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GENERAL NOTES

1. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE TENANT MECHANICAL SYSTEM BE PROVIDED WITH ALL NECESSARY EQUIPMENT, ACCESSORIES, OPTIONS AND CONTROLS, COMPLETELY COORDINATED WITH ALL DISCIPLINES. ALL ITEMS AND LABOR REQUIRED FOR A COMPLETE TENANT MECHANICAL SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS AND THE BASE BUILDING CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT INCURRING ADDITIONS TO THE CONTRACT.

2. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT PARTITION LAYOUTS, REFLECTED CEILING PLANS, DIMENSIONS, ETC.

3. WHEN ANY DUCTWORK OR AIR DISTRIBUTION DEVICE IS REMOVED, THE ASSOCIATED TRUNK DUCT SHALL BE SEALED AIRTIGHT WITH A SHEET METAL PATCH OR CAP.

4. VISIT SITE AND CAREFULLY EXAMINE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. THE EXISTING CONDITIONS SHOWN ARE BASED ON DOCUMENTS PROVIDED BY OTHERS AND HAVE NOT BEEN VERIFIED BY THE ENGINEER. IF EXISTING CONDITIONS DIFFER FROM DRAWINGS IN SUCH A MANNER THAT WILL AFFECT PRICING, (I.E., DUCTWORK, VAV OR PIU ARE NOT IN THE SHOWN LOCATION) CONTRACTOR WILL NOTIFY OWNER SO THAT A RESOLUTION CAN BE MADE PRIOR TO SUBMITTING BIDS. NO ALLOWANCE WILL BE MADE FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS.

5. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES IF FIELD CONDITIONS VARY, NOTIFY ARCHITECT OF ANY DISCREPANCIES.

6. ALL ROUND AND FLEXIBLE DUCTWORK EXTENDING TO DIFFUSERS SHALL BE SIZED FULL SIZE OF DISTRIBUTION DEVICE INLET, AND TAPS TO THE EXISTING LOW-PRESSURE DUCTWORK SHALL BE MADE WITH SPIN-IN FITTINGS HAVING INTEGRAL SCOOBS AND VOLUME DAMPERS. ALL NEW RECTANGULAR DUCTWORK TAPS SHALL BE MADE WITH SPLITTERS OR EXTRACTORS. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SMACNA DUCT STANDARDS. (NEW LOW PRESSURE SPIN-IN FITTINGS AND TAPS SHALL NOT BE MADE WITHIN 5'-0" OF OUTLET OF HEAT PUMP. NEW LOW PRESSURE SPIN-IN FITTINGS SHALL BE MADE NO CLOSER THAN 2'-6" ON CENTERS.)

7. ALL KITCHEN CEILING SUPPLY DIFFUSERS SHALL BE AS NOTED IN THE MECHANICAL SPECIFICATION SECTION 23 37 13. FACE AREA SHALL BE APPROXIMATELY 24" x 24" EXCEPT AS OTHERWISE NOTED. FINISH SHALL BE BAKED ENAMEL IN A COLOR TO MATCH THE CEILING GRID. FRAME SHALL BE SUITABLE FOR THE CEILING TYPE IN WHICH IT IS INSTALLED. NECK SIZE SHALL BE SHOWN OTHERWISE ON DRAWINGS.

8. RETURN AIR GRILLES (R.A.G.) SHALL BE AS NOTED IN MECHANICAL SPECIFICATION SECTION 23 37 13. FACE AREA SHALL BE APPROXIMATELY 24" x 24". FINISH SHALL BE BAKED ENAMEL IN A COLOR TO MATCH CEILING GRID. FRAME SHALL BE SUITABLE FOR THE CEILING TYPE IN WHICH IT IS INSTALLED.

9. FLEXIBLE DUCTS SHALL BE INSTALLED FREE OF SAGS AND KINKS; SUPPORT AT NOT MORE THAN 48" O.C.

10. TEST AND BALANCE ALL DIFFUSERS, BOXES, FANS, ETC. TO THE AIRFLOW'S AND CONDITIONS INDICATED. ALL EXISTING DIFFUSERS, BOXES, FANS, ETC. WHICH ARE NOT NOTED OTHERWISE SHALL BE BALANCED TO THEIR PRIOR DESIGN AIRFLOW'S; REFERENCE THE EXISTING RECORD DRAWING AVAILABLE FROM THE OWNER. TESTING AND BALANCING OF HVAC SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF AABC AND SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF AN AABC CERTIFIED TEST AND BALANCE ENGINEER. SUBMIT 4 COPIES OF THE REPORT TO THE OWNER. NEBB AGENCIES ARE NOT ACCEPTABLE AND ARE CAUSE FOR REJECTION.

11. ALL CONTROL WIRING AND TUBING INSTALLED ABOVE THE CEILING SHALL BE LOCATED AS HIGH ABOVE THE CEILING AS POSSIBLE AND SHALL NOT FOLLOW THE DESIGNATED GENERAL ROUTING OF THE DUCTWORK. DO NOT HANG WIRING OR TUBING FROM DUCTWORK; RATHER, SUSPEND FROM THE STRUCTURE.

12. TEMPERATURE SENSORS SHALL BE LOCATED IN EACH ZONE AS SHOWN. THE EXACT LOCATION ON THE WALL INDICATED SHALL BE AS DIRECTED BY THE ARCHITECT. NEW THERMOSTATS SHALL BE SELECTED TO MATCH THE EXISTING BASE BUILDING THERMOSTATS AND SHALL BE COMPATIBLE WITH THE EQUIPMENT SERVED. LOCATE THERMOSTATS PER ACCESSIBILITY REQUIREMENTS. VERIFY HEIGHT AND LOCATION W/INSPECTOR. THERMOSTATS TO BE LOCATED IN OFFICE.

13. ADJUST ALL DIFFUSERS IN CORRIDORS OR WITHIN 3 FEET OF A WALL TO PROVIDE 2-WAY OR 3-WAY BLOW AWAY FROM OR PARALLEL TO WALLS. ALL LAY-IN DIFFUSERS SHALL HAVE 4-WAY BLOW UNLESS NOTED OTHERWISE.

14. PORTIONS OF DUCTWORK VISIBLE THROUGH GRILLES AND REGISTERS IN FINISHED AREA SHALL BE PAINTED FLAT BLACK.

15. SINGLE WALL SHEET METAL SUPPLY DUCTWORK IN CONCEALED SPACES SHALL BE INSULATED WITH 2" THICK FIBERGLASS DUCT INSULATION WITH FOIL VAPOR BARRIER U/I LISTED. ALL EXPOSED SPIRAL DUCTWORK SHALL BE DOUBLE-WALL INSULATED DUCT. EXHAUST DUCTWORK SHALL NOT BE INSULATED UNLESS OTHERWISE NOTED.

16. LOW PRESSURE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARD.

17. ALL MECHANICAL EQUIPMENT SHALL BE LABELED WITH LAMINATE NAMEPLATE SECURELY AFFIXED TO THE EQUIPMENT. THE NAMEPLATE SHALL SHOW THE EQUIPMENT TAG USED ON THESE DRAWINGS.

18. CONTRACTOR TO FURNISH & INSTALL COMPLETE MECHANICAL SYSTEM WITH ALL REQUIRED CONNECTIONS TO FIRE ALARM.

PACKAGED ROOFTOP UNIT SCHEDULE																				
I.D. TAG	SUPPLY AIRFLOW (CFM)	OUTSIDE AIR (CFM)	EXT. SP (IN. WC) (1)	MOTOR HP	BOD TOTAL CAPACITY (MBH)	BOD SENSIBLE CAPACITY (MBH)	AMBIENT TEMP (°F)	COIL EAT		HEATING		EER	SEER2/IEER	VOLTS/PHASE	MCA	MOCP	BASIS OF DESIGN	APPROX. WEIGHT (LBS)	REMARKS	
								°F db	°F wb	TYPE	INPUT (MBH)									OUTPUT (MBH)
DOAS-1	4,000	3,000	1	5	264.0	151.3	95.0	90.0	73.7	GAS	296.7	240.3	11.1	18.2	208/3	88.5	100	CAPTIVEAIRE CASRTU3-1.300-24-20T	2738	2, 3, 4, 5, 6, 7, 8
RTU-1	4,000	800	0.8	5	143.9	110.3	95.0	79.0	65.4	GAS	213.0	172.5	11.0	18.6	208/3	67.2	80	CAPTIVEAIRE CASRTU2-1.250-18-10T	2071	2, 3, 4, 5, 6, 7, 8

- (1) THIS IS THE SP EXTERNAL TO THE ENTIRE UNIT ASSEMBLY (WET COIL, CASING, CLEAN FILTERS, AND FURNACE LOSSES ARE NOT INCLUDED IN THIS EXTERNAL SP).
- UNIT SHALL BE CONFIGURED WITH REHEAT PLUS.
- PROVIDE WITH POWERED GFI OUTLET. COORD. WITH DIV. 26.
- PROVIDE WITH INTEGRAL DISCONNECT. COORD. WITH DIV. 26.
- PROVIDE SMOKE DETECTOR IN RETURN DUCTWORK FOR AUTOMATIC SHUTDOWN IN COMPLIANCE WITH NFPA 72. DETECTORS SHALL BE SUPPLIED BY DIV. 26 AND INSTALLED BY DIV. 23.
- PROVIDE WITH 7-DAY PROGRAMMABLE TSTAT/HUMIDISTAT.
- PROVIDE UNIT WITH DIFFERENTIAL-ENTHALPY ECONOMIZER AND BAROMETRIC RELIEF.
- PROVIDE WITH MODULATING HOT GAS REHEAT AND SPACE-MOUNTED TEMPERATURE/HUMIDITY SENSOR.

**SEQUENCE OF OPERATION:
RTU/DOAS (ELEC/GAS)**

GAS HEATING/ELECTRIC COOLING ROOFTOP UNIT SEQUENCE OF OPERATION:

DAY CYCLE - COOLING:

- SUPPLY AIR FAN SHALL RUN CONTINUOUSLY
- THERMOSTAT SHALL CYCLE COMPRESSORS TO MAINTAIN ROOM SET TEMPERATURE.

DAY CYCLE - HEATING:

- SUPPLY AIR FAN SHALL RUN CONTINUOUSLY.
- THERMOSTAT SHALL CYCLE GAS HEATER TO ACHIEVE ROOM TEMPERATURE SETPOINT.

DAY CYCLE - DEHUMIDIFICATION:

- SUPPLY AIR FANS SHALL RUN CONTINUOUSLY.
- RESTROOM EXHAUST FAN SHALL BE ENERGIZED.
- HUMIDISTAT SHALL CYCLE COOLING COIL STAGES TO MAINTAIN 50% ± 5% RH (ADJ.) SPACE HUMIDITY.
- HOT GAS REHEAT SHALL ENABLE AND MODULATE TO MEET SPACE THERMOSTAT TEMPERATURE SETPOINT.
- AUXILIARY REHEAT SHALL ENABLE IF HOT GAS REHEAT ALONE CANNOT MAINTAIN MINIMUM SPACE TEMPERATURE SETPOINT DURING DEHUMIDIFICATION MODE.

MORNING WARM-UP CYCLE:

- SUPPLY AIR FAN SHALL RUN CONTINUOUSLY.
- THERMOSTAT SHALL CYCLE RTU TO REACH ROOM TEMPERATURE SET POINT.
- WHEN SET TEMPERATURE IS REACHED, COOLING OR HEATING CYCLE SHALL COMMENCE.

NIGHT SETBACK:

- ALL KITCHEN HOODS AND EXHAUST FANS SHALL BE DE-ENERGIZED.
- OUTSIDE AIR DAMPER SHALL MODULATE TO HAVE NO OR REDUCED OUTSIDE AIR TO AVOID OVER PRESSURIZING THE BUILDING.
- THERMOSTAT SHALL CYCLE EITHER COOLING OR HEATING AND SUPPLY AIR FAN TO MAINTAIN ROOM SET POINT TEMPERATURE.

SMOKE DETECTOR:

- WHEN SMOKE DETECTOR IS ACTIVATED, SUPPLY AIR FAN SHALL SHUTDOWN.
- FIRE ALARM SHALL BE SIGNALLED.
- SUPPLY AIR FAN SHALL BE MANUALLY RESET.

OUTSIDE AIR CALCULATIONS

Ventilation Sizing Summary for OUTSIDE AIR

Project Name: Buttered Biscuit Heights Little Rock, AR
Prepared by: Barrett Woodyard and Associates
02/27/2024 03:36PM

- Summary
Ventilation Sizing Method: ASHRAE Std 62.1-2013
Design Condition: Heating operation
Occupant Diversity (D): 1.000
Uncorrected Outdoor Air Intake (Vou): 1342 CFM
System Ventilation Efficiency (Ev): 0.790
Outdoor Air Intake (Vot): 1700 CFM

2. Space Ventilation Analysis

Zone Name / Space Name	Mult.	Supply Air (CFM) (Vps)	Space Floor Area (ft²) (Aa)	Area Outdoor Air Rate (CFM/ft²) (Ra)	Time Averaged Occupancy (Occupants) (Pa)	People Outdoor Air Rate (CFM/person) (Rp)	Air Distribution Effectiveness (Ea)	Space Outdoor Air (CFM) (Voa)	Breathing Zone Outdoor Air (CFM) (Vbz)	Space Ventilation Efficiency (Evz)
Zone 1										
Bar	1	647	200.0	0.18	9.0	7.50	0.8	129	104	0.886
Dining Ext	1	3234	1345.0	0.18	40.0	7.50	0.8	678	542	0.876
Dining Int	1	1675	790.0	0.18	34.0	7.50	0.8	497	397	0.790
Dish	1	2251	420.0	0.12	8.0	7.50	0.8	138	110	1.025
Mens	1	27	50.0	0.12	0.0	5.00	0.8	8	6	0.807
Prep	1	7727	510.0	0.12	15.0	7.50	0.8	217	174	1.058
Womens	1	40	75.0	0.12	0.0	5.00	0.8	11	9	0.807
Totals (incl. Space Multipliers)		15600							1342	0.790

FAN SCHEDULE

I.D. TAG	CFM	S.P.	MOTOR H.P	DRIVE	VOLTAGE	PHASE	TYPE	BASIS OF DESIGN	REMARKS	WEIGHT
TEF-1	150 CFM	0.5 in-wg	---	D	120	1	CENTRIFUGAL EXHAUST	COOK ACE-D	1,2,3	55 LBS

- PROVIDE FAN WITH TIME CLOCK TO RUN DURING OCCUPIED HOURS.
- PROVIDE FAN WITH BACKDRAFT DAMPER.
- PROVIDE WITH SOLID STATE SPEED CONTROL.

ELECTRIC HEATER SCHEDULE

I.D. TAG	DESCRIPTION	CAPACITY KW	MIN CFM	FAN H.P	S.P. (IN. WG)	VOLTS/PHASE	BASIS OF DESIGN	REMARKS
EH-A	HEATER	2.0	-	-	-	208/1	BROMIC TUNGSTEN SMART HEAT	1,2,3

- PROVIDE HEATER WITH UNIT MOUNTED THERMOSTAT AND INTEGRAL DISCONNECT.
- PROVIDE HEATER WITH UNIVERSAL WALL/CEILING MOUNTING BRACKET.
- LOCATE CONTROL SWITCHES AT HOSTSTAND ON WALL BELOW CHAIRRAIL.

100% CONSTRUCTION DOCUMENTS

03.01.2024

NO. DESCRIPTION DATE

NOTES & SCHEDULES - MECHANICAL

M0.01

project address | name

client

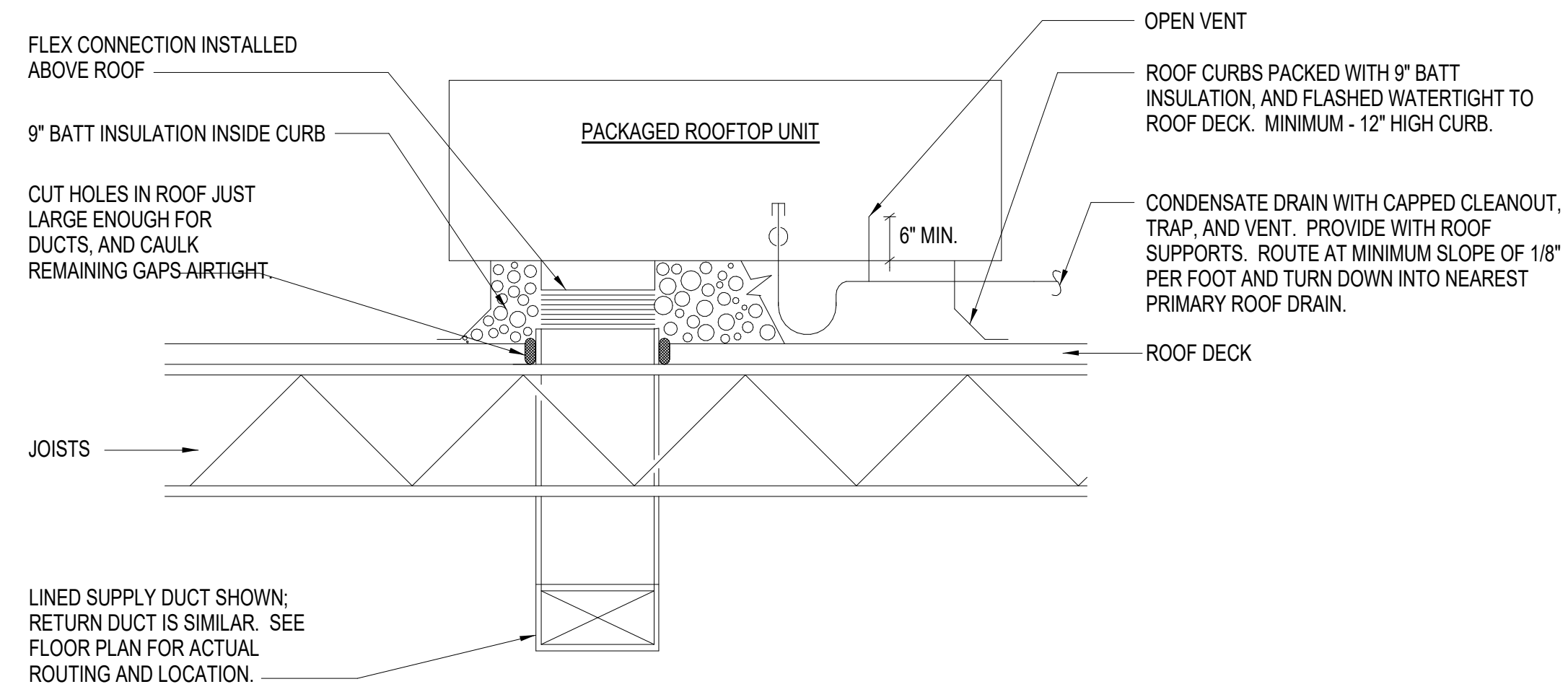
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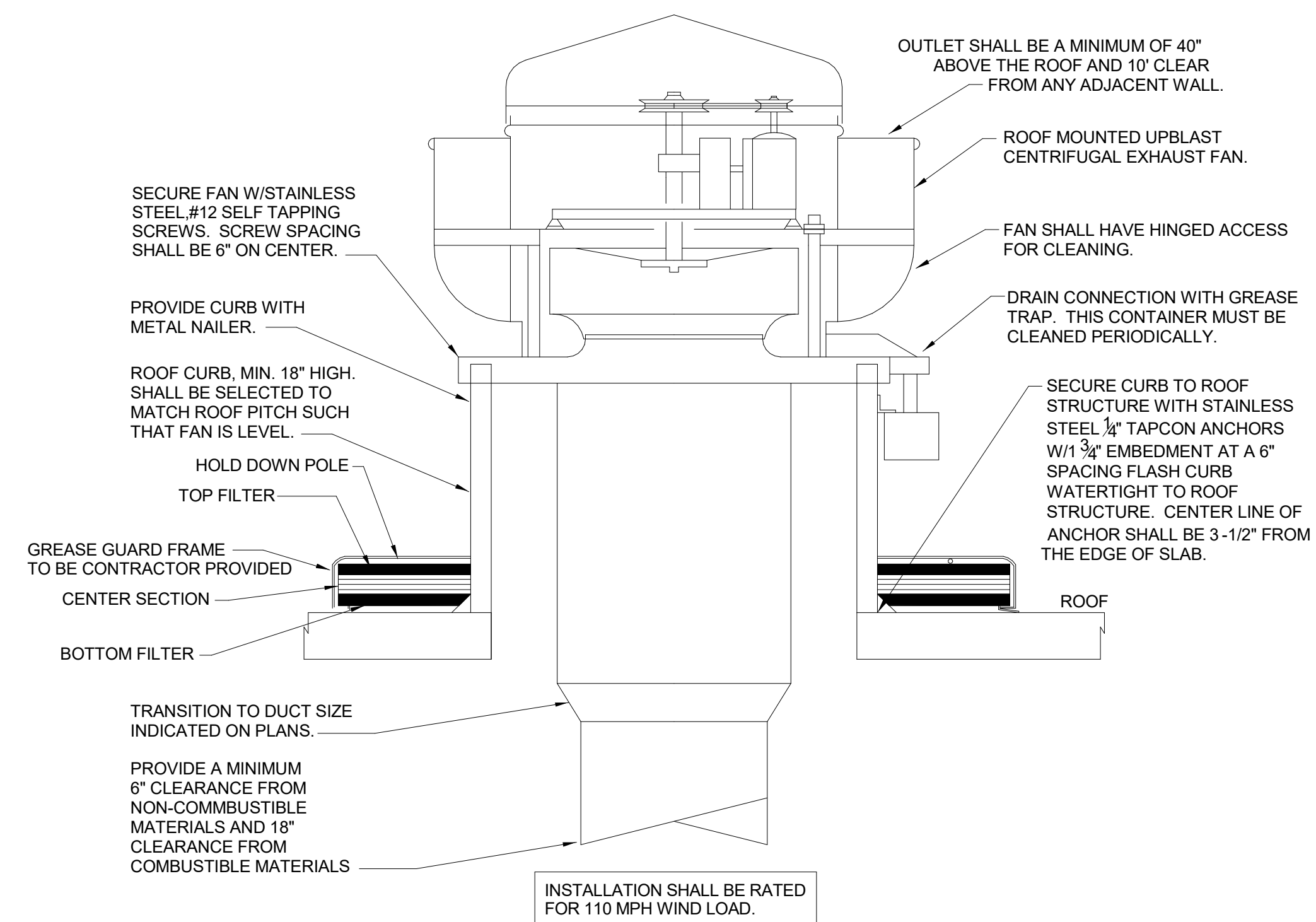
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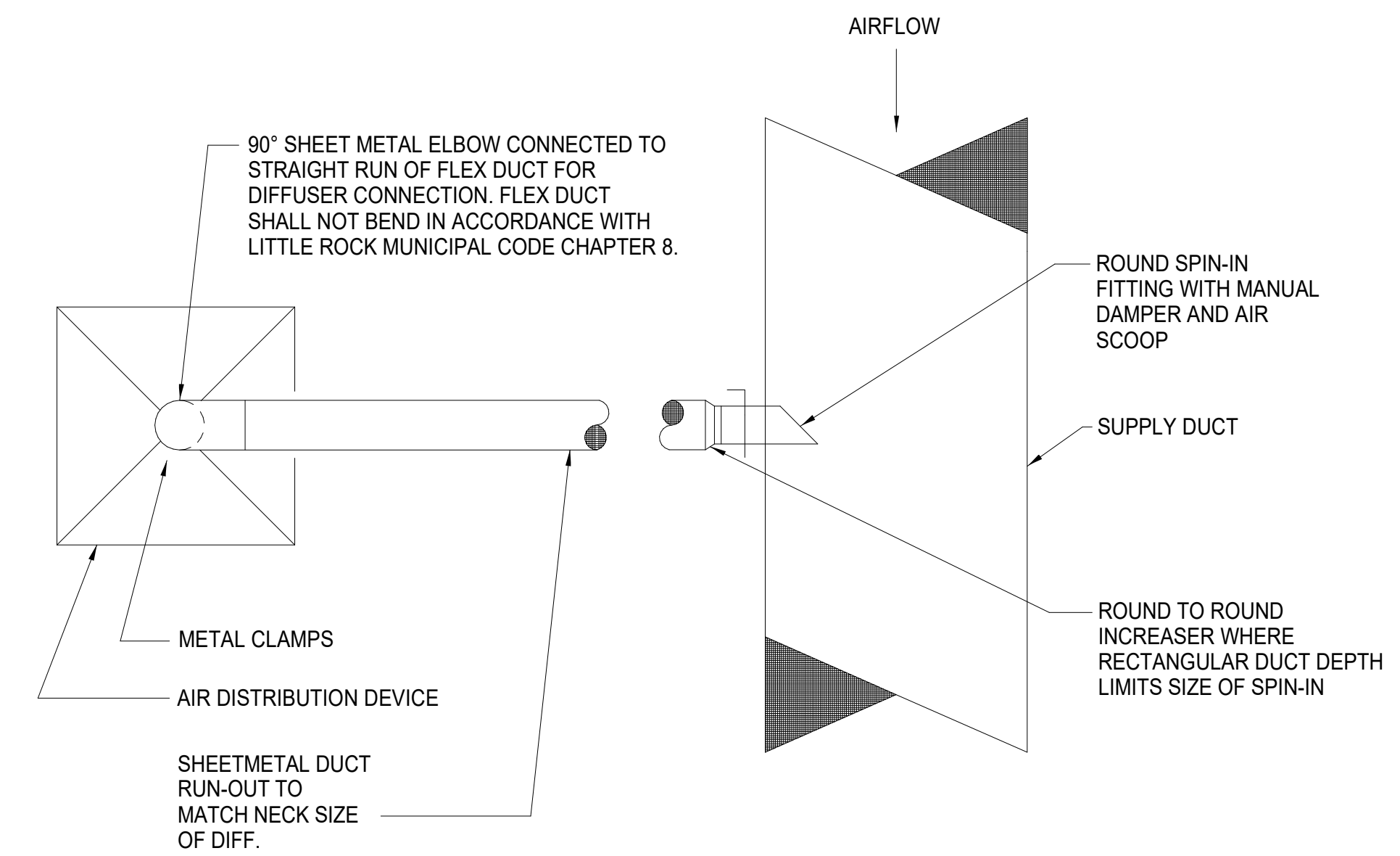


