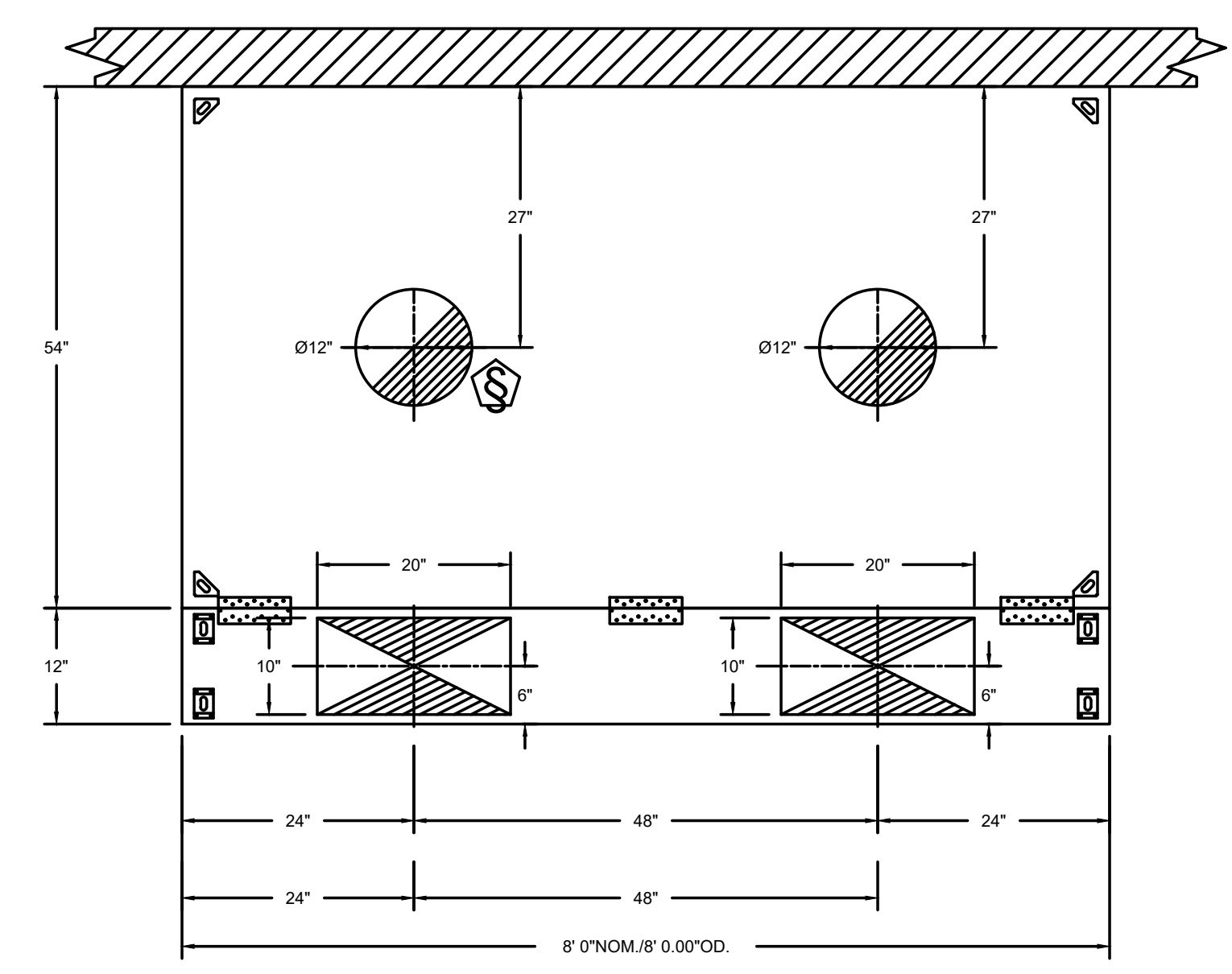
EFFICIENCY VS. PARTICLE DIAMETER



PRESSURE DROP VS. FLOW RATE



CAPTIVATE FILTERS ARE BUILT IN COMPLIANCE WITH:  
NFPA 96  
NSF STANDARD #2  
UL STANDARD #1046  
INT. MECH. CODE (IMC)  
ULC-S649

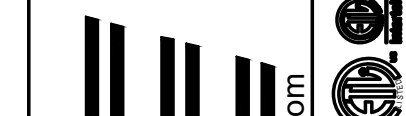


**PLAN VIEW - HOOD #3 (HOOD 2 DISH)**  
8' 0.00" LONG 5424VMB-G-PSP-F

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH UL 710 AND NFPA 96 AND ARE RECOGNIZED BY ONE OR MORE OF THE FOLLOWING:  
  
ETL SANITATION LISTED  
  
ETL LISTED FILE# 3054804-001  
  
HOOD SYSTEM IS FABRICATED & DESIGNED PER UL-710 STANDARDS

**REVISIONS**

NO.	DESCRIPTION	DATE
1	PERMIT	03/11/2022



www.captiveaire.com

1929 East Kemper Rd., Ste. 4710, Cincinnati, OH 45246 PHONE: (513) 860-5655 EMAIL: reg120@captiveaire.com

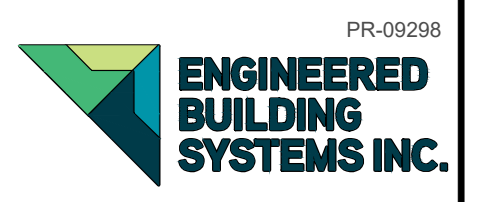
Air Solutions

LIVERY (MONTGOMERY, OH)  
CINCINNATI, OH, 45246

DATE: 2/16/2022  
DWG.#: 5159811  
DRAWN BY: jrcilli  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING

