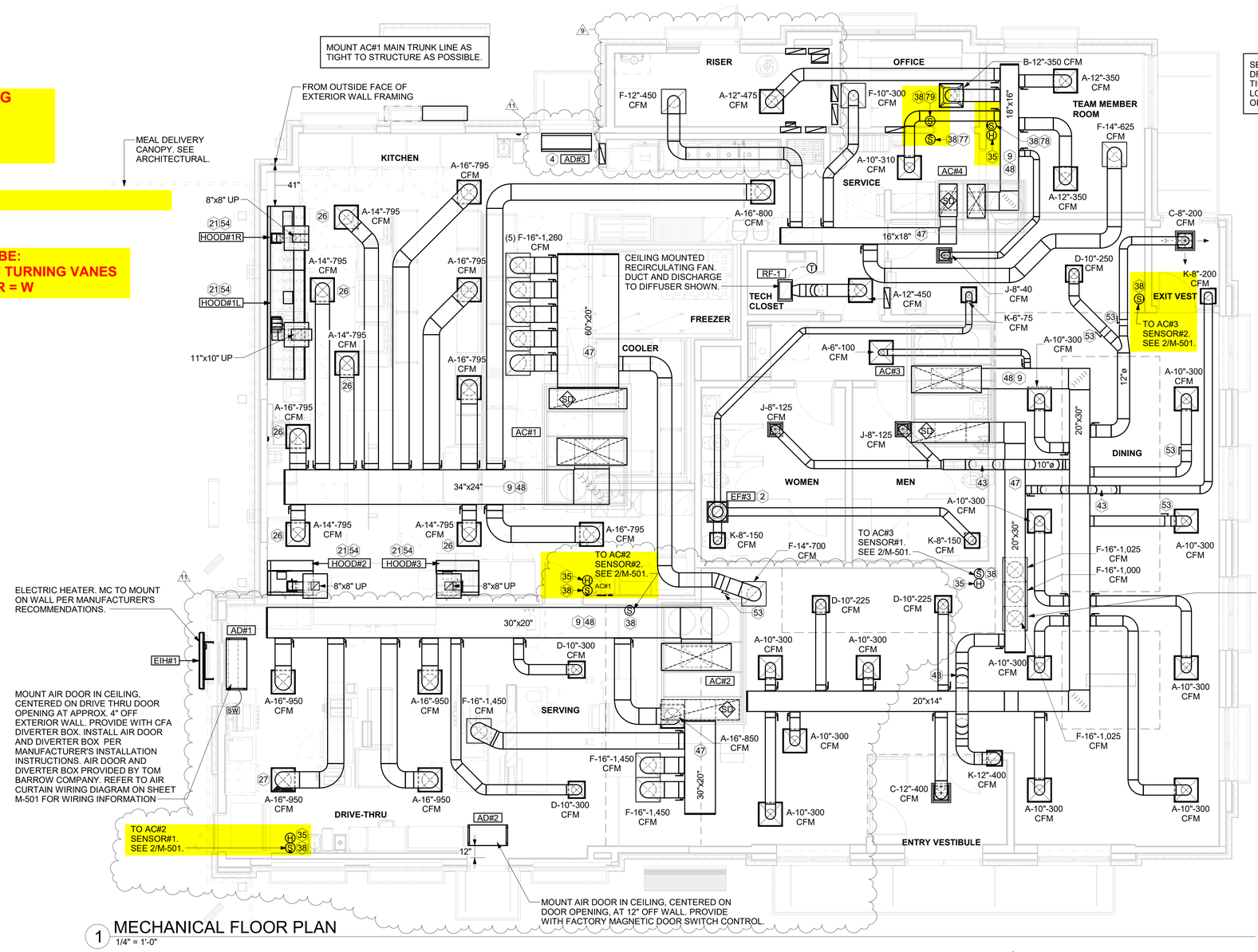
CHECK THAT DUCT ROUTING AND SIZING MATCHES WHAT IS SHOWN ON DRAWING

CHECK SENSOR LOCATIONS

SUPPLY AND RETURN DROPS MUST EITHER BE:
1. HARD 90 ELBOW WITH SINGLE THICKNESS TURNING VANES
2. RADIUSED DUCT THAT MEETS EQUATION R = W



1 MECHANICAL FLOOR PLAN
1/4" = 1'-0"

H.E.S. SYSTEM

MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-501 FOR MORE INFORMATION.

LEGEND

A-12-400	TYPE - NECK SIZE - CFM	EF#1	EXHAUST FAN #1 (TYP.)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	AC#1	AIR CONDITIONING UNIT #1 (TYP.)
	SPIN-IN HARDØ FLEXIBLEØ DIFFUSER		RETURN/EXHAUST (TYP.)
S	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SQ FACE (TYP.)
H	HUMIDITY SENSOR	1	PLAN NOTE REFERENCE
SD	SMOKE DETECTOR		MANUAL VOLUME DAMPER
12x18	DUCT SIZE (reverse for elevation views) 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION		DIRECTION OF THROW ON DIFFUSER
			CLOSED AIR PATTERN DEFLECTOR
SW	AIR DOOR SWITCH	GIH	GAS INFRARED HEATER (TYP.)
EC	ELECTRICAL CONTRACTOR	B/G	BELOW GRADE
MC	MECHANICAL CONTRACTOR	T	THERMOSTAT
EIH	ELECTRIC INFRARED HEATER		

AIR BALANCE SCHEDULE - LARGE...

Mark	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC#1	8,750 CFM	7,000 CFM	1,750 CFM	0 CFM	
AC#2	5,250 CFM	4,350 CFM	900 CFM	0 CFM	
AC#3	5,250 CFM	3,650 CFM	1,600 CFM	0 CFM	
AC#4	1,875 CFM	1,375 CFM	500 CFM	0 CFM	
EF#1	0 CFM	0 CFM	0 CFM	1,913 CFM	
EF#2	0 CFM	0 CFM	0 CFM	1,402 CFM	
EF#3	0 CFM	0 CFM	0 CFM	375 CFM	
	21,125 CFM	16,375 CFM	4,750 CFM	3,690 CFM	1,060 CFM

SHEET NOTES

1. DUCT SIZES SERVING DIFFUSERS AND GRILLES ARE SAME SIZE AS DIFFUSER OR GRILLE NECK UNLESS NOTED OTHERWISE.
2. FLEXIBLE DUCT NOT SHOWN FOR CLARITY. ALL TAKE-OFFS SHALL INCLUDE FLEXIBLE DUCT. SEE DETAIL 1/M-401 FOR FLEXIBLE DUCT INSTALLATION REQUIREMENTS.
3. FOR SUPPLY AND RETURN OPENINGS, CUT OPENING AROUND DUCT DROPS 4" TO 8" MINIMUM (EXCEPT WHERE STRUCTURE PREVENTS THIS). SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
4. AT EACH PIECE OF ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. THE LABEL IS TO HAVE A SELF ADHESIVE BACKING.
5. UNLESS NOTED OTHERWISE, MC TO ADJUST ALL DIFFUSER AIR PATTERN DEFLECTORS TO THROW HORIZONTALLY ALONG THE CEILING.
6. SUPPORT ALL DUCT DROPS AT BASE OF DROP FROM STRUCTURE.

KEY NOTES

2	10X10 UP THRU ROOF.
4	AIR CURTAIN MOUNTED OVER DOOR HEADER AT 7'-2" AFF TO BOTTOM OF UNIT. PROVIDE BLOCKING IN WALL BEHIND AIR CURTAIN. USE FACTORY PRE-PUNCHED MOUNTING HOLES ON BACK SIDE OF AIR CURTAIN ONLY. ATTACH AIR CURTAIN TO WALL USING 3/8" LAG BOLTS, LENGTH AS REQUIRED TO FULLY PENETRATE BLOCKING. LOCATE MAGNETIC CONTACT TYPE MICROSWITCH IN DOOR FRAME ON STRIKE SIDE.
9	BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
21	HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-301 FOR LOCATION.
26	MECHANICAL CONTRACTOR TO ADJUST PATTERN DEFLECTORS TO THROW STRAIGHT DOWN.
27	MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
35	MOUNT REMOTE HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
38	MOUNT REMOTE SENSOR ON WALL AT 5-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.
43	ROUTE DUCT WITHIN STRUCTURE.
47	TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 6/M-401 FOR REQUIRED TRANSITION GEOMETRY. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITHOUT TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
48	TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITH TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
53	RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
54	SEE ELEVATIONS ON M-301 FOR CJ FAN DUCTING REQUIREMENT.
77	TO AC#4, SENSOR #1. SEE 2/M-501.
78	TO AC#4, SENSOR #2. SEE 2/M-501.
79	TO AC#4, SENSOR #3. SEE 2/M-501.

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STATE OF MISSOURI
08/23/23

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FSR#05161

BUILDING TYPE / SIZE: P14 SE LRG
RELEASE: 22.08
PRINTED FOR
ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
3	05/05/23	ISSUED FOR CONSTRUCTION
9	06/12/23	ISSUED FOR CONSTRUCTION 2
11	08/23/23	P14 DESIGNOTE REVISION

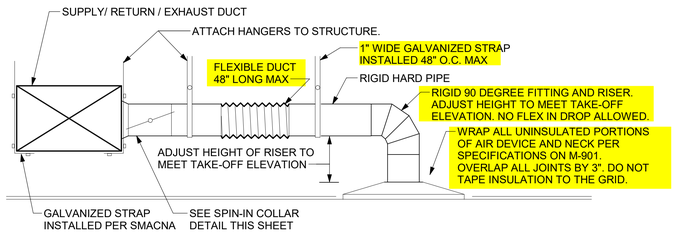
CONSULTANT PROJECT # 23040.CD.S
DATE 03/20/2023
DRAWN BY BLM

SHEET
MECHANICAL FLOOR PLAN

SHEET NUMBER
M-201

Key specs for takeoffs:
-must use the specified dampers
-If tapping off horizontal duct, damper must be on the left or right
-If tapping off vertical duct, damper must be on bottom.
-must be flagged
-Must have 1' minimum of hard duct after damper
-must have flex duct, but no more than 48"
-transition to hard pipe
-rigid 90 degree fitting into diffuser

-hard duct connections must have mastic
-inner core of flex duct must be banded and taped
-outer core of flex can be taped or banded
-flex insulation must be R6 or greater
-Duct insulation must be R6 or greater
-duct must be taped to neck of the diffuser
-tops of diffusers must be insulated



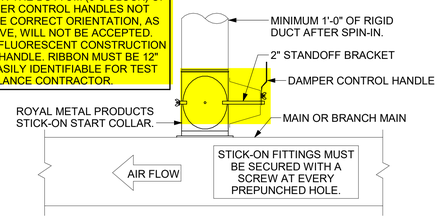
1 SAG/RAG/GRILLE TAKE-OFF
NOT TO SCALE

SPOT CHECK

CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE ROYAL METAL PRODUCTS START COLLARS FOR BOTH WITH AND WITHOUT A MANUAL BALANCING DAMPER. THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE ROYAL METAL PRODUCTS START COLLARS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. ROYAL METAL PRODUCTS START COLLARS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

DAMPER CONTROL HANDLE MUST BE EXPOSED, AND DAMPER SHAFT MUST ALWAYS BE PARALLEL TO AIRFLOW IN DUCT MAIN. AS AN EXAMPLE, FOR HORIZONTAL TRUNK DUCT, HANDLE MUST BE LOCATED ON THE LEFT OR RIGHT (9 OR 3 O'CLOCK) OF COLLAR, AND FOR VERTICAL TRUNK DUCT, LOCATED ON THE BOTTOM (6 O'CLOCK) OF COLLAR. DAMPER CONTROL HANDLES NOT INSTALLED IN THE CORRECT ORIENTATION, AS SPECIFIED ABOVE, WILL NOT BE ACCEPTED. ATTACH YELLOW FLUORESCENT CONSTRUCTION RIBBON TO THE HANDLE. RIBBON MUST BE 12" LONG AND BE EASILY IDENTIFIABLE FOR TEST AND BALANCE CONTRACTOR.

DO NOT APPLY START COLLAR OVER DUCT WRAP



2 START COLLAR
NOT TO SCALE

EXHAUST FAN SCHEDULE - LARGE BLDG

MARK	FAN CFM	ESP	RPM	TIP SPEED	HP	AREA SERVED	VOLTAGE	PHASE	MOCP	MODEL	MANUFACTURER	REMARKS
EF#1	1,913 CFM	0.75 in-wg	1,331 RPM	5,226 FPM	0.75 hp	HOOD#1	120 V	1	25 A	150 CPS	LOREN COOK	1,2,3,4,5,6,7,8,9,10,11,17
EF#2	1,402 CFM	0.95 in-wg	1,199 RPM	4,708 FPM	0.75 hp	HOOD#2 & HOOD#3	120 V	1	25 A	150 CPS	LOREN COOK	1,2,3,4,5,6,7,8,9,10,11,17
EF#3	375 CFM	0.38 in-wg	1,550 RPM	3,091 FPM	0.125 hp	RESTROOMS	120 V	1	20 A	ACED-90C15DH	LOREN COOK	3,11,12,13,14,15,16

NOTES
- GREASE EXHAUST FAN RPM BASED ON 80 DEGREE F AIR AT 1000 FEET ABOVE SEA LEVEL.
- GREASE EXHAUST FANS TO BE U.L. 762 LISTED.
- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE FAN/CURB PACKAGE. THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE FAN/CURB PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. FANS AND CURBS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

REMARKS
1. UPBLAST, ARRANGEMENT 10, CCW ROTATION. SEE PLANS TO CONFIRM CONFIGURATION.
2. PROVIDE FACTORY ALUMINUM FAN WHEEL.
3. PROVIDE FACTORY INSTALLED PREWIRED NON-FUSED DISCONNECT.
4. PROVIDE FACTORY STEEL INLET FLANGE AND INLET COMPANION FLANGE.
5. PROVIDE AND INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
6. PROVIDE FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
7. PROVIDE FACTORY DRAIN CONNECTION.
8. PROVIDE FACTORY BOLTED ACCESS DOOR ON SCROLL.
9. PROVIDE FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE AND SPARE BELT..
10. PROVIDE FACTORY STEEL OUTLET COMPANION FLANGE.
11. INTEGRAL THERMAL OVERLOAD WITH AUTOMATIC RESET.
12. PROVIDE BIRDSCREEN.
13. BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 4/M401.
14. STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
15. PROVIDE 12" HIGH CURB.
16. PROVIDE FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
17. UTILITY SET FAN CURB AND ASSOCIATED EXHAUST DUCT CURB PROVIDED BY TOM BARROW COMPANY.

AIR DOOR SCHEDULE - LARGE BLDG

MARK	CFM	VELOCITY	HEATING CAP	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS
AD#1	1,765 CFM	2,670 FPM	10 kW	3/4 HP	DRIVE THRU	CHA-1-48E	Powered Aire	1,2,3,5
AD#2	1,197 CFM	2,443 FPM	N/A	3/4 HP	DRIVE-THRU	CHA-1-36	Powered Aire	2,4
AD#3	3,867 CFM	4,218 FPM	N/A	3/4 HP	REAR DOOR	RBT-1-48	Powered Aire	4

NOTES
- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE AIR DOORS. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE AIR DOORS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010, FOR PRICING AND AVAILABILITY. AIR DOORS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

REMARKS
1. FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER ABOVE CEILING.
2. FACTORY WIRED DISCONNECT.
3. FACTORY PROVIDED, FIELD INSTALLED BY MC, REMOTE WALL SWITCHES FOR HEATING ON/OFF AND FAN ON/AUTO SWITCH. SEE DETAIL, AIR CURTAIN WIRING DIAGRAM.
4. FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET.
5. PROVIDE WITH A DIVERTER BOX. PROVIDE WITH MOUNTING BRACKETS PER MANUFACTURER'S RECOMMENDATIONS.

AIR DEVICE SCHEDULE - LARGE BLDG

MARK	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	FRAME TYPE	REMARKS
A	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	VARIES	VARIES	24"x24"	LAY-IN	1,7,9
B	VARITHERM PLAQUE DIFFUSER	OFFICE	12"	24"x24"	LAY-IN	1,7,8,9
C	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	ENTRY	14"x14"	16"x16"	BEVELLED	1,3,5,6,9
D	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING	VARIES	16"x16"	SURFACE	1,3,5,6,9
F	PRICE MODEL 80 EGGCRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	VARIES	VARIES	24"x24"	LAY-IN	1,7,9
J	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS	10"x10"	15"x15"	BEVELLED	1,2,3,5,6,9
K	PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE.	RESTROOMS/ ENTRY	14"x14"	16"x16"	SURFACE	1,4,5,6,9

NOTES
- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE AIR DEVICES. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE AIR DEVICES DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010, FOR PRICING AND AVAILABILITY. AIR DEVICES NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

REMARKS
1. STANDARD OFF WHITE FINISH.
2. PROVIDE MODEL VCS3 NECK DAMPER.
3. SEE DRAWING M-201 FOR THROW.
4. PROVIDE MODEL VCR7 NECK DAMPER ON GRILLES IN RESTROOMS SERVING EXHAUST FAN.
5. PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
6. FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 1/M-401.
7. FACTORY INSULATED R-6 BACKPAN.
8. PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.
9. PROVIDE WITH FACTORY EARTHQUAKE TABS.