2 ROOFTOP UNIT DETAIL
M0.02 NOT TO SCALE

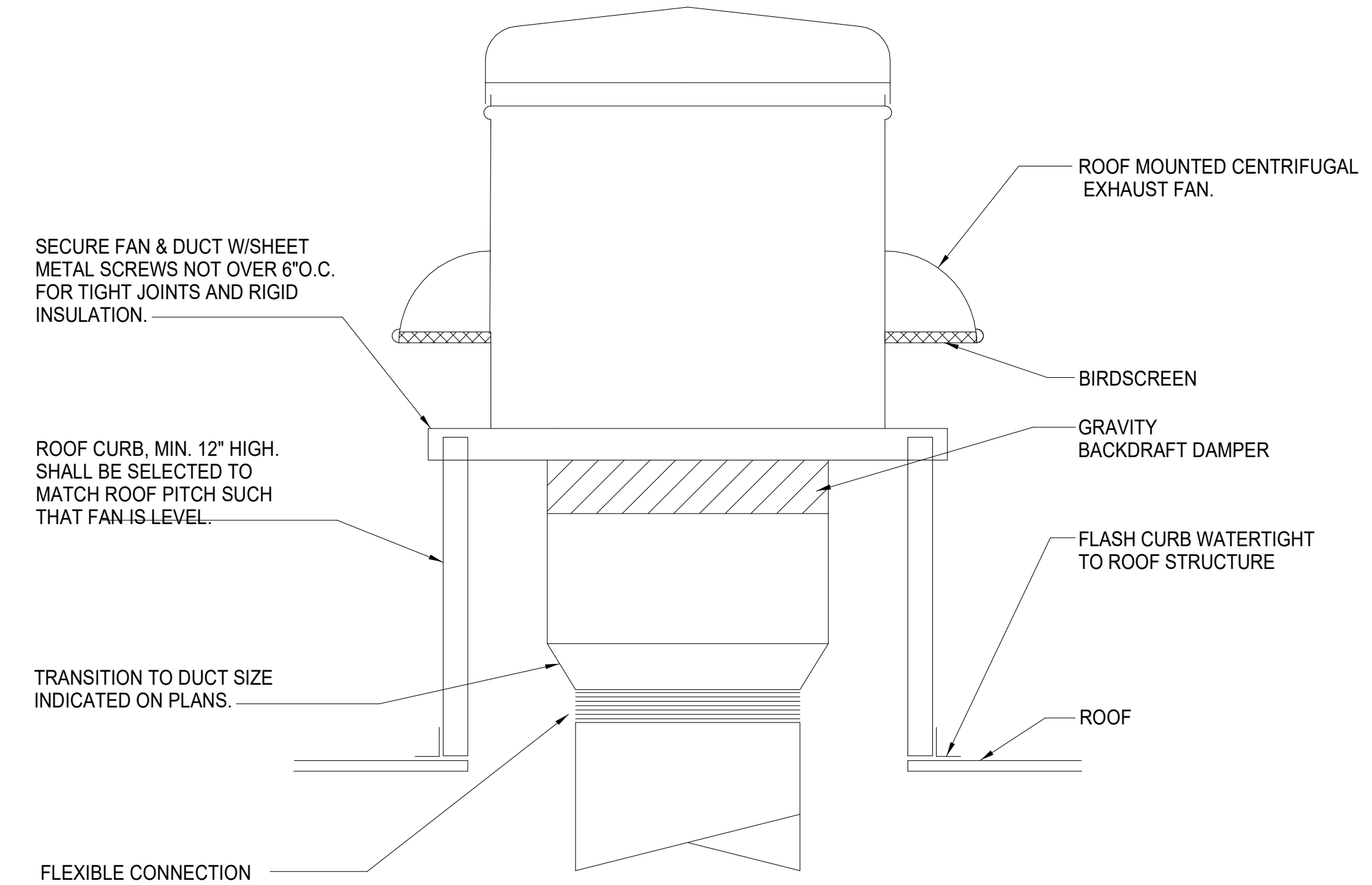


NOTES:
 1) THE "GREASE GUARD" SYSTEM SHALL BE INSTALLED FOR ALL KITCKEN EXHAUST SYSTEMS.
 2) GREASE CONTAINMENT SYSTEM IS TO BE SIZED, ENGINEERED, INSTALLED AND MANUFACTURED SPECIFICALLY BY GREASE GUARD INC. (800-284-8273). PAD SHALL COVER A MINIMUM OF 15" ON ALL SIDES OF HOOD.
 3) ALL FANS EXHAUSTING GREASE CONTAMINANTS ON ROOF SHALL INCLUDE A GREASE CONTAINMENT SYSTEM, SPECIFICALLY "GREASE GUARD" AS MANUFACTURED BY FACILITEC CORPORATION OR APPROVED EQUAL.

4 KITCHEN EXHAUST FAN DETAIL
M0.02 NOT TO SCALE



1 DIFFUSER CONNECTION DETAIL
M0.02 NOT TO SCALE



3 TOILET EXHAUST FAN DETAIL
M0.02 NOT TO SCALE



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Mechanical Compliance Certificate

Section 1: Project Information

Energy Code: 2009 IECC
Project Title: Buttered Biscuit The Heights
Project Type: Alteration
Construction Site: Owner/Agent: Designer/Contractor:

Section 2: General Information

Building Location (for weather data): Little Rock, Arkansas
Climate Zone: 3a

Section 3: Mechanical Systems List

Quantity	System Type & Description
1	DOAS-1 (Single Zone): Cooling: 1 each - Single Package DX Unit, Capacity = 264000 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 11.10 EER, Required Efficiency = 9.70 EER Proposed Part Load Efficiency = 18.20 IPLV, Required Part Load Efficiency = 9.40 IPLV Fan System: FAN SYSTEM 1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: FAN 1 Supply, Constant Volume, 4000 CFM, 5.0 motor nameplate hp
1	RTU-1 (Single Zone): Cooling: 1 each - Single Package DX Unit, Capacity = 143900 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 11.00 EER, Required Efficiency = 9.70 EER Proposed Part Load Efficiency = 18.60 IPLV, Required Part Load Efficiency = 9.40 IPLV Fan System: FAN SYSTEM 2 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: FAN 2 Supply, Constant Volume, 4000 CFM, 5.0 motor nameplate hp
1	Water Heater: Gas Storage Water Heater, Capacity: 100 gallons, Input Rating: 199000 kBtu/h w/ Circulation Pump Proposed Efficiency: 97.00 % Et, Required Efficiency: 80.00 % Et

Section 4: Requirements Checklist

- Requirements Specific To: DOAS-1 :**
- 1. Equipment minimum efficiency: Single Package Unit: 9.70 EER + 9.4 IPLV
 - 2. Discharge dampers prohibited with fan motors > 25 hp
 - 3. Integrated economizer is required for this location and system.
 - 4. Cooling system provides a means to relieve excess outdoor air during economizer operation.
 - 5. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
 - 6. Hot gas bypass limited to 25% of total cooling capacity

- Requirements Specific To: RTU-1 :**
- 1. Equipment minimum efficiency: Single Package Unit: 9.70 EER + 9.4 IPLV
 - 2. Discharge dampers prohibited with fan motors > 25 hp
 - 3. Integrated economizer is required for this location and system.
 - 4. Cooling system provides a means to relieve excess outdoor air during economizer operation.

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- 5. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
 - 6. Hot gas bypass limited to 25% of total cooling capacity
- Requirements Specific To: Water Heater :**
- 1. Water heating equipment meets minimum efficiency requirements: Gas Storage Water Heater efficiency: 80.00 % Et (248761 SL, kBtu/h)
 - 2. All piping in circulating system insulated
 - 3. Hot water storage temperature controls that allow setpoint of 90°F for non-dwelling units and 110°F for dwelling units.
 - 4. Automatic time control of heat tapes and recirculating systems present
 - 5. Controls will shut off operation of circulating pump between water heater/boiler and storage tanks within 5 minutes after end of heating cycle

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- 1. Plant equipment and system capacity no greater than needed to meet loads
Exception(s):
 - Standby equipment automatically off when primary system is operating
 - Multiple units controlled to sequence operation as a function of load
- 2. Minimum one temperature control device per system
- 3. Minimum one humidity control device per installed humidification/dehumidification system
- 4. Load calculations per ASHRAE/ACCA Standard 153
- 5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
Exception(s):
 - Continuously operating zones
- 6. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 7. R-8 supply and return air duct insulation in unconditioned spaces
R-8 supply and return air duct insulation outside the building
R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
Exception(s):
 - Ducts located within equipment
 - Ducts with interior and exterior temperature difference not exceeding 15°F.
- 8. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- 10. Hot water pipe insulation: 1.5 in. for pipes <= 1.5 in. and 2 in. for pipes > 1.5 in.
Chilled water/refrigerant/brine pipe insulation: 1.5 in. for pipes <= 1.5 in. and 1.5 in. for pipes > 1.5 in.
Steam pipe insulation: 1.5 in. for pipes <= 1.5 in. and 3 in. for pipes > 1.5 in.
Exception(s):
 - Piping within HVAC equipment.
 - Fluid temperatures between 55 and 105°F.
 - Fluid not heated or cooled with renewable energy.
 - Piping within room fan-coil (with AHR1440 rating) and unit ventilators (with AHR1840 rating).
 - Runouts < 4 ft in length.
- 11. Operation and maintenance manual provided to building owner
- 12. Balancing devices provided in accordance with IMC 603.17
- 13. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft2 in spaces >500 ft2) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.
Exception(s):
 - Systems with heat recovery.
 - Multiple-zone systems without DDC of individual zones communicating with a central control panel.
 - Systems with a design outdoor airflow less than 1200 cfm.
 - Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
- 14. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
Exception(s):
 - Gravity dampers acceptable in buildings < 3 stories
- 15. Automatic controls for freeze protection systems present
- 16. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
Exception(s):
 - Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
 - Systems serving spaces that are heated and not cooled to less than 60°F.

- Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
- Heating systems in climates with less than 3600 HDD.
- Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
- Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
- Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical alteration project has been designed to meet the 2009 IECC, Chapter 8, requirements in COMcheck-Web and to comply with the mandatory requirements in the Requirements Checklist.

John T. Edwards, P.E. Sheet is signed. 3/1/24
Name - Title Signature Date

Section 6: Post Construction Compliance Statement

- HVAC record drawings of the actual installation, system capacities, calibration information, and performance data for each equipment provided to the owner.
- HVAC O&M documents for all mechanical equipment and system provided to the owner by the mechanical contractor.
- Written HVAC balancing and operations report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name Signature Date

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Design Condition - Hoods at 100% Exhaust CFM and DOAS OA at 100%.

Building Air Balance			
Unit	Exhaust	OA	
Hood 1	2470	0	CFM
Hood 2	1125	0	CFM
DOAS-1	0	3000	CFM
RTU-1	0	1050	CFM
TEF-1	150	0	CFM
Total	3745	4050	CFM
Net Pressure	(+) 305		CFM

Dining to Kitchen Air Balance		
Unit	Exhaust	Make-Up
Kitchen		
Hood 1	2470	0 CFM
Hood 2	1125	0 CFM
DOAS-1	0	3000 CFM
RTU-1	0	0 CFM
Total	3595	3000 CFM
Net		-595 CFM (2)

Transfer Air to Kitchen	
Transfer Air =	-595 CFM
Transfer Grille Nominal Area=	0 sq.ft.
Transfer Grille Free Area=	0 sq.ft.
Pass Through Free Area =	18 sq.ft. (1)
Total Free Area =	18 sq.ft.
Transfer Air Velocity =	33.1 FPM

Remarks:

(1) The pass through free area accounts for the pass through being partially obstructed. Calculations assume 2'-0" of unobstructed height and 9'-0" of unobstructed width. Overall height is approximately 4'-0" and Overall width is approximately 9'-0".

(2) Net air balance between the dining area and the kitchen. Negative value indicates the kitchen is at a negative pressure relative to the dining room requiring air to passively transfer from the dining room into the kitchen through permanent openings which will help to contain odors inside the kitchen. Make-up CFM values account for forced air systems supplying air into the kitchen and may be a combination of outside air and return air from the dining room.



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NO. DESCRIPTION DATE



03/01/2024

project address | name

client

designers

job status

revisions

seal

sheet number | title



**starr
design**

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DOCUMENTS

03.01.2024

NO.	DESCRIPTION	DATE
2	Coordination Comments	06/10/2024
6	Revision 6	09/09/2024

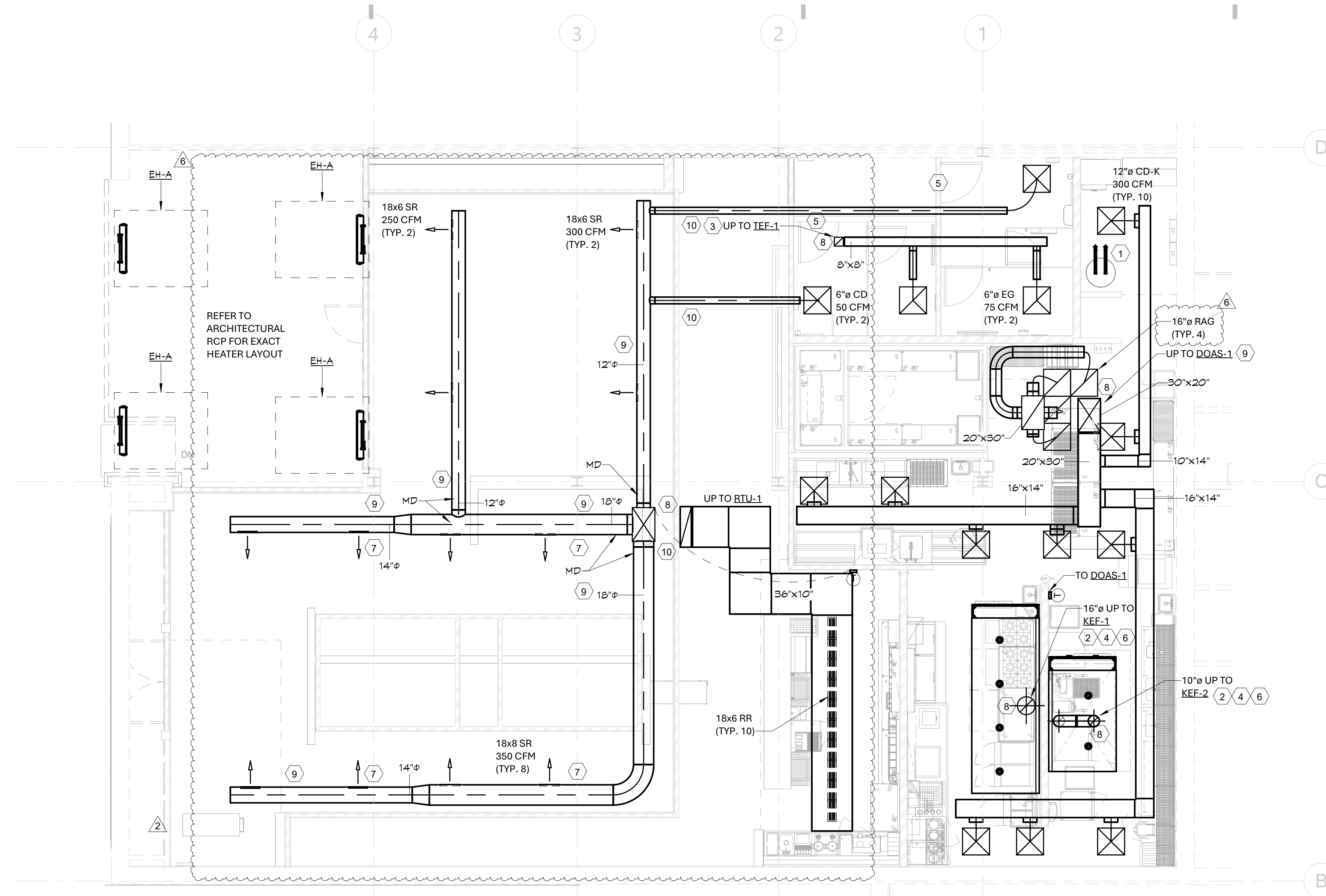


09/09/2024

FLOOR PLAN -
MECHANICAL

M1.01

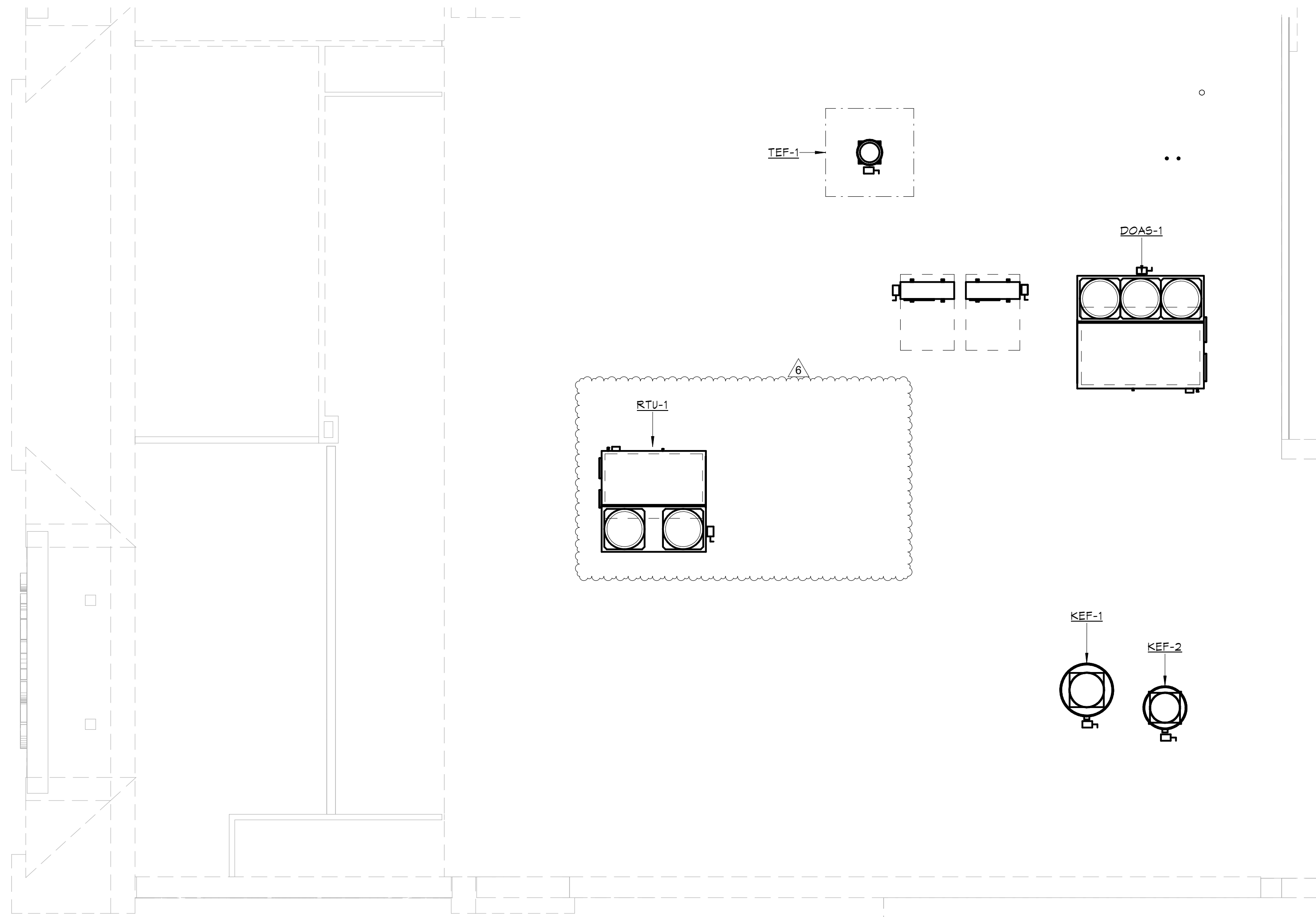
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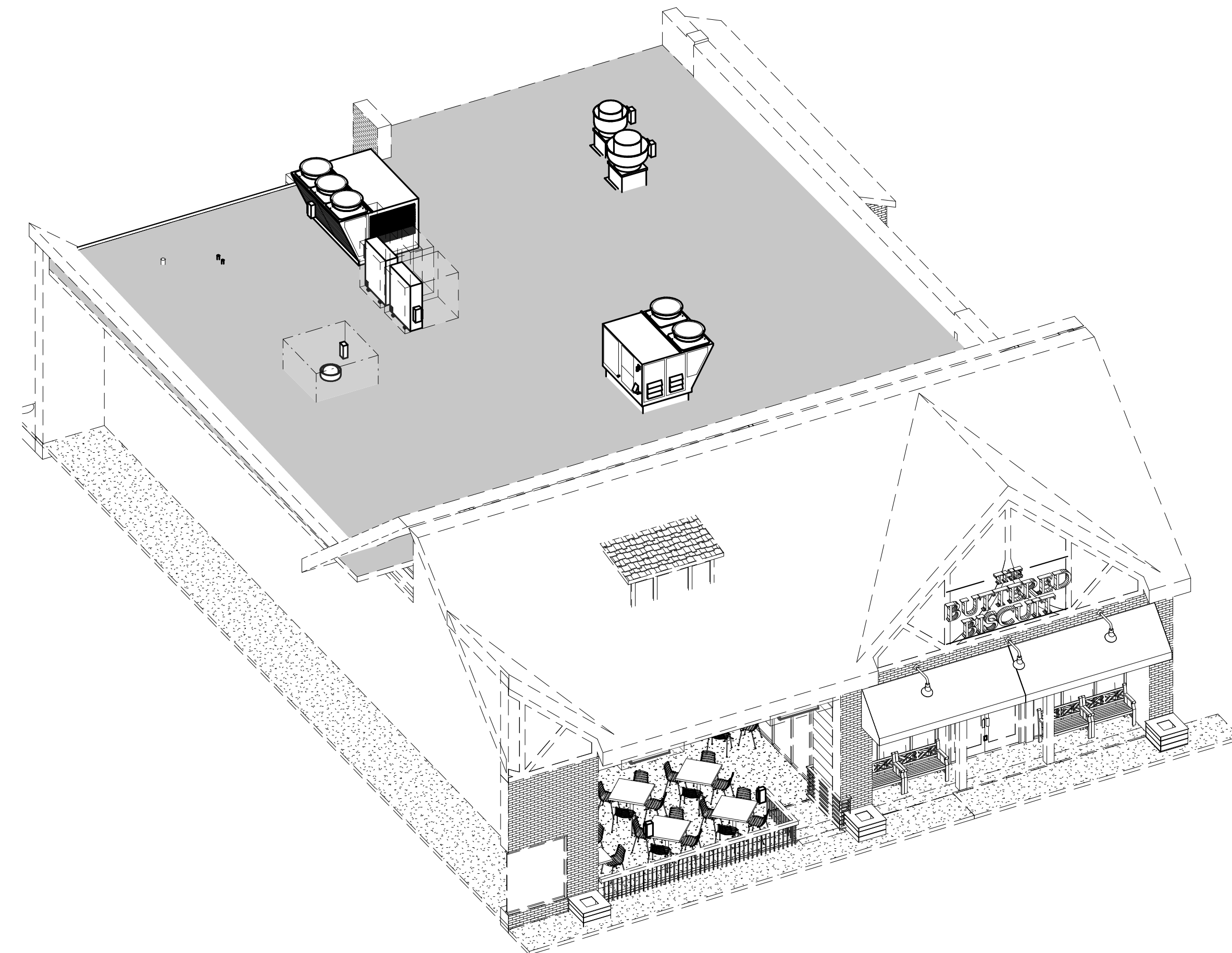
1 FIRST FLOOR PLAN - MECHANICAL
M1.01 3/16" = 1'-0"

KEY NOTES:
(APPLY THIS SHEET ONLY)

- 1 PROVIDE GAS WATER HEATER INTAKE AND FLUE. PROVIDE REQUIRED PIPING FOR WHG-1. REFER TO WATER HEATER DETAIL ON SHEET P0.03.
- 2 ALL KITCHEN HOOD EXHAUST DUCTS SHALL BE INSPECTED AND TESTED PRIOR TO THE INSTALLATION OF THE PROPOSED FIRE MASTER FAST WRAP. VERIFY AND COORDINATE LOCATIONS OF ALL GREASE DUCT CLEANOUTS AND PROVIDE ADEQUATE CLEARANCE FOR REMOVAL AND MAINTENANCE FROM ALL TRADES. MAINTAIN A MINIMUM 24" CLEARANCE IN ALL DIRECTIONS OF GREASE DUCT CLEANOUT OPENINGS.
- 3 ROUTE EXHAUST DUCT UP TO ROOF. REFER TO SCHEDULE SHEET M0.01 FOR EXHAUST FAN SIZING AND DATA. OFFSET DUCTWORK AS REQUIRED TO AVOID CONFLICTS WITH EXISTING STRUCTURAL FRAMING.
- 4 GREASE DUCT SHALL BE FIRE WRAPPED IN ACCORDANCE WITH SECTION 506.3.11 OF THE 2021 IMC. FIRE WRAPPING SHALL BE INSTALLED WITH 0" CLEARANCE TO COMBUSTIBLES.
- 5 DOORS SHALL BE UNDERCUT 0'-1".
- 6 COORDINATE EXACT LOCATION OF KITCHEN HOODS WITH FOOD SERVICE PLANS AND FINAL EQUIPMENT LOCATIONS. HOODS SHALL BE LOCATED ABOVE THE EQUIPMENT PER THE HOOD MANUFACTURER'S RECOMMENDATIONS TO ENSURE PROPER SMOKE CAPTURE AND HOOD OPERATION.
- 7 APPROXIMATE LOCATION OF BEAM PENETRATION. COORDINATE WITH BASE BUILDING STRUCTURAL DRAWINGS FOR EXACT LOCATION.
- 8 COORDINATE EXACT LOCATION OF DUCTWORK CONNECTION WITH EXISTING EQUIPMENT CURB AND ROOF PENETRATION PROVIDED BY LANDLORD. MAKE DUCTWORK TRANSITIONS AS NEEDED BELOW ROOF DECK. CAREFULLY COORDINATE DUCTWORK WITH NEW SOFFIT IN THIS AREA. NOTIFY ARCHITECT IF EXACT LOCATION OF EXISTING CURB CREATES CONFLICT WITH NEW SOFFIT.
- 9 ALL DUCTWORK IN THE EXPOSED CEILING SHALL BE RUN ABOVE THE JOISTS.
- 10 ROUTE SPIRAL DUCT THROUGH SOFFIT IN THIS AREA. DUCT MAY TRANSITION TO RECTANGULAR ABOVE CEILING. ALL DUCTWORK IN EXPOSED CEILING VISIBLE FROM THE SPACE SHALL BE SPIRAL.