SHEET NO. 1

CRG - LIVERY MONTGOMERY  
9320 Montgomery Road  
Montgomery, Ohio 45242



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515 Monmouth Street, Suite 201  
Newport, KY 41071 (859) 261-0585  
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DRAWN BY: ZWS CHECKED BY: SSS

PROJECT NO.: 9298

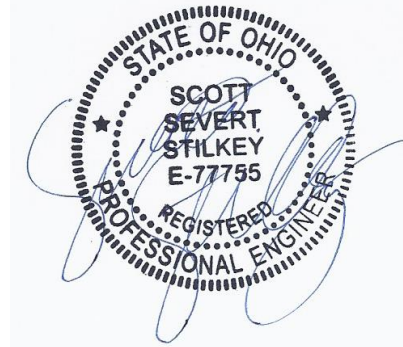
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DATE: 03-11-2022

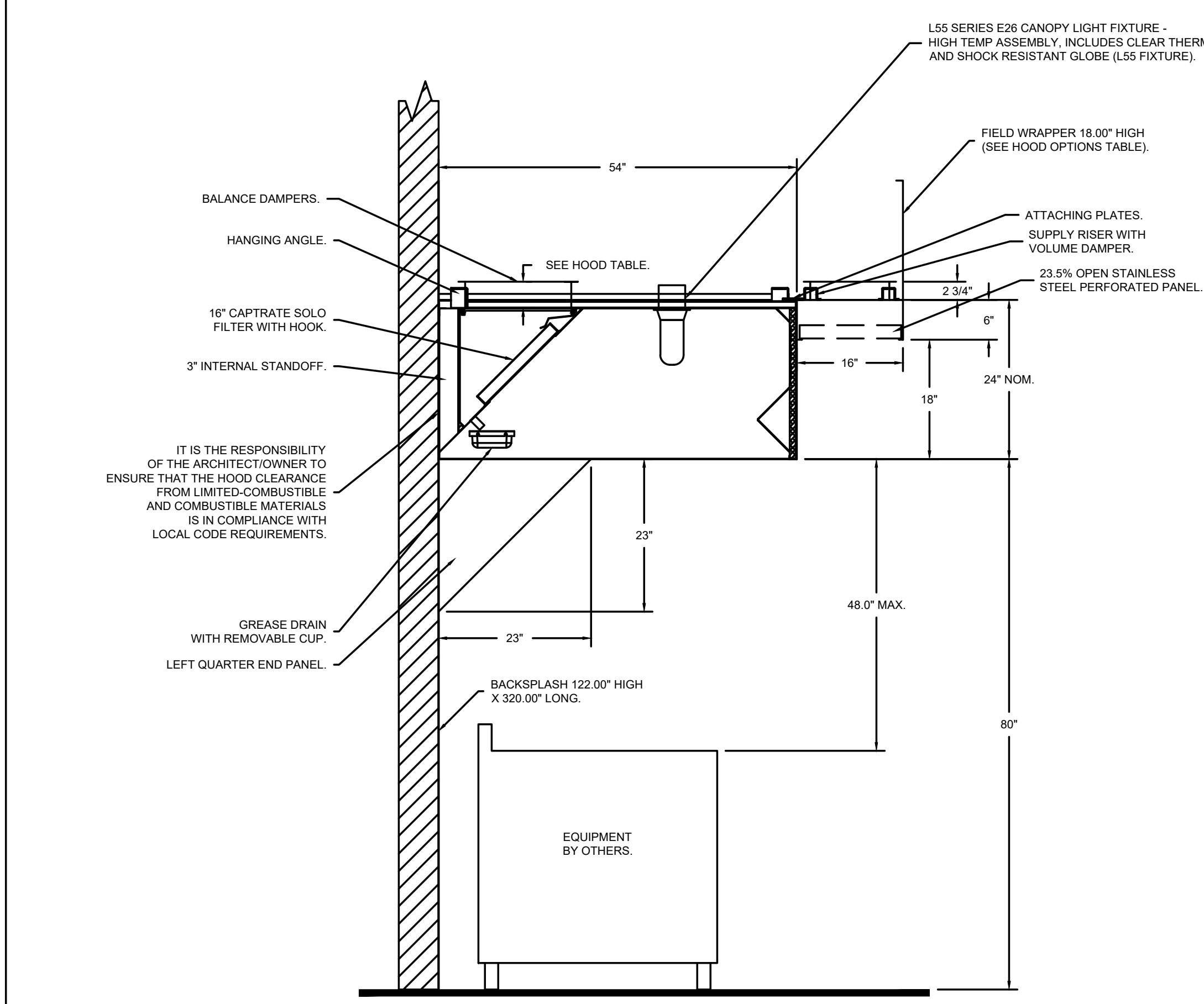
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MECHANICAL  
DETAILS AND  
SCHEDULES