RECIRCULATING FAN SCHEDULE

MARK	CFM	ESP	RPM	HP	Area Served	MODEL	MANUFACTURER	REMARKS
RF-1	450 CFM	0.3	1144	58 W	TECH CLOSET	GCVF-700	LOREN COOK	1,2,3

NOTES
- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE FANS PACKAGE. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE FANS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010, FOR PRICING AND AVAILABILITY. FANS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

REMARKS
1. PROVIDE NEMA 1 PREWIRED DISCONNECT.
2. INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
3. PROVIDE THERMOSTAT / TEMPERATURE CONTROLLER. SET TO 76°F.

ELECTRIC HEATER SCHEDULE

MARK	HEATING INPUT	FRAME LENGTH	FRAME WIDTH	FRAME DEPTH	MOUNTING TYPE	VOLTAGE	PHASE	MOCP	MODEL	PART NUMBER	MFGR
EIH#1	6 kW	56"	8.5"	3.5"	WALL BRACKET	208 V	1	40 A	6000W	BH0420035	BROMIC

NOTES
- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH BROMIC HEATING USA FOR THE BROMIC ELECTRIC HEATER. THE MECHANICAL CONTRACTOR SHALL PURCHASE HEATERS DIRECTLY FROM BROMIC HEATING USA. CONTACT MR. BLAKE RUSSIE AT 858-381-4850, FOR PRICING AND AVAILABILITY. BROMIC HEATERS NOT PURCHASED THRU BROMIC HEATING USA WILL NOT BE ACCEPTED.

REMARKS
1. STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING.
2. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND.
3. PROVIDE BLACK HEATER WITH HIGH TEMPERATURE COATING, AND MANUFACTURER MOUNTING BRACKETS.

IMPORTANT:
STRUCTURAL CALCULATIONS FOR EQUIPMENT CURB TO BE PROVIDED BY MANUFACTURER. PROVIDE ANY ADDITIONAL REQUIRED BRACING/SUPPORT/ATTACHMENT AS INDICATED IN MFGR'S SUBMITTAL.

ALL DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLIAMS B66-200 SERIES DTM WHITE ACRYLIC SEMI-GLOSS INDUSTRIAL MAINTENANCE COATING. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS DTM ACRYLIC PRIMER PRIOR TO PAINTING.

KEYED NOTES:
1. EQUIPMENT CURB WITH REINFORCED BASE AND STEEL CURB CAP PROVIDED BY TOM BARROW COMPANY. WIDTH OF CURB SHALL BE 4" WIDER THAN FAN FOOTPRINT IN BOTH DIRECTIONS. HEIGHT OF CURB SHALL BE SUCH THAT NO PART OF ANY DUCT TO BE WITHIN 18" OF ROOF SURFACE. PROVIDE FACTORY EQUIPMENT RAILS WELDED TO CAP.
2. ALL DUCT ON ROOF TO BE SUPPORTED WITH MIRO STANCHIONED DUCT SUPPORT SYSTEM FOR SEISMIC APPLICATIONS AT 6'-0" INTERVALS MAXIMUM. SECURE STANCHION BASE TO ROOF WITH MIN. (4) 3/8" LAG BOLTS. BOLT LENGTH SHALL BE SUCH TO PROVIDE MINIMUM 3" PENETRATION IN BLOCKING BELOW THE PLYWOOD ROOF DECK. PROVIDE A DUCT SUPPORT STAND AT EACH ROOF PENETRATION.
3. 12" HIGH INSULATED CURB PROVIDED BY TOM BARROW COMPANY. MECHANICAL CONTRACTOR TO PROVIDE 16 GA MINIMUM CURB CAP.

FABRICATE 18 GA STAINLESS NOZZLE. NOZZLE INLET FULL SIZE OF FAN DISCHARGE. MINIMUM NOZZLE HEIGHT 1'-0". EXTEND NOZZLE AS NEEDED TO TERMINATE 0'-2" ABOVE TOP OF ALL CONDENSING UNITS, RTUS, AND PARAPETS WITHIN 10'-0".

EXHAUST FAN OUTLET TO TERMINATE A MINIMUM OF 40" ABOVE ROOF SURFACE

10 DEGREES

BOLTED AND GASKETED

6"WX3"H HAT CHANNEL EQUIPMENT RAILS FACTORY PROVIDED AND WELDED ON TOP OF CURB CAP. BOLT FAN TO HAT CHANNELS, USING 3 FASTENERS ON EACH SIDE OF MOTOR SECTION AND ONE ON EACH SIDE OF THE SCROLL HOUSING USING SELF DRILLING 1/4"-14-1 1/2" HEX HEAD SCREW EQUAL TO ELCO EAF841 DRIL-FLEX.

BOLTED AND GASKETED TO FAN. 1500F RATED.

SEE M-250 FOR GREASE EXHAUST DUCT SIZE.

SEE ROOF PLAN FOR GREASE ACCESS DOOR QUANTITY AND TYPE, TYP.

SEE ROOF PLAN FOR GREASE ACCESS DOOR QUANTITY AND TYPE, TYP.

FULL PERIMETER LIQUID TIGHT WELD BETWEEN CURB CAP AND DUCT. GREASE EXHAUST DUCT IS CONTINUOUS THRU CURB CAP.

24" MIN. FROM ROOF DECK.

MINIMUM 3" ENGAGEMENT IN BLOCKING BELOW ROOF DECK. LAG BOLTS SHALL BE MINIMUM 1-1/2" FROM EDGE OF BLOCKING

EQUIPMENT CURB 1

ROOF DECK

ROOF SURFACE

INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD AS CLOSE AS POSSIBLE TO FAN SCROLL DRAIN. EXTEND DRAIN TO CENTER OF DRIP GUARD.

PROVIDE 1.5 PCF BATT INSULATION, MINIMUM 4" THICK.

BLOCKING BY GENERAL CONTRACTOR. MINIMUM 4" WIDE

SUPPORT DUCT FROM STRUCTURE WITH 1-1/2"X1/8" STEEL ANGLE OR B-LINE B24 STRUT AND 3/8" ATR ON 6'-0" CENTERS, TYP.

CURB FOR DUCTS SERVING EF#1: 22.5" SQ. INSIDE CLEAR MINIMUM

CURB FOR DUCTS SERVING EF#2: 19.5" SQ. INSIDE CLEAR MINIMUM

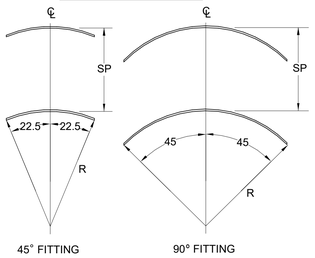
3 EXHAUST FAN DETAIL - UTILITY SET
NOT TO SCALE

SPOT CHECK ON 1 UNIT. TURNING VANES MUST BE SINGLE THICKNESS. NO DOUBLE THICKNESS TURNING VANES ALLOWED

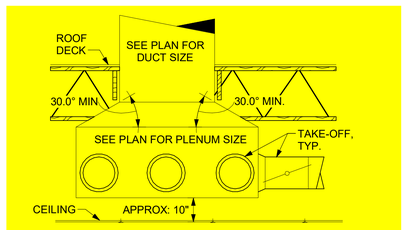
TURNING VANE SCHEDULE

R	SP	GA
2"	1.5"	24

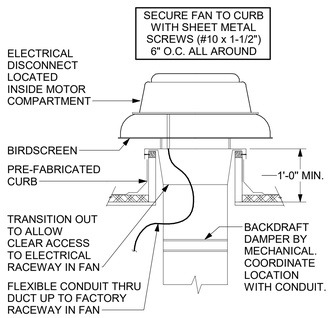
1. NO TRAILING EDGE.
2. SINGLE THICKNESS CONSTRUCTION.



5 TURNING VANES
1/4" = 1'-0"



6 RETURN DROP GEOMENTRY
NOT TO SCALE



4 RESTROOM EXHAUST FAN
NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER
08/23/23

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FSR#05161

BUILDING TYPE / SIZE: P14 SE LRG
RELEASE: 22.08
PRINTED FOR
ISSUED FOR CONSTRUCTION
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
2	04/28/23	MECHANICAL COMMENTS
3	05/05/23	ISSUED FOR CONSTRUCTION
11	08/23/23	P14 DESIGNOTE REVISION

CONSULTANT PROJECT # 23040.CD.S
DATE 03/20/2023
DRAWN BY BLM

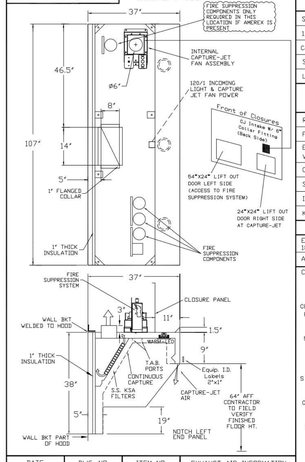
SHEET
HVAC DETAILS AND SCHEDULES

SHEET NUMBER
M-401

CHECK HOOD HANGING HEIGHTS. IF CAPTURE JET DUCT INSTALLED, ENSURE IT IS HARD DUCT.

MODEL: KVL-2-IC

FACTORY MUST BE ADVISED OF ANY SPECIAL ✱ REQUIREMENTS OF THE "AUTHORITY HAVING JURISDICTION" AT TIME OF QUOTE



STANDARD FEATURES	
S.S. FILTERS (KSA)	5
1/2 S.S. FILTERS (KSA)	–
CAPTURE-JET	✱
STAND-OFF	✱
L.E.D. LIGHTS	3
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	✱
ETL LISTED W/O EXHAUST DAMPER	✱
CEILING CLOSURE	2
STD. BACKSPLASH	
INSULATED BACKSPLASH	
KBD DAMPER	✱
MATERIAL	
EXPOSED SURFACES 18 GA. S.S.	✱
ALL 18 GA. S.S.	

COMMENTS:
CLOSURE HEIGHT = 51" (TWO SIDES)
CEILING HEIGHT = 122"
CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF

FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION)

24"X24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET W/ FRONT CJ INTAKE

CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT

3" REAR STAND-OFF TO HAVE 1" THICK INSULATION

NOTCHED LEFT END PANEL

EQUIPMENT COVERED (4)PRESSURE FRYERS (2)GRILLS

FIRE SUPPRESSION WEIGHT = ANSUL 63 LBS / AMEREX 264LBS
HOOD WEIGHT= 669 LBS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION		
08.09.22	U22-606-01	H-1L	CFM	TAB	SP
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING			1204	.13"	.22"
LOCATION: --			CAPTURE AIR INFORMATION		
			CFM		SP
SUBMITTED BY: HALTON CO.			80		.30"

4123

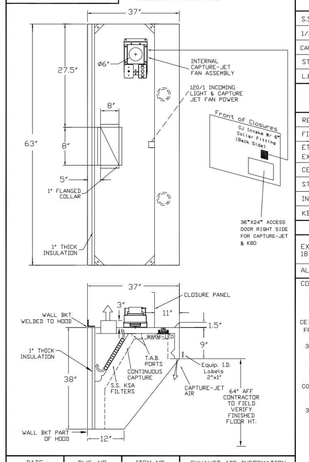
K FACTOR EQUATION: CFM = K FACTOR ✱ √ΔP

K FACTOR = 3365

Halton

MODEL: KVL-2-IC

FACTORY MUST BE ADVISED OF ANY SPECIAL ✱ REQUIREMENTS OF THE "AUTHORITY HAVING JURISDICTION" AT TIME OF QUOTE



STANDARD FEATURES	
S.S. FILTERS (KSA)	3
1/2 S.S. FILTERS (KSA)	–
CAPTURE-JET	✱
STAND-OFF	✱
L.E.D. LIGHTS	2
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	✱
ETL LISTED W/O EXHAUST DAMPER	✱
CEILING CLOSURE	2
STD. BACKSPLASH	
INSULATED BACKSPLASH	
KBD DAMPER	✱
MATERIAL	
EXPOSED SURFACES 18 GA. S.S.	✱
ALL 18 GA. S.S.	

COMMENTS:
CLOSURE HEIGHT = 51" (TWO SIDES)
CEILING HEIGHT = 122"
CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF

36"x24" ACCESS DOOR RIGHT SIDE FOR ACCESS TO CAPTURE-JET W/ FRONT CJ INTAKE & KBD

CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT

3" REAR STAND-OFF TO HAVE 1" THICK INSULATION

EQUIPMENT COVERED (3)PRESSURE FRYERS

HOOD WEIGHT = 394 LBS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION		
08.09.22	U22-606-01	H-1R	CFM	TAB	SP
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING			709	.13"	.23"
LOCATION: --			CAPTURE AIR INFORMATION		
			CFM		SP
SUBMITTED BY: HALTON CO.			47		.30"

4123

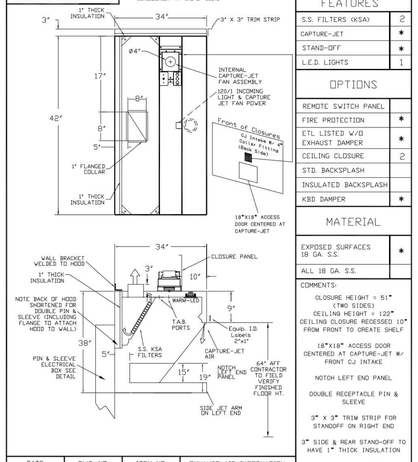
K FACTOR EQUATION: CFM = K FACTOR ✱ √ΔP

K FACTOR = 1959

Halton

MODEL: KVL-C-IC

FACTORY MUST BE ADVISED OF ANY SPECIAL ✱ REQUIREMENTS OF THE "AUTHORITY HAVING JURISDICTION" AT TIME OF QUOTE



STANDARD FEATURES	
S.S. FILTERS (KSA)	2
CAPTURE-JET	✱
STAND-OFF	✱
L.E.D. LIGHTS	1
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	✱
ETL LISTED W/O EXHAUST DAMPER	✱
CEILING CLOSURE	2
STD. BACKSPLASH	
INSULATED BACKSPLASH	
KBD DAMPER	✱
MATERIAL	
EXPOSED SURFACES 18 GA. S.S.	✱
ALL 18 GA. S.S.	

COMMENTS:
CLOSURE HEIGHT = 51" (TWO SIDES)
CEILING HEIGHT = 122"
CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF

18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET W/ FRONT CJ INTAKE

NOTCH LEFT END PANEL

DOUBLE RECEPTACLE PIN & SLEEVE

3" X 3" TRIM STRIP FOR STANDOFF ON RIGHT END

3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION

EQUIPMENT COVERED (2)FRYERS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION		
08.09.22	U22-606-01	H-2	CFM	T.A.B.	SP
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING			701	.30"	.39"
LOCATION: --			CAPTURE AIR INFORMATION		
			CFM		SP
SUBMITTED BY: HALTON CO.			30		.29"

4123

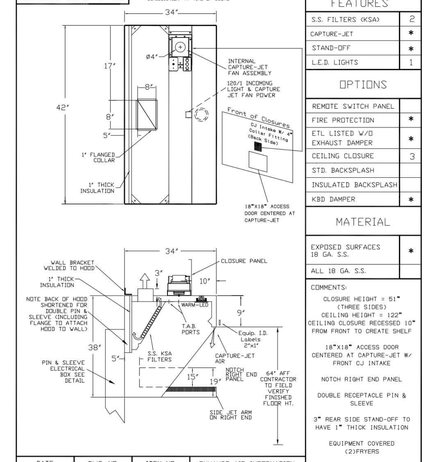
K FACTOR EQUATION: CFM = K FACTOR ✱ √ΔP

K FACTOR = 1291

Halton

MODEL: KVL-C-IC

FACTORY MUST BE ADVISED OF ANY SPECIAL ✱ REQUIREMENTS OF THE "AUTHORITY HAVING JURISDICTION" AT TIME OF QUOTE



STANDARD FEATURES	
S.S. FILTERS (KSA)	2
CAPTURE-JET	✱
STAND-OFF	✱
L.E.D. LIGHTS	1
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	✱
ETL LISTED W/O EXHAUST DAMPER	✱
CEILING CLOSURE	3
STD. BACKSPLASH	
INSULATED BACKSPLASH	
KBD DAMPER	✱
MATERIAL	
EXPOSED SURFACES 18 GA. S.S.	✱
ALL 18 GA. S.S.	