1 ROOF PLAN - MECHANICAL
 M1.02 3/16" = 1'-0"



2 MECHANICAL ISOMETRIC
 M1.02

THE BUTTERED BISCUIT

THE HEIGHTS

5014 KAVANAUGH BLVD.
 LITTLE ROCK, AR 72207

project address | name



client

**starr
 design**

Starr Design, PLLC
 3540 Toringdon Way, Suite 210
 Charlotte, NC 28277
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 www.starrdesignteam.com

designers

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 DOCUMENTS**
 03.01.2024

job status

NO.	DESCRIPTION	DATE
6	Revision 6	09/09/2024

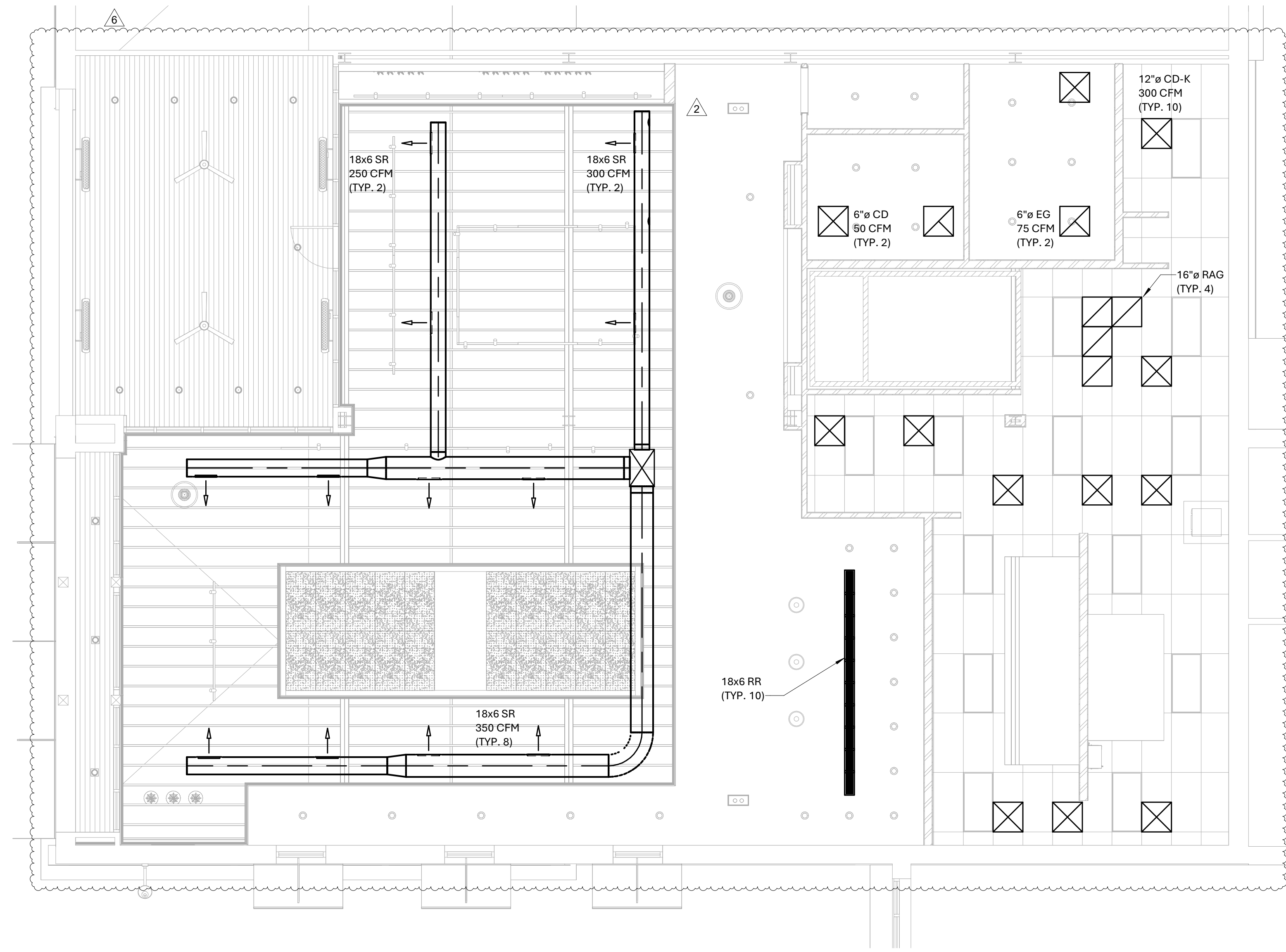
revisions



seal

ROOF PLAN -
 MECHANICAL
M1.02

sheet number | title



1 CEILING PLAN - MECHANICAL
 M2.01 3/16" = 1'-0"



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NO.	DESCRIPTION	DATE
2	Coordination Comments	06/10/2024
6	Revision 6	09/09/2024



CEILING PLAN -
 MECHANICAL
M2.01



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CAPTIVEAIRE DRAWINGS - MECHANICAL

M4.01

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revisions

seal

sheet number | title

FOR QUESTIONS, CALL THE
Charlotte / Triad Mechanical
REGION 132
PHONE: (704) 315 - 6656
EMAIL: jay.shingleton@captiveaire.com

PATENT NUMBERS
EXHAUST HOODS ND-2/BD-2/SND-2 (CANADA) - CA PATENT 2520435 C.

HOOD INFORMATION - JOB#6635445

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISERS				HOOD CONSTRUCTION	HOOD CONFIG			
										WIDTH	LENG	HEIGHT	DIA		CFM	VEL	SP	END TO END
1	HD-1	6024 ND-2	CAPTIVEAIRE	13' 0"	600 DEG	I	HEAVY	190	2470		4"	16"	2470	1769	-0.819"	430 SS WHERE EXPOSED	ALONE	ALONE
2	HD-2	6024 ND-2	CAPTIVEAIRE	7' 6"	600 DEG	I	HEAVY	150	1125		4"	10"	1125	2063	-0.657"	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	TYPE	FILTER(S)			EFFICIENCY @ 7 MICRONS	QTY	LIGHT(S)		WIRE GUARD	LOCATION	SIZE	UTILITY CABINET(S)		ELECTRICAL	SWITCHES	FIRE SYSTEM	HOOD SYSTEM HANGING PIPING	HOOD WEIGHT
			QTY	HEIGHT	LENGTH			TYPE	SIZE				TYPE	SIZE					
1	HD-1	CAPTRATE SLDL FILTER	9	20"	16"	85% SEE FILTER SPEC	4	RECESSED ROUND	NO	LEFT	12"x60"x24"	TANK FS	4.0/4.0/4.0/4.0				YES	1178 LBS	
2	HD-2	CAPTRATE SLDL FILTER	5	20"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO	RIGHT	12"x60"x24"			SC-321110MA	1 LIGHT 1 FAN		YES	613 LBS	

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	HD-1	FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 80.00" HIGH X 168.00" LONG 430 SS VERTICAL.
		INSULATION FOR BACK OF HOOD.
		RISER SENSOR INSTALL 6IN PLEN.
		RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
2	HD-2	FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 80.00" HIGH X 102.00" LONG 430 SS VERTICAL.
		INSULATION FOR BACK OF HOOD.
		RISER SENSOR INSTALL 6IN PLEN.
		RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.
IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

VERIFY CEILING HEIGHT
____' - ____"
HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

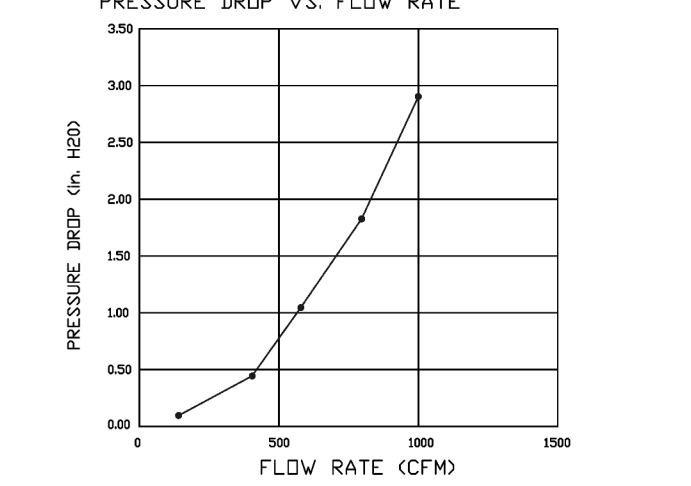
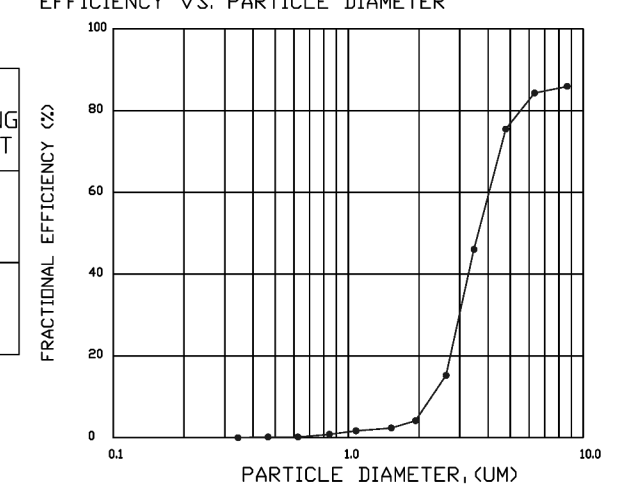
HVAC DISTRIBUTION NOTE
HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED	<input type="checkbox"/>
APPROVED WITH NO EXCEPTION TAKEN	<input type="checkbox"/>
REVISE AND RESUBMIT	<input type="checkbox"/>
SIGNATURE _____	
YOUR TITLE _____	DATE _____

SPECIFICATION: CAPTRATE® GREASE-STOP® SLDL FILTER
THE CAPTRATE GREASE-STOP SLDL 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.

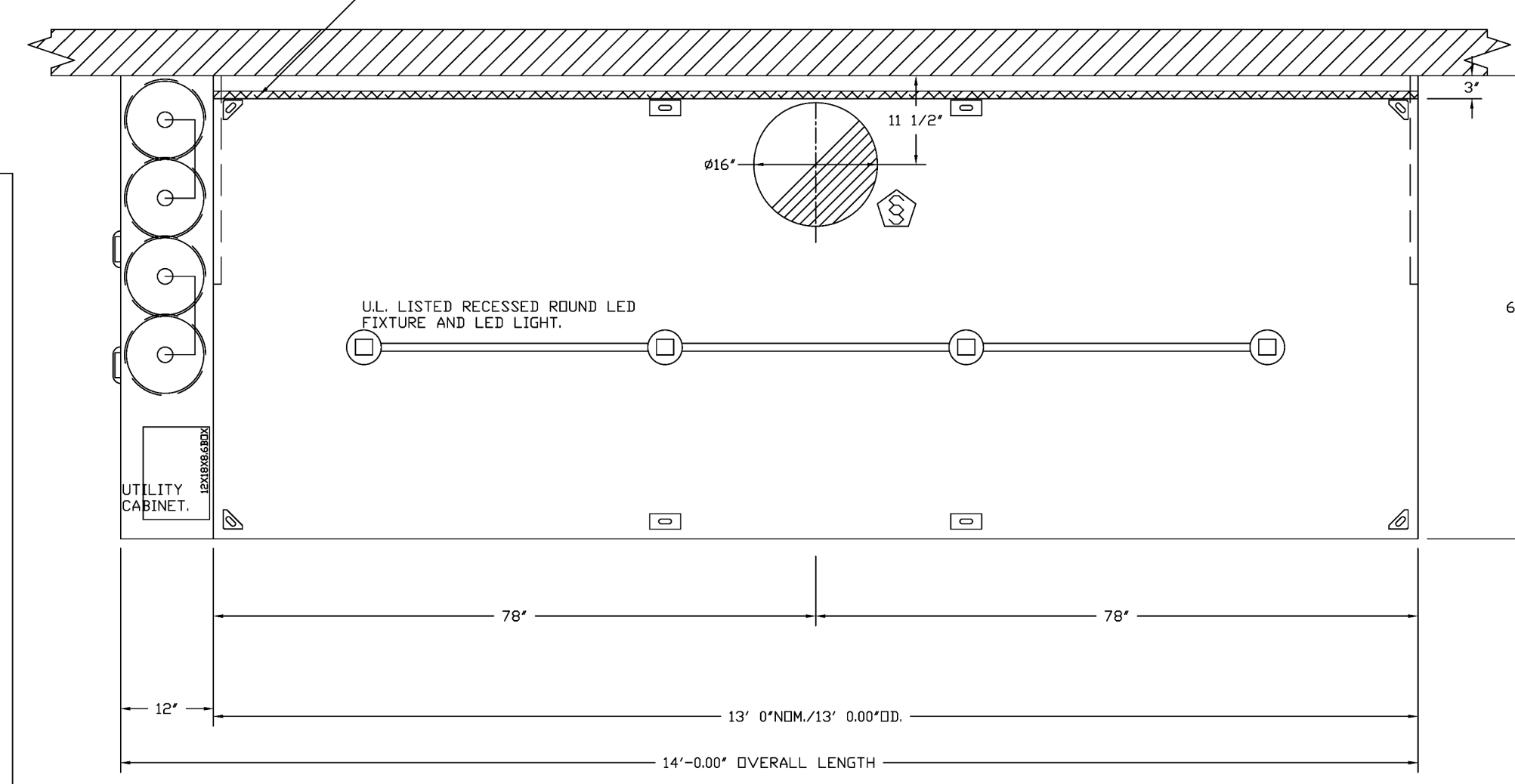
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE. THE CAPTRATE GREASE-STOP SLDL WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER. EFFICIENCY VS. PARTICLE DIAMETER



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



1" LAYER OF INSULATION FACTORY INSTALLED IN INTERNAL BACK STANDOFF. MEETS 0 INCH REQUIREMENTS FOR CLEARANCE TO COMBUSTIBLE SURFACES.



PLAN VIEW - HOOD #1 (HD-1)
13'-0.00" LONG 6024ND-2
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12" AND LONGER.

REVISIONS

NO.	DESCRIPTION	DATE



CAPTIVEAIRE
Charlotte / Triad Mechanical
www.captiveaire.com
... PHONE: (704) 315-6656 EMAIL: jay.shingleton@captiveaire.com

Buttered Biscuit The Heights FULL PACKAGE
ALEXANDER, AR, 72002

DATE: 2/22/2024
DWG.#: 6635445
DRAWN BY:
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
1



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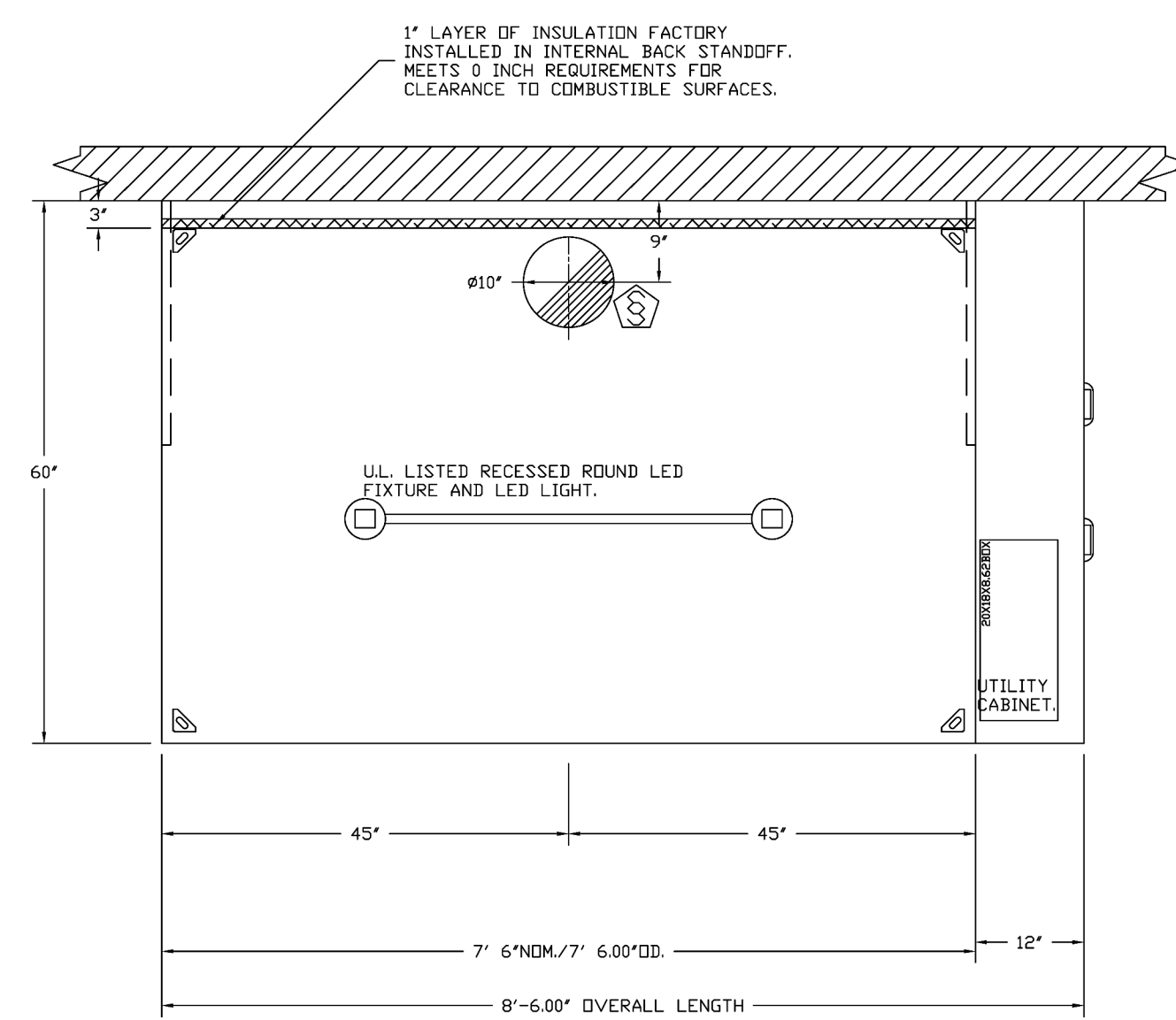
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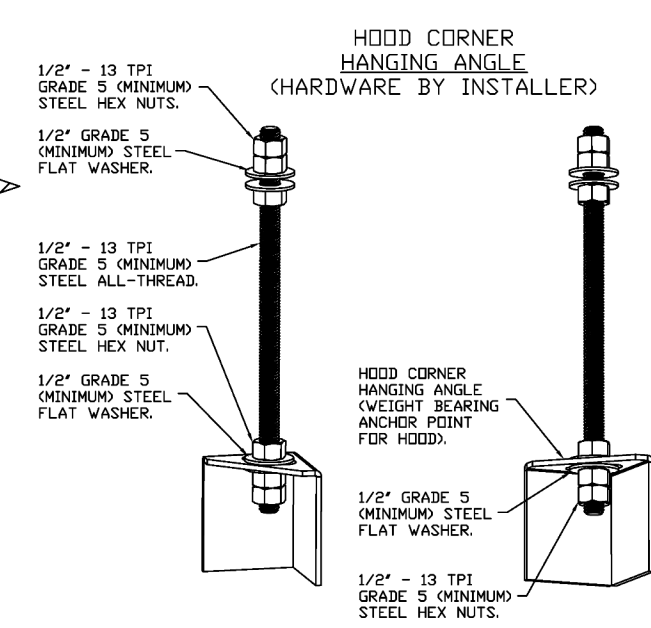
SCALE:
3/4" = 1'-0"

MASTER DRAWING

SHEET NO.
2

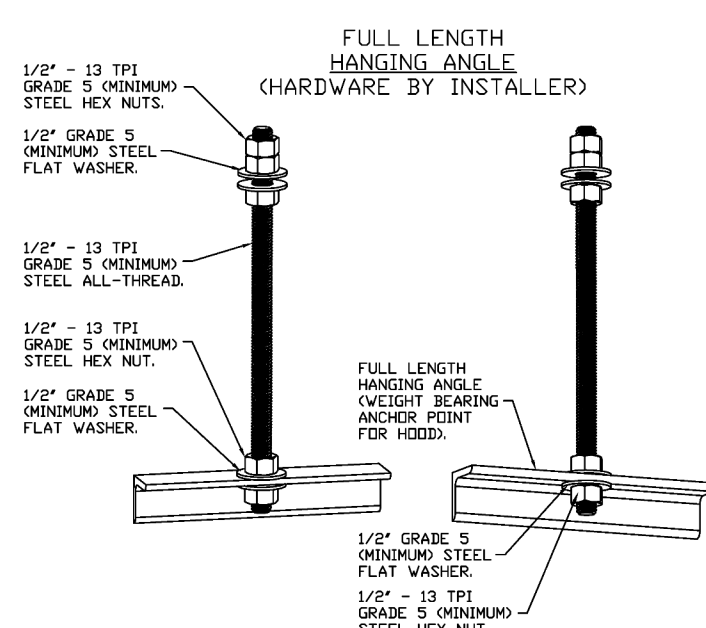


PLAN VIEW - HOOD #2 (HD-2)
7' 6.00" LONG 6024ND-2



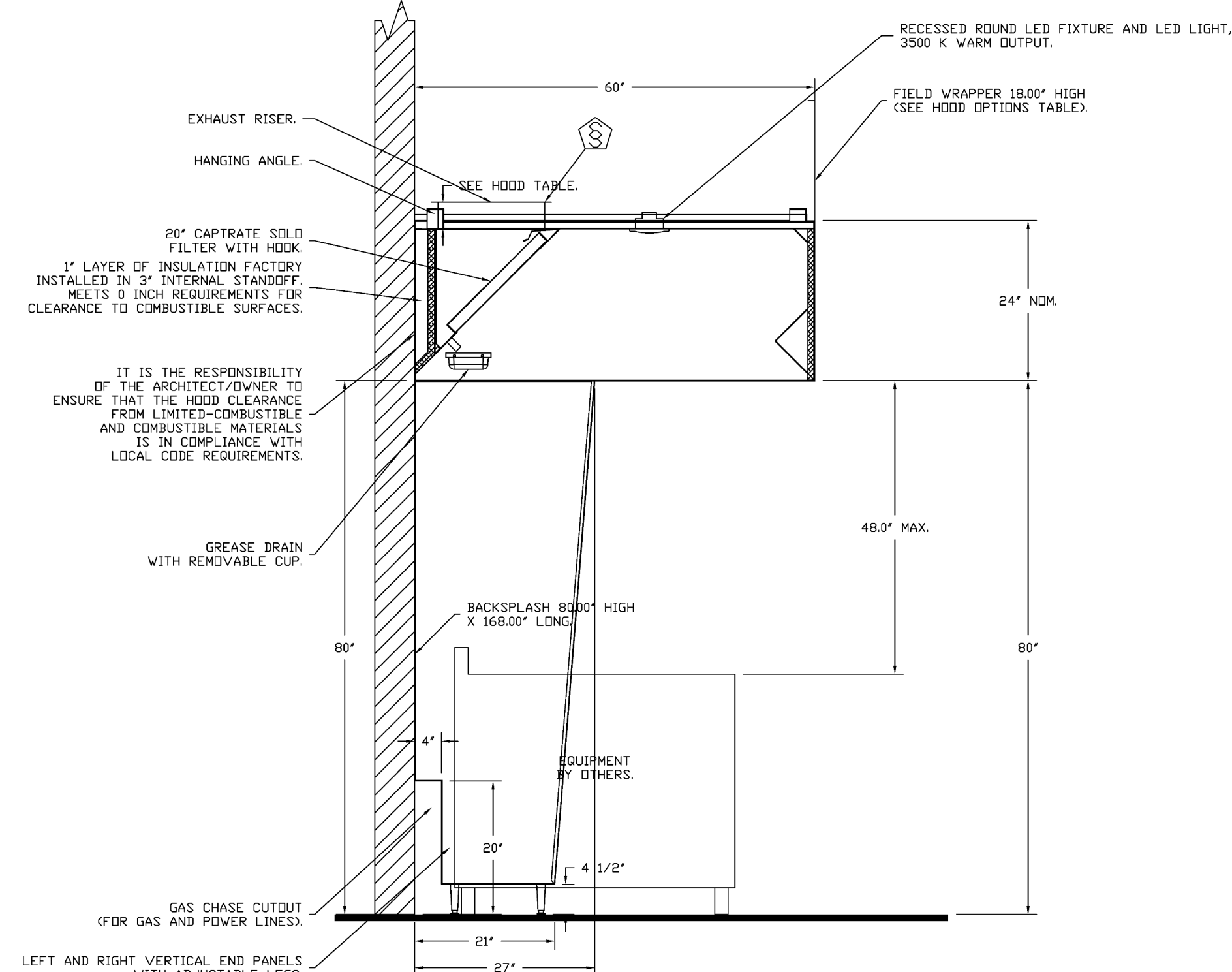
ASSEMBLY INSTRUCTIONS

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.