SHEET NO.  
M202

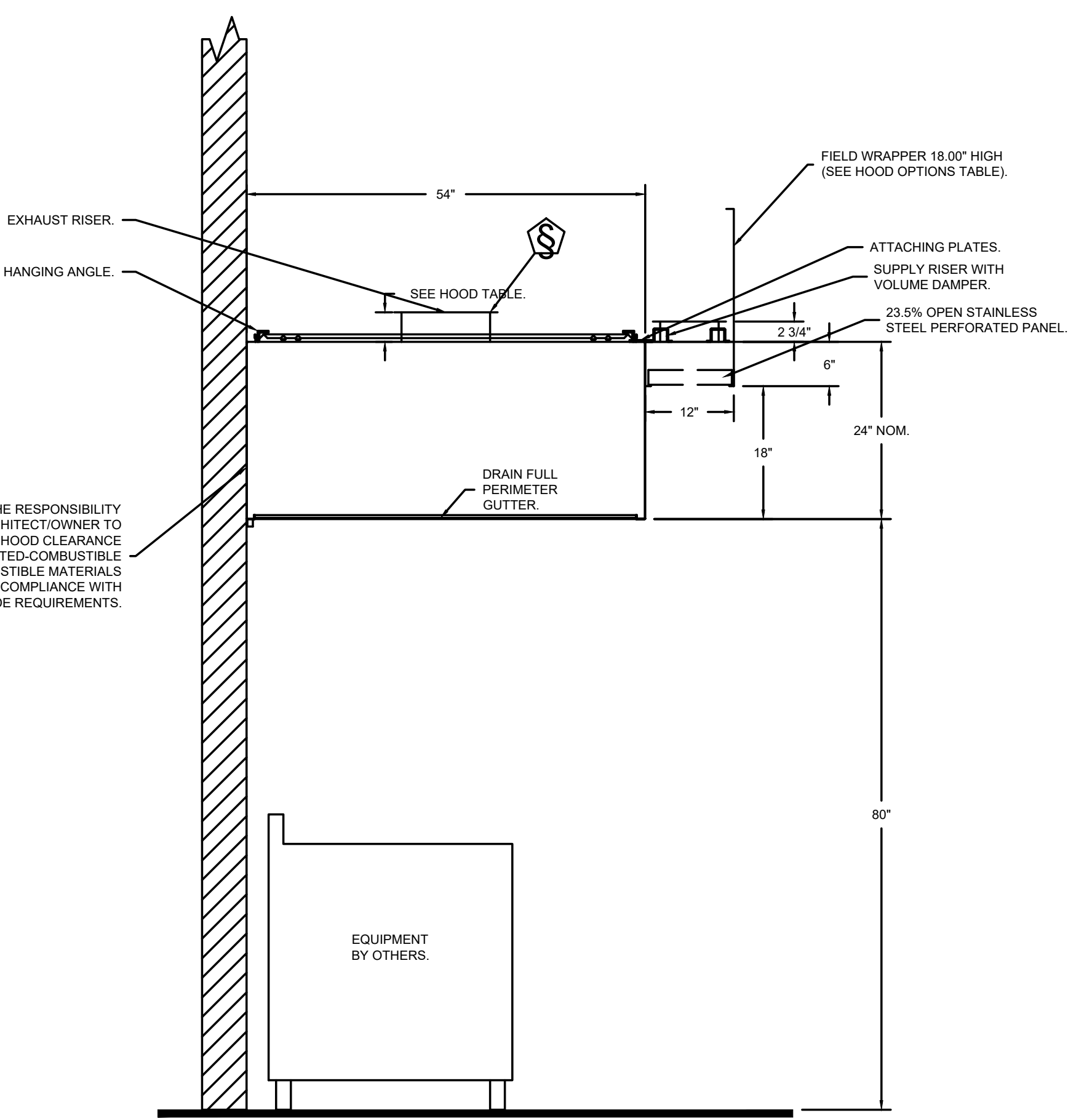
Project: 9298-298A-M202-MECHANICAL-DETAILS-01.dwg - Rev. 11, 2022 - 1:00pm - By: rshelton  
These drawings and specifications are not authorized to be used as contract documents. These drawings have been prepared in accordance with any contractual agreement that may exist with an owner, construction manager, general contractor, etc.  
EBS ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE COMPLIANCE OR CONDITION OF EXISTING EQUIPMENT AND WIRING.



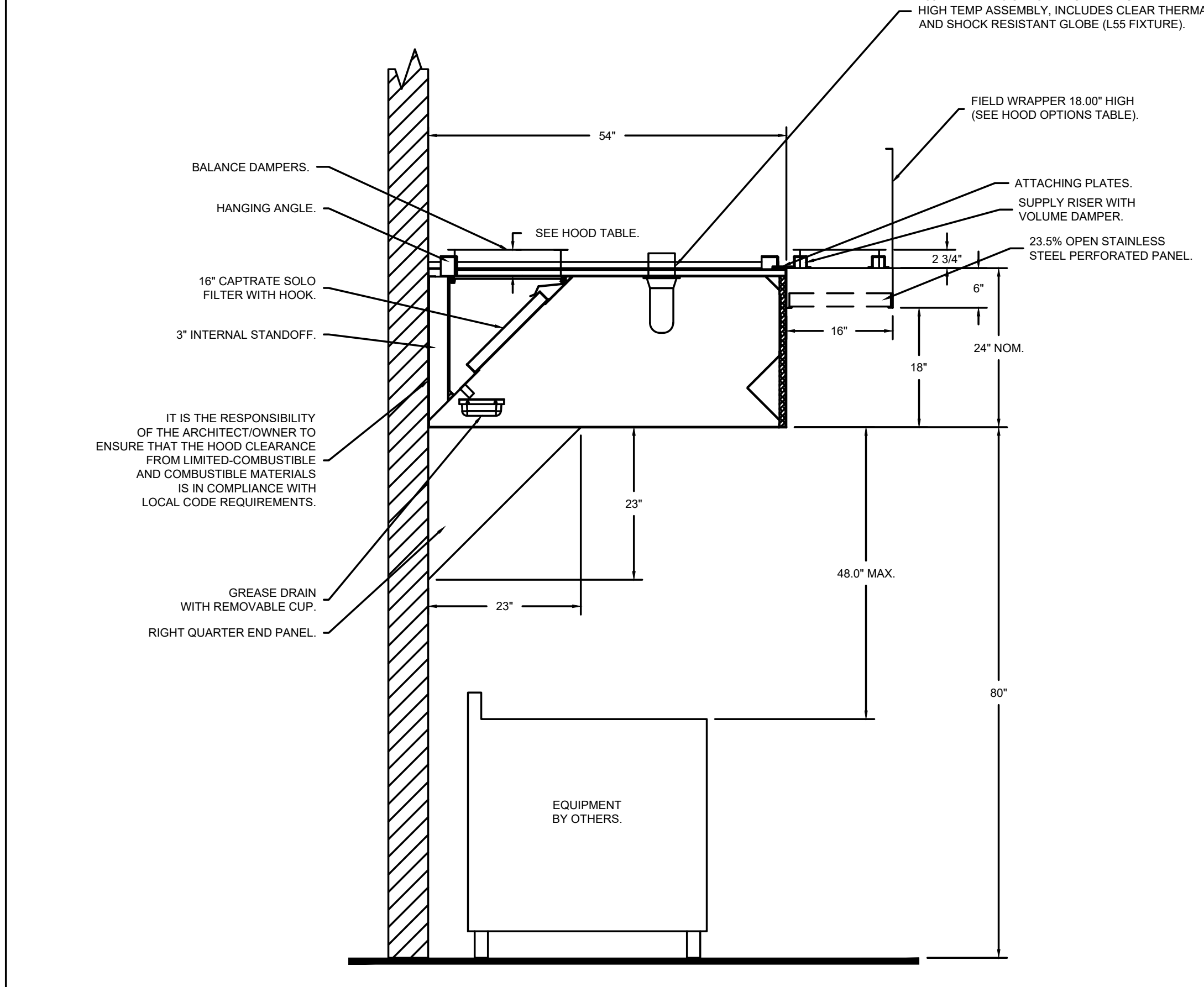
Project: Director's 0200-0298-0298 - (Rev) Construction Documents 0200-0298-0298 - (Rev) Mechanical - (Rev) 11/2022-15/2022 - By: r.h.w. These drawings and specifications are not authorized to be used as contract documents. These drawings have been prepared in accordance with any contractual agreement with any contractor, construction manager, general contractor, etc. EBS ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE COMPLIANCE OR CONDITION OF EXISTING EQUIPMENT AND WIRING.