COMMENTS:
CLOSURE HEIGHT = 51" (THREE SIDES)
CEILING HEIGHT = 122"
CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF

18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET W/ FRONT CJ INTAKE

NOTCH RIGHT END PANEL

DOUBLE RECEPTACLE PIN & SLEEVE

3" REAR SIDE STAND-OFF TO HAVE 1" THICK INSULATION

EQUIPMENT COVERED (2)FRYERS

DATE	DWG. NO.	ITEM NO.	EXHAUST AIR INFORMATION		
08.09.22	U22-606-01	H-3	CFM	T.A.B.	SP
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING			701	.30"	.39"
LOCATION: --			CAPTURE AIR INFORMATION		
			CFM		SP
SUBMITTED BY: HALTON CO.			30		.29"

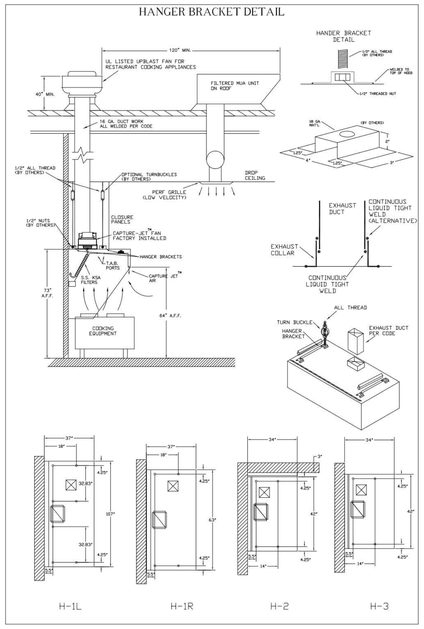
4123

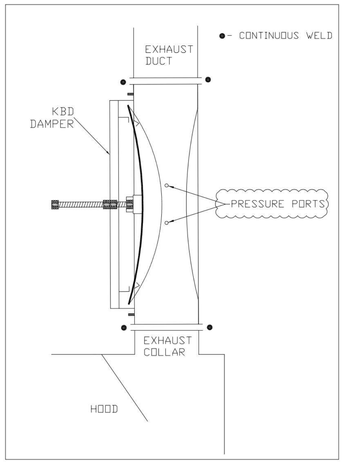
K FACTOR EQUATION: CFM = K FACTOR ✱ √ΔP

K FACTOR = 1291

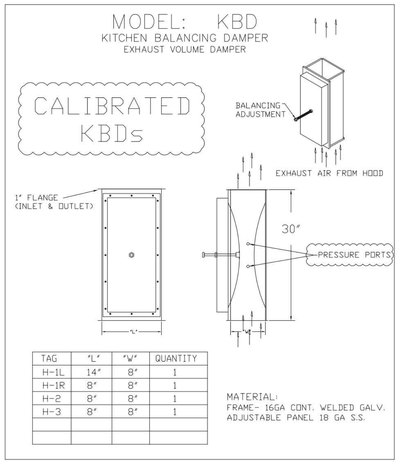
Halton

HANGER BRACKET DETAIL





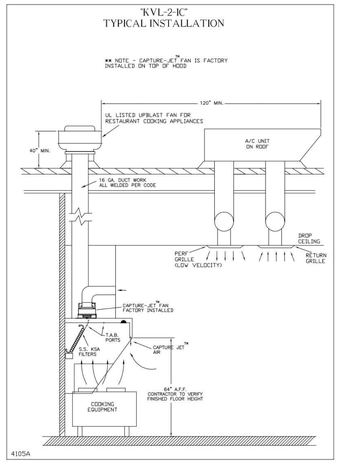
MODEL: KBD
KITCHEN BALANCING DAMPER
EXHAUST VOLUME DAMPER



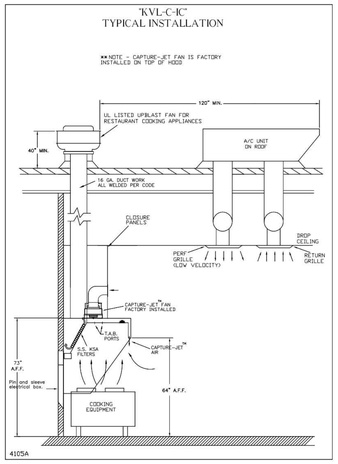
TAG	"L"	"W"	QUANTITY
H-1L	14"	8"	1
H-1R	8"	8"	1
H-2	8"	8"	1
H-3	8"	8"	1

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

"KVL-2-IC"
TYPICAL INSTALLATION

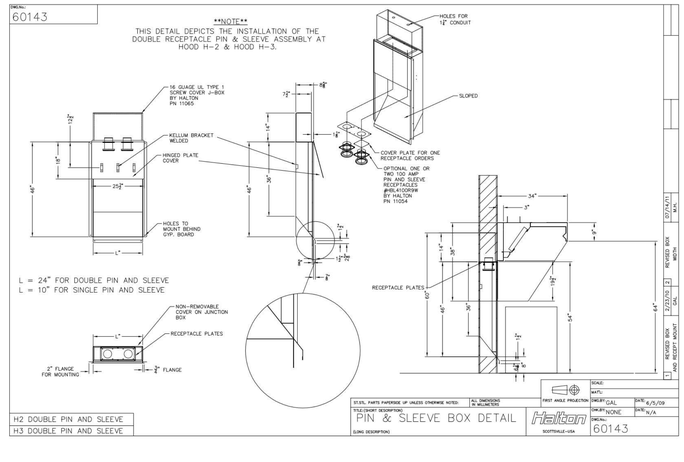


"KVL-C-IC"
TYPICAL INSTALLATION



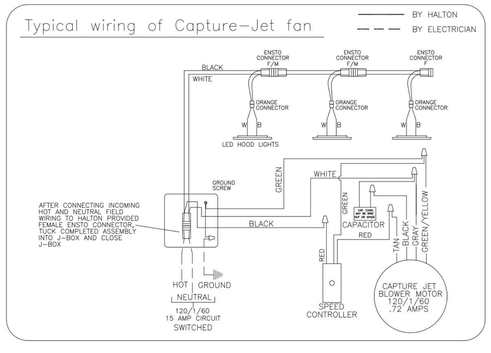
60143

NOTE
THIS DETAIL DEPICTS THE INSTALLATION OF THE DOUBLE RECEPTACLE PIN & SLEEVE ASSEMBLY AT HOOD H-2 & HOOD H-3.

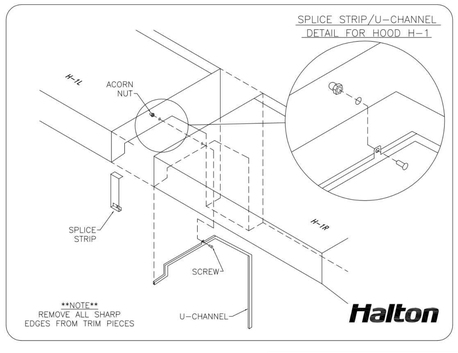


UNLESS OTHERWISE NOTED:	ALL DIMENSIONS IN MILLIMETERS	SCALE:	
TITLE/SHORT DESCRIPTION: PIN & SLEEVE BOX DETAIL (LONG DESCRIPTION)	FIRST ANGLE PROJECTION	MATL:	
	Halton SCOTTSVILLE, KY	SHEET: GAL	DATE: 6/5/09
		WGT: NONE	DATE: N/A
		DRG.NO.: 60143	

Typical wiring of Capture-Jet fan



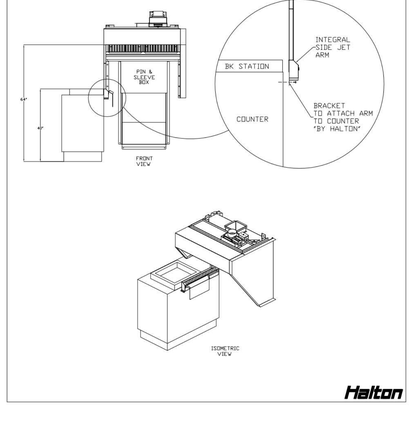
SPLICE STRIP/U-CHANNEL DETAIL FOR HOOD H-1



NOTE
REMOVE ALL SHARP EDGES FROM TRIM PIECES

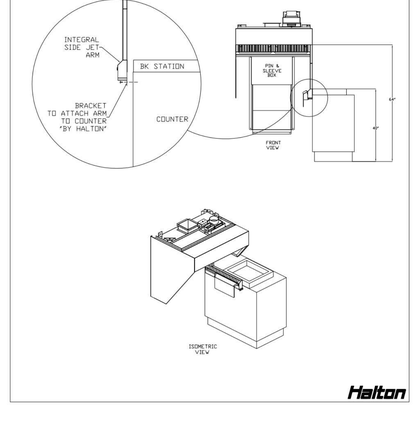
Halton

Integral Side Jet Arm H-2

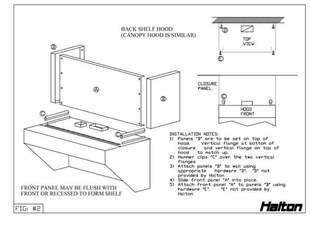


Halton

Integral Side Jet Arm H-3

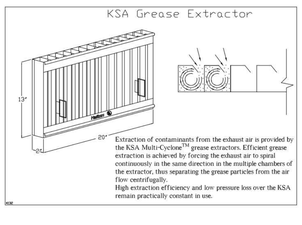


Halton



Halton

KSA Grease Extractor



Extraction of contaminants from the exhaust air is provided by the KSA Multi-Cyclone™ grease extractors. Efficient grease extraction is achieved by forcing the exhaust air to spiral continuously in the same direction in the multiple chambers of the extractor, thus separating the grease particles from the air flow centrifugally.
High extraction efficiency and low pressure loss over the KSA remain practically constant in use.

WSK

HALTON HOODS
– ETL LISTED PER LATEST 710 STANDARD
– BUILT PER NFPA 96
– NSF LISTED

NSF Halton ETL INTERTEK 3012225 CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD S646

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO. KVL-C-IC | SERIAL NO. | ITEM NO.

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS
THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE HOOD HAS BEEN CERTIFIED BY ETL FOR 0 INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.
THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES
REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER
SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, DL		MIN EXHAUST VOLUME AT HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	6	6	20	36	138
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN H20					

NSF Halton ETL INTERTEK 3012225 CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD S646

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO. KVL-2-IC | SERIAL NO. | ITEM NO.

GENERAL REQUIREMENTS

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REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER
SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, DL		MIN EXHAUST VOLUME AT HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	6 (+)	6	20	36	121
MEDIUM	6	0	20	32	106
MEDIUM	6	6	20	36	133
HEAVY	0	2	20	25	196
HEAVY	0	2	20	30	256
+ - SETBACK/OVERHANG DISTANCE					
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.26 IN H20					

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

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

WEBSITE: WWW.HALTON.COM

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFYING THE FOLLOWING:
1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE: ANY CHANGES TO APPROVED DRAWING INCLUDING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

☐ REVISE AND RESUBMIT
APPROVED FOR FABRICATION ☐ WITH CHANGES AS NOTED
☐ WITH NO CHANGES

APPROVED BY | DATE

REV.	DESCRIPTION	DATE	BY
1	–	–	–
2			
3			
4			
5			
6			
7			

PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING
LOCATION: -- | DATE: 08.09.22
DRAWN BY: CG | SCALE: NTS
Halton Dwg: U22-606-01

Halton CARE FOR INDOOR AIR

Sheet MH—1.1

GREASE EXHAUST DUCT CLEARANCE NOTE:

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

CLEANOUT DOOR NOTE:

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

MAKE SURE GREASE DUCT ROUTING MATCHES DESIGN

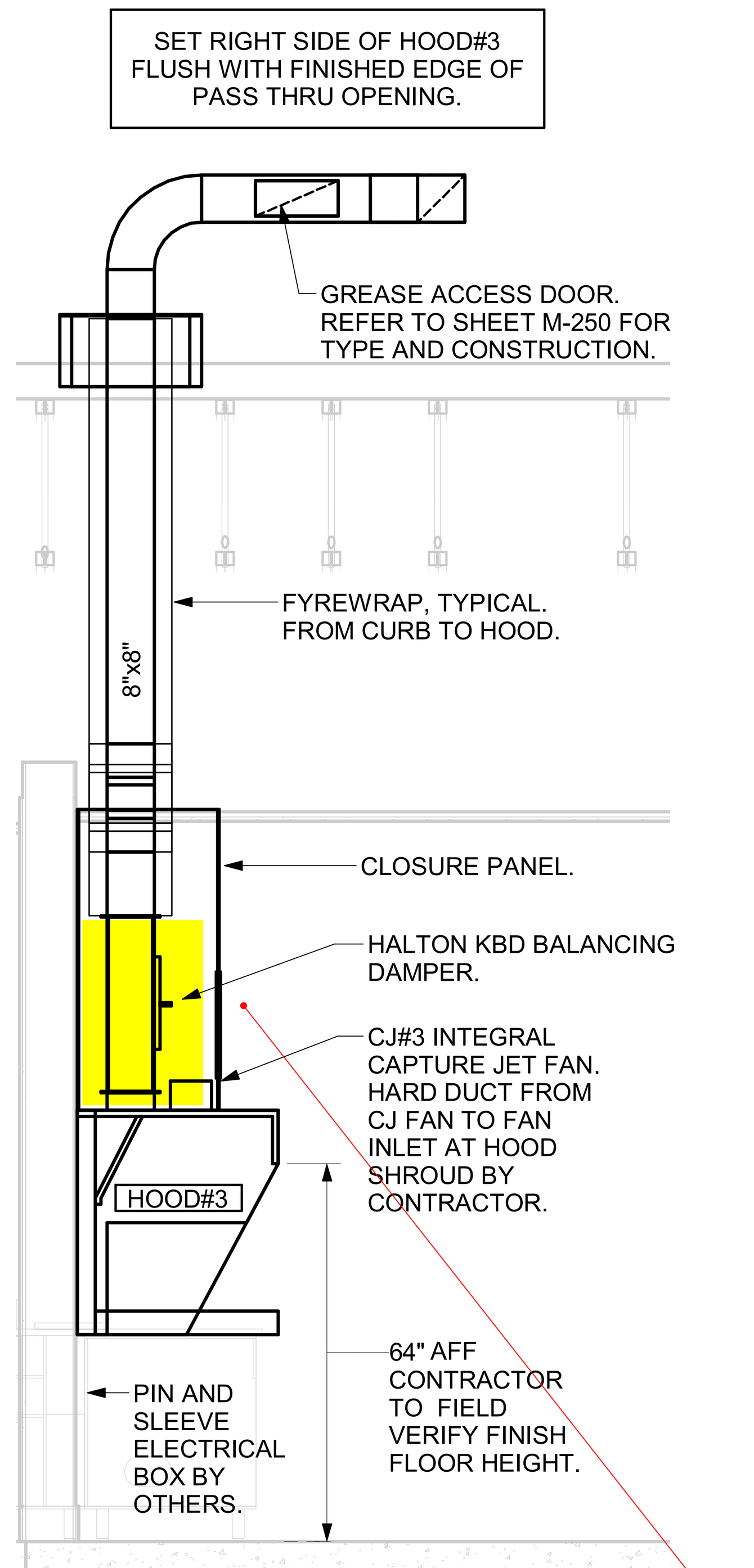
ENSURE ALL TRANSITIONS MEET NOTE 5 IN KITHEN HOOD SYSTEM NOTES. TURNS MUST BE LONG RADIUS WITH CENTERLINE RADIUS OF R = 1.5*W HARD 90'S NOT ALLOWED