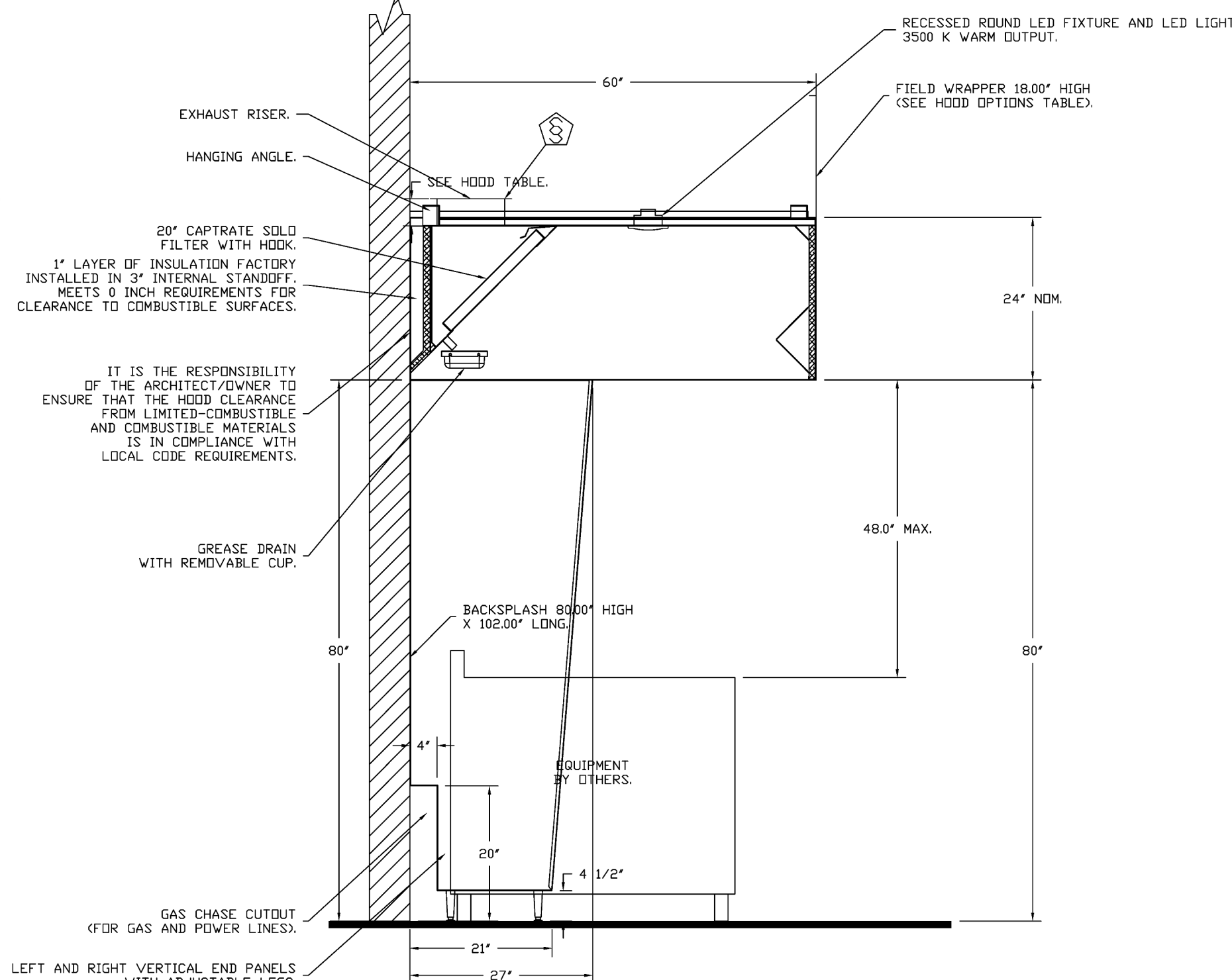


ASSEMBLY INSTRUCTIONS

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 ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



SECTION VIEW - MODEL 6024ND-2
HOOD - #1 (HD-1)



SECTION VIEW - MODEL 6024ND-2
HOOD - #2 (HD-2)

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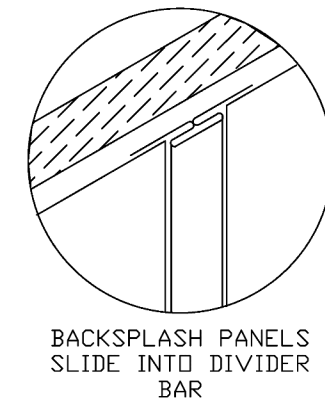
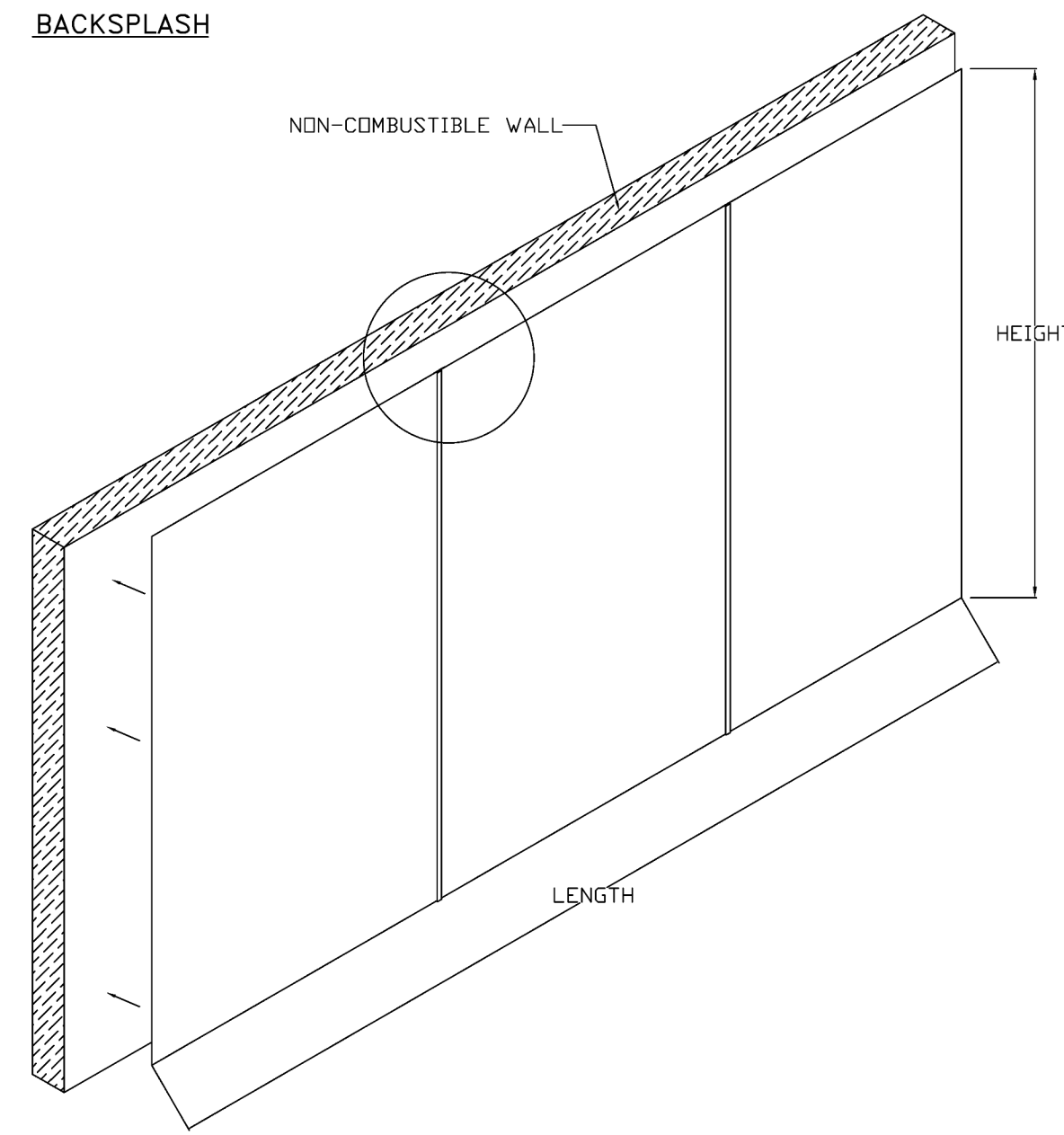


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CAPTIVEAIRE DRAWINGS - MECHANICAL

M4.02

BACKSPLASH



- BACKSPLASH IS NOT INSULATED AND IS UNSUITABLE FOR INSTALL AGAINST COMBUSTIBLE WALLS

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CAPTIVEAIRE



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Buttered Biscuit The Heights FULL PACKAGE
 ALEXANDER, AR, 72002

DATE: 2/22/2024
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SCALE: 3/4" = 1'-0"
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 3

THE BUTTERED BISCUIT

THE HEIGHTS

5014 KAVANAUGH BLVD.
 LITTLE ROCK, AR 72207



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M4.03

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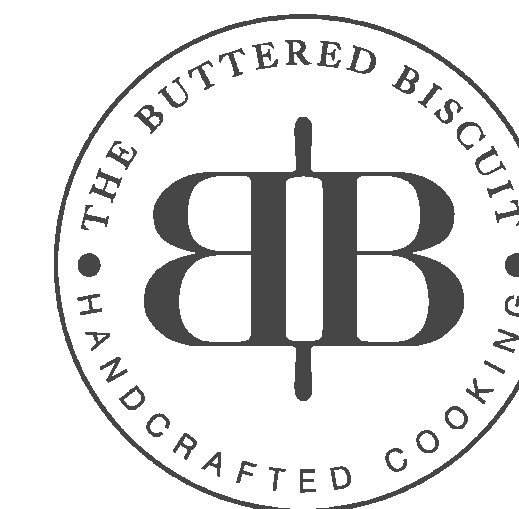
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job status

revisions

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DRAWINGS -
MECHANICAL

M4.04

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FIRE SYSTEM INFORMATION - JOB#6635445

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1	FS	TANK FS	4.0/4.0/4.0/4.0	80	60	FIRE CABINET LEFT	LEFT, HOOD 1

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1	FS	SC ELECTRICAL	1.000	CAPTIVEAIRE SYSTEMS

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1	FS	0 - 0 - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - 12-F28021-32144-0T-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO. CLOSE ON TEMP RISE AT 360°F.	2	0
		0 - 0 - 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	4	0
		0 - 0 - 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	2	0
		0 - 0 - 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	4	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5' BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	4	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	16	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" NPT HALF UNION. USED ON TANK SERVICE PORT.	2	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - SLPDCN-03FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 2' GAP. KIT CONTAINS 5 FEET OF BLACK MG WIRE, 5 FEET OF TAN MG WIRE, 3 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	4	0
		0 - 0 - SLPDCN-10FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 9' GAP OR BACK TO BACK HOODS. KIT CONTAINS 12 FEET OF BLACK MG WIRE, 12 FEET OF TAN MG WIRE, 10 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - SLPDCN-15FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 14' GAP OR BACK TO BACK HOODS. KIT CONTAINS 17 FEET OF BLACK MG WIRE, 17 FEET OF TAN MG WIRE, 15 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	12	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	4	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0

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DESCRIPTION	DATE

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 Charlotte / Triad Mechanical
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 ALEXANDER, AR, 72002

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SHEET NO.
4



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project address | name

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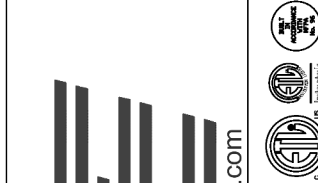
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sheet number | title

REVISIONS	
DESCRIPTION	DATE



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Buttered Biscuit The Heights FULL PACKAGE
ALEXANDER, AR, 72002

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SCALE: 1/2" = 1'-0"
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5

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03.01.2024

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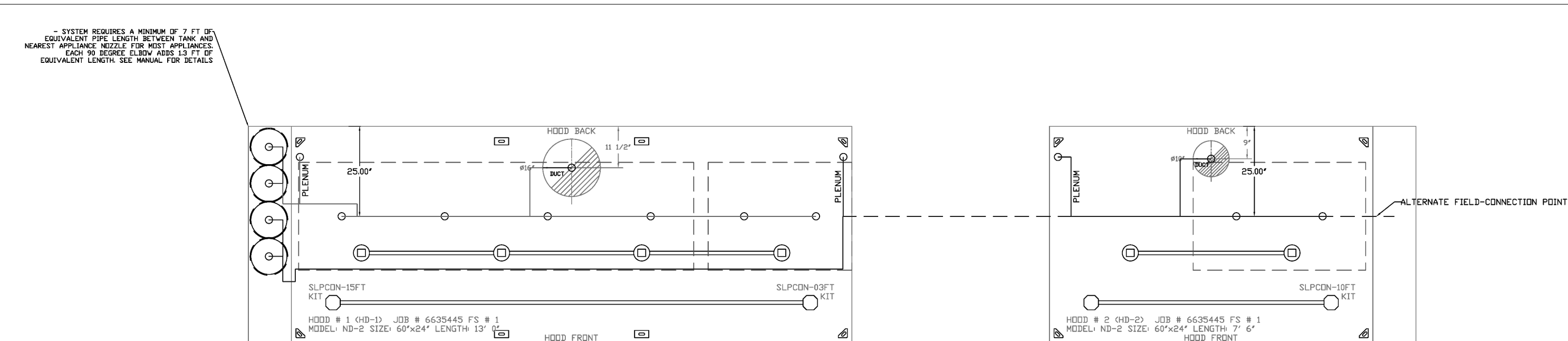


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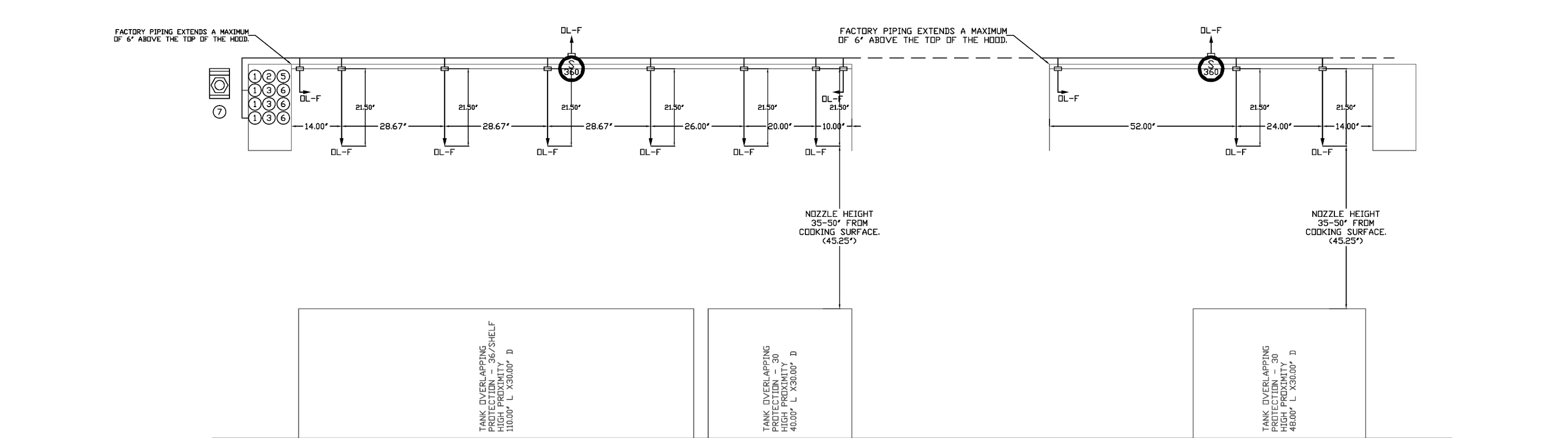
CAPTIVEAIRE DRAWINGS - MECHANICAL

M4.05

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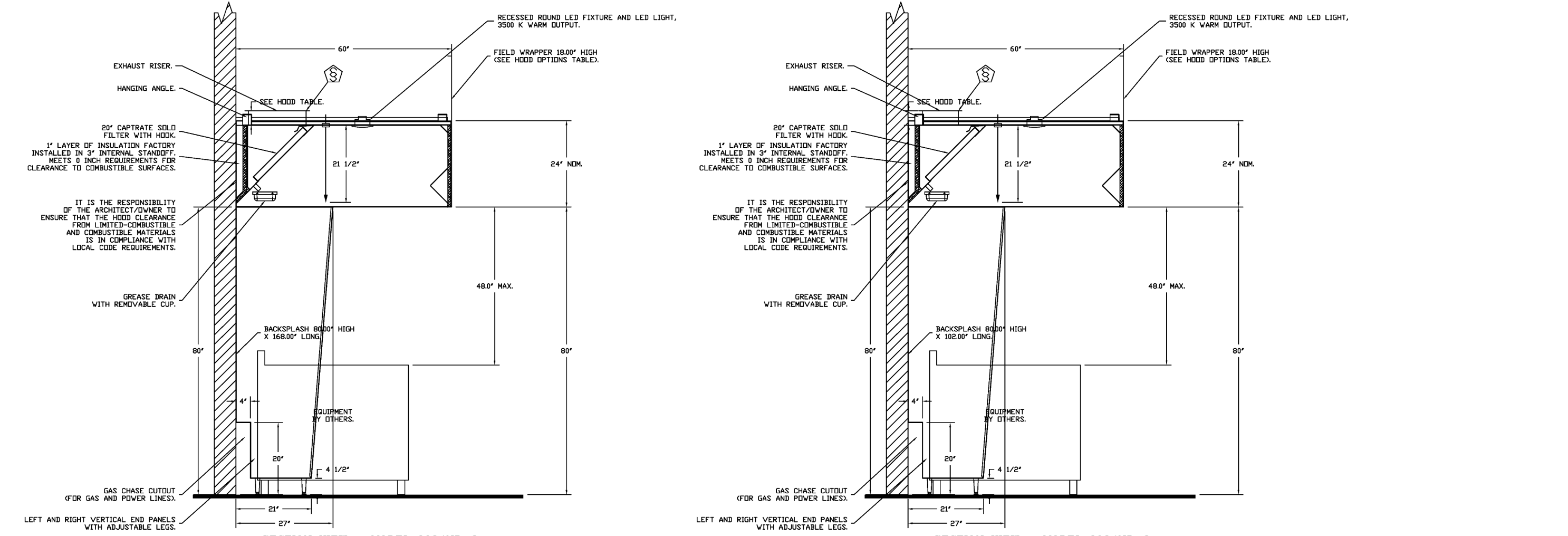
- NOTES**
- FIELD PIPE DROPS AS SHOWN
 - PIPING, ELBOWS, TEES AND NOZZLES SUPPLIED BY GAS
 - FIELD INSTALLED DROP; FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME
 - PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED
 - SHIP LOOSE DROP; FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED
 - SHIPPED LOOSE TO BE FIELD-INSTALLED
 - RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
 - OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION
 - IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE
 - FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.
 - APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.
 - THIS FIRE SYSTEM COMPLIES WITH UL 300 REQUIREMENTS.
 - DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS
 - JTB # 6635445
 - JTB NAME: BUTTERED BISCUIT THE HEIGHTS FULL PACKAGE.



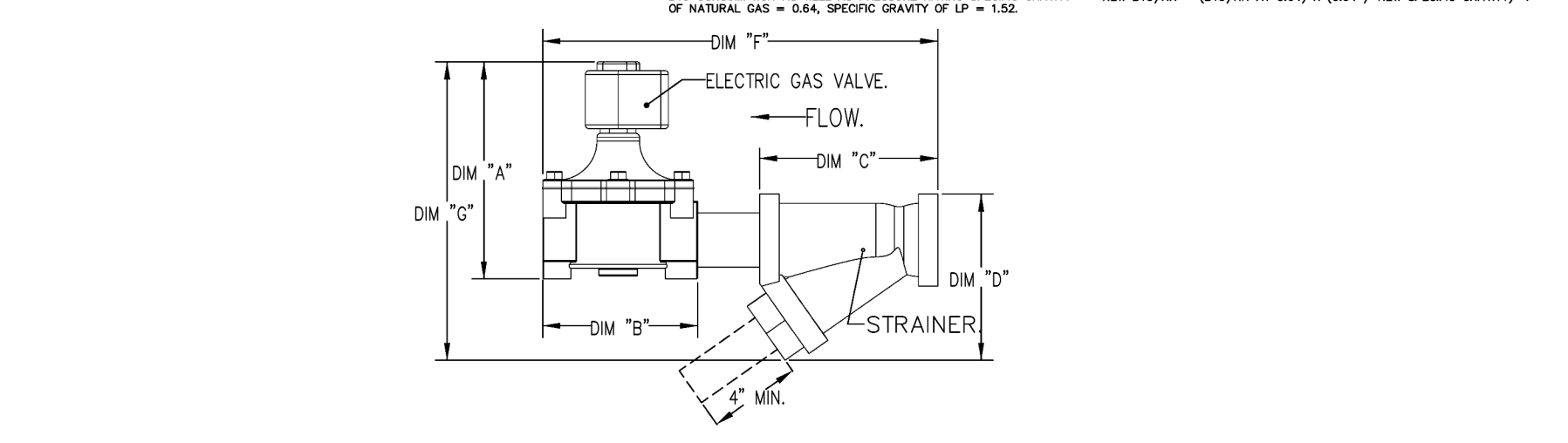
- SYSTEM SIZE: TANK-SP-4 DESIGN FP: 60, MAXIMUM FP: 80**
- HOOD # 1 13' 00" LONG x 60" WIDE x 24" HIGH
 - RISER # 1 SIZE: 1.5" DIA.
 - HOOD # 2 7' 60" LONG x 60" WIDE x 24" HIGH
 - RISER # 2 SIZE: 1.0" DIA.
 - HOOD # 2 METAL BLOW-OFF CAPS INCLUDED.
 - HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.
 - HOOD # 2 7' 60" LONG x 60" WIDE x 24" HIGH
 - RISER # 1 SIZE: 1.0" DIA.
 - HOOD # 2 METAL BLOW-OFF CAPS INCLUDED.
- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTOP IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.**
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.**

LEGEND - FIRE CABINET TANK SYSTEM

- 4 GALLON TANK
- PRIMARY ACTUATOR RELEASE.
- SECONDARY ACTUATOR RELEASE.
- PRESSURE SUPERVISION SWITCH.
- PRIMARY HOSE ASSEMBLY.
- SECONDARY HOSE ASSEMBLY.
- REMOTE MANUAL ACTUATION DEVICE.



GAS VALVE SIZING		GAS VALVE DIMENSIONS		INSTALLATION		PART NUMBERS												
TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	FLOW AT 1 IN.W.C. DROP BUTANE	ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT							
ELECTRICAL	1"	120 VAC	0.7 PSI (0 IN.W.C.)	9 PSI (1.26 IN.W.C.)	24/33	24/33	24/33	4-15/16"	5-15/16"	4-7/8"	5-3/4"	12-13/16"	10-11/16"	HORIZONTAL / VERTICAL	824500	447900	447900	026300A



ALL GAS VALVES/STRAINERS

PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINER A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER. CUSTOMER MUST VERIFY 80% COMBUSTION AS WELL AS PRESSURE RATING, SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP: NEW BTU/Hr = (BTU/Hr AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP^{0.5}

TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY: NEW BTU/Hr = (BTU/Hr AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)^{0.5}

EXHAUST FAN INFORMATION - JOB#6635445

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	KEF-1	1	DUI80HF4	CAPTIVEAIRE	2470	1.250	1119	ODP,PREMIUM	1.500	1.0780	3	208	6.6	570 FPM	178	12.7
2	KEF-2	1	DUB5HF4	CAPTIVEAIRE	1125	1.000	1140	DDP	0.750	0.2900	3	208	2.6	356 FPM	95	8.1

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CAPTIVEAIRE
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 Charlotte / Triad Mechanical
 ... PHONE: (704) 315-6656 EMAIL: jay.stingleton@captiveaire.com

Buttered Biscuit The Heights FULL PACKAGE
 ALEXANDER, AR, 72002

DATE: 2/22/2024
DWG.#: 6635445
DRAWN BY:
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
6

THE BUTTERED BISCUIT

THE HEIGHTS

5014 KAVANAUGH BLVD.
LITTLE ROCK, AR 72207



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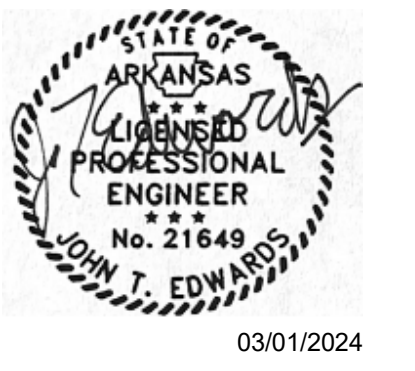
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Buttered Biscuit The Heights FULL PACKAGE
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DOAS/RTU FAN SCHEDULE - JOB#6635445

FAN UNIT NO.	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	ELECTRICAL INFORMATION				COOLING INFORMATION				REHEAT INFORMATION				GAS HEAT INFORMATION				NOTES									
											HP	PHASE	VOLT	NCA	WCCP	OUTSIDE AIR DB	WDB	WB DB	WB	DB	WB DP	TOTAL	SENS	DEER	DISCHARGE DB	WB		CAPACITY DESIRED	MAX	MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTUHS	OUTPUT BTUHS	TEMP RISE	REQUIRED INPUT GAS PRESSURE	
3	DOAS-1	1	CASRTU3-1300-24-01T	CAPTIVEAIRE	RAMF-3-RTU	1000	3000	4000	2738	1000	5.00	3	208	8825A	100A	95.0°F	77.0°F	73.7°F	53.9°F	51.8°F	64.0 MBH	151.3 MBH	182	6.0	70.0°F	61.6°F	72.7 MBH	129.6 MBH	10.4 LBS/HR	NATURAL	2966805	240315	53°F	7 IN. W.C. - 14 IN. W.C.	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16	
4	RTU-1	1	CASRTU2-1250-18-10T	CAPTIVEAIRE	18M-2-RTU	5000	800	4000	2071	0.800	5.00	3	208	672A	80A	95.0°F	77.0°F	75.0°F	65.4°F	53.7°F	53.4°F	143.9 MBH	110.3 MBH	186	4.3	70.0°F	60.6°F	71.8 MBH	96 MBH	29.3 LBS/HR	NATURAL	212994	172525	40°F	7 IN. W.C. - 14 IN. W.C.	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17

NOTES:

1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL.
2. DIRECT DRIVE FURNACE BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE.
3. INTEGRATED MONITORING WITH CELLULAR CONNECTION BY MANUFACTURER.
4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE.
5. ECM MOTOR CONDENSING FANS.
6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE.
7. SECTION LINE ACCELERATOR.
8. FACTORY COMPRESSION WITH 5 YEAR PARTS WARRANTY. 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT).
10. 2" EXTERIOR BULK-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM SOGA EXTERIOR W/ 1/4GA BASE.
11. 10% EFFICIENT FURNACE WITH MODULATING INDICATOR TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 64 TURNDOWN WITH NG AND 51 TURNDOWN WITH LP.
12. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE.
13. FULLY INSULATING HOT GAS RETURN.
14. HALL GUARD FOR CONDENSING COIL.
15. RTU ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL.
16. DOWN DISCHARGE/DOWN RETURN.
17. BAROMETRIC RELIEF DAMPER.