SECTION VIEW - MODEL 5424ND-2-PSP-F  
HOOD - #1 (HOOD 1 LEFT)

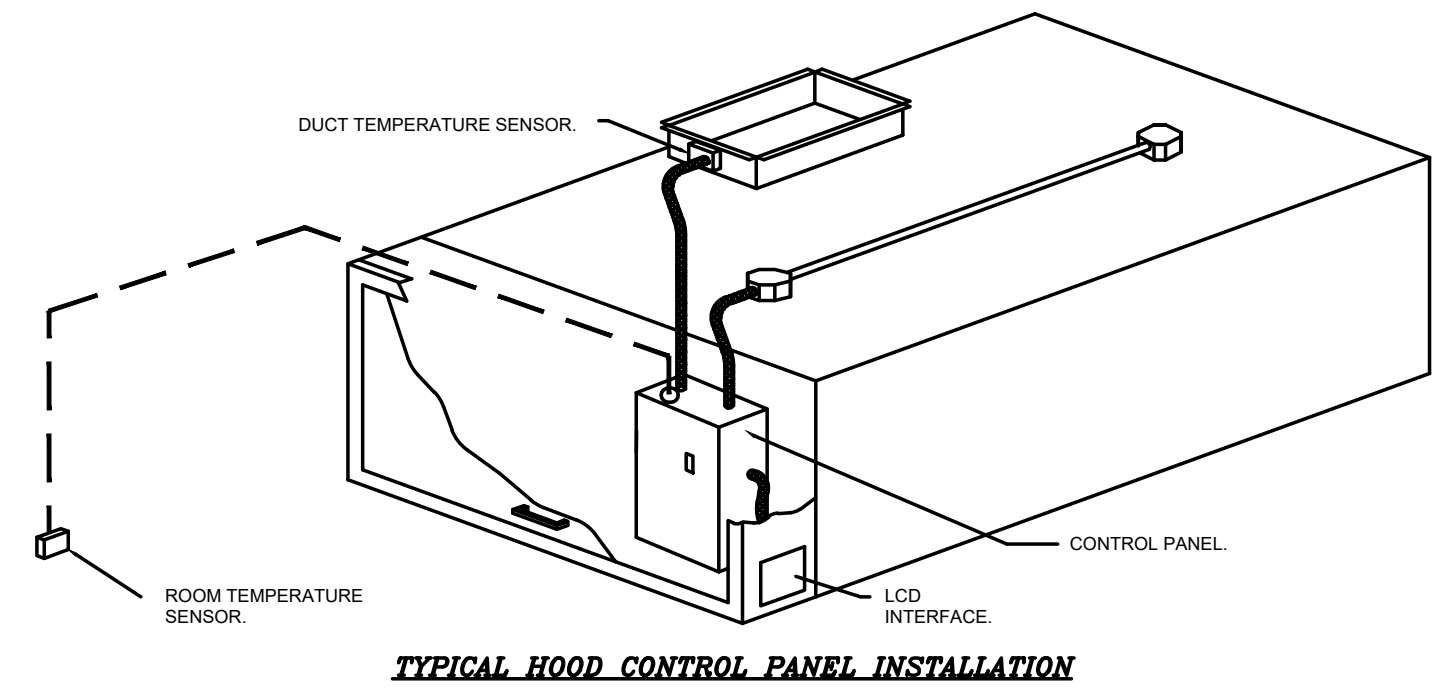


SECTION VIEW - MODEL 5424VHB-C-PSP-F  
HOOD - #3 (HOOD 2 DISH)



SECTION VIEW - MODEL 5424ND-2-PSP-F  
HOOD - #2 (HOOD 1 RIGHT)