HOOD SCHEDULE - LARGE BLDG

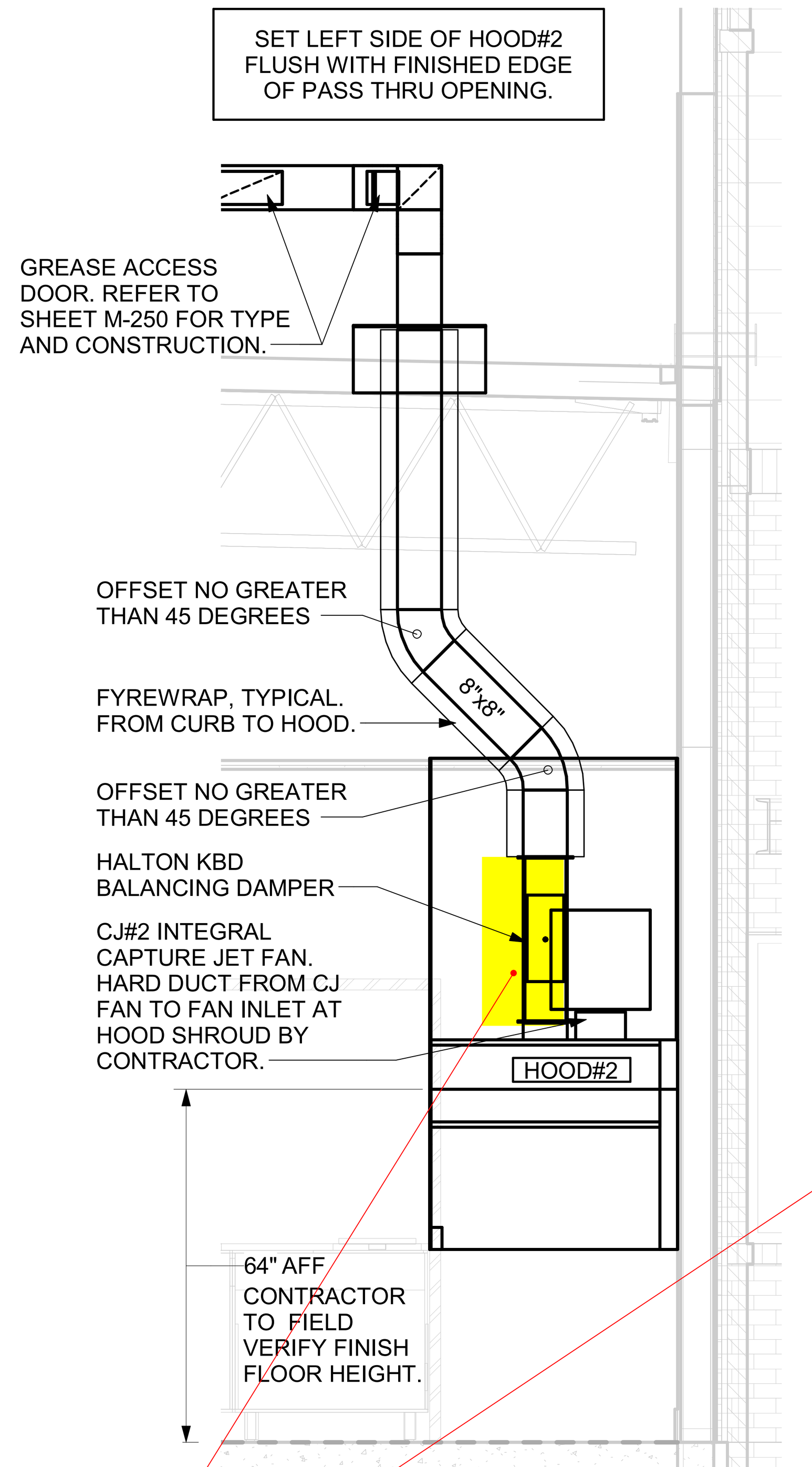
MARK	EXHAUST CFM	SP @ TAB PORT	CAPTURE JET CFM & S.P.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MFGR	MODEL	REMARKS
HOOD#1L	1,204 CFM	0.13"	80 @ 0.30"	BACKSHELF	14"X8"	107"	37"	38"	HALTON	KVL-2 IC	1
HOOD#1R	709 CFM	0.13"	47 @ 0.30"	BACKSHELF	8"X8"	63"	37"	38"	HALTON	KVL-2 IC	1
HOOD#2	701 CFM	0.30"	30 @ 0.29"	BACKSHELF	8"X8"	45"	34"	38"	HALTON	KVL-C IC	1
HOOD#3	701 CFM	0.30"	30 @ 0.29"	BACKSHELF	8"X8"	42"	34"	38"	HALTON	KVL-C IC	1
NOTES	DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS).										
REMARKS	1. REFER TO HOOD SHOP DRAWINGS FOR HOOD CONSTRUCTION AND OPTIONS. HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-1.1 AND MH-1.2.										

KITCHEN HOOD SYSTEMS NOTES

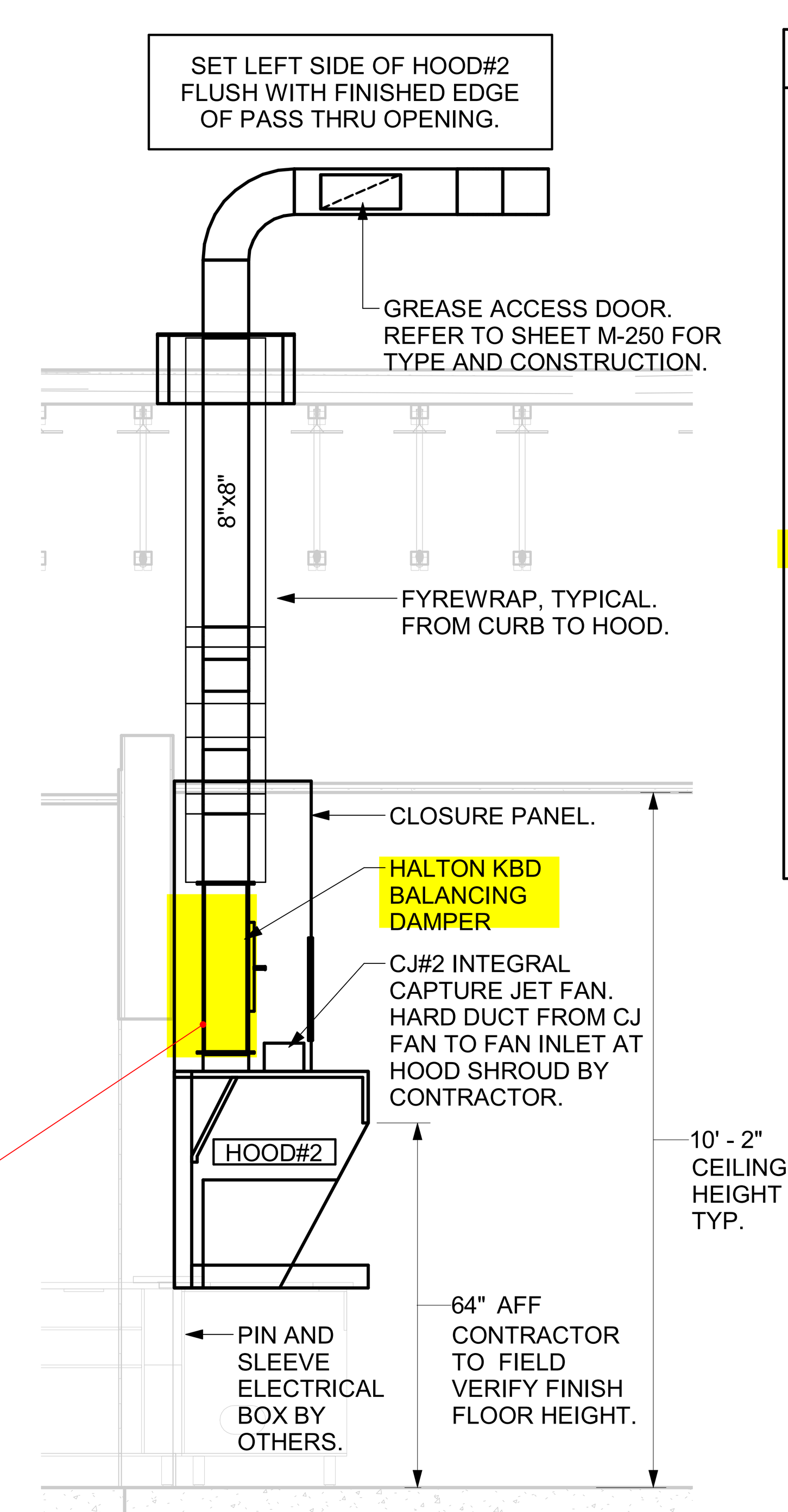
1. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
2. THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET CHEMICAL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
3. THE FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED INSTALLER SELECTED AND HIRED BY HALTON. COST FOR INSTALLATION INCLUDED IN PRICE OF HOODS TO CFA.
4. HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
5. TURNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R=3W/2, UNLESS OTHERWISE NOTED. NO MITERED FITTINGS ALLOWED.
6. ALL STAINLESS STEEL CLOSURE PANELS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE MECHANICAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
8. WRAP NEW GREASE DUCT WITH UNIFRAX FYREWRAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWRAP PRODUCT USED SHALL MEET LOCAL CODE REQUIREMENTS.
9. SUPPORT ALL HOODS WITH THREADED ROD AT EACH FACTORY SUPPORT POINT. EACH SUPPORT POINT MUST SUPPORT THE HOOD WEIGHT EQUALLY. ATTACH TO STRUCTURE AS DETAILED ON STRUCTURAL DRAWINGS. ATTACH HOOD TO WALL AT 16" INTERVALS ALONG FULL LENGTH OF HOOD ON TOP AND BOTTOM. ATTACHMENT TO WALL REQUIRES FIELD DRILLING OF SUPPORT ANGLE AT BACK OF HOODS. EACH WALL ATTACHMENT POINT MUST OCCUR AT A WALL STUD. ATTACHMENT HARDWARE TO BE #12-24 HEX HEAD SHEET METAL SCREW EQUAL TO TEXTRON SDS EDT265, LENGTH AS REQUIRED TO FULLY PENETRATE THE STUD.
10. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-501 FOR MORE INFORMATION.



7 HOOD ELEVATION - HOOD#3
NOT TO SCALE



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



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

MAKE SURE GREASE DUCT IS WRAPPED WITH FYRE WRAP BRAND ONLY.

2

A. PER SECTION 509.2.2 OF ST. LOUIS COUNTY ORDINANCE, THE ACTUATION OF THE FIRE SUPPRESSION SYSTEM AUTOMATICALLY SHUTS DOWN THE FUEL OR POWER TO THE COOKING EQUIPMENT (SUCH FUEL SUPPLY OF POWER IS RESET MANUALLY).

B. THE MAKEUP AIR UNIT IS INTERLOCKED WITH THE AUTOMATIC FIRE SUPPRESSION SYSTEM TO SHUT DOWN UPON ACTIVATION OF THE FIRE SUPPRESSION SYSTEM, PER SECTION 509.2.2.1 OF ST. LOUIS COUNTY ORDINANCE. THE EXHAUST FAN SHALL REMAIN IN OPERATION DURING FIRE CONDITIONS PER 509.2.2.1 OF ST. LOUIS COUNTY ORDINANCE.

C. THE MAKEUP AIR UNIT SHALL BE CONTROLLED TO AUTOMATICALLY START AND OPERATE WITH THE KITCHEN EXHAUST FAN PER IMC 508.1.

06/12/23

NOTE:
SEE ARCHITECTURAL PLANS FOR HOOD LOCATIONS.

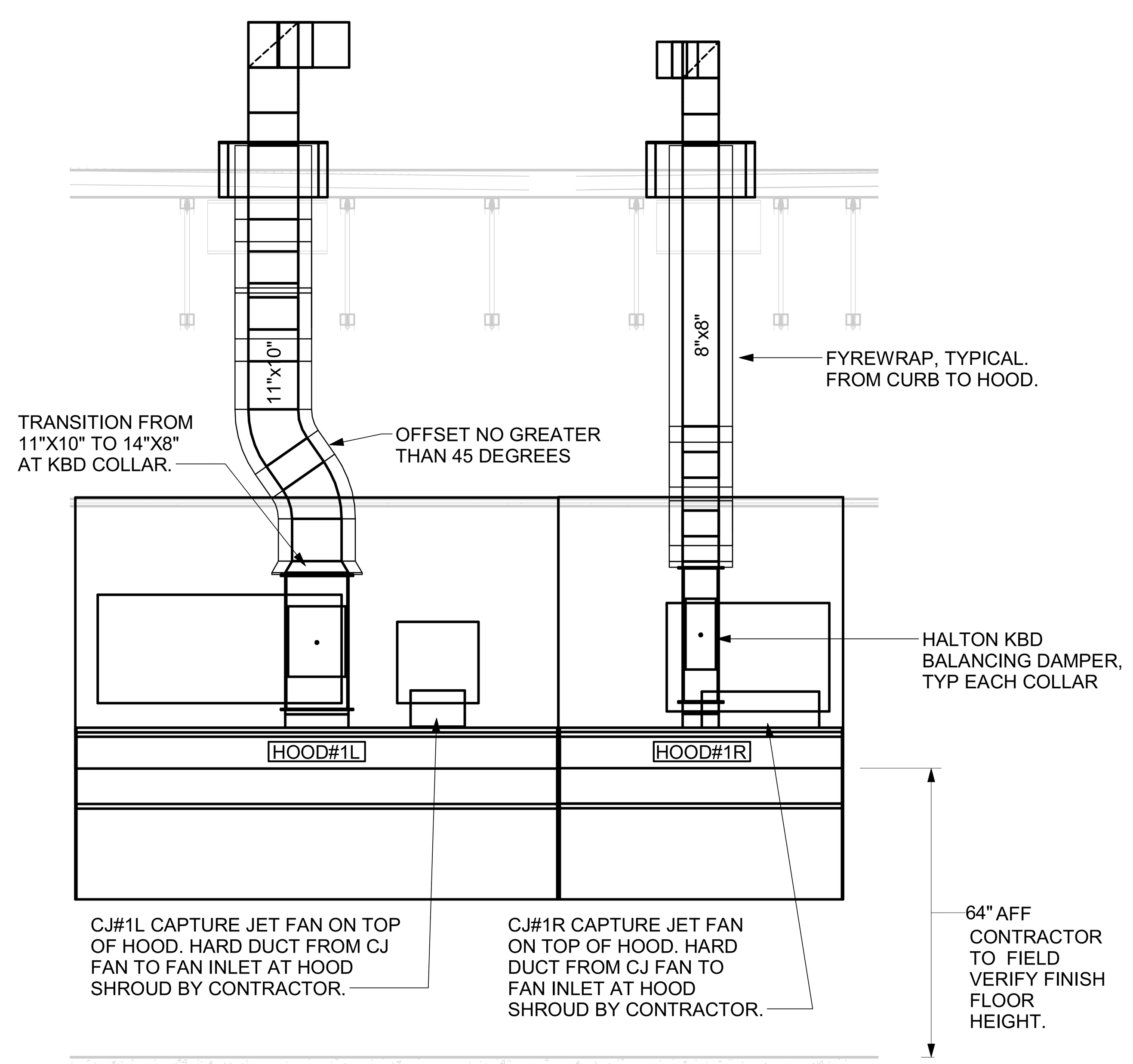
ENSURE BALANCING DAMPERS INSTALLED

PULL STATION MINIMUM 10' AND MAXIMUM 20' FROM HOOD (REQUIREMENT FOUND IN IBC 904.12.1

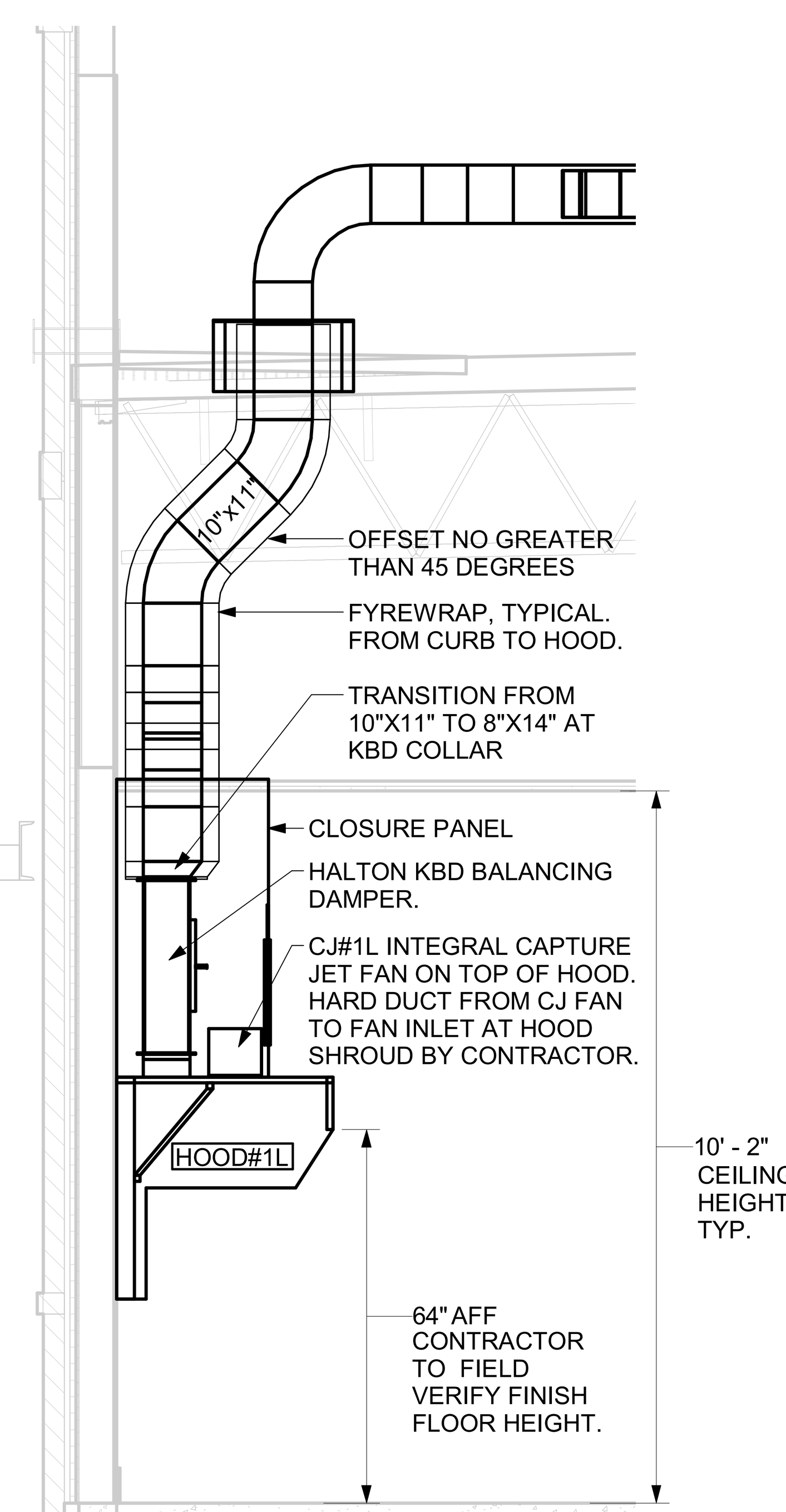
1

PULL STATIONS SERVING BOTH HOOD#2 AND HOOD#3 ADJACENT TO HANDSINKS SHOWN. LOCATE PULL STATION BETWEEN 42" AND 48" AFF. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. J-BOX AND CONDUIT ARE BY ELECTRICAL. PROVIDE RED BAKELITE LABEL WITH 1/4" HIGH WHITE LETTERS INDICATING THE HOODS SERVED, I.E.: "PASS THRU HOODS".