FAN OPTIONS

FAN UNIT NO.	TAG	QTY	DESCRIPTION
1	KEF-1	1	GREASE BOX
1	KEF-1	1	EXHAUST FAN HEAT BAFFLE
1	KEF-1	1	5 YEAR PARTS WARRANTY
2	KEF-2	1	GREASE BOX
2	KEF-2	1	5 YEAR PARTS WARRANTY
3	DOAS-1	1	INLET PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
3	DOAS-1	1	RTU TOTAL CFM MONITORING
3	DOAS-1	1	INTAKE FIRESTAT SET TO 135°F
3	DOAS-1	1	FREESTAT
3	DOAS-1	1	DISCHARGE FIRESTAT SET TO 240°F
3	DOAS-1	1	SNIP LOOSE GAS STRAINER 3/4"
3	DOAS-1	1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
3	DOAS-1	1	RTU DOWN DISCHARGE
3	DOAS-1	1	2" MERV 8 FILTERS FOR RTU (QTY. 4)
3	DOAS-1	1	2" MERV 8 FILTERS FOR RTU (QTY. 4)
3	DOAS-1	1	OVERHEAT STAT
3	DOAS-1	1	REMOTE TEMPERATURE AND HUMIDITY SPACE SENSOR
3	DOAS-1	1	RTU CURB SILENT HANGER
3	DOAS-1	1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
3	DOAS-1	1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI
3	DOAS-1	1	RTU CONVENIENCE OUTLET (GFCD), 15 AMP - REQUIRES SEPARATE 120V CONNECTION. INCLUDES RECEPTACLE, COVER AND J-BOX
3	DOAS-1	1	20 TON MODULATING COOLING OPTION, 208/230V, R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
3	DOAS-1	1	20 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL
3	DOAS-1	1	RTU ECONOMIZER - DIFFERENTIAL ENTHALPY CONTROL
3	DOAS-1	1	RTU INTAKE/RETURN DAMPER - MANUAL CONTROL VIA HMI
3	DOAS-1	1	RTU HALL GUARD
3	DOAS-1	1	RTU DOWN RETURN
3	DOAS-1	1	OCCUPIED SCHEDULING
3	DOAS-1	1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU 750VA TRANSFORMER USED IF A NON-DCV PREWIRE CONTROLS THIS UNIT. THE #30, #47, #48, OR #52 PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE.
3	DOAS-1	1	UNIT MOUNTED VFD CONFIGURED FOR DCV
3	DOAS-1	1	120V FIRE INPUT
3	DOAS-1	1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)
3	DOAS-1	1	INLET PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
3	DOAS-1	1	RTU TOTAL CFM MONITORING
3	DOAS-1	1	INTAKE FIRESTAT SET TO 135°F
3	DOAS-1	1	FREESTAT
3	DOAS-1	1	DISCHARGE FIRESTAT SET TO 240°F
3	DOAS-1	1	SNIP LOOSE GAS STRAINER 3/4"
3	DOAS-1	1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
3	DOAS-1	1	RTU DOWN DISCHARGE
3	DOAS-1	1	2" MERV 8 FILTERS FOR RTU (QTY. 4)
3	DOAS-1	1	OVERHEAT STAT
3	DOAS-1	1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE
3	DOAS-1	1	RTU CURB SILENT HANGER
3	DOAS-1	1	OCCUPIED SCHEDULING
3	DOAS-1	1	RTU RETURN MOUNTED SMOKE DETECTOR AND SAMPLING TUBE - FACTORY INSTALLED
3	DOAS-1	1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI
3	DOAS-1	1	RTU CONVENIENCE OUTLET (GFCD), 15 AMP - REQUIRES SEPARATE 120V CONNECTION. INCLUDES RECEPTACLE, COVER AND J-BOX
3	DOAS-1	1	10 TON MODULATING COOLING OPTION, 208/230V, R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
3	DOAS-1	1	10 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL
3	DOAS-1	1	RTU ECONOMIZER - DIFFERENTIAL ENTHALPY CONTROL
3	DOAS-1	1	RTU ECONOMIZER BAROMETRIC RELIEF
3	DOAS-1	1	RTU INTAKE/RETURN DAMPER - MANUAL CONTROL VIA HMI
3	DOAS-1	1	RTU HALL GUARD
3	DOAS-1	1	RTU DOWN RETURN
3	DOAS-1	1	VAV PACKAGE W/ MANUAL/DDC CONTROL (571 VFD INCLUDED)
3	DOAS-1	1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)

FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST	SUPPLY
1	KEF-1	YES	NO
2	KEF-2	YES	NO

CURB ASSEMBLIES

NO.	DOAS/RTU	TAG	WEIGHT	ITEM	SIZE
1	1	KEF-1	43 LBS	CURB	26.500"W X 26.500"D X 20.000"H VENTED HINGED.
2	2	KEF-2	36 LBS	CURB	23.000"W X 23.000"D X 20.000"H VENTED HINGED.
3	3	DOAS-1	104 LBS	CURB	59.500"W X 91.000"D X 14.000"H INSULATED.
4	4	RTU-1	90 LBS	CURB	49.500"W X 75.000"D X 14.000"H INSULATED.

HMI SCHEDULE

UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #3	HMI #1 - UNIT #1	MOUNTED IN UNIT	NOT AVERAGED	55
FAN #3	HMI #2 - SPACE	HMI #1	AVERAGED	56
FAN #4	HMI #1 - UNIT #1	MOUNTED IN UNIT	NOT AVERAGED	55
FAN #4	HMI #2 - SPACE	HMI #1	AVERAGED	56

FEATURES:

- DIRECT DRIVE CONSTRUCTION AND BELTS/PULLEYS
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- ALU-30 AND UL-30 AND UL-30-45
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION (SHUT OFF)
- GREASE CLASSIFICATION TESTING
- NEW 36 SAFETY DISCONNECT SWITCH

MINIMAL TEMPERATURE TEST
CONSTANT FAN MUST OPERATE CONTINUOUSLY WHILE EMITTING BURNING GREASE VAPORS AT 50°F (50°F) FOR A PERIOD OF 30 MINUTES WITHOUT THE FAN RECORDING SHUTDOWN TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

ABNORMAL FLAG-UP TEST
CONSTANT FAN MUST OPERATE CONTINUOUSLY WHILE EMITTING BURNING GREASE VAPORS AT 50°F (50°F) FOR A PERIOD OF 30 MINUTES WITHOUT THE FAN RECORDING SHUTDOWN TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

SETTING:

- GREASE BOX
- EXHAUST FAN HEAT BAFFLE
- 5 YEAR PARTS WARRANTY.

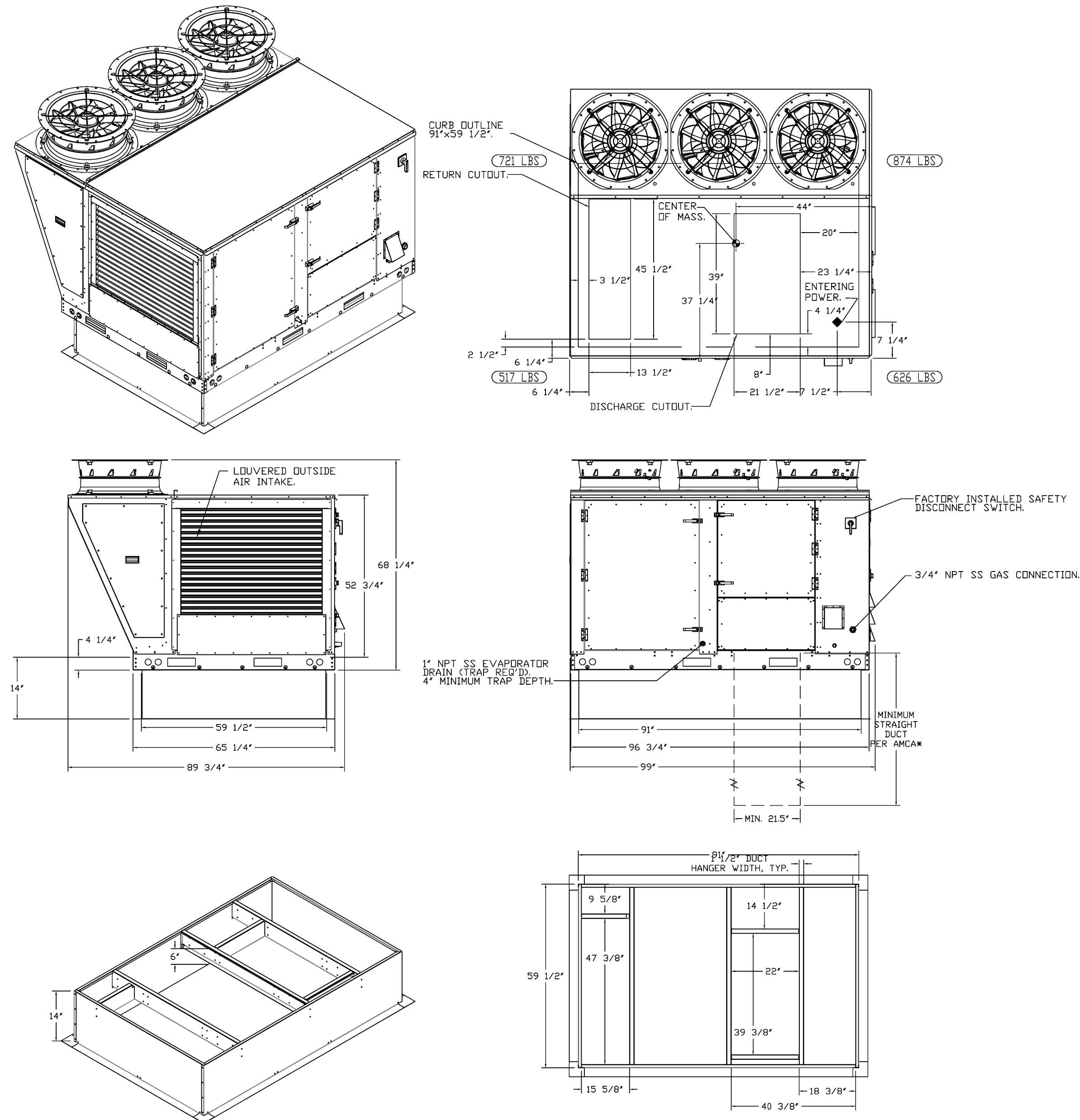
TOP VIEW

FAN #3 CASRTU3-1.300-24MF-20T - HEATER (DDAS-1)

NOTES:

- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
- ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.
- CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.

*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 21.5" x 39".



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Buttered Biscuit The Heights FULL PACKAGE
ALEXANDER, AR, 72002

DATE: 2/22/2024
DWG.#: 6635445
DRAWN BY:
SCALE: 1/2" = 1'-0"
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
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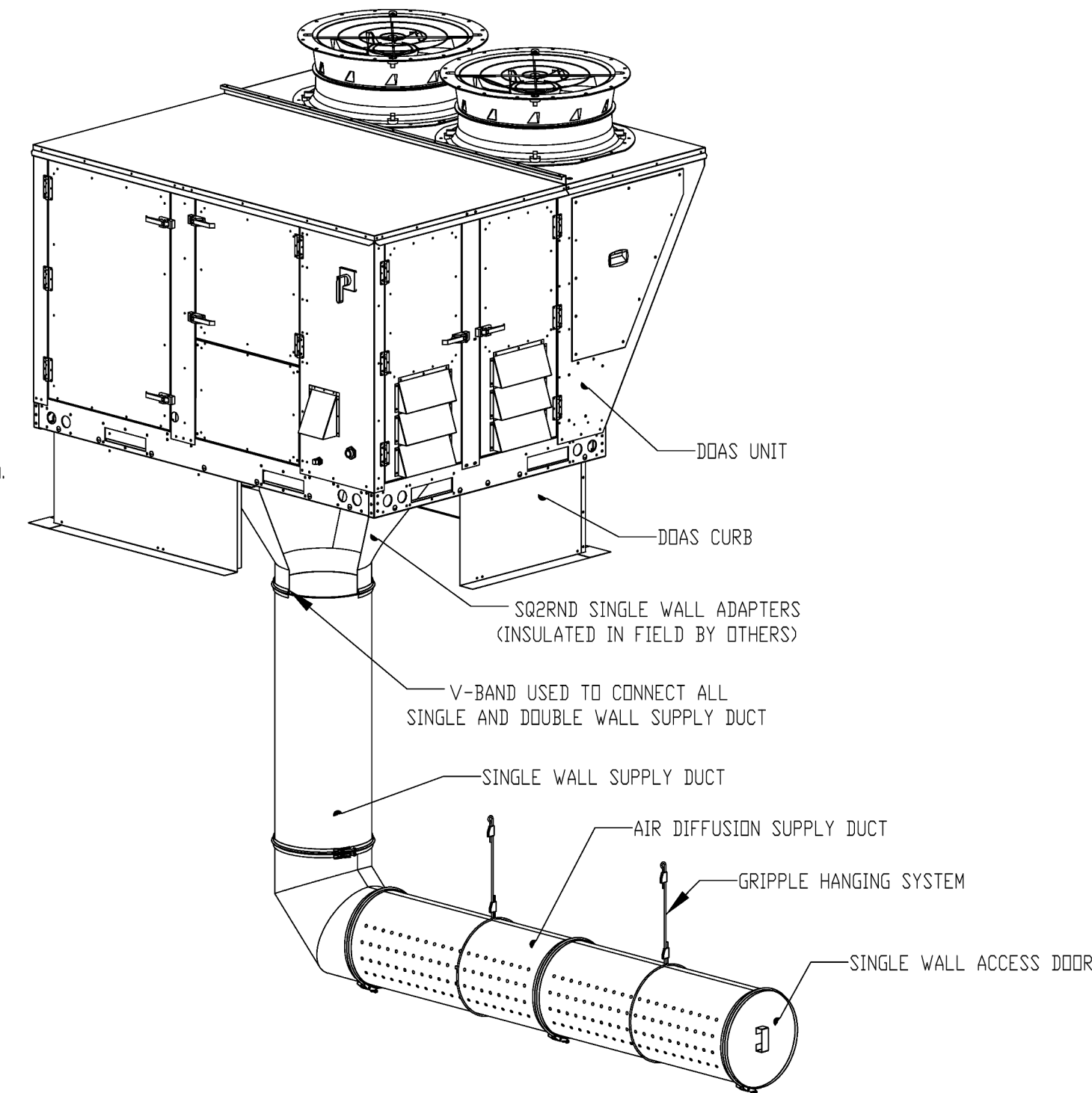
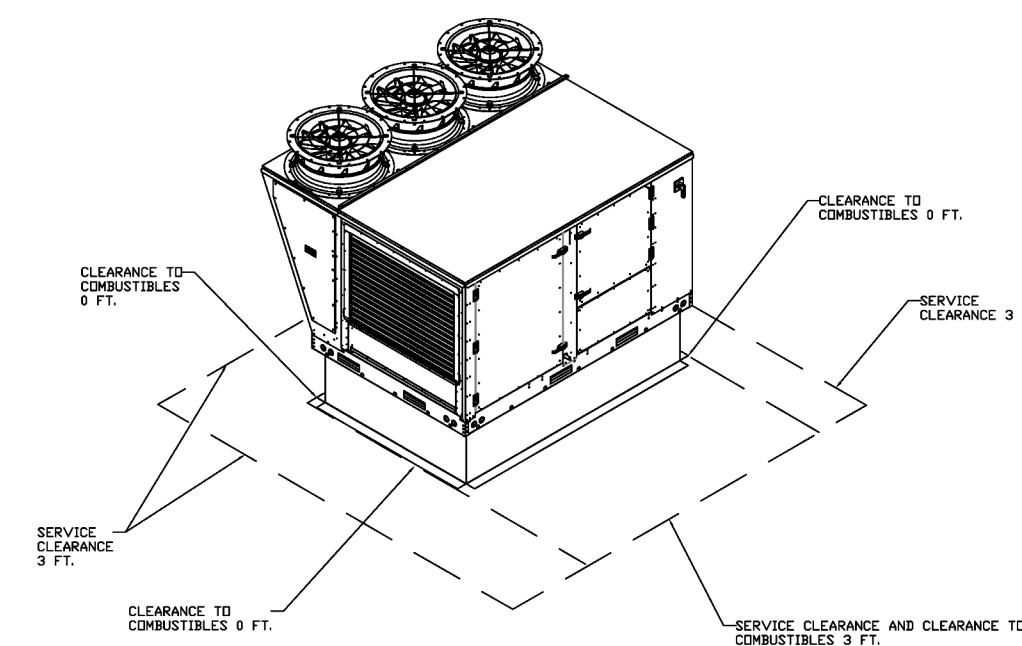
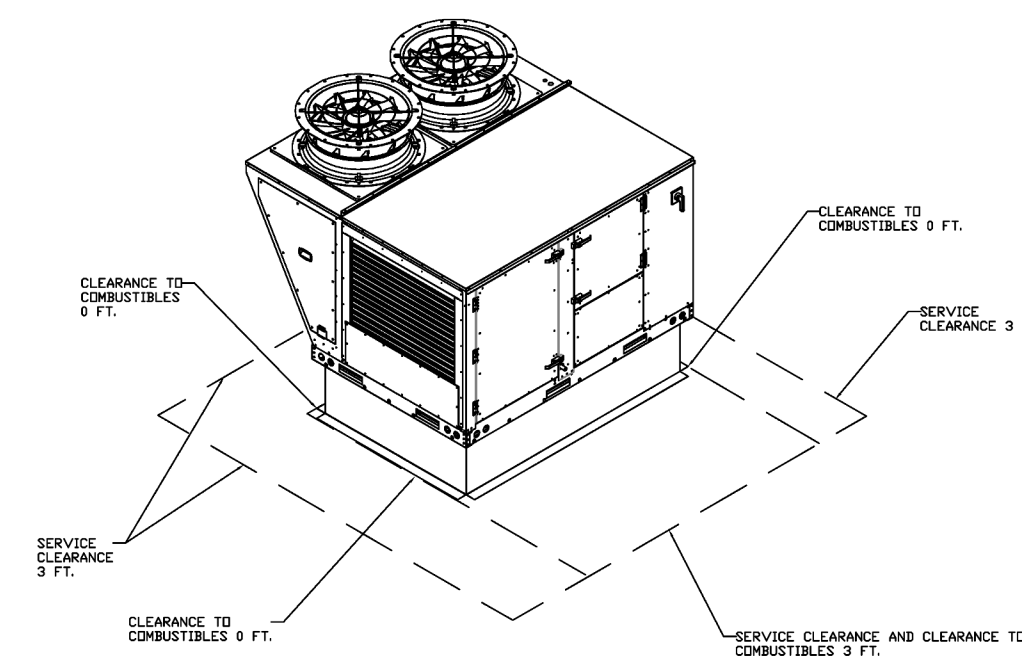
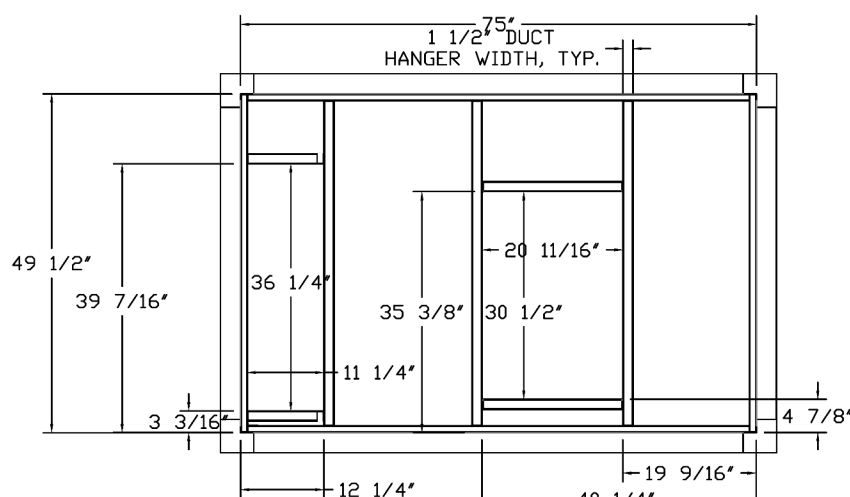
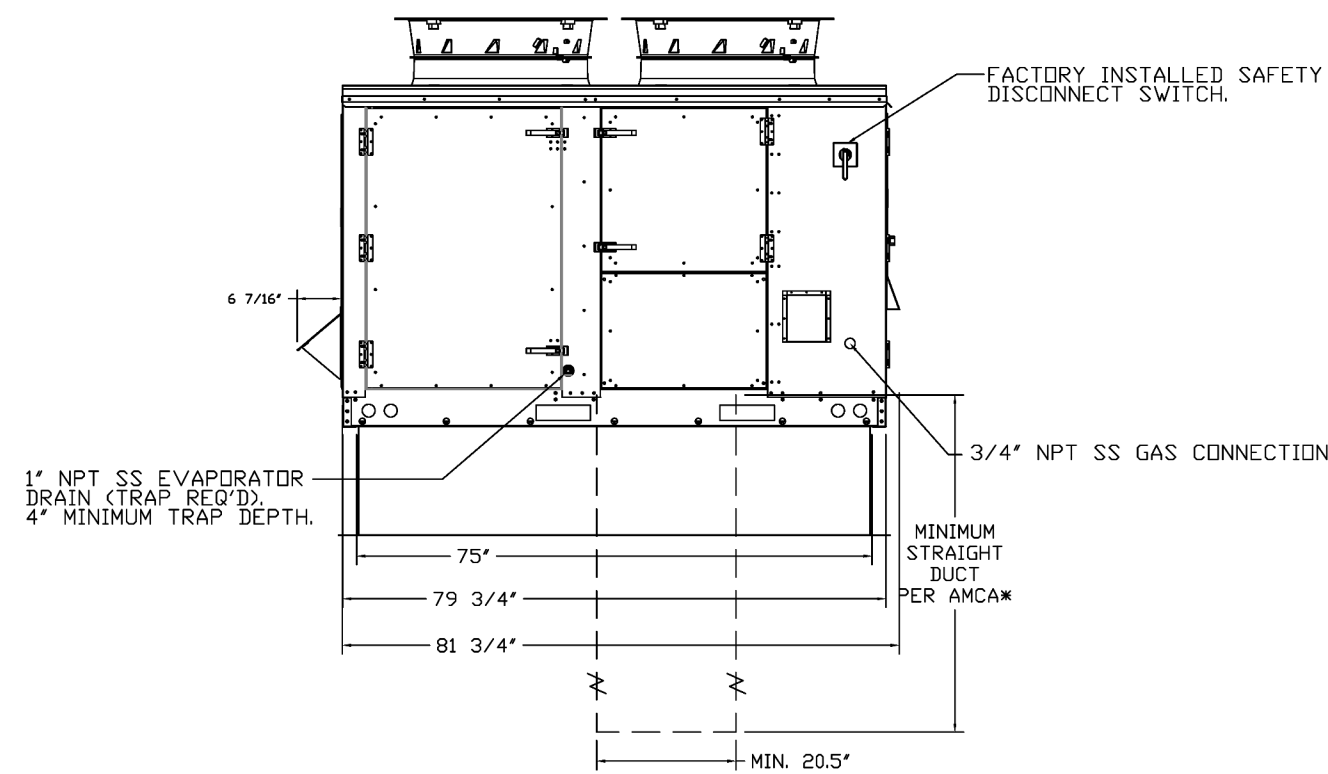
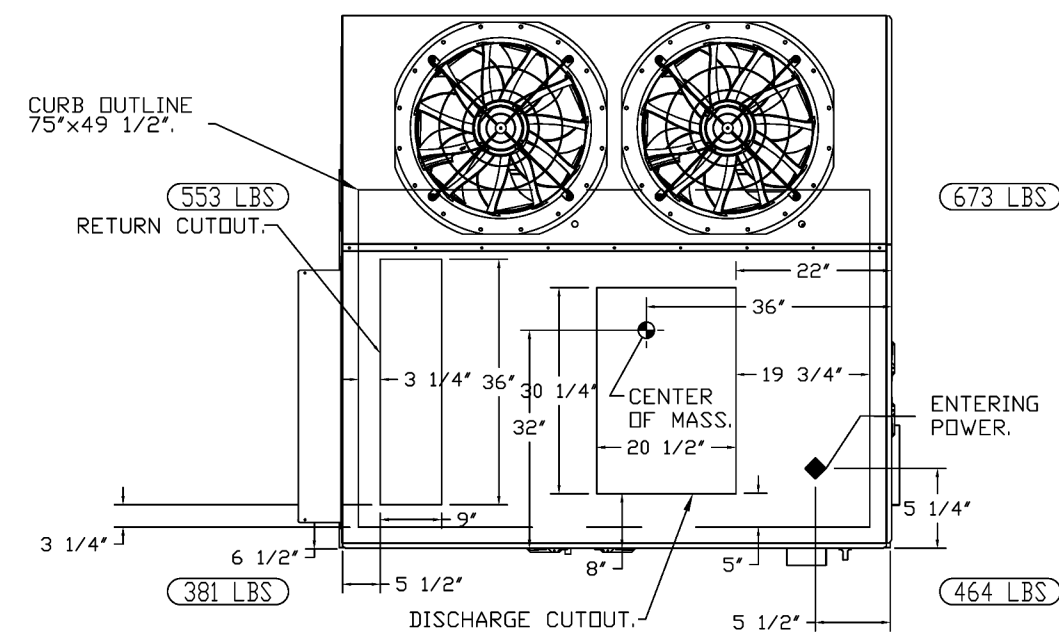
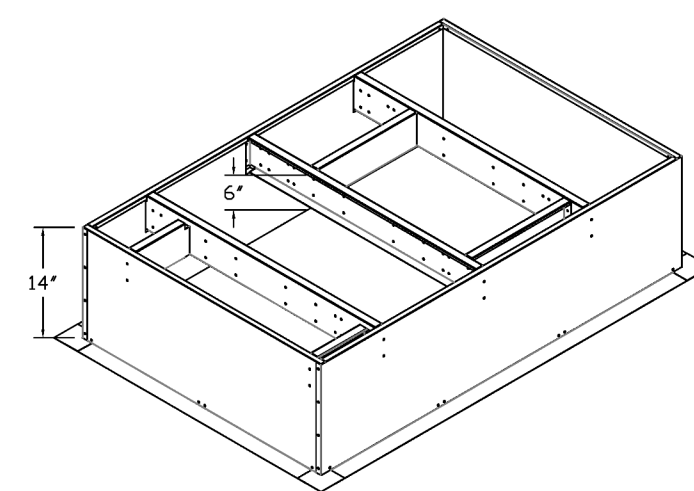
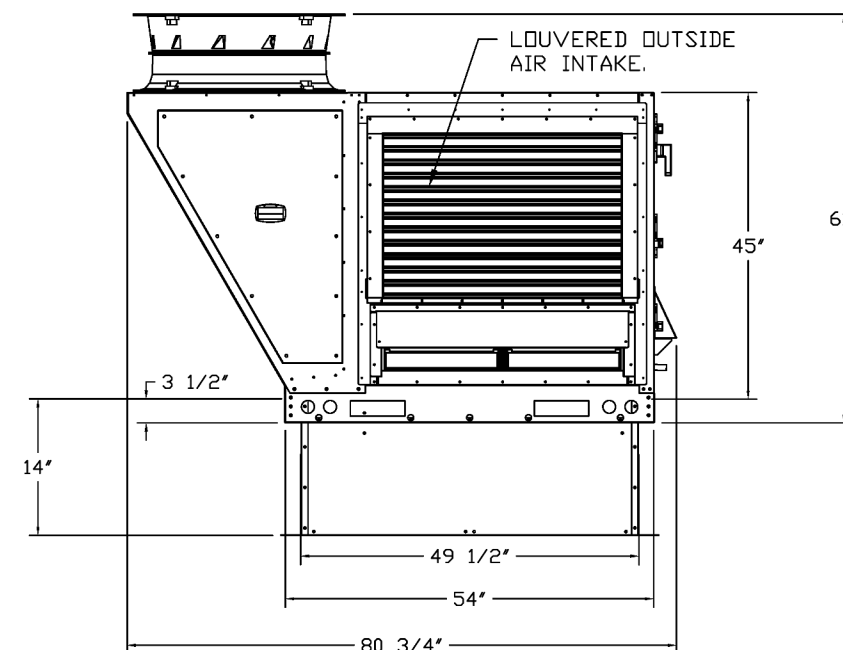
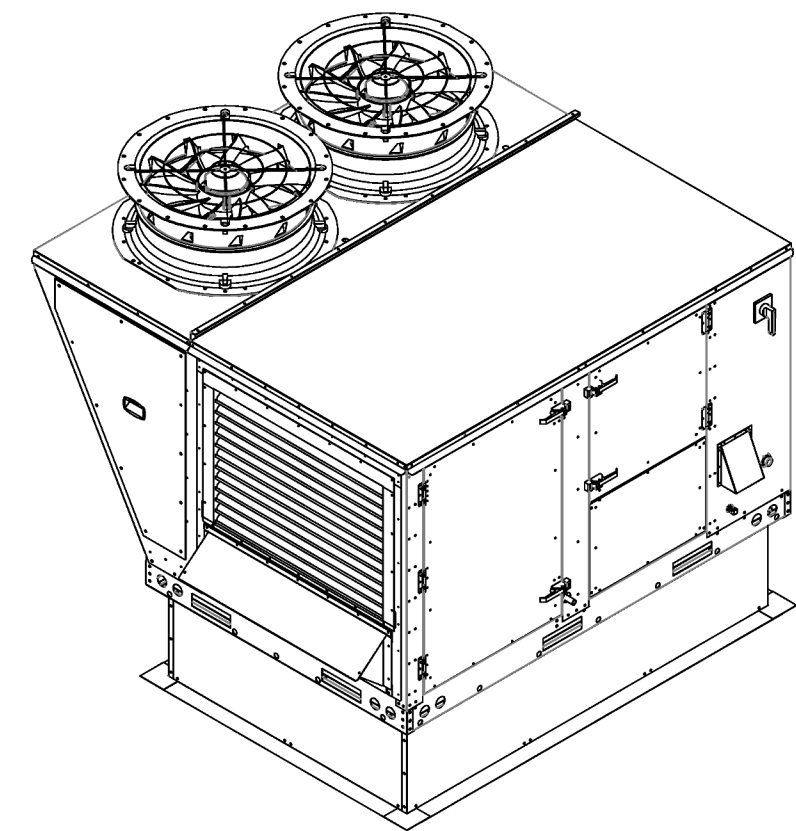
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FAN #4 CASRTU2-1250-18MF-10T - HEATER (RTU-1)

NOTES:

- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
-  DENOTES CORNER WEIGHT.
- ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.
- CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.