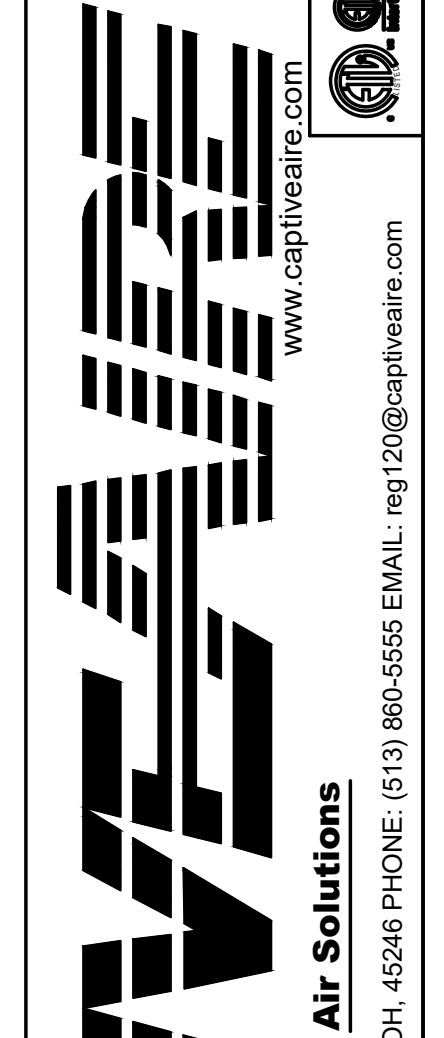
- DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:**
- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.2.8 (2015).
  - THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
  - TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
  - A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURE SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
  - A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
  - A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
  - VARIABLE FREQUENCY DRIVES (VFDs) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDs BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
  - THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
  - AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
  - THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
  - A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FANS, ACTIVATE THE EXHAUST FANS, ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
  - A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
  - AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
    - ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
    - INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
    - VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
    - DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
    - MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
    - A SINGLE LOW VOLTAGE CAT-5 R/W WIRING CONNECTION.
    - AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDs.



- SEQUENCE OF OPERATIONS:**
- THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:
- AUTOMATIC:** THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD, DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.2.8.
  - MANUAL:** THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
  - SCHEDULE:** A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
  - OTHER:** THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
  - FIRE:** UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO RUN. THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICAL. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH UL 710 AND NFPA 96 AND ARE RECOGNIZED BY ONE OR MORE OF THE FOLLOWING:  
  
 ETL SANITATION LISTED  
  
 ETL LISTED FILE# 3054804-001  
  
 HOOD SYSTEM IS FABRICATED & DESIGNED PER UL-710 STANDARDS

REVISIONS	
NO.	DESCRIPTION
1	PERMIT

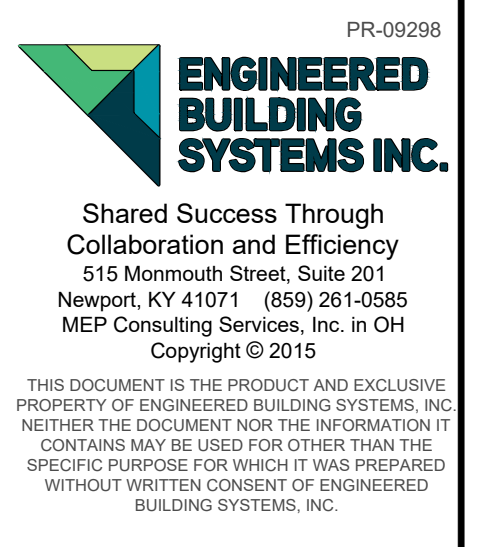


LIVERY (MONTGOMERY, OH)  
 CINCINNATI, OH, 45246

DATE: 2/16/2022  
 DWG.#: 5159811  
 DRAWN BY: jcirilli  
 SCALE: 3/4" = 1'-0"  
 MASTER DRAWING

SHEET NO. 2

CRG - LIVERY MONTGOMERY  
 9320 Montgomery Road  
 Montgomery, Ohio 45242



DRAWN BY ZWS	CHECKED BY SSS
PROJECT NO.: 9298	
SCALE: AS NOTED	
DATE: 03-11-2022	
DRAWING TITLE MECHANICAL DETAILS AND SCHEDULES	
SHEET NO. M203	

E:\Projects\Director\1920-1928\1928 - 1929\Construction Documents\1928-1929-MECHANICAL-GENERAL.dwg - EBS - Rev. Date/Time: Mar. 11, 2022 - 1:20pm - Br. rshelton  
 THESE DRAWINGS AND SPECIFICATIONS ARE NOT AUTHORIZED TO BE USED AS CONTRACT DOCUMENTS. THESE DRAWINGS HAVE BEEN PREPARED TO DEMONSTRATE COMPLIANCE WITH APPLICABLE CODES, AND ARE INTENDED TO PROVIDE THE AUTHORITIES HAVING JURISDICTION WITH INFORMATION TO DETERMINE CODE COMPLIANCE. THE INSTALLING CONTRACTOR IS RESPONSIBLE TO ENSURE THAT MEANS, METHODS, AND MATERIALS USED IN CONSTRUCTION ARE INSTALLED IN ACCORDANCE WITH ANY CONTRACTUAL AGREEMENT THAT MAY EXIST WITH AN OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR, ETC. EBS ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE COMPLIANCE OR CONDITION OF EXISTING EQUIPMENT AND WIRING.