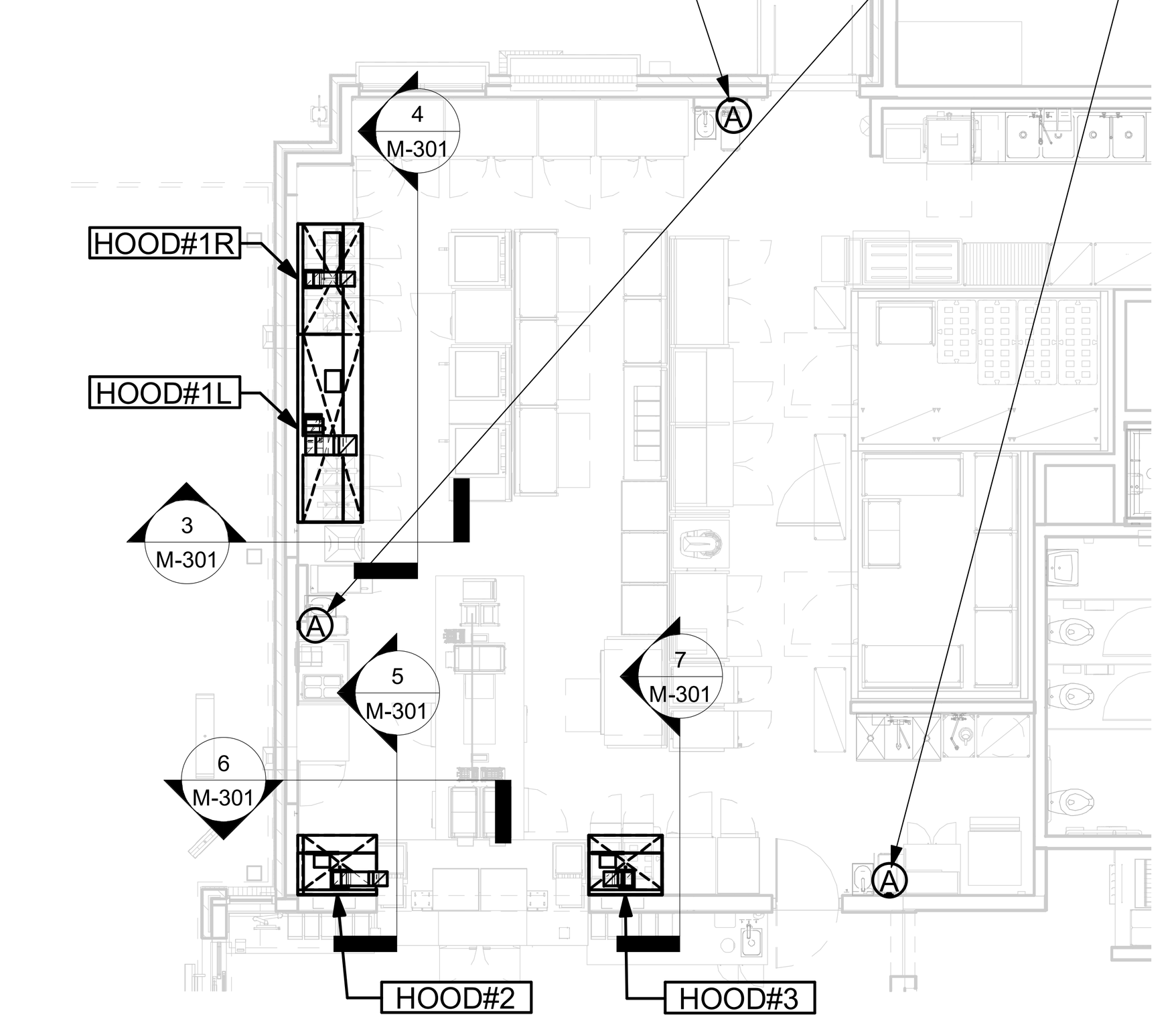
PULL STATION SERVING HOOD#1 ADJACENT TO HANDSINK. LOCATE PULL STATION BETWEEN 42" AND 48" AFF. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. J-BOX AND CONDUIT ARE BY ELECTRICAL. PROVIDE RED BAKELITE LABEL WITH 1/4" HIGH WHITE LETTERS INDICATING THE HOODS SERVED, I.E.: "MAIN COOKLINE HOOD".



4 HOOD ELEVATION - HOOD#1 - FRONT
NONE



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



1 HOOD LAYOUT
1/8" = 1'-0"

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

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

CHICK-FIL-A
Creve Coeur FSU

12398 Olive Blvd
Creve Coeur, MO 63141

FSR#05161

BUILDING TYPE / SIZE: P14 SE LRG
RELEASE: 22.08
PRINTED FOR
ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	04/26/23	PERMIT COMMENTS
2	04/28/23	MECHANICAL COMMENTS
3	05/05/23	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 23040.CD.S
DATE 03/20/2023
DRAWN BY BLM

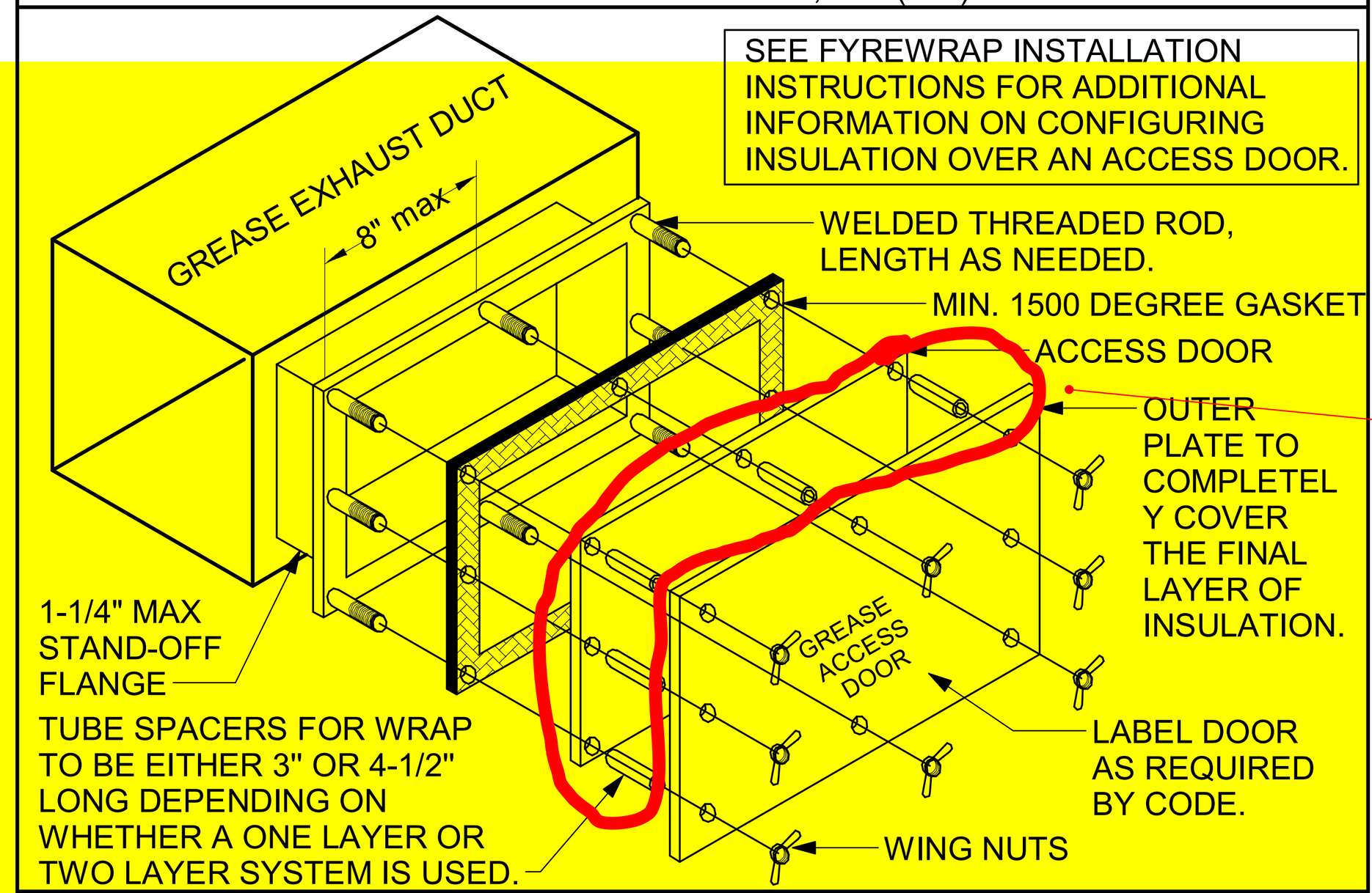
SHEET
HOOD DETAILS AND SCHEDULES

SHEET NUMBER
M-301

GREASE ACCESS DOOR SCHEDULE

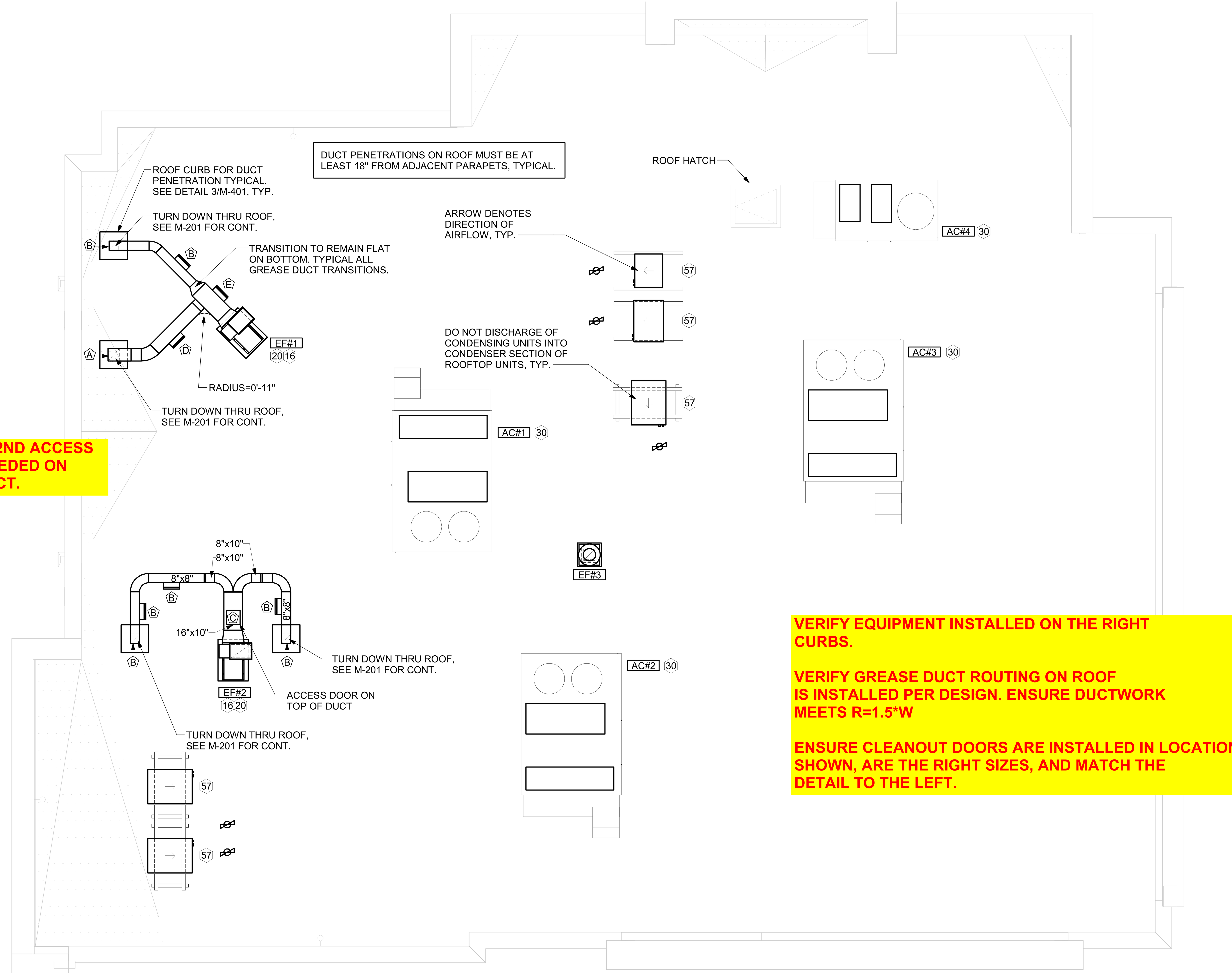
MARK	OPENING SIZE	DOOR SIZE	REMARKS
A	9H X 14W	11H X 16W	1
B	6H X 14W	8H X 16W	1
C	12H X 12W	14H X 14W	1
D	8H X 14W	10H X 16W	1
E	12H X 14W	14H X 16W	1

1. ACCESS DOORs SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR ASSEMBLY SHALL BE WELDED IN PLACE TO THE GREASE EXHAUST DUCT AND THE ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEGREE GASKET MATERIAL EQUIVALENT TO THAT MANUFACTURED BY BRENTON INDUSTRIES, INC (800) 382-2491.



TUBE SPACERS AND OUTER PLATE NOT REQUIRED ON UNINSULATED DUCT.

SPACER AND 2ND ACCESS DOOR NOT NEEDED ON ROOF TOP DUCT.



VERIFY EQUIPMENT INSTALLED ON THE RIGHT CURBS.

VERIFY GREASE DUCT ROUTING ON ROOF IS INSTALLED PER DESIGN. ENSURE DUCTWORK MEETS R=1.5*W

ENSURE CLEANOUT DOORS ARE INSTALLED IN LOCATIONS SHOWN, ARE THE RIGHT SIZES, AND MATCH THE DETAIL TO THE LEFT.

1 MECHANICAL ROOF PLAN - LARGE
1/4" = 1'-0"

SHEET NOTES

1. ALL DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLIAMS PRO INDUSTRIAL DTM ACRYLIC COATING, SEMI-GLOSS, WHITE. DEGREASE AND RPIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS PRO INDUSTRIAL PRO-CRYL ACRYLIC UNIVERSAL PRIMER, WHITE, PRIOR TO PAINTING.
2. AT EACH PIECE OF ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. THE LABEL IS TO HAVE A SELF ADHESIVE BACKING.
3. MAINTAIN 18" CLEARANCE FROM GREASE EXHAUST DUCTWORK ABOVE ROOF TO ANY COMBUSTIBLE CONSTRUCTION INCLUDING PARAPET WALLS.