*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 20.5" x 30.25".



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DESCRIPTION	DATE

CAPTIVEAIRE



Charlotte / Triad Mechanical
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Buttered Biscuit The Heights FULL PACKAGE
ALEXANDER, AR, 72002

DATE: 2/22/2024
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DRAWN BY:
SCALE: 1/2" = 1'-0"
MASTER DRAWING

SHEET NO.
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THE BUTTERED BISCUIT

THE HEIGHTS

5014 KAVANAUGH BLVD.
LITTLE ROCK, AR 72207



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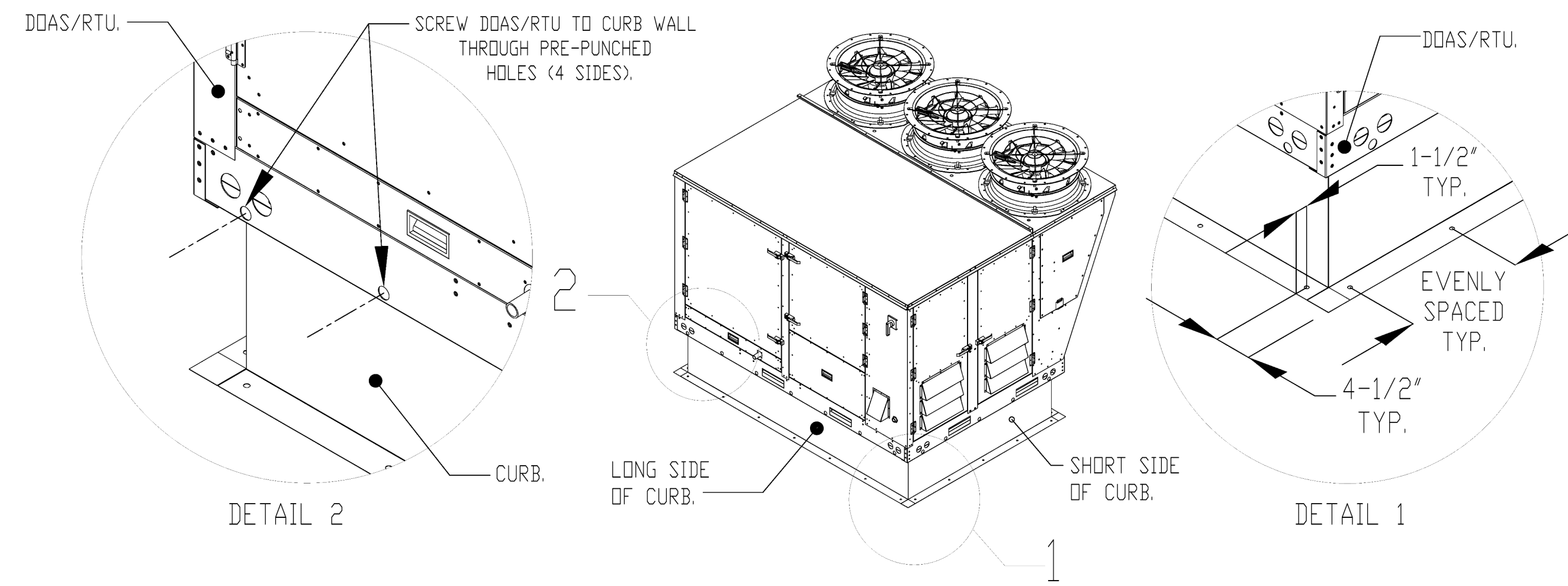
AIR DIFFUSION SUPPLY DUCT SPECIFICATIONS:
 PROVIDE AIR DIFFUSION SUPPLY DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL DW-S0(HC), DW-S90(HC), & DW-S180(HC).
 THREE DISTINCT HOLE PATTERN OPTIONS TO COVER A VARIETY OF CEILING HEIGHTS.
 NO ADDITIONAL DIFFUSERS REQUIRED, AS THE DUCT ITSELF PROVIDES AIR DIFFUSION.
 MADE OF HIGH QUALITY STAINLESS STEEL DESIGNED TO LAST 20+ YEARS.
 HIGH INDUCTION SUPPLY DUCT IS CONSTRUCTED USING 24 GAUGE, 430 SS - 5" THRU 24".
 HIGH INDUCTION SUPPLY DUCT IS CONSTRUCTED USING 20 GAUGE, 430 SS - 26" THRU 36".
 QUICK ONSITE ASSEMBLY USING EPDM GASKETS & UNIVERSAL V-BANDS.
 DOUBLE WALL SUPPLY DUCT AVAILABLE FOR INTERIOR AND EXTERIOR SPACES, EITHER CONDITIONED OR UNCONDITIONED.
 DOUBLE WALL SUPPLY DUCT AVAILABLE IN DW-1S, DW-2S, & DW-3S TO MEET SPECIFIC REGIONAL "R" VALUE REQUIREMENTS.

Insulation R-Value Recommendations		
Supply Duct Type	Minimum R-value	Space Type
Single Wall - S & -HC	N/A	Conditioned Space Only
Double Wall - 1S	R-4	Unconditioned Interior Space Only
Double Wall - 2S	R-8	Unconditioned Space Climate Zones 1-4
Double Wall - 3S	R-12	Unconditioned Space Climate Zones 5-8

DOUBLE WALL SUPPLY DUCT IS INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.
 AIR DIFFUSION SUPPLY DUCT COMPLIES WITH SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS) BEST PRACTICES.
 POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTION TO DISCHARGE, SEE NFPA 13, TABLE 8.12.5.1.1.

TYPICAL DOAS/RTU ROOF MOUNTING INSTALLATION INSTRUCTIONS

1. SECURE THE CURB TO THE ROOF FRAMING MEMBERS BY DRILLING 1/4" PILOT HOLES IN THE CURB FLANGES AT LOCATIONS SHOWN IN THE DIAGRAM BELOW. USING 3/8" X 2" ZINC PLATED STEEL LAG BOLTS, AND ZINC PLATED WASHERS, SCREW THROUGH THE CURB FLANGES AND INTO THE ROOF FRAMING MEMBERS. A MINIMUM OF (5) LAG BOLTS ON EACH SHORT SIDE, AND (7) LAG BOLTS ON EACH LONG SIDE IS REQUIRED.
2. SECURE THE UNIT BASE TO THE SIDE WALLS OF THE CURB USING (24) 1/4"-14 X 2" SELF-DRILLING, STEEL ZINC PLATED SCREWS. PRE-PUNCHED HOLES HAVE BEEN PROVIDED FOR EACH SCREW LOCATION.



REVISIONS	
DESCRIPTION	DATE

CAPTIVEAIRE

Charlotte / Triad Mechanical
 www.captiveaire.com
 PHONE: (704) 315-6656 EMAIL: jay.stingel@captivaire.com

Buttered Biscuit The Heights FULL PACKAGE
 ALEXANDER, AR, 72002

DATE: 2/22/2024
 DWG.#: 6635445
 DRAWN BY:
 SCALE: 3/4" = 1'-0"
 MASTER DRAWING

SHEET NO.
 10



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 3540 Toringdon Way, Suite 210
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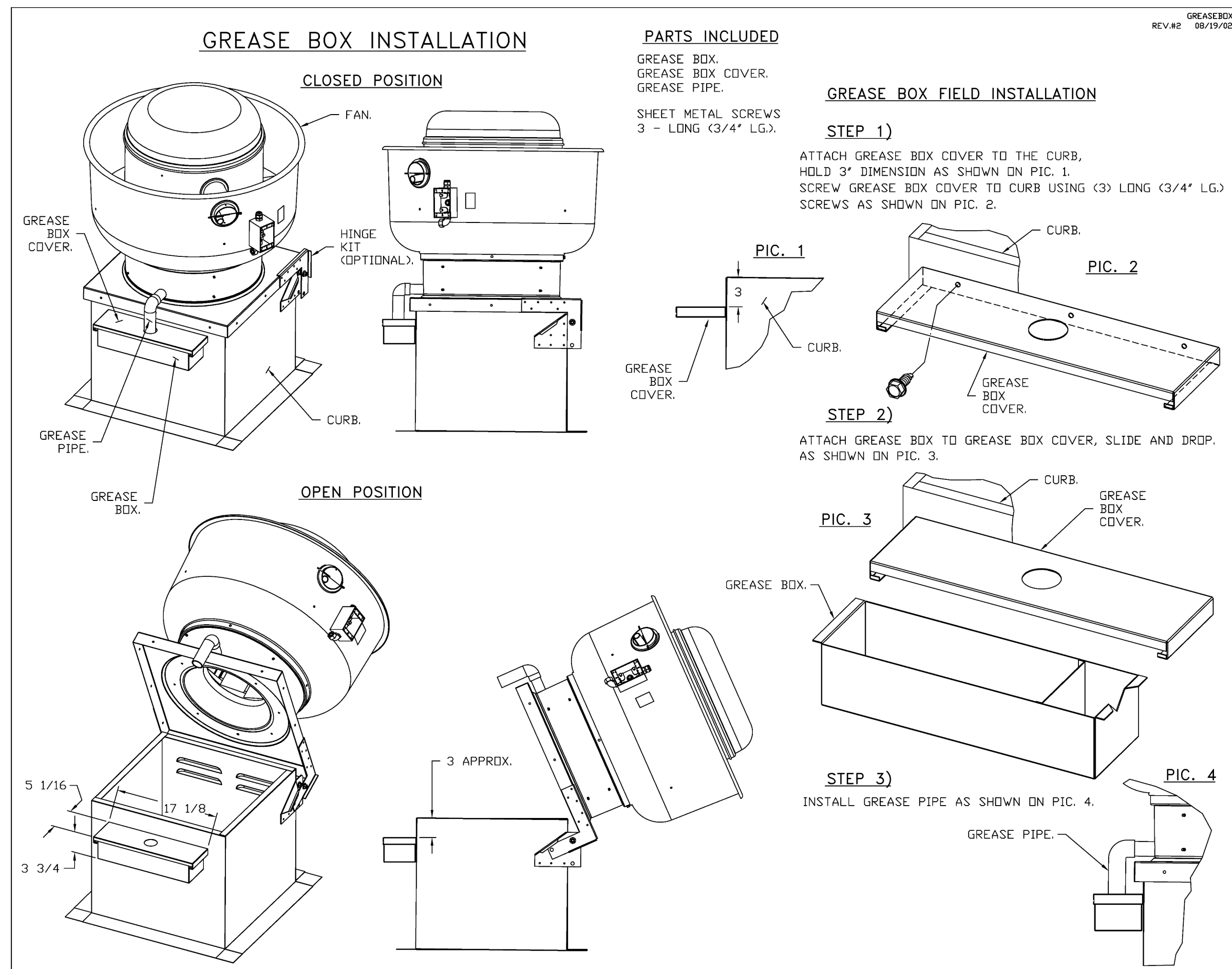
M4.11

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED	<input type="checkbox"/>
APPROVED WITH NO EXCEPTION TAKEN	<input type="checkbox"/>
REVISE AND RESUBMIT	<input type="checkbox"/>
SIGNATURE _____	
YOUR TITLE _____	DATE _____



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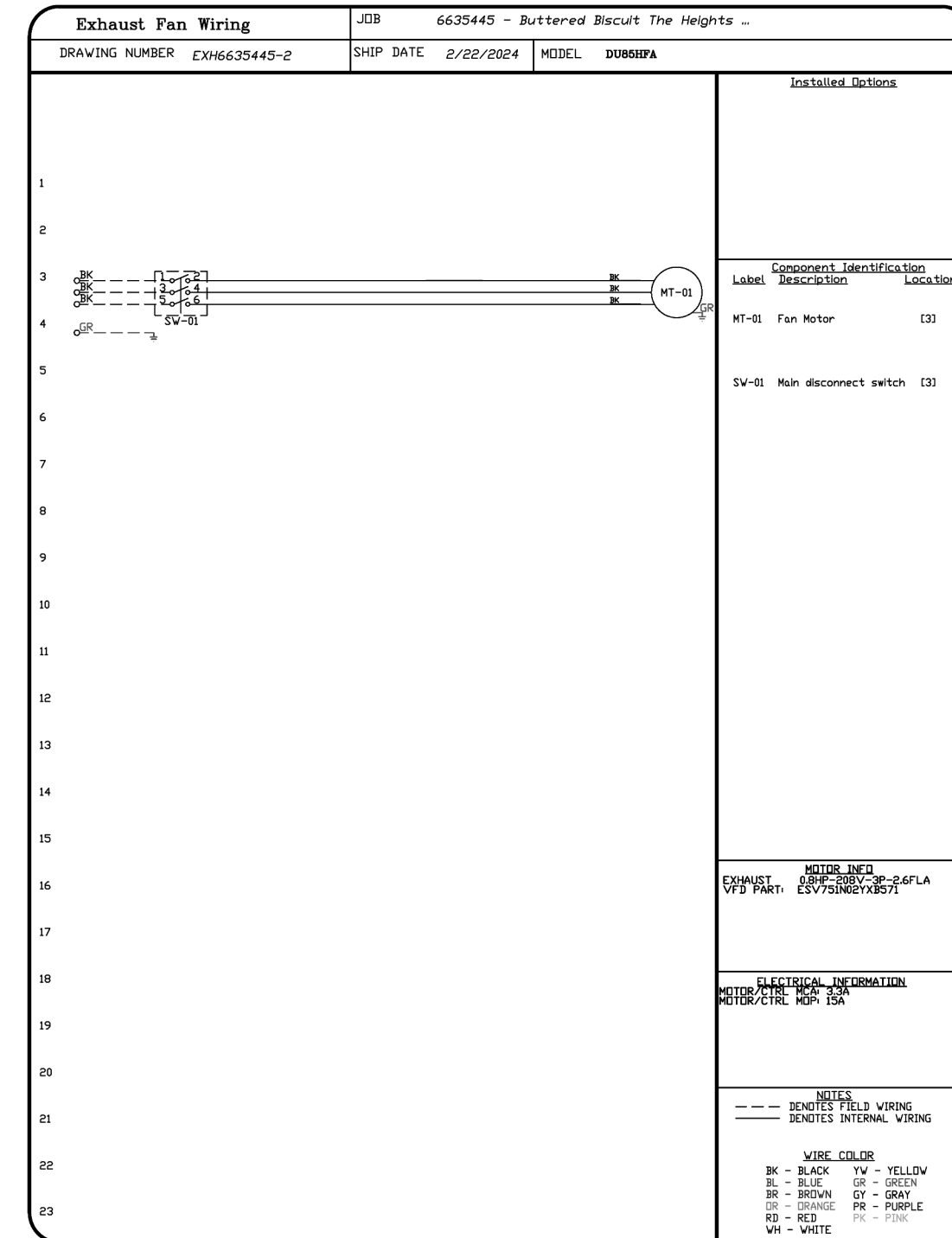
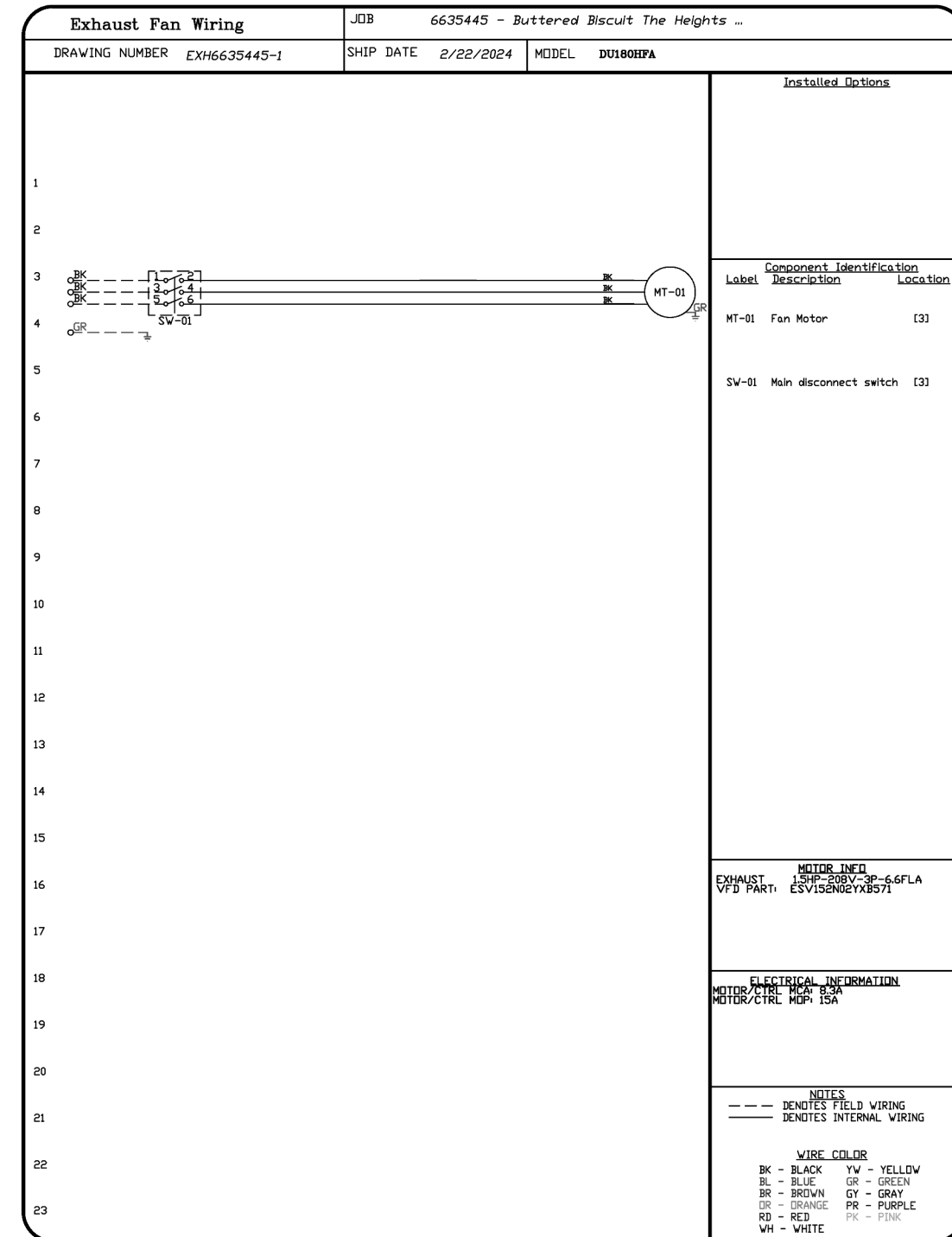
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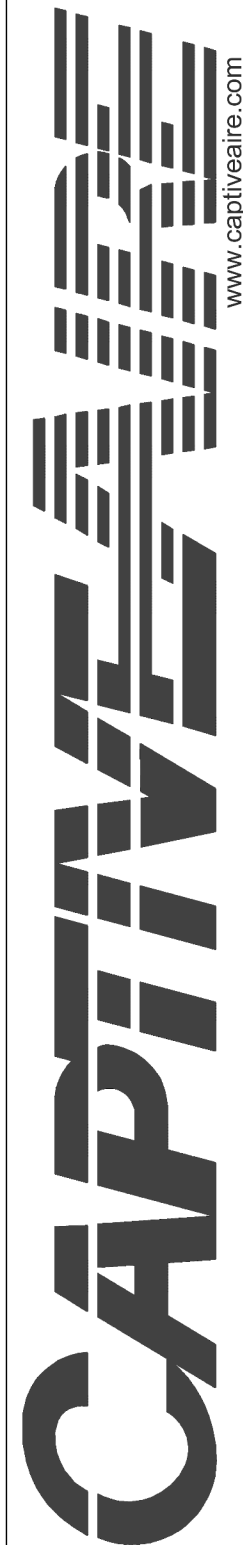
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CAPTIVE MECHANICAL

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 12

THE BUTTERED BISCUIT

THE HEIGHTS

5014 KAVANAUGH BLVD.
LITTLE ROCK, AR 72207



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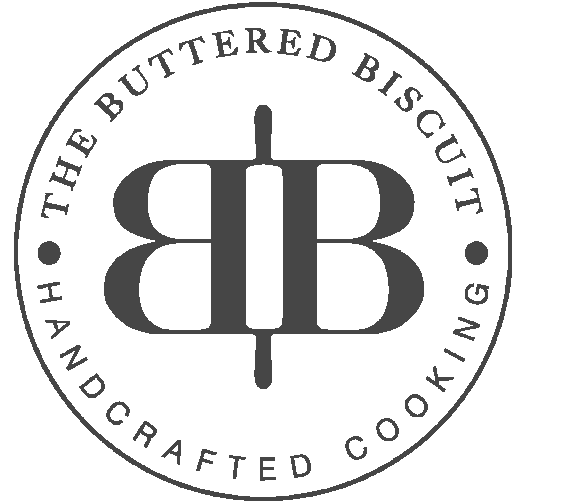
designers