**EXHAUST FAN INFORMATION - JOB#5159811**

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL.	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF1	1	USB130DD-RM	CAPTIVEAIRE	4390	2.250	907	TEFC, PREMIUM	5.000	3.0240	3	208	15.5	1026 FPM	1035	27
2	KEF2-DISH	1	SIF13DD-SS	CAPTIVEAIRE	1050	0.500	1131	TEAO-ECM	1.000	0.2660	1	115	11.6		157	7.5

**FAN OPTIONS**

FAN UNIT NO	TAG	QTY	DESCRIPTION		
1	KEF1	1	B130 - INLET SERVICE DUCT CONNECTION, USED TO CONNECT TO STANDARD 24" GREASE DUCT OR FIELD WELDED DUCT. INCLUDES (2) 7" RISERS BOLTED TO STANDARD INLET RISER		
		1	UTILITY SET GREASE CLIP		
		1	B130 - 24" DISCHARGE EXTENSION		
		1	B1 - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE		
		1	B130 - INLET CONNECTION STANDARD 24" FLANGED GREASE DUCT		
		1	UTILITY SET - SPRING VIBRATION ISOLATORS - B124 THRU B130 / EQUIVALENT SIZED		
		1	UTILITY SET / SIF 24-30 + FILTER BANK - INDOOR/OUTDOOR USE		
		1	2 YEAR PARTS WARRANTY		
		2	KEF2-DISH	1	SIF13 - INLET - STANDARD 14" DUCT CONNECTION
				1	SIF - HORIZONTAL OVERHEAD MOUNT - PRE-INSTALLED MOUNTS (11-36)
1	ECM WIRING PACKAGE - PWM SIGNAL FROM ECM03 PREWIRE (TELCO MOTOR), CCW ROTATION				
1	HANGING SPRING VIBRATION ISOLATORS (SET OF 4), FOR INDOOR OR OUTDOOR USE WITH SQUARE INLINE FANS (HSA125)				
1	SIF13-SS - STRAIGHT DISCHARGE, STANDARD 14" DUCT CONNECTION				
1	2 YEAR PARTS WARRANTY				
1	INLET PRESSURE GAUGE, 0-35"				
1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC				
1	LOW FIRE START				
1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING - MEETS AMCA CLASS 1A RATING				
3	MPU 1	1	INSULATION OPTION FOR VBANK FILTER SECTION		
		1	8 TON 2 CIRCUIT (3/5) MODULAR PACKAGED COOLING OPTION FOR SIZE 2 DF/EH MUA (2 900 TO 4,800 CFM), 208V/230V, 3 PHASE, COOLING THERMOSTAT OR PROGRAMMABLE STAT REQUIRED FOR PROPER OPERATION		
		1	SHIP CONDENSERS LOOSE - TWO CONDENSERS, THREE PHASE - CONDENSER DISCONNECTS SHIPPED LOOSE		
		1	SIZE 2 COOLING COIL MOISTURE ELIMINATOR OPTION - ALLOWS COOLING COIL FACE VELOCITY TO INCREASE TO 650 FPM - INCREASES COOLING COIL MAX CFM TO 800 CFM		
		1	DF2 INDOOR HANGING OPTION - INCLUDES 2 HSA125 HANGING SPRING ISOLATORS PER UNI-STRUT		
		1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI		
		1	SINGLE ELECTRICAL CABINET LED LIGHTS USED ON MODULAR MUA UNITS		
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY		
		1	2 YEAR PARTS WARRANTY		