GAS FIRED ROOFTOP UNIT SCHEDULE - TRANE

MARK	TOTAL COOLING MBH	SENSIBLE COOLING MBH	HEATING INPUT MBH	HEATING OUTPUT MBH	SUPPLY AIRFLOW	OA	HP	# of Fans	ESP	EER	IEER/ SEER	VOLTAGE	PHASE	MCA	MOCP	MODEL R-410A	MANUFACTURER	REMARKS
AC#1	279.4	180.8	250	202.5	8,750 CFM	1,750 CFM	3.1 hp	2	0.80 in-wg	9.8	13	208 V	3	125 A	150 A	YSJ300A3S	TRANE	1,3,4,5,7,8,9,10,11,12,13,14,16
AC#2	185.4	108.9	320	259.2	5,250 CFM	900 CFM	3.1 hp	2	0.80 in-wg	10.8	14	208 V	3	83 A	110 A	YSJ180A3S	TRANE	1,3,4,5,7,8,9,10,11,12,13,14,16
AC#3	185.4	108.9	320	259.2	5,250 CFM	1,600 CFM	3.1 hp	2	0.80 in-wg	10.8	14	208 V	3	83 A	110 A	YSJ180A3S	TRANE	1,3,4,5,7,8,9,10,11,12,13,14,16
AC#4	59.1	44.2	130	104	1,875 CFM	500 CFM	1 hp	1	0.80 in-wg	13	17.2	208 V	3	33 A	45 A	YHC067E3R	TRANE	2,3,4,5,6,7,8,9,10,11,12,15,16

NOTES
- CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR EQUIPMENT WITH TRANE CORPORATION. CONTACT TRANE TECH SUPPORT AT 866-986-4822 FOR PRICING, ORDERING AND AVAILABILITY OR BY EMAIL CFA@TRANE.COM.
- MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS.

REMARKS
1. PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST. PROVIDE FACTORY FAULT DETECTION AND DIAGNOSTICS.
2. PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST. PROVIDE FACTORY FAULT DETECTION AND DIAGNOSTICS.
3. PROVIDE 14" HIGH FULLY WELDED SEISMIC ROOF CURB WITH INTEGRAL CURB CLIPS. SEISMIC ZONE D.
4. SEE DETAIL 2/M-501 FOR SETTING OF CONTROL PARAMETERS BY MC.
5. PROVIDE FACTORY INSTALLED RETURN AIR SMOKE DETECTOR.
6. PROVIDE FACTORY INSTALLED NON-FUSED DISCONNECT.
7. PROVIDE 2" MERV 8 THROW AWAY FILTERS.
8. PROVIDE HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
9. PROVIDE FACTORY INSTALLED COIL HAIL GUARD.
10. PROVIDE HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
11. PROVIDE FACTORY CONFIGURED PHASE LOSS PROTECTION.
12. PROVIDE FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
13. PROVIDE WITH 65K SCCR RATING WITH FACTORY CIRCUIT BREAKER.
14. PROVIDE FACTORY INSTALLED 115V, 20 AMP GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
15. PROVIDE FACTORY INSTALLED AND POWERED 115V GFI SERVICE OUTLET.
16. PROVIDE FRESH AIR TEMPERING KIT.

KEY NOTES

16 FABRICATE DISCHARGE AIR NOZZLE. VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. SEE DETAIL 3/M-401.

20 GREASE EXHAUST DUCT LOCATED ON ROOF SHALL SLOPE ¼"PER FOOT TOWARDS THE HOOD, THE FAN, OR A COMBINATION OF THE TWO SUCH THAT NO PORTION OF THE RADIUS ELBOW AT THE CURB IS BELOW THE CURB CAP AND SUCH THAT THE FAN BASE SETS DIRECTLY ON THE CURB RAILS. THE BOTTOM OF THE RADIUS ELBOW MAY BE EVEN OR FLUSH WITH THE CURB CAP, BUT NOT BELOW THE CAP. THE DUCT AT THE FAN MUST BE CENTERED ON THE FAN INLET. THE MC MAY ADD A VERTICAL RISER AT THE RADIUSED ELBOW LOCATED AT THE DUCT CURB AS NEEDED IN ORDER TO CENTER THE DUCT ON THE FAN INLET.

30 MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED.

57 GC SHALL PROVIDE EQUIPMENT STANDS AS MANUFACTURERED BY AVCOA OR EQUAL. STANDS SHALL BE INSTALLED PRIOR TO ROOF INSULATION SO THAT THE INSULATION IS CONTINUOUS UP TO THE PIPE POSTS. POSTS SHALL BE FLASHED IN ACCORDANCE WITH ROOFING MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE BLOCKING BELOW THE ROOF DECK AS REQUIRED.

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

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

STATE OF MISSOURI
MARK T. KURZYNSKE
E-2000153801
PROFESSIONAL ENGINEER
06/12/23

CHICK-FIL-A
Creve Coeur FSU
12398 Olive Blvd
Creve Coeur, MO 63141

FSR#05161

BUILDING TYPE / SIZE: P14 SE LRG
RELEASE: 22.08
PRINTED FOR: ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
3	05/05/23	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT #: 23040.CD.S
DATE: 03/20/2023
DRAWN BY: BLM

SHEET: MECHANICAL ROOF PLAN

SHEET NUMBER: **M-250**

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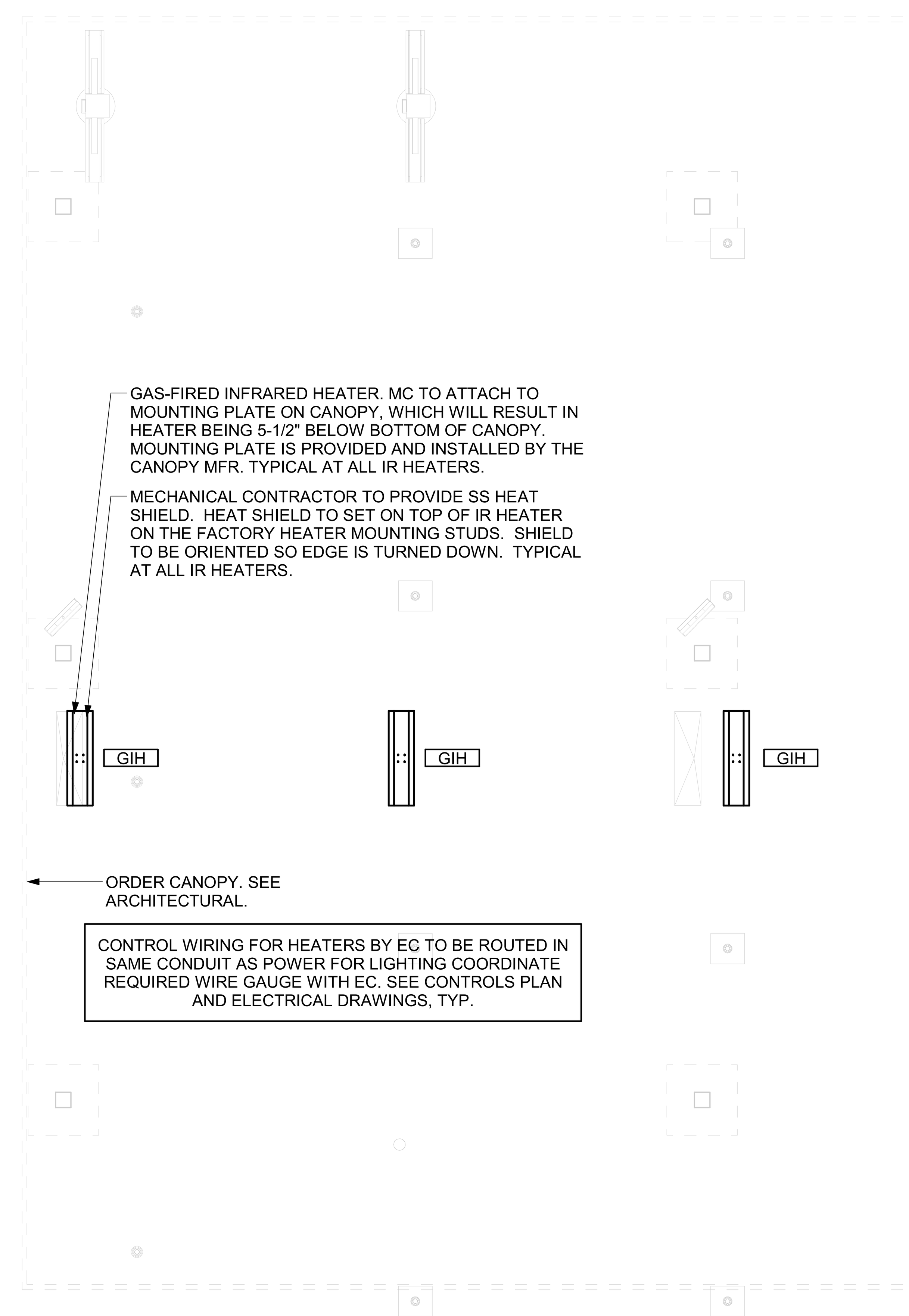
6/9/2023 7:24:57 AM
30-SE-05161-M-250-MECHANICAL ROOF PLAN

GAS FIRED INFRARED HEATER SCHEDULE - LARGE BLDG							
MARK	INPUT (MBH)	FRAME LENGTH	FRAME WIDTH	FRAME DEPTH	MOUNTING TYPE	MODEL	MANUFACTURER
GIH	50	48-1/4"	13"	10"	Bracket	2352-NG	Schwank
NOTES	• CONFIRM HEATER QUANTITY WITH CANOPY SHOP DRAWINGS. • CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE GAS FIRED INFRARED HEATERS. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE HEATER PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010, FOR PRICING AND AVAILABILITY. HEATERS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.						
REMARKS	1. STEEL BURNER WITH CERAMIC BURNER TILES. 2. STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING. 3. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO CANOPY DECK, FACING FORWARD, 12" LATERALLY FROM THE LONG SIDE OF THE HEATER. 4. STAINLESS STEEL HEAT SHIELDS PROVIDED BY TOM BARROW COMPANY.						

CANOPY GENERAL NOTES

1. COORDINATE NEW WORK WITH EXISTING CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF WORK.
2. COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
3. EXPOSED GAS PIPING SHALL BE PAINTED BY GENERAL CONTRACTOR.
4. ACTUAL NUMBER OF GAS INFRARED HEATERS WILL BE DETERMINED BY SITE-SPECIFIC CANOPY LAYOUT AND EQUIPMENT LOCATIONS, AS INDICATED ON ARCHITECTURAL PLANS.
5. CONTROL WIRING FOR HEATERS BY EC. COORDINATE REQUIRED WIRE GAUGE WITH EC. SEE CONTROLS PLAN AND ELECTRICAL DRAWINGS, TYP.



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

Chick-fil-A
5200 Buffington Road
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Kurzynske
& Associates
2705 Lebanon Pike - Suite One
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Telephone: (615) 255-5203

STATE OF MISSOURI
MARK T. KURZYNSKE
E-2000152891
PROFESSIONAL ENGINEER
06/12/23

CHICK-FIL-A
Creve Coeur FSU

12398 Olive Blvd
Creve Coeur, MO 63141

FSR#05161

BUILDING TYPE / SIZE: P14 SE LRG
RELEASE: 22.08
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NO.	DATE	DESCRIPTION
3	05/05/23	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 23040.CD.S
DATE 03/20/2023
DRAWN BY BLM

SHEET
MECHANICAL CANOPY PLAN

SHEET NUMBER
M-251

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XX-SE-05161-M-251-MECHANICAL CANOPY PLAN

Product Information Sheet

FyreWrap® Elite® 1.5 Duct Insulation – Grease Duct ASTM E2336 System

FyreWrap® Elite® 1.5 Duct Insulation

Introduction

Unifrax's FyreWrap® Elite® 1.5 Duct Insulation is a two-layer flexible enclosure for two-hour rated commercial kitchen grease ducts. FyreWrap Elite 1.5 Duct Insulation is tested per ASTM E2336 and is acceptable as an alternate to a traditional fire-rated shaft. Installed as a two-layer system, FyreWrap Elite 1.5 complies with the International Mechanical Code (IMC) and Uniform Mechanical Code (UMC). FyreWrap Elite 1.5 Duct Insulation offers the following product features:

- 2-hour fire-resistance rating
- Alternate to shaft enclosure
- Complies with IMC and UMC
- Tested per ASTM E2336
- Two-layer system
- High-temperature, biosoluble insulation
- Zero clearance to combustibles, at any location
- GREENGUARD listed for Microbial Resistance

Typical Product Parameters

Thickness	1.5*
Nominal Density	6pcf
Standard Product Form	Scrim Encapsulated
Product Availability	24"w x 25LF 48"w x 25LF

Typical Product Properties

ICC Evaluation Services	Evaluation Report ESR-2224
Intertek Laboratories Listed	Duct System: Design No. UNI/BI 120-02, UNI/BI 120-14, UNI/WA 120-01
ASTM E2336	Passes all tests
ASTM E2336 Internal Grease Duct Test	Zero Clearance to Combustibles at all locations on wrap
ASTM E119 Full Scale Engulfment Test	2-hour Fire Resistance Rating
ASTM E119 Vertical Wall Test	2-hour Fire Resistance Rating
ASTM E84, UL 723, ULC S102.2 – UL File No. R14514	Unfaced Blanket Encapsulated
Flame Spread/Smoke Developed Rating	Zero/Zero <25/<50
ASTM E814 Firestop Test F-Rating = 2 Hrs., T-Rating = 2 Hrs.	Firestop System: UNI/FRD 120-19, UNI/BI 120-02, UNI/BI 120-14
ASTM E136 Non-Combustibility Test	Passes
ASTM C518 Durability Test	Passes; R-Value = 4.8 per inch at 75°F
ASTM C518 Thermal Resistance	R-Value of Elite 1.5 (1½") = 7.2
ASTM D6329-03 Microbial Resistance	Highly Resistant to Mold Growth
California State Fire Marshal Listing	No: 2440-1478:100

Complies with: NFPA 96 (all editions), 1997 ICBO Uniform Mechanical Code (UMC), 1997 ICBO Uniform Building Code (UBC), 2018 International Mechanical Code (IMC), 2018 IAPMO UMC (Uniform Mechanical Code).

ESR-2224

Intertek

Complies with: NFPA 96

INTERNATIONAL FIRESTOP COUNCIL "All Seals Protect Assets"

Installation (Figure 1)

To minimize waste, FyreWrap Elite 1.5 should be rolled out tautly before measuring and making any material cuts. Install both layers of wrap with transverse (perimeter) and longitudinal butted joints. Between the first and second layers of wrap stagger transverse joints and offset longitudinal joints to different corners. All visually exposed blanket edges are to be sealed with minimum 3" wide aluminum foil tape and the use of filament tape is not required but is permitted to ease installation. The installation materials must comply with the options listed in Table 1.

Note: 3" material overlaps can be substituted for compression butt joints.

Table 1: Material Requirements

Item	Type and Specification
Bands	• Carbon steel or Stainless steel • Min. ½" wide & nom. 0.015" thick
Crimp clips	• Carbon steel or Stainless steel • Min 1" long
Pins	• Steel • Weld Pins or Cup Head • Min. 12 Gauge
Washers	• Galvanized Steel • Min. 2½" square or 1½" round

Attachment Options

Banding only

Place bands at 1½" on both sides of all second layer transverse butt joints and add additional bands as needed to ensure spacing is max. 10½" on center. Tighten banding to firmly hold the wrap system in place but not so tight as to cut or damage the blanket. Secure bands with crimp clips.

Note: No bands are required on the first layer.

Banding and Pins

For ducts greater than 24", in addition to installing bands as described in the Banding Option, weld steel insulation pins in rows to the underside of horizontal runs[1]. Locate pins on both sides of all second layer transverse butt joints 3" apart. Add additional rows as needed to ensure longitudinal spacing is max. 10". Pins in each row are to be max. 6" from each duct edge and max. 12" on center. Impale FyreWrap Elite 1.5 Duct Insulation over the pins and secure with washers (cup head pins also permitted).

[1] Pins are not required on vertical duct sections when using this option.

Note: In lieu of banding, pins installed on all sides of the duct is permitted.

Access Door (Figure 2)

Field fabricated and prefabricated grease duct access doors are permitted for use with FyreWrap Elite 1.5 Duct Insulation.

Field fabricated access doors are protected with three layers of FyreWrap Elite 1.5 Duct Insulation. A gasket of 0.5" thick unfaced FyreWrap or ceramic fiber blanket is initially installed between the duct and the access door cover. Weld threaded rod to each corner of the access door opening. Cover with hollow steel tubes (optional) for easy removal of blanket. Weld at least four steel insulation pins to the outside of the door cover panel, 1" from each corner. Cut through the two layers of FyreWrap Elite 1.5 Duct Insulation already covering the duct and access door opening. Leave the interior piece in place. Cut back the outer layer to form an opening with perimeter dimensions that extend 1" beyond the inner layer. Cut a piece of FyreWrap Elite 1.5 Duct Insulation that matches the dimensions of the opening and install over pins to fit tightly within the existing material. Cut an additional piece of insulation with perimeter dimensions that extend 1" beyond the layer below. Install over the insulation pins. Throughout the installation process, seal all cut edges with aluminum foil tape. Secure with washers and bend over excess pin lengths to eliminate safety hazards. Place washers on threaded rod and secure with nuts. Do not install banding over this area.