job status

revisions

seal

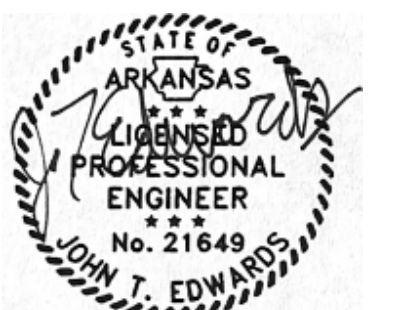
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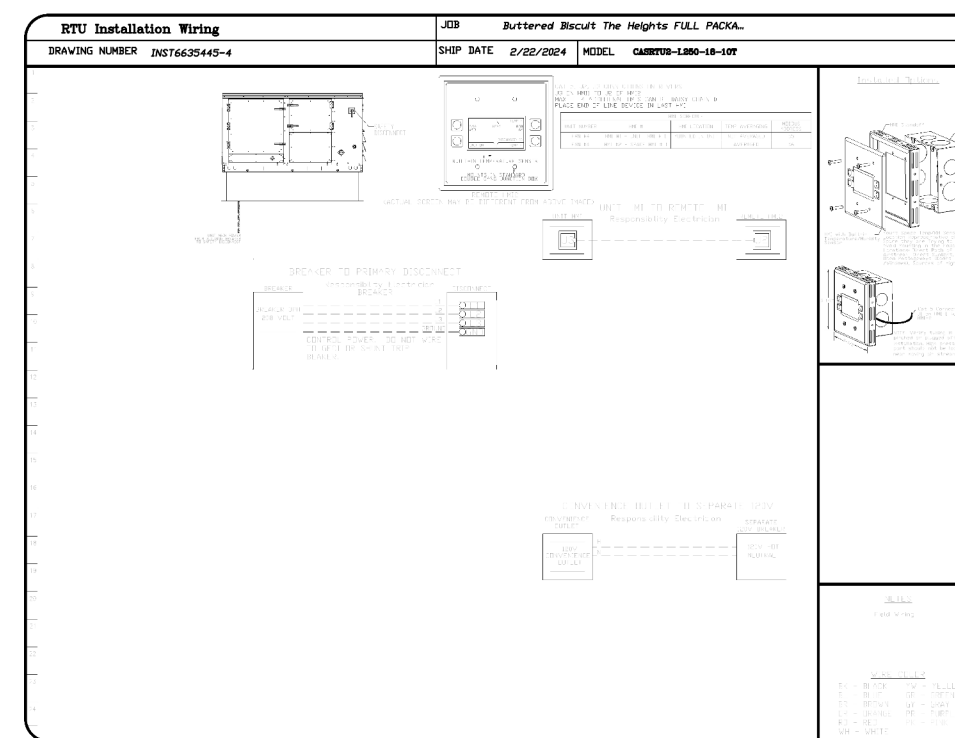
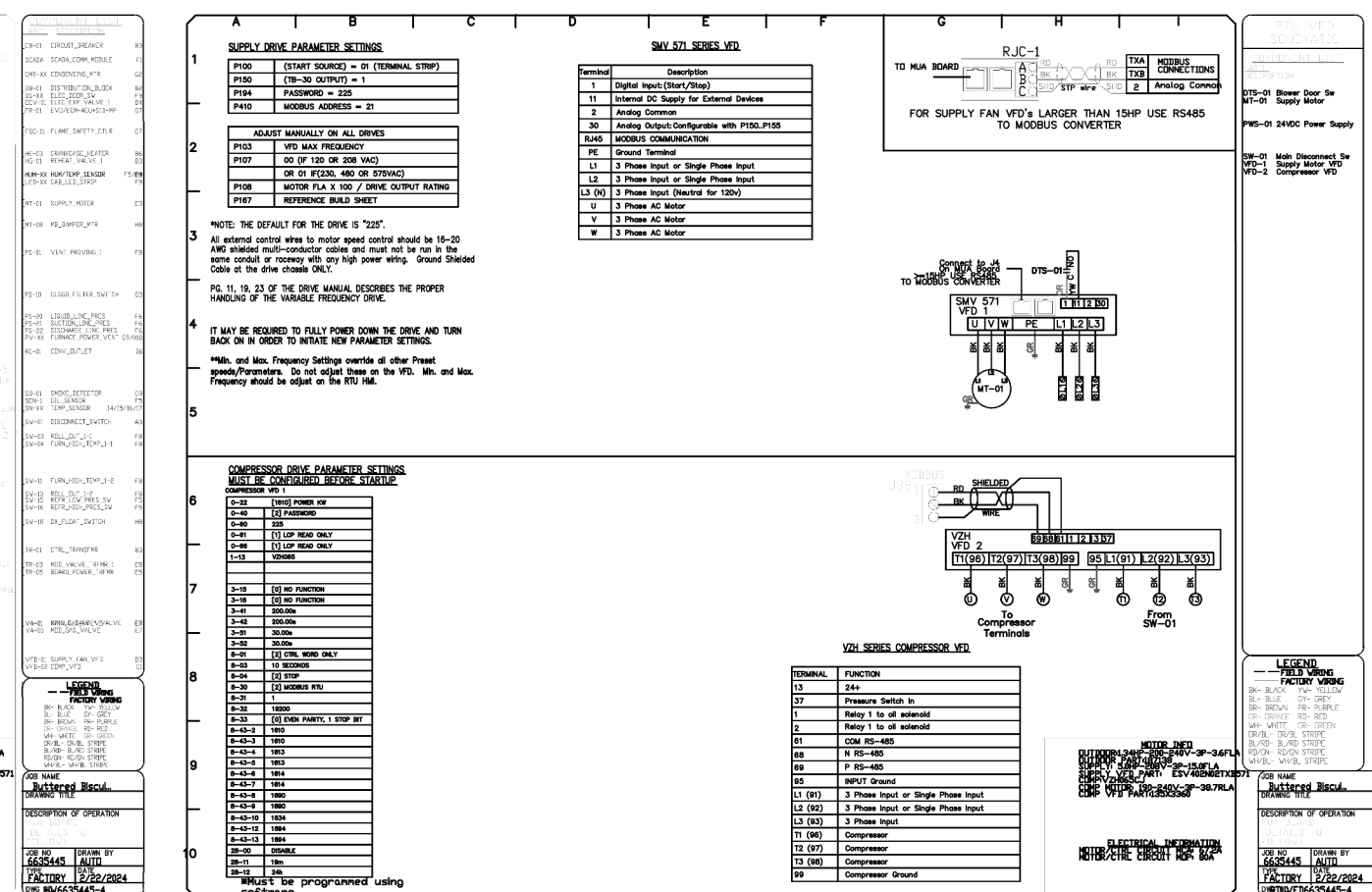
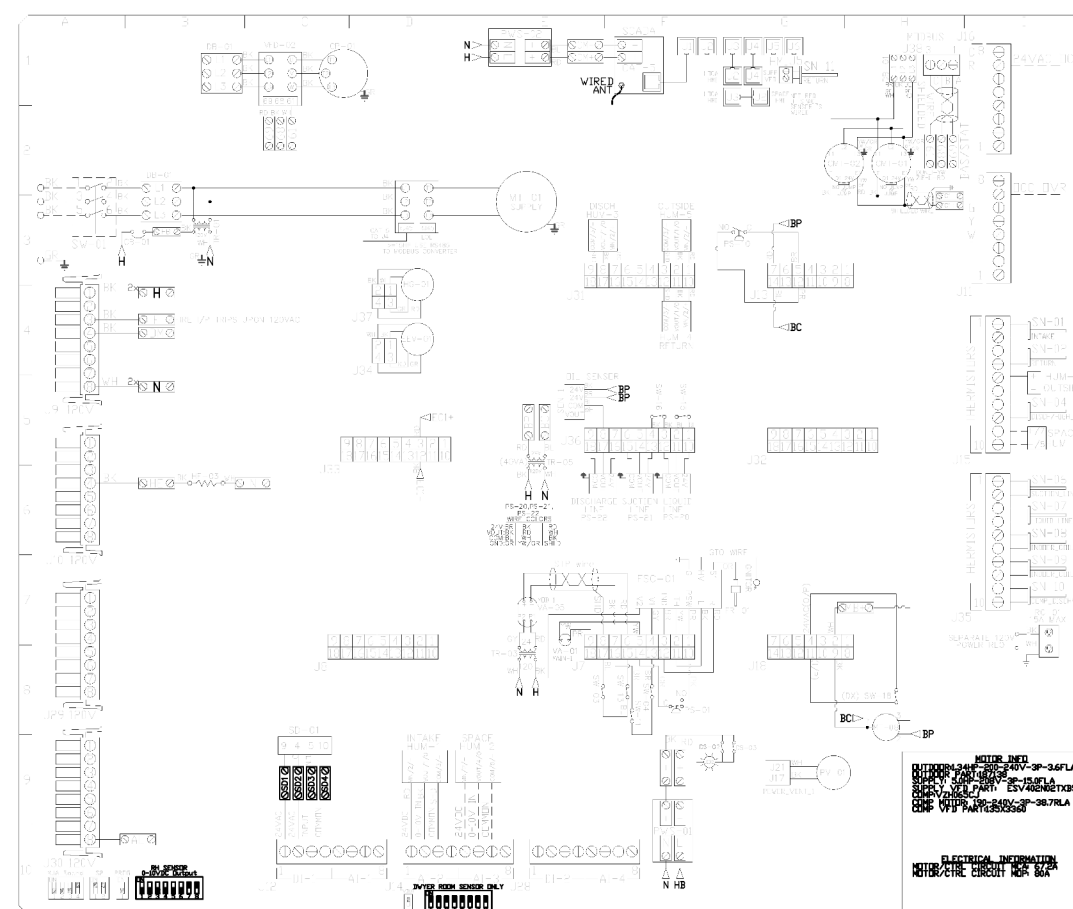
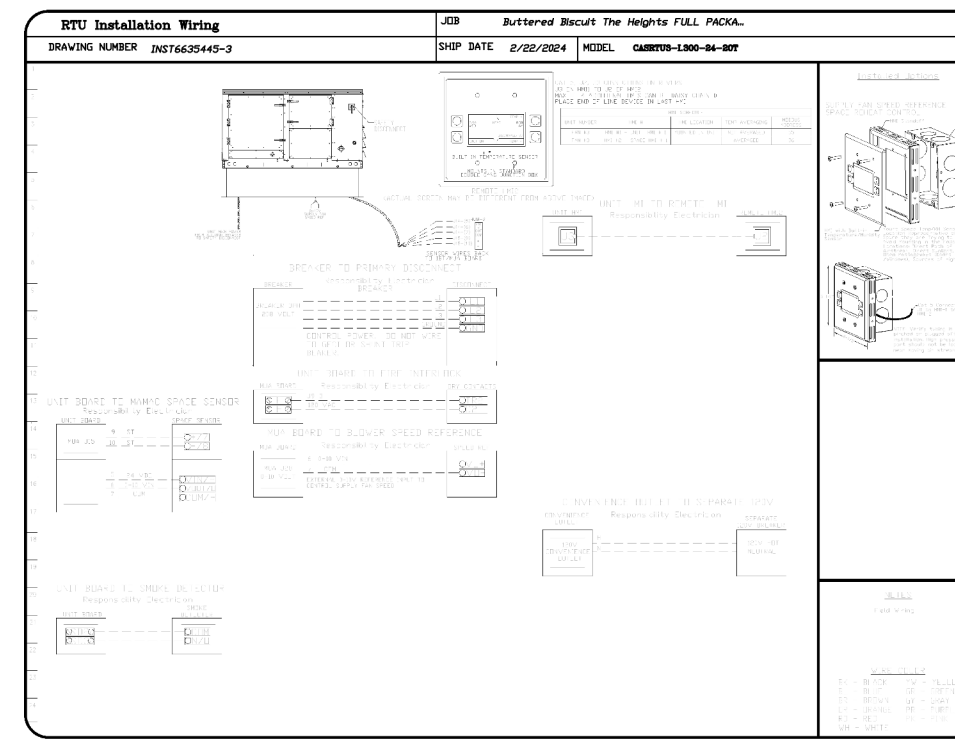
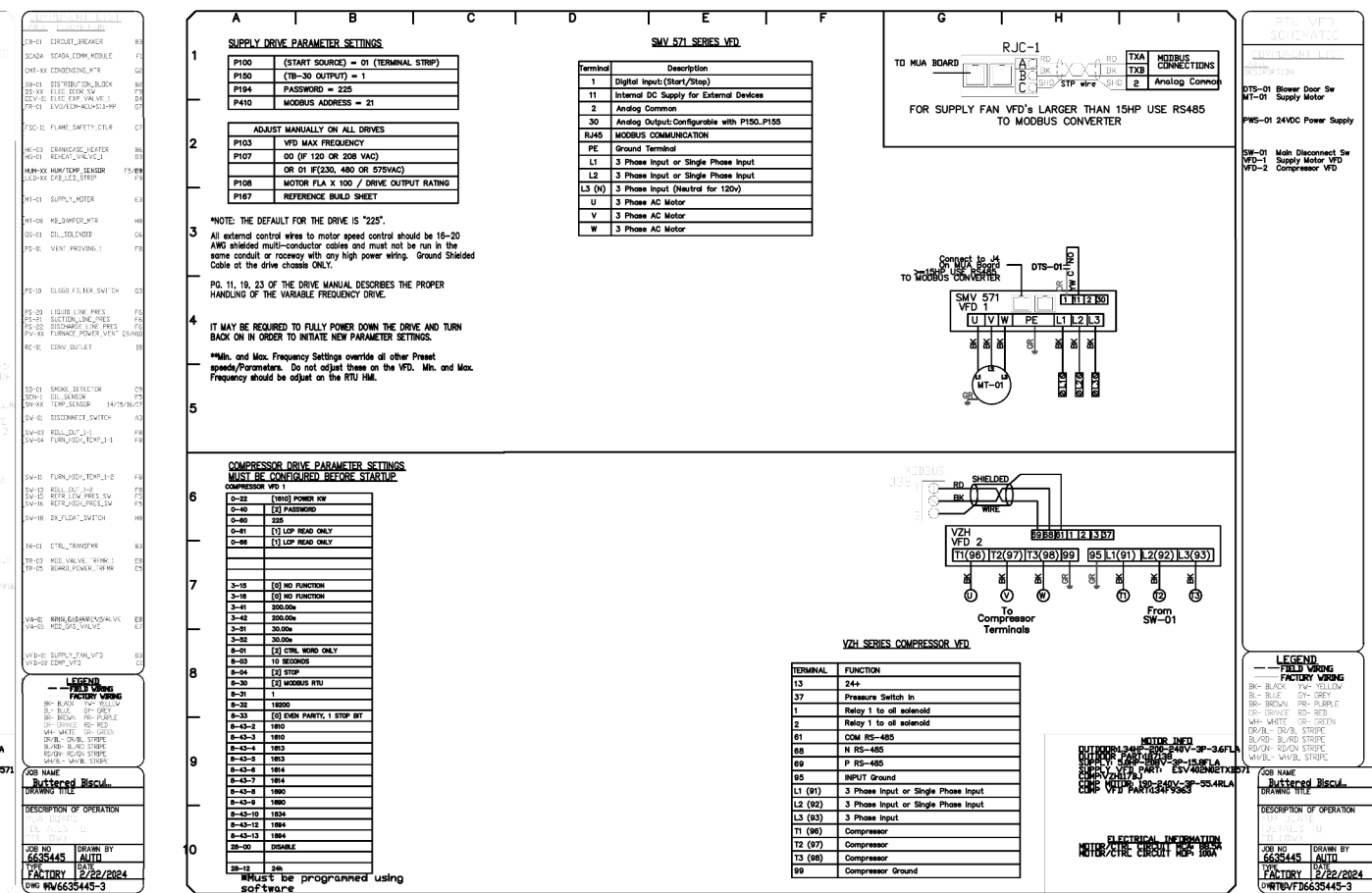
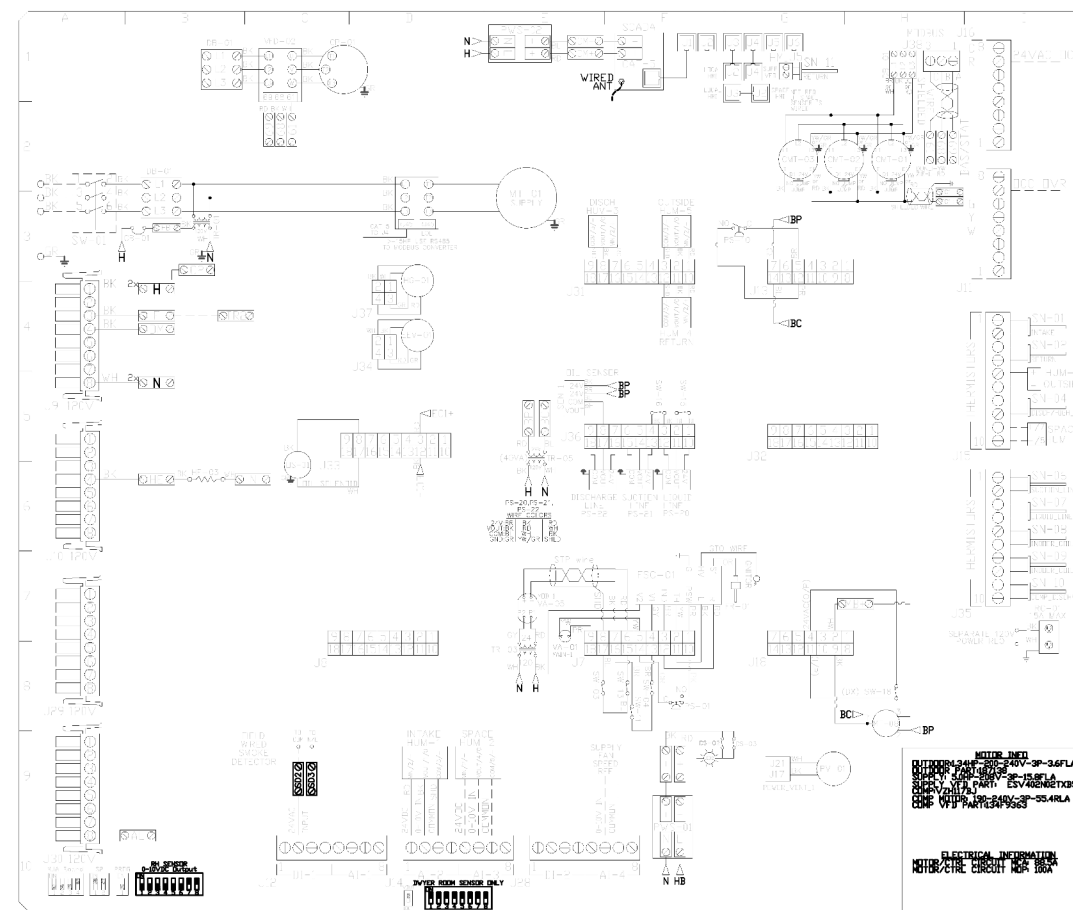
DWG.#:
6635445

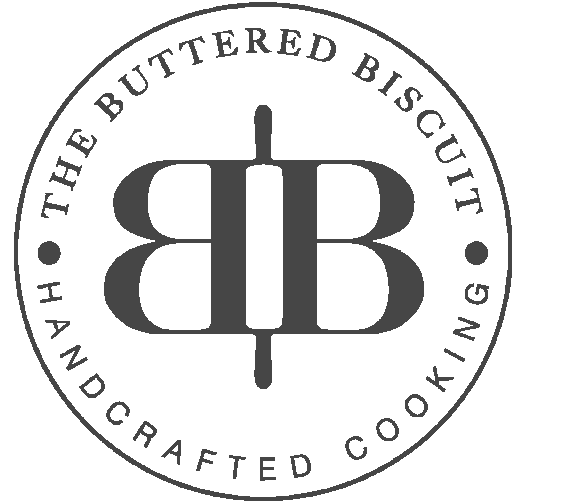
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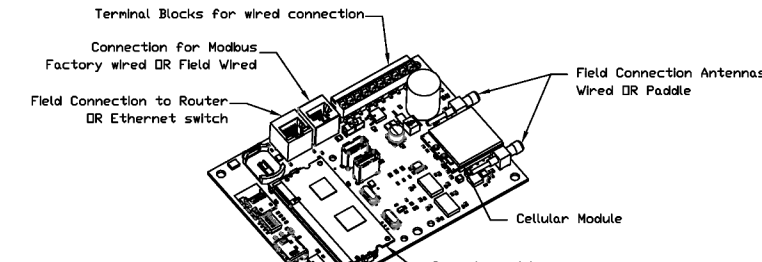
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REVISIONS table with columns for REVISIONS, DESCRIPTION, and DATE.

ELECTRICAL PACKAGE - JOB#6635445

Table with columns: NO, TAG, PACKAGE #, LOCATION, SWITCHES, OPTION, FANS CONTROLLED.

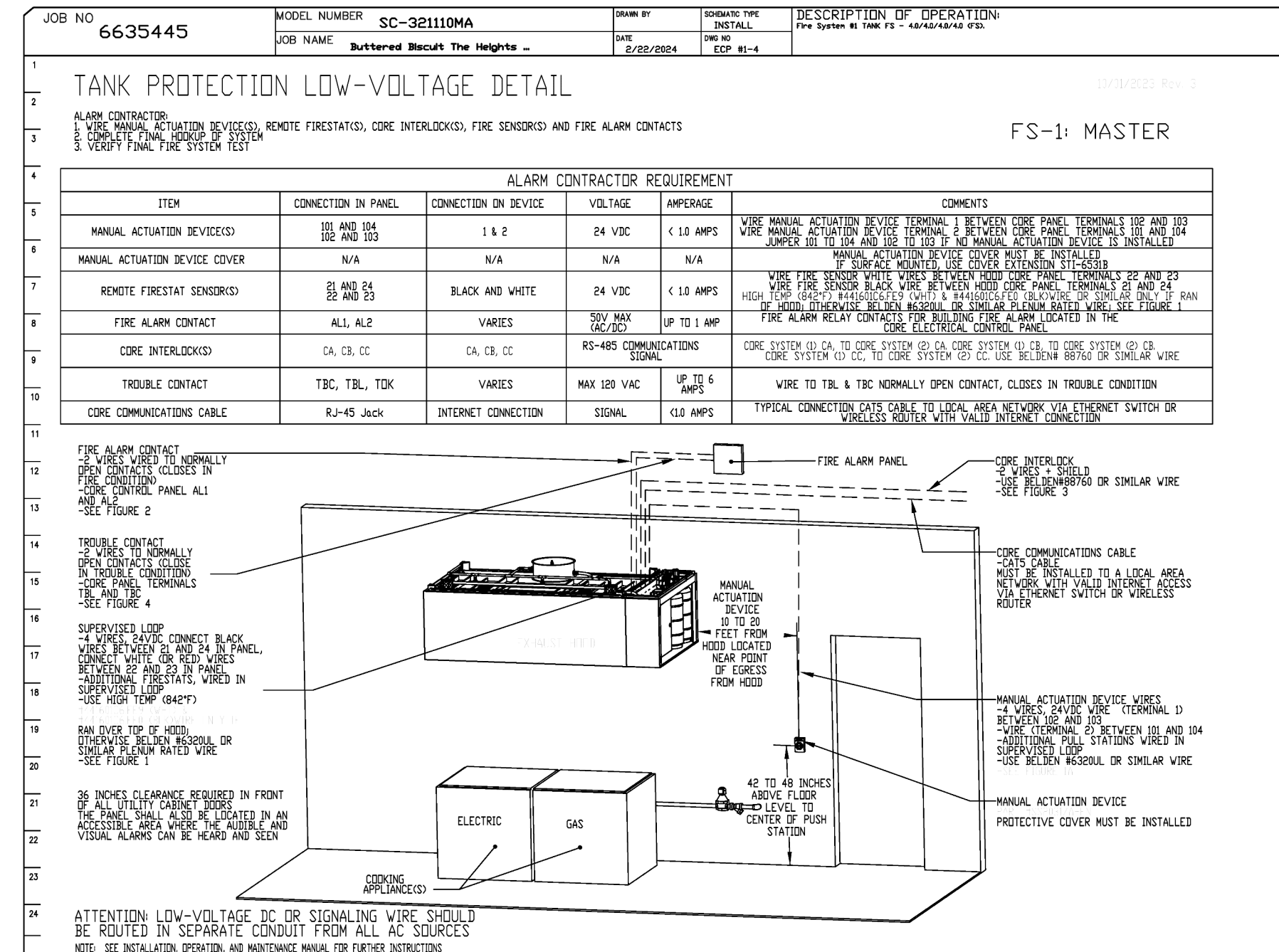
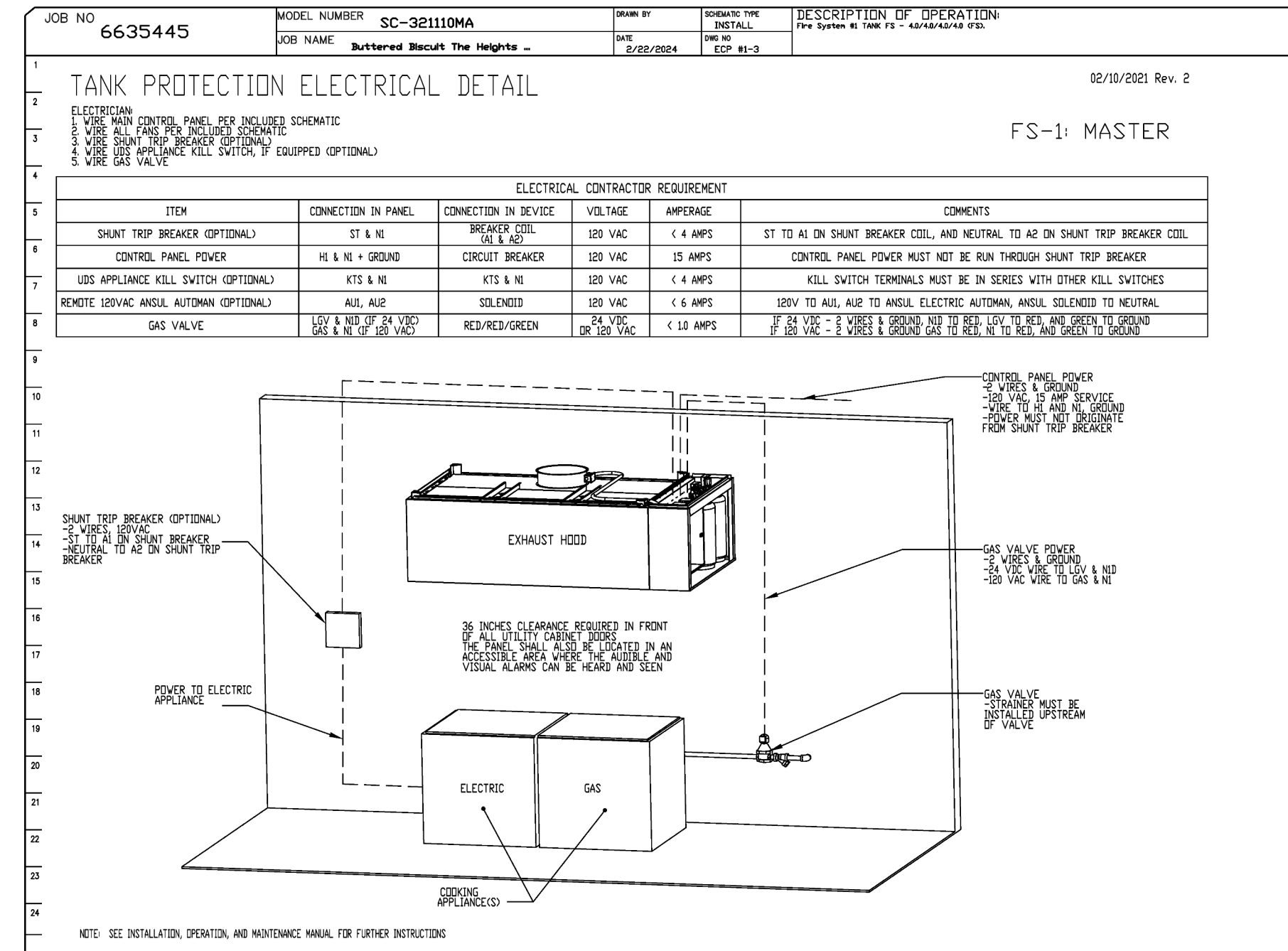
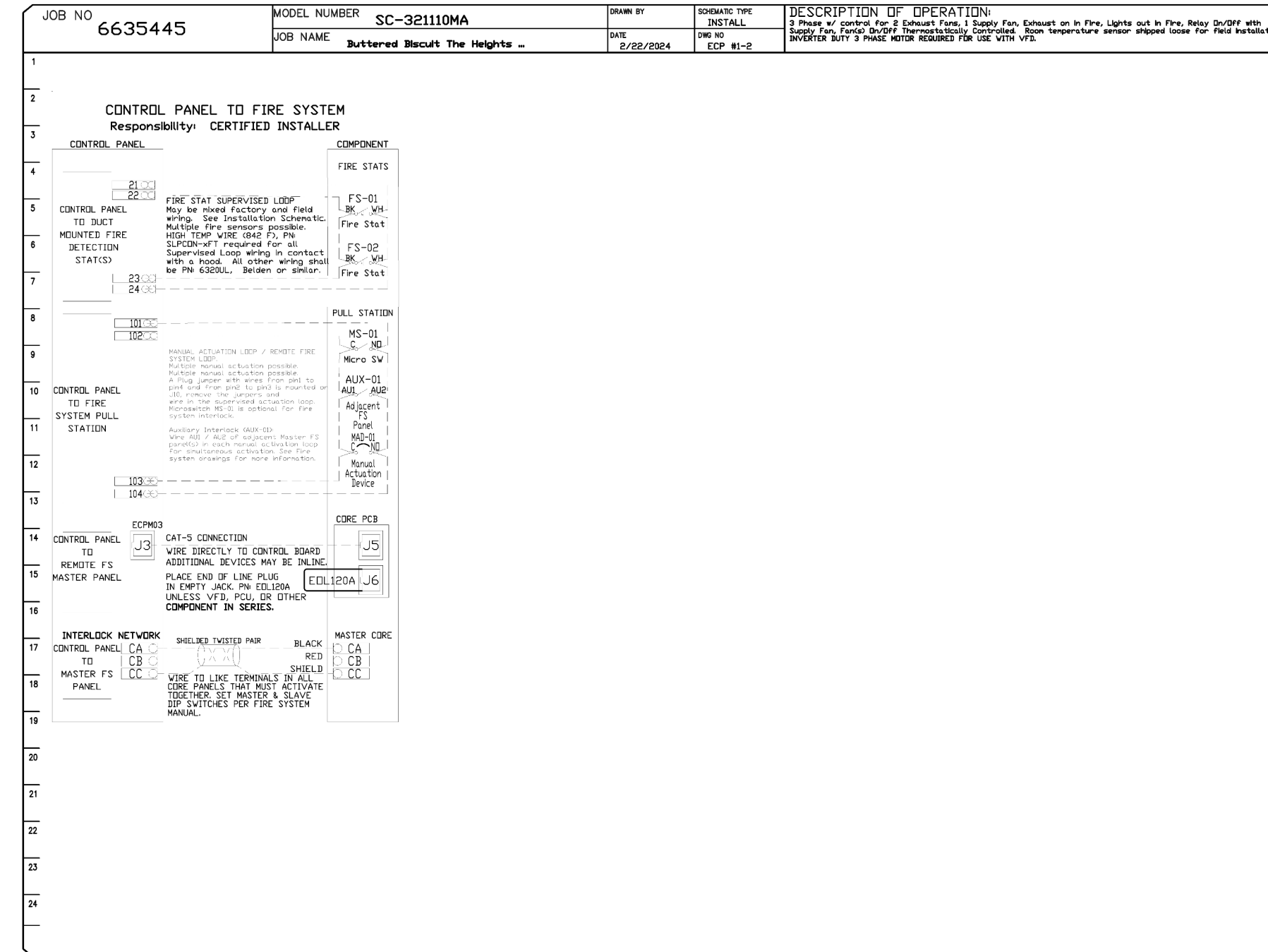
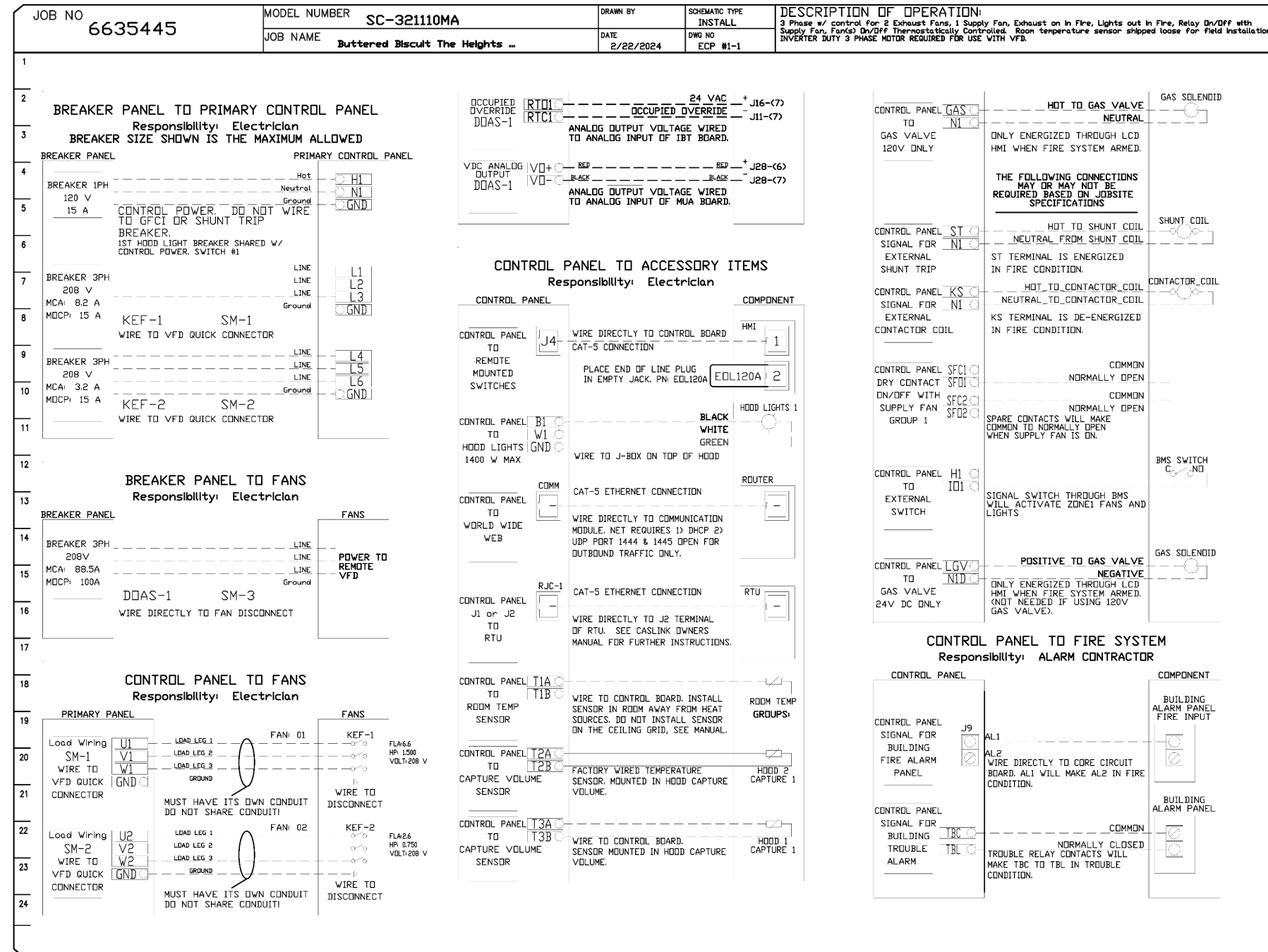