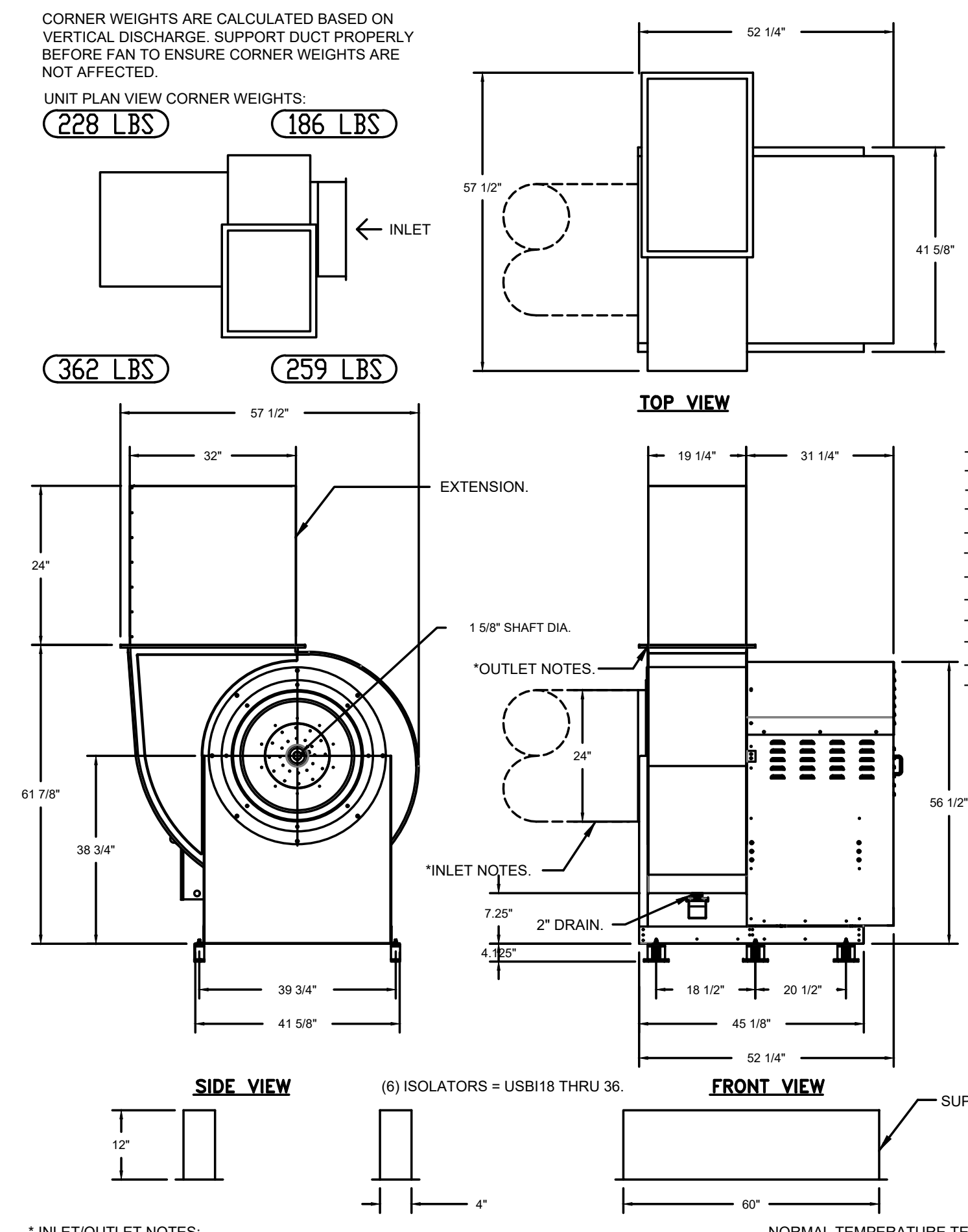
**FAN ACCESSORIES**

FAN UNIT NO	TAG	EXHAUST	SUPPLY			
			GREASE CLIP	GRAVITY DAMPER	SIDE DISCHARGE	MOTORIZED DAMPER
1	KEF1	YES				
2	KEF2-DISH					
3	MPU 1			YES		YES

**CURB ASSEMBLIES**

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	#1	KEF1	93 LBS	RAIL	4,000"W X 60,000"L X 12,000"H ALONG WIDTH, RIGHT 16 GAUGE COMES AS A SET OF 2.

**FAN #1 USB130DD-RMS - EXHAUST FAN (KEF1)**



**FEATURES:**

- ROOF MOUNTED FANS.
- UL705.
- UL702 AND UL-C-8645 (RESTAURANT MODEL).
- HIGH HEAT OPERATION DIRECT DRIVE 350°F (176°C).
- HEAT SLINGER.
- NEMA 3R SAFETY DISCONNECT SWITCH.
- GREASE CLASSIFICATION TESTING.
- 2" DRAIN.
- MOTOR WEATHER COVER.
- FULLY SEALED SCROLL HOUSING.
- SCROLL ACCESS DOOR.
- FLANGE 2".

**OPTIONS:**

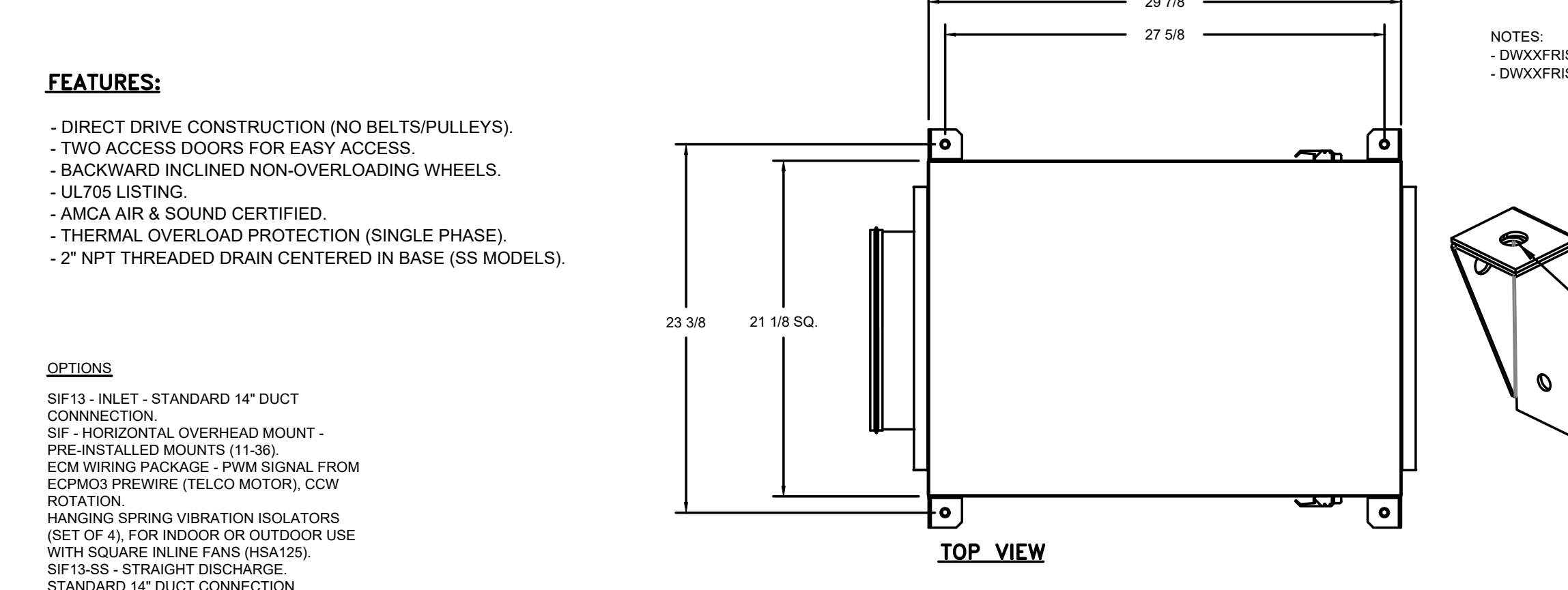
- B130 - INLET SERVICE DUCT CONNECTION, USED TO CONNECT TO STANDARD 24" GREASE DUCT OR FIELD WELDED DUCT. INCLUDES (2) 7" RISERS BOLTED TO STANDARD INLET RISER.
- UTILITY SET GREASE CLIP.
- B130 - 24" DISCHARGE EXTENSION.
- B1 - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE.
- B130 - INLET CONNECTION STANDARD 24" FLANGED GREASE DUCT.
- UTILITY SET - SPRING VIBRATION ISOLATORS - B124 THRU B130 / EQUIVALENT SIZED UTILITY SET / SIF 24-30 + FILTER BANK - INDOOR/OUTDOOR USE.
- 2 YEAR PARTS WARRANTY.