Prefabricated – Ductmate Ultimate and Ductmate F2-HT prefabricated access doors are permitted and must be installed in accordance with Ductmate Industries, Inc. installation instructions and the applicable code. The prefabricated access door is protected with three layers of FyreWrap Elite 1.5 Duct Insulation. The first layer is cut to the size of the door. A successive layer (two additional layers) is sized to create an overlap of 1" beyond the layer immediately below. All edges of insulation blanket must be protected with aluminum foil tape. A No. 16 gauge outer plate the same dimension as the outer layer of insulation blanket is held in place over the insulation using threaded rod and wing nuts. The outer plate is supplied with the Ultimate door and F2-HT doors. Access doors are available from Ductmate Industries, Inc. Contact www.ductmate.com or 1-800-245-3188 for additional information or local distributors. Ask for the Access Door Product Line Manager.

Firestop Systems (Figures 3 and 4)

Where ducts insulated with FyreWrap Elite 1.5 Duct Insulation pass through fire-rated walls and floors, the penetration opening shall be firestopped to maintain the fire rating of the assembly. Firestop Systems acceptable for use with FyreWrap Elite 1.5 Duct Insulation ASTM E2336 System at the time of printing are detailed on pages 4 and 5.

Duct Support (Figure 5)

Horizontal duct support systems do not require FyreWrap insulation when constructed using a minimum ⅛" diameter uninsulated all-thread steel rod and 1½" x 1½" x ⅛" uninsulated steel angle spaced a maximum 60" on center along the length of the duct. A minimum clearance of 1" is required between the protected duct and the steel rod. To increase hanger spacing to 72" on center, ½" all-thread steel rod and 2" x 2" x ⅛" steel angle are required. Vertical duct support systems do not require FyreWrap insulation when constructed using minimum 1½" x 1½" x ⅛" steel angle brackets located on opposite sides of the duct, on the top and bottom of each floor-ceiling assembly. The supports are attached to the duct with welds. Maximum spacing between vertical supports shall be established by structural calculations in accordance with the applicable code, that are submitted to the building official for approval.

Figure 1. Butt Joint Technique

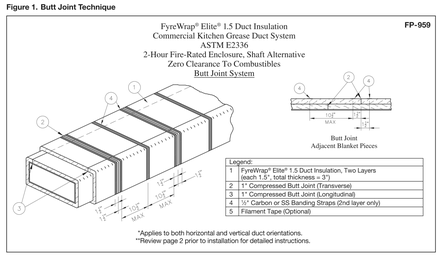


Figure 2. Access Door

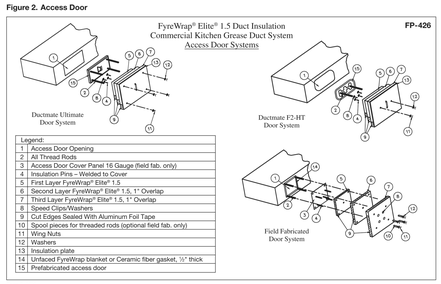


Figure 3. Firestop Installation

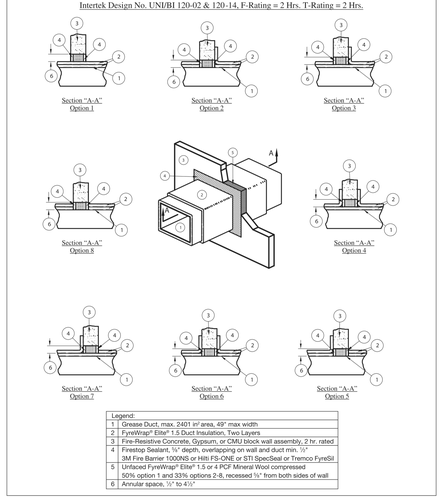


Figure 4. Firestop Installation

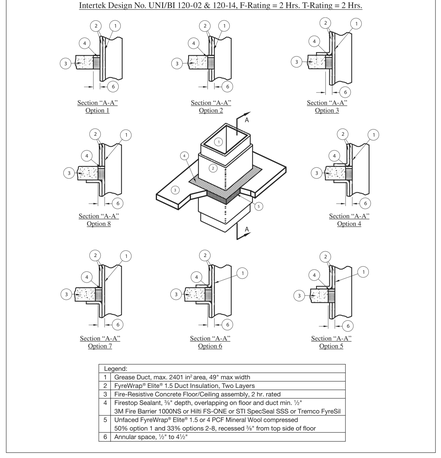
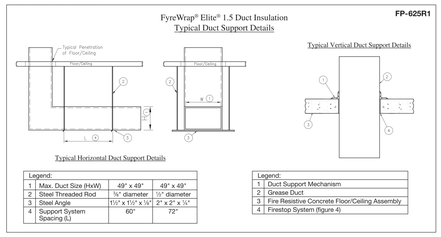


Figure 5. Support System



For additional information about product performance or to identify the recommended product for your fire protection application, please contact Unifrax at 716-768-6500 and ask for Fire Protection Application Engineering.

Refer to the product Safety Data Sheet (SDS) for recommended work practices and other product safety information.

Unifrax I LLC
Corporate Headquarters
600 Riverwalk Parkway, Suite 120
Tonawanda, NY 14150
Telephone: 716-768-6500
Canada: 1-800-635-4464
Internet: www.unifrax.com
Email: info@unifrax.com

HALTON HOODS
— ETL LISTED PER LATEST 710 STANDARD
— BUILT PER NFPA 96
— NSF LISTED

Halton — CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD S646
INTERTEK 3012225
HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO.	SERIAL NO.	ITEM NO.
KVL-C-IC		

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS
THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE HOOD HAS BEEN CERTIFIED BY ETL FOR 0 INCH CLEARANCE TO COMBUSTIBLE
MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.
THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES
REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.
SUITABLE FOR USE TO MEDIUM DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN. EXHAUST CFM/FT OF HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	0	0	31	31	138
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN H20					

Halton — CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD S646
INTERTEK 3012225
HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO.	SERIAL NO.	ITEM NO.
KVL-2-IC		

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS
THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.
THE HOOD HAS BEEN CERTIFIED BY ETL FOR 0 INCH CLEARANCE TO COMBUSTIBLE
MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.
THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES
REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.
SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN. EXHAUST CFM/FT OF HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	6(+)	0	20	30	121
MEDIUM	6	0	20	32	106
MEDIUM	6	0	20	36	133
HEAVY	0	2	20	25	191
HEAVY	0	2	20	30	216
+ - SETBACK/UNDERHANG DISTANCE					
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.26 IN H20					

1 SHEET ADDED TO SET

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

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

STATE OF MISSOURI — MARK T. KURZYNSKE — E-2000153901 — REGISTERED PROFESSIONAL ENGINEER
06/12/23

CHICK-FIL-A
Creve Coeur FSU

12398 Olive Blvd
Creve Coeur, MO 63141

FSR#05161

BUILDING TYPE / SIZE: P14 SE LRG
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NO.	DATE	DESCRIPTION
1	04/26/23	PERMIT COMMENTS
3	05/05/23	ISSUED FOR CONSTRUCTION

CONSULTANT PROJECT # 23040.CD.S
DATE 03/20/2023
DRAWN BY Author

SHEET
HOOD & GREASE DUCT DETAILS

SHEET NUMBER
M-302

MECHANICAL EQUIPMENT COMPONENTS
EARTHQUAKE LOAD RESISTANCE

OCCUPANCY GROUP (II) — SEISMIC DESIGN CATEGORY (D)

LISTING OF EQUIPMENT AND SYSTEM COMPONENTS	ANCHORAGE TO FLOORS, ROOFS, ETC.		SWAY BRACING		LOCATION OF PROFESSIONALLY SEALED ANCHORAGE AND SWAY BRACING DETAILS.			COMMENTS
					ON CONST DRAWINGS	SUBSEQUENT SUBMITTAL		
	Not Provided For Project	Provided For Project	Not Provided For Project	Provided For Project	Drawing No. or Spec Section	Shop Drawings	Seperate Permit & Plans	
FIRE PROTECTION, DETECTION & ALARM EQUIPMENT SYSTEM COMPONENTS	X		X					1
HAZARDOUS EQUIPMENT & SYSTEM COMPONENTS:								
• GREASE EXHAUST DUCT		X		X	DETAIL 3/ M-401, DETAIL 1 & 2 / M-402			2
• GREASE EXHAUST FAN		X	X		DETAIL 3/ M-401, DETAIL 2 / M-901			2
• GAS PIPING		X	X		DETAIL 4/ P-250			7
• KITCHEN HOODS		X		X	DETAIL A1/ S-800, DETAIL A3/S-801			10
• GAS-FIRED INFRARED HEATERS		X	X		DETAIL L13/ F2FC-5			11
OTHER EQUIPMENT & SYSTEM COMPONENTS NEEDED FOR CONTINUED OPERATION OF OCCUPANCY CATEGORY IV FACILITIES OR WHOSE FAILURE COULD IMPAIR THEIR CONTINUED OPERATION	X		X					1
OTHER GENERAL EQUIPMENT & SYSTEMS COMPONENTS								
• AIR TERMINAL DEVICES		X		X	DETAIL 3/ M-402			3
• RR EXHAUST FAN	X		X					4
• ROOFTOP UNITS		X	X		DETAIL A2 & B2/ S-800			5
• REFRIG. COND. UNITS		X	X		DETAIL A3/ S-800			
• A/C DUCT		X		X	DETAIL 1 & 2/ M-402			8
• AIR CURTAINS (WALL)		X	X					9
• AIR CURTAINS (CEILING)		X		X	DETAIL C1/ S-800, DETAIL A1/ S-800			12
• ELECTRIC INFRARED HEATER		X	X		DETAIL 5/ M-402			
• RECIRCULATING FAN		X		X	DETAIL C1/ S-800, DETAIL A1/ S-800			12

1. NOT APPLICABLE FOR THIS PROJECT OR NOT UNDER THE PURVIEW OF THE MECHANICAL ENGINEER OF RECORD.
2. I.P. = 1.5 FOR GREASE EXHAUST SYSTEMS.
3. AIR TERMINAL DEVICES ARE SECURED TO THE GRID.
4. TABLE 4.4, GENERAL EXEMPTION #1, IP=1.0. UNIT WEIGHT LESS THAN 400 LBS. FLEXIBLE CONNECTOR PROVIDED.
5. ROOFTOP UNIT FULLY WELDED SEISMIC RATED CURBS WITH HOLD DOWN CLIPS PROVIDED. SEE "GAS FIRED ROOFTOP UNIT SCHEDULE" REMARK #3, SHEET M-250.
6. NOT USED.
7. TABLE 4.4 EXEMPTION #5. GAS PIPING IS EXTERIOR, LESS THAN 2PSI, AND PROVIDED WITH A SEISMIC SHUTOFF VALVE. REFER TO SHEET P-250.
8. TABLE 4.4 EXEMPTION #3. BRANCH DUCTS LESS THAN 6 SQ FT WITH FLEXIBLE CONNECTORS PROVIDED. SEE DETAIL 1 SHEET M-401.
9. AIR CURTAIN WEIGH 105# OR LESS, ANCHORED TO WALL STRUCTURE WITH (4) 3/8" LAG BOLTS. KEYNOTE #4 SHEET M-201.
10. HOODS ARE TO BE POSITIVELY ATTACHED TO THE WALL STRUCTURE BEHIND THE HOOD VIA BOLTS THRU FACTORY PROVIDED WALL BRACKETS WHICH ARE WELDED TO THE TOP AND BOTTOM OF THE HOODS. REFER TO SHEET MH-101 FOR WALL BRACKETS WELDED TO HOODS.
11. GAS-FIRED INFRARED HEATER (GIH) WEIGH 49# EACH, ARE POSITIVELY ATTACHED TO THE CANOPY STRUCTURE AT (4) FOUR BOLT CONNECTIONS ON THE TOP OF THE HEATER, AND ARE PROVIDED WITH A FLEXIBLE GAS CONNECTION PER SHEET P-251 DETAIL 3.
12. CEILING MOUNTED EQUIPMENT WEIGH 200# OR LESS AND ARE HUNG FROM STRUCTURE USING THREADED ROD. SWAY BRACING PER DETAIL A1/ S-800.

1. USE ADHESIVE SCREEN ANCHOR SIZED CORRECTLY FOR THE BROMIC HEATER MOUNTING BRACKET.
2. DETERMINE WHERE TO DRILL THE HOLES.
3. DRILL THE RIGHT-SIZED HOLE FOR THE ANCHORS. USE THE APPROPRIATE ANSI-RATED MASONRY DRILL BIT FOR THE APPLICATION.
4. DRILLED HOLES MUST BE CLEANED BEFORE YOU CAN INSERT THE ANCHOR. USE CLEAN, DRY COMPRESSED AIR TO BLOW OUT DUST AND DEBRIS. THE TYPE OF ANCHOR OR APPLICATION ALSO MAY REQUIRE YOU TO USE A BRUSH.
5. INSERT THE ANCHOR PER THE DIAGRAM BELOW.
6. ALLOW ENOUGH TIME FOR THE ADHESIVE TO HARDEN AND ADHERE TO THE BRICK. THIS MAY TAKE SEVERAL HOURS.
7. SET THE EQUIPMENT AND TIGHTEN THE ANCHORS. TIGHTEN THE ANCHOR BOLT TO THE PROPER TORQUE SETTING AS SHOWN IN THE ANCHOR MANUFACTURER'S INSTRUCTIONS

TAKEN FROM FEMA SEISMIC DESIGN HANDBOOK - PG 117-124.

DO NOT TOUCH THE ANCHOR WHILE THE ADHESIVE IS CURING.

Figure 119: Brick/block wall insert.