CAStink Monitor and Control

- Head control panel to support connections to cloud-based Building Management System. Head Control Panel to allow cloud-based Building Management System to monitor real time parameters available in the remote data. Head Control Panel to allow cloud-based Building Management System to control parameters available in the remote data. Head Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

MONITORING AND CONTROL POINTS LIST

Table with columns: DCV Packages, Function, MONITOR, and Function.



CAPTIVEAIRE logo and contact information: Charlotte / Triad Mechanical, PHONE: (704) 315-6656 EMAIL: jay.shingabe@captiveaire.com

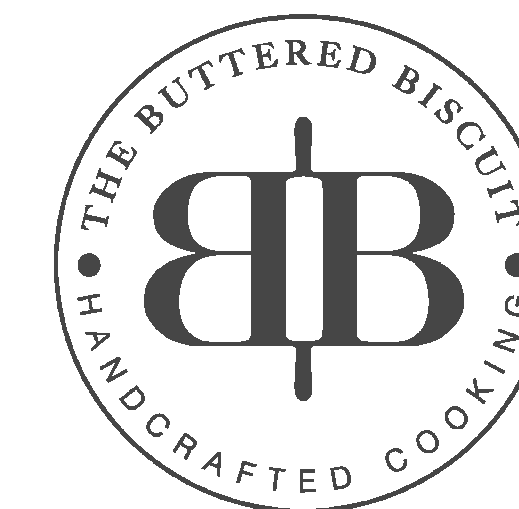
Buttered Biscuit The Heights FULL PACKAGE ALEXANDER, AR, 72002

DATE: 2/22/2024 DWG.#: 6635445 DRAWN BY: SCALE: 3/4" = 1'-0" MASTER DRAWING SHEET NO. 14

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DUCTWORK #1 PARTS - JOB#6635445 DOUBLE WALL GREASE DUCT #1

TAG	PART #	CFM	GPM	ZONE COVERED BY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
HI-E1	DW22DWRISER-3Z-S	2470				-0.819	10.62	0.00	1 DOUBLE WALL RISER COVER - USED ON 16" INNER RISER, 4' LONG - 3 LAYERS ZERO CLEARANCE - 22" STAINLESS STEEL OUTER RISER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
P1	DW1617DWLT-3Z-S	2470				-0.007	30.45	1769.01	1 DOUBLE WALL DUCT - 16" INNER DUCT, 17' LONG - 3 LAYERS ZERO CLEARANCE - 22" STAINLESS STEEL OUTER SHELL.
P2	DW1645DWASY-3Z-S	2470				-0.0435	28.07	1769.01	1 DOUBLE WALL DUCT - 16" INNER 45 DUCT - 3 LAYERS ZERO CLEARANCE - 22" STAINLESS STEEL OUTER SHELL.
P3	DW1645DWASY-3Z-S	2470				-0.0725	28.07	1769.01	1 DOUBLE WALL DUCT - 16" INNER 45 DUCT - 3 LAYERS ZERO CLEARANCE - 22" STAINLESS STEEL OUTER SHELL.
P4	DW1635DWLT-3Z-S	2470				-0.0142	63.66	1769.01	1 DOUBLE WALL DUCT - 16" INNER DUCT, 35' LONG - 3 LAYERS ZERO CLEARANCE - 22" STAINLESS STEEL OUTER SHELL.
P5	DW1647DWAJD-3Z-S	2470				-0.0178	121.14	1769.01	1 DOUBLE WALL ADJUSTABLE DUCT - 16" INNER DUCT - 3 LAYERS ZERO CLEARANCE - 22" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11' / MAX LENGTH = 48.5' / ADJUSTMENT = 30.5' / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P6 ASSEMBLED W/P7	DW1635DWLTP-3Z-S	2470				-0.014	65.92	1769.01	1 DOUBLE WALL DUCT - 16" INNER DUCT, 35' LONG - 3 LAYERS ZERO CLEARANCE - 22" STAINLESS STEEL OUTER SHELL - USED WITH TRANSITION PLATE.
P7 ASSEMBLED W/P6 □=B	DW2616TP	2470					11.62	1769.01	1 DUCT TO CURB TRANSITION, 26-1/2" CURB TO 16" DUCT, 16 GA ALUMINIZED. USED ON BDU18.
SYSTEM AT P7						-0.988	0.00		
RC1	DW22DWRISER-3Z-S						10.62		1 DOUBLE WALL RISER COVER - USED ON 16" INNER RISER, 4' LONG - 3 LAYERS ZERO CLEARANCE - 22" STAINLESS STEEL OUTER RISER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
	3M-2000PLUS						0.80	2	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS.
	DW16DWCLASY-3Z-S						7.20	3	DUCT - 16" DUCT - 22" DOUBLE "V" CLAMP - 3Z INSULATION & SINGLE "V" CLAMP INCLUDED - ZERO CLEARANCE.
TOTAL WEIGHT							393.37		

DOUBLE WALL FACTORY BUILT DUCTWORK

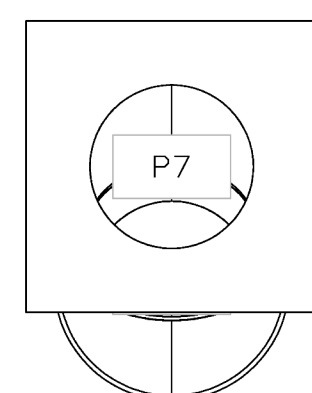
- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (FT)
5"	7'
6"	7'
7"	7'
8"	7'
10"	7'
12"	7'
14"	7'
16"	7'
18"	5'
20"	5'
22"	5'
24"	5'
26"	5'
28"	5'
30"	5'
32"	5'
34"	5'
36"	5'

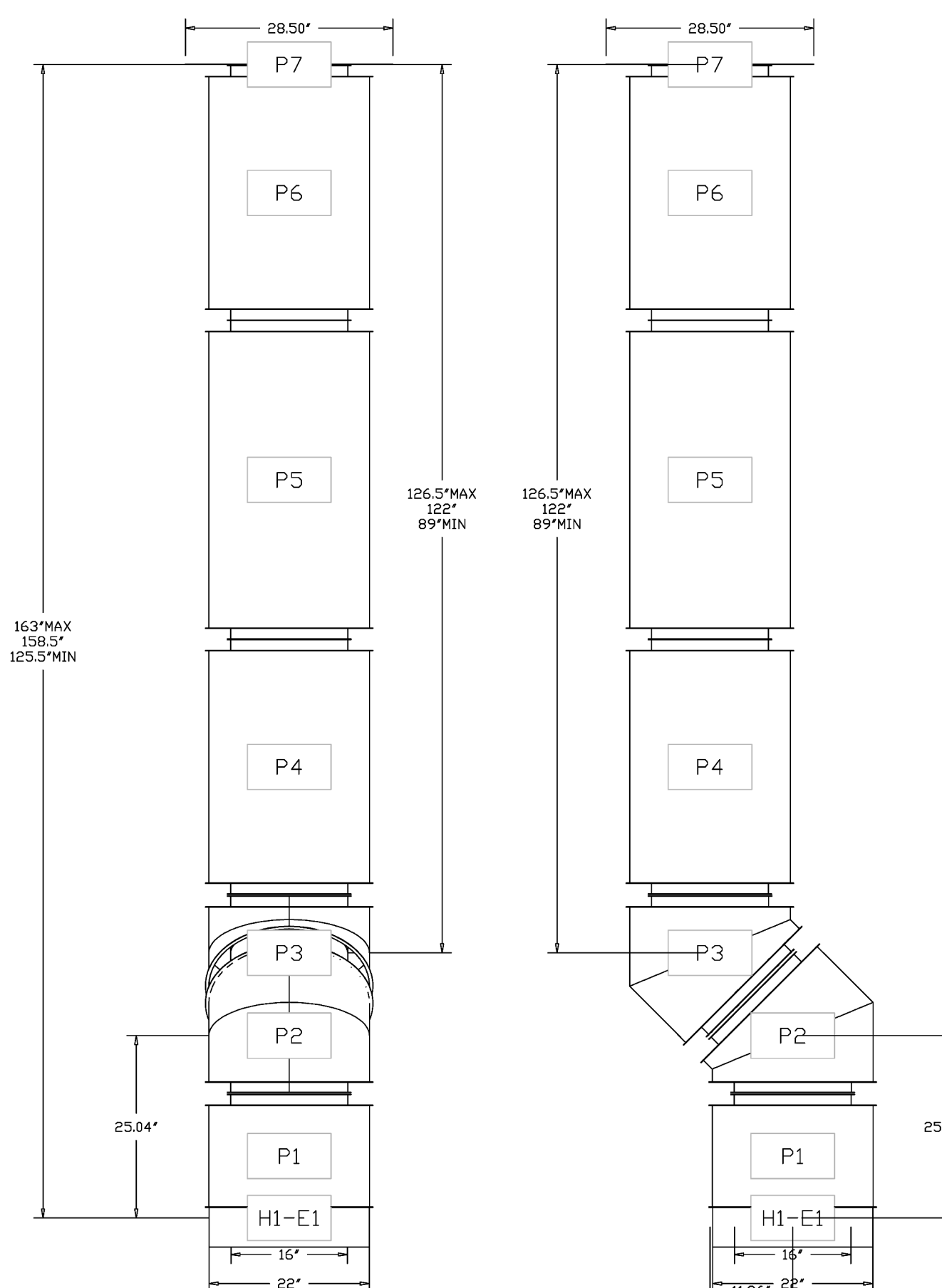
VERTICAL			
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
2R & 2R HT (5'-16")	20'	24'	24'
2R (18")	18'	24'	24'
3R & 3Z (5'-24")	10'	24'	24'
3Z (26" -36")	10'	20'	20'

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

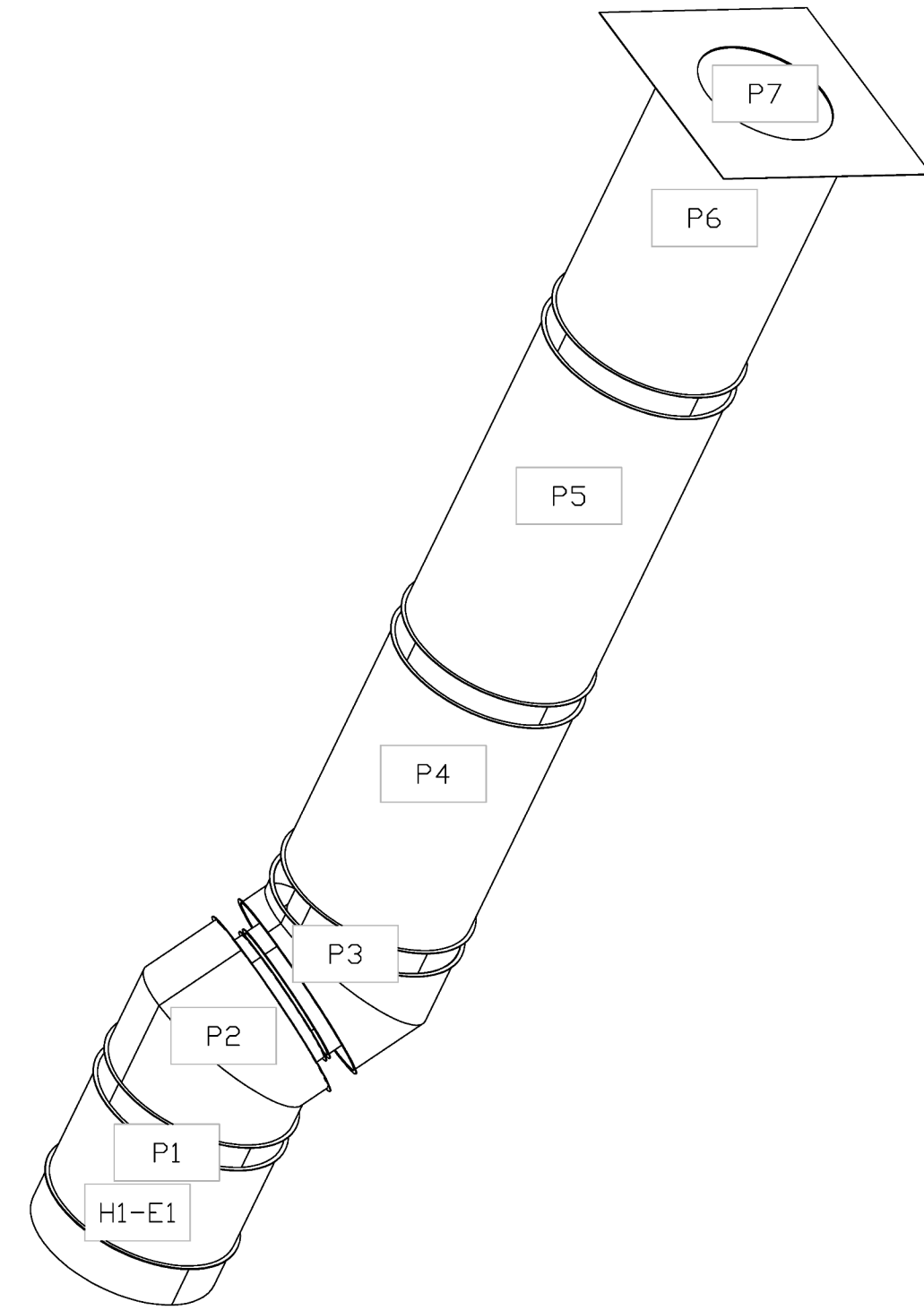
DUCTWORK #1 TOP VIEW GREASE DUCT #1



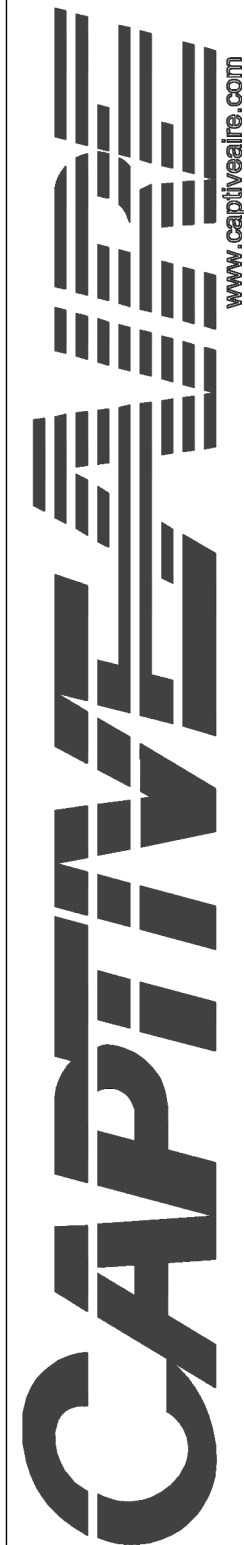
DUCTWORK #1 FRONT VIEW DUCTWORK #1 SIDE VIEW GREASE DUCT #1



DUCTWORK #1 SE VIEW
GREASE DUCT #1



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 ALEXANDER, AR, 72002

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THE BUTTERED BISCUIT

THE HEIGHTS

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DUCTWORK #2 PARTS -- JOB#6635445 DOUBLE WALL GREASE DUCT #2										
TAG	PART #	CFM	GPM	ZONE COVERED BY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION	REVISIONS
H2-E1	DW16DWRISER-3Z-S	1125				-0.657	7.57	0.00	1	DOUBLE WALL RISER COVER - USED ON 10" INNER RISER, 4' LONG - 3 LAYERS ZERO CLEARANCE - 16" STAINLESS STEEL OUTER RISER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
P1	DW1017DWLT-3Z-S	1125				-0.015	21.06	2062.65	1	DOUBLE WALL DUCT - 10" INNER DUCT, 17' LONG - 3 LAYERS ZERO CLEARANCE - 16" STAINLESS STEEL OUTER SHELL.
P2	DW1045DWASY-3Z-S	1125				-0.07	16.17	2062.65	1	DOUBLE WALL DUCT - 10" INNER 45 DUCT - 3 LAYERS ZERO CLEARANCE - 16" STAINLESS STEEL OUTER SHELL.
P3	DW1045DWASY-3Z-S	1125				-0.1	16.17	2062.65	1	DOUBLE WALL DUCT - 10" INNER 45 DUCT - 3 LAYERS ZERO CLEARANCE - 16" STAINLESS STEEL OUTER SHELL.
P4	DW1035DWLT-3Z-S	1125				-0.0312	43.75	2062.65	1	DOUBLE WALL DUCT - 10" INNER DUCT, 35' LONG - 3 LAYERS ZERO CLEARANCE - 16" STAINLESS STEEL OUTER SHELL.
P5	DW1047DWAJD-3Z-S	1125				-0.0408	86.19	2062.65	1	DOUBLE WALL ADJUSTABLE DUCT - 10" INNER DUCT - 3 LAYERS ZERO CLEARANCE - 16" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11' / MAX LENGTH = 49.5' / ADJUSTMENT = 31.5' / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
P6	ASSEMBLED W/P7	DW1035DWLTP-3Z-S	1125			-0.031	45.75	2062.65	1	DOUBLE WALL DUCT - 10" INNER DUCT, 35' LONG - 3 LAYERS ZERO CLEARANCE - 16" STAINLESS STEEL OUTER SHELL - USED WITH TRANSITION PLATE.
P7	ASSEMBLED W/P6	DW2310TP	1125				8.49	2062.65	1	DUCT TO CURB TRANSITION, 23" CURB TO 10" DUCT, 16 GA ALUMINIZED. MISC. NON-STANDARD TRANSITION PLATE.
SYSTEM AT P7									-0.945	0.00
RC1	DW16DWRISER-3Z-S						7.57		1	DOUBLE WALL RISER COVER - USED ON 10" INNER RISER, 4' LONG - 3 LAYERS ZERO CLEARANCE - 16" STAINLESS STEEL OUTER RISER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
	3M-2000PLUS						0.80		2	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS.
	DW10DWCLASY-3Z-S						5.24		3	DUCT - 10" DUCT - 16" DOUBLE "V" CLAMP - 3Z INSULATION & SINGLE "V" CLAMP INCLUDED - ZERO CLEARANCE.
TOTAL WEIGHT							270.04			

DUCTWORK #2 FRONT VIEW GREASE DUCT #2

DUCTWORK #2 SIDE VIEW GREASE DUCT #2

DUCTWORK #2 SE VIEW GREASE DUCT #2

DUCTWORK #2 TOP VIEW GREASE DUCT #2

HORIZONTAL		VERTICAL			
DUCT DIAMETER	SUPPORT SPACING (FT)	TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
5"	7'	2R & 2R HT (5'-16')	20'	24'	24'
6"	7'	2R (18")	18'	24'	24'
7"	7'	3R & 3Z (5'-24')	10'	24'	24'
8"	7'	3Z (26' -36')	10'	20'	20'
10"	7'				
12"	7'				
14"	7'				
16"	7'				
18"	5'				
20"	5'				
22"	5'				
24"	5'				
26"	5'				
28"	5'				
30"	5'				
32"	5'				
34"	5'				
36"	5'				

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

DOUBLE 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 ENTIRE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS 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.

REVISIONS

NO.	DESCRIPTION	DATE

DATE: 2/22/2024
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 MASTER DRAWING

SHEET NO. 18

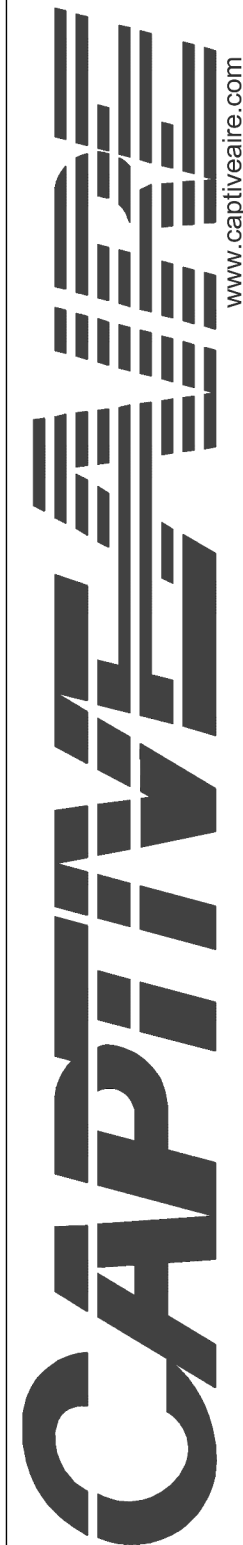
SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

REVISIONS	
DESCRIPTION	DATE



Charlotte / Triad Mechanical
 ... PHONE: (704) 315-6656 EMAIL: jay.shingleton@captiveaire.com

Buttered Biscuit The Heights FULL PACKAGE
 ALEXANDER, AR, 72002

DATE: 2/22/2024

DWG.#: 6635445

DRAWN BY:

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO.
19

THE BUTTERED BISCUIT

THE HEIGHTS

5014 KAVANAUGH BLVD.
LITTLE ROCK, AR 72207

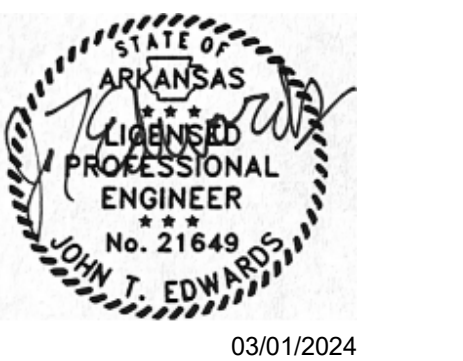


starr design

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100% CONSTRUCTION DOCUMENTS
03.01.2024

NO.	DESCRIPTION	DATE



CAPTIVEAIRE DRAWINGS - MECHANICAL

M4.19

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