**INLET/OUTLET NOTES:**

LENGTH OF THE STRAIGHT DUCT ON THE INLET AND OUTLET TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER BEFORE CONNECTING TO ANY FITTINGS SUCH AS ELBOWS TO AVOID SYSTEM EFFECT.

**NORMAL TEMPERATURE TEST DIRECT DRIVE EXHAUST FAN MUST OPERATE CONTINUOUSLY UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.**

**FAN #2 SIF13DD-SS - EXHAUST FAN (KEF2-DISH)**



**FEATURES:**

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- TWO ACCESS DOORS FOR EASY ACCESS.
- BACKWARD INCLINED NON-OVERLOADING WHEELS.
- UL705 LISTING.
- AMCA AIR & SOUND CERTIFIED.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- 2" NPT THREADED DRAIN CENTERED IN BASE (SS MODELS).

**OPTIONS:**

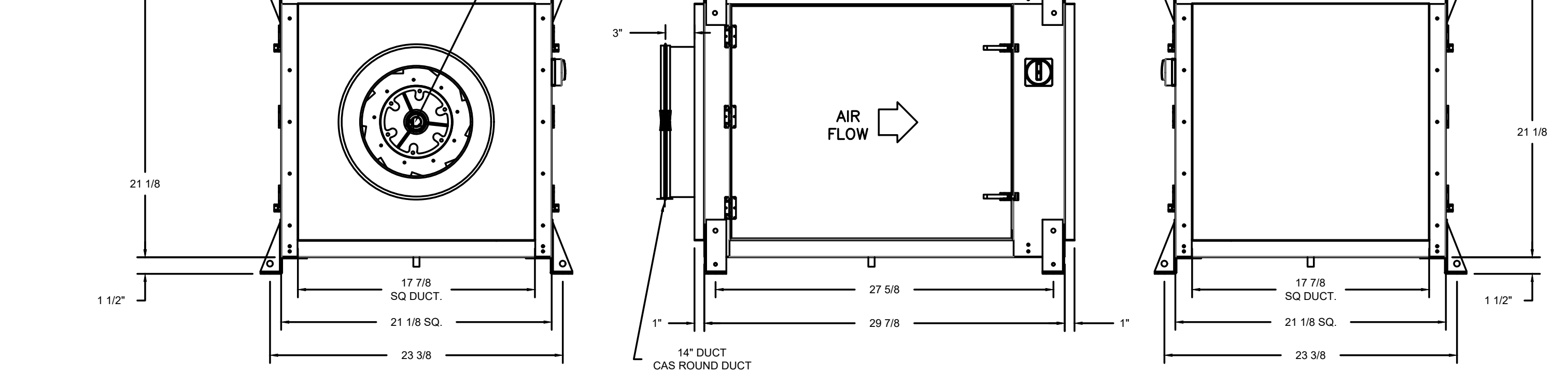
- SIF13 - INLET - STANDARD 14" DUCT CONNECTION
- SIF - HORIZONTAL OVERHEAD MOUNT - PRE-INSTALLED MOUNTS (11-36)
- ECM WIRING PACKAGE - PWM SIGNAL FROM ECM03 PREWIRE (TELCO MOTOR), CCW ROTATION
- HANGING SPRING VIBRATION ISOLATORS (SET OF 4), FOR INDOOR OR OUTDOOR USE WITH SQUARE INLINE FANS (HSA125)
- SIF13-SS - STRAIGHT DISCHARGE, STANDARD 14" DUCT CONNECTION.
- 2 YEAR PARTS WARRANTY.

**NOTES:**

- DWXXFRISER USED WHEN CONNECTING TO STANDARD DUCT.
- DWXXFRISERS ARE INSTALLED ON THE INTAKE AND/OR DISCHARGE SIDES.

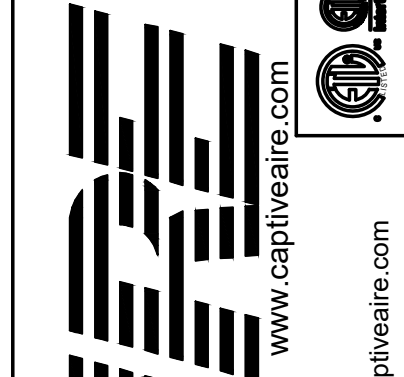
**UNIVERSAL MOUNTING BRACKET**

1/2" DIA. THREADED ROD ONLY  
5/8" DIA. MOUNTING HOLES  
USED WITH CEILING VIBRATION ISOLATORS.  
USED WITH FLOOR VIBRATION ISOLATORS.  
CAN BE RELOCATED IN THE FIELD AS NEEDED.



**REVISIONS**

NO.	DESCRIPTION	DATE
1		



**CAPTIVEAIRE**  
Air Solutions  
1329 East Kemper Rd., Ste. 4210, Cincinnati, OH 45246  
PHONE: (513) 860-5655 EMAIL: mg1202@captveaire.com

LIVERY (MONTGOMERY, OH)  
CINCINNATI, OH, 45246

**DATE:** 2/16/2022  
**DWG.#:** 5159811  
**DRAWN BY:** jcirilli  
**SCALE:** 3/4" = 1'-0"  
**MASTER DRAWING**

**SHEET NO.**  
3



**ISSUANCES**

DATE	NO.	DESCRIPTION
03/11/2022	1	PERMIT

**CRG - LIVERY MONTGOMERY**  
9320 Montgomery Road  
Montgomery, Ohio 45242

**ENGINEERED BUILDING SYSTEMS INC.**  
Shared Success Through Collaboration and Efficiency  
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**DRAWN BY:** ZWS  
**CHECKED BY:** SSS  
**PROJECT NO.:** 9298  
**SCALE:** AS NOTED  
**DATE:** 03-11-2022  
**DRAWING TITLE:** MECHANICAL DETAILS AND SCHEDULES  
**SHEET NO.:** M204