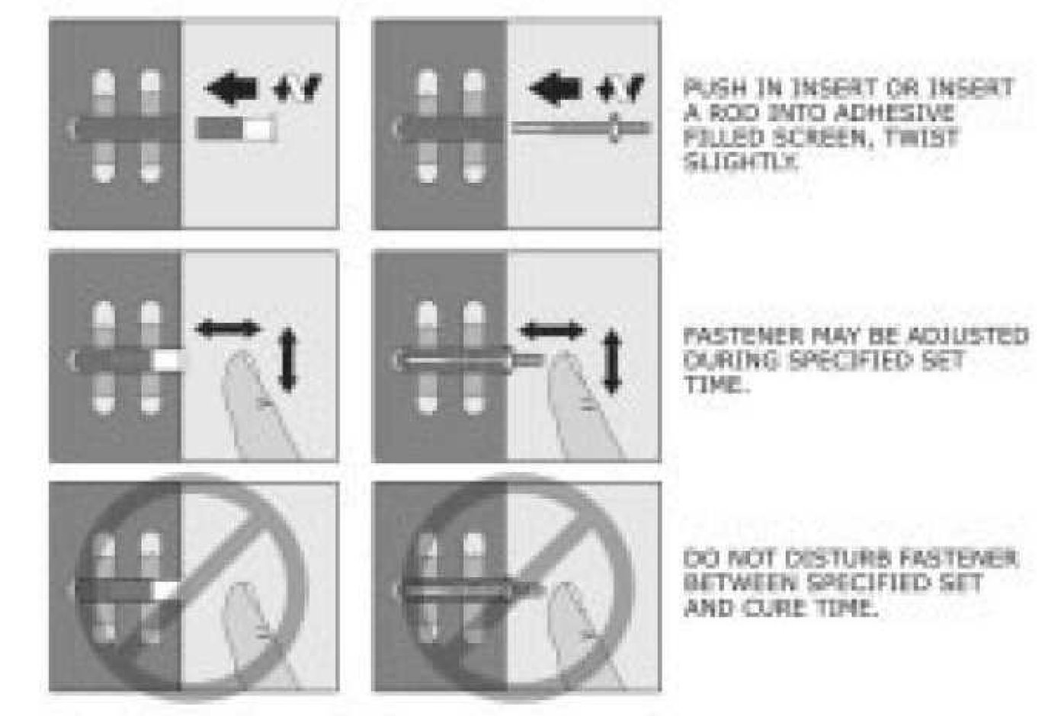
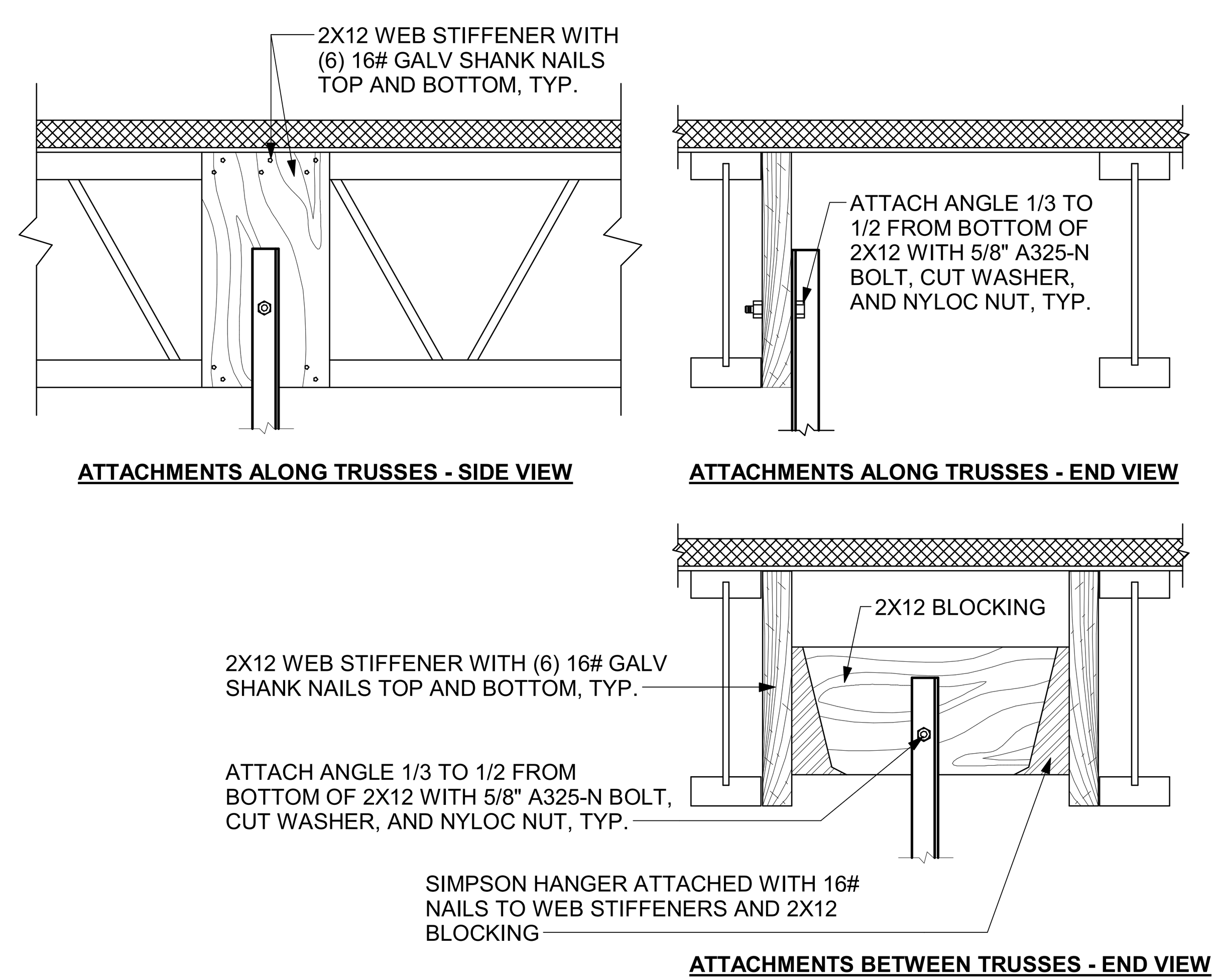
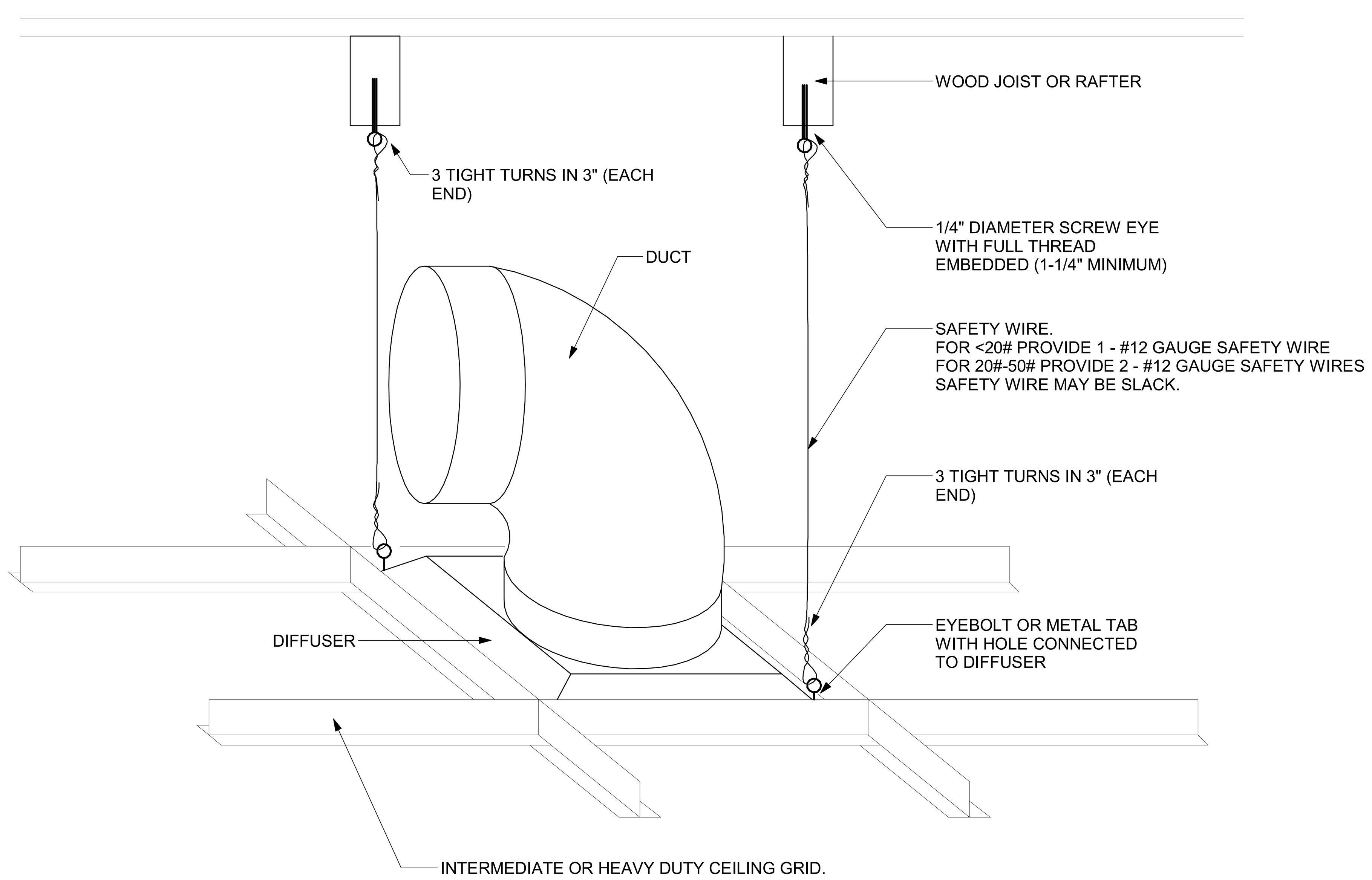


Figure 120: Brick wall adhesive anchor.

5 MASONRY ANCHOR - BROMIC HEATER (EIH#1)
NOT TO SCALE

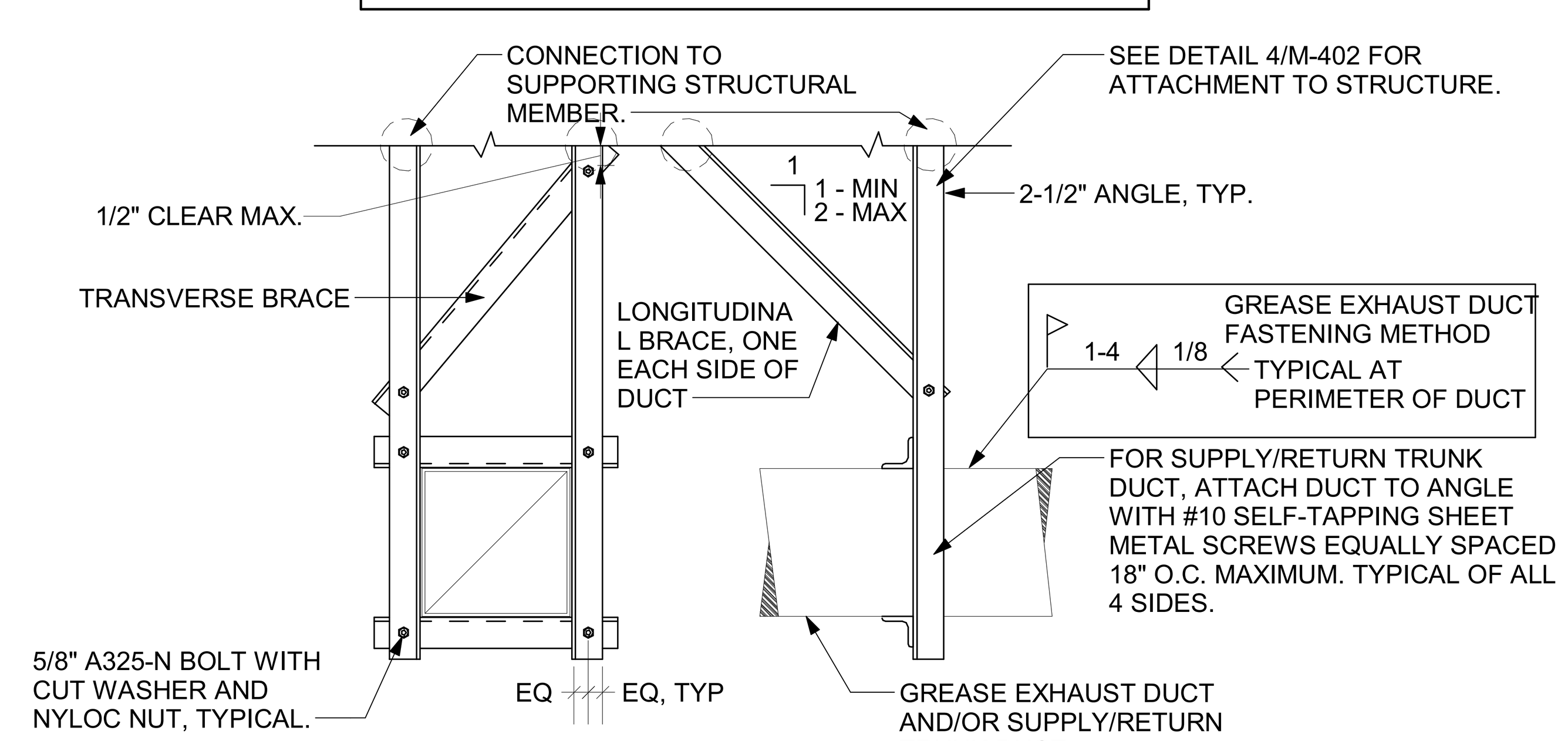


2 DUCT ATTACHMENT
NOT TO SCALE



3 DIFFUSER ATTACHMENT
NOT TO SCALE

<u>DUCT RESTRAINTS ARE REQUIRED FOR AC#1, AC#2 AND AC#3 TRUNK DUCT RUNS.</u>
EACH STRAIGHT RUN OF DUCT MUST HAVE A MINIMUM OF ONE TRANSVERSE RESTRAINT ON EACH END OF THE DUCT AND A SINGLE LONGITUDINAL RESTRAINT.
MAX SPACING BETWEEN TRANSVERSE BRACING = 30'-0".
MAX SPACING BETWEEN LONGITUDINAL BRACING = 60'-0".



1 RECTANGULAR DUCT RESTRAINT
NOT TO SCALE

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

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

STATE OF MISSOURI — KURZYNSKE — E-2000153... — PROFESSIONAL ENGINEER
06/12/23

CHICK-FIL-A
Creve Coeur FSU
12398 Olive Blvd
Creve Coeur, MO 63141

FSR#05161

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CONSULTANT PROJECT # 23040.CD.S
DATE 03/20/2023
DRAWN BY BLM

SHEET
SEISMIC DETAILS

SHEET NUMBER
M-402

THERE WILL BE A SMOKE DETECTOR ANNUNCIATOR PROVIDED FOR THE RETURN DUCT DETECTOR. WHERE A SUPPLY SIDE SMOKE DETECTOR IS SHOWN IN THE ROOFTOP UNIT SCHEDULE, AN ADDITIONAL SMOKE DETECTOR ANNUNCIATOR WILL ALSO BE PROVIDED.

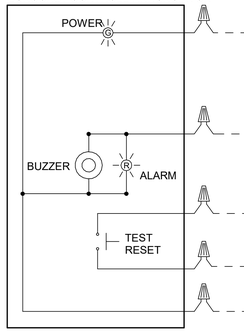
RELIATEL CONTROL BOARD

FIELD INSTALLED WIRING:
WITHIN THE ROOFTOP UNIT, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIRE WAYS ONLY. WIRING ROUTED OVER THE BLOWER HOUSING OR BY WAY OF OTHER ROUTES DETRIMENTAL TO THE WIRING LIFE WILL NOT BE ACCEPTED.

LEGEND
- 18 AWG MIN WIRING BY MECH CONTRACTOR
- FACTORY ANNUNCIATOR DETECTOR WIRING
- FACTORY TRANE WIRING

LABELING:
PROVIDE ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON BLACK BACKGROUND IDENTIFYING UNIT SERVED.

SUNCOAST CONTROLS ANNUNCIATOR



TRANE FACTORY WIRING

TRANE FACTORY INSTALLED DUCT DETECTOR
AIR PRODUCTS M/N SL-2000-P

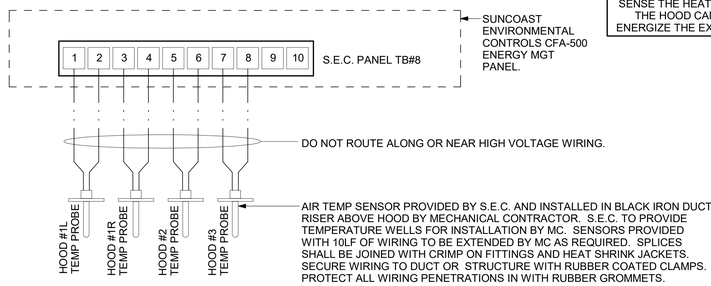
11	AL+
1	AL+
12	RESET/TEST INPUT
2	L(+) ALARM LINK
13	2A FACP ALARM CONTACT (N.O.)
3	24 VDC COM-
14	2A FACP ALARM CONTACT (COM)
4	10A TROUBLE CONTACT (N.C.)
15	10A TROUBLE CONTACT (COM)
5	10A TROUBLE CONTACT (N.O.)
16	10A ALARM CONTACT (N.C.)
6	10A ALARM CONTACT (COM)
17	10A ALARM CONTACT (N.O.)
7	10A ALARM CONTACT (N.C.)
18	10A ALARM CONTACT (COM)
8	10A ALARM CONTACT (N.O.)
19	AUX POWER OUT (-)
20	AUX POWER OUT (+)
9	24 VAC COM
10	24 VAC

2 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM
NOT TO SCALE

LEGEND	
S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS CFA-500 ENERGY MGT PANEL
M.C.	MECHANICAL CONTRACTOR
— · · —	18 AWG MIN UNSHIELDED LOW VOLTAGE WIRING BY MC, U.N.O.

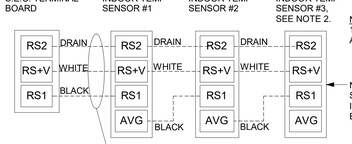
GENERAL NOTES
1. THE SUNCOAST H.E.S. SYSTEM HAS BEEN INTEGRATED INTO THE SUNCOAST ENVIRONMENTAL CONTROLS CFA-500 ENERGY MGT PANEL.

S.E.C. H.E.S. OPERATION
IN THE EVENT THAT ANY COOKING EQUIPMENT ITEM BENEATH ANY HOOD IS STARTED WITHOUT THE 'STORE SWITCH' BEING IN THE 'OCCUPIED' POSITION, THE H.E.S. CONTROLLER WILL SENSE THE HEAT RISE WITHIN THE HOOD CANOPY AND ENERGIZE THE EXHAUST FANS.



5 HOOD FAN/EQUIPMENT INTERLOCK
NOT TO SCALE

AC AVERAGING SENSORS (WHERE SHOWN ON PLANS)



NOTES:
1. SEE DWG M-201 FOR LOCATION AND ARRANGEMENT OF SENSORS.

NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. FIELD CALIBRATE EACH SENSOR, TYP.

SHIELDED CABLE BY MC. NETWORK THERMOSTAT W221P-2003NT CABLE ONLY. WIRE WITH COLOR CODE INDIAGRAM. DOUBLE UP THE DRAIN WIRE AND TWIST TIGHTLY BEFORE TERMINATION. AFTER DRAIN WIRE TERMINATION, TAPE/INSULATE ALL EXPOSED DRAIN/SHIELD AT SENSOR.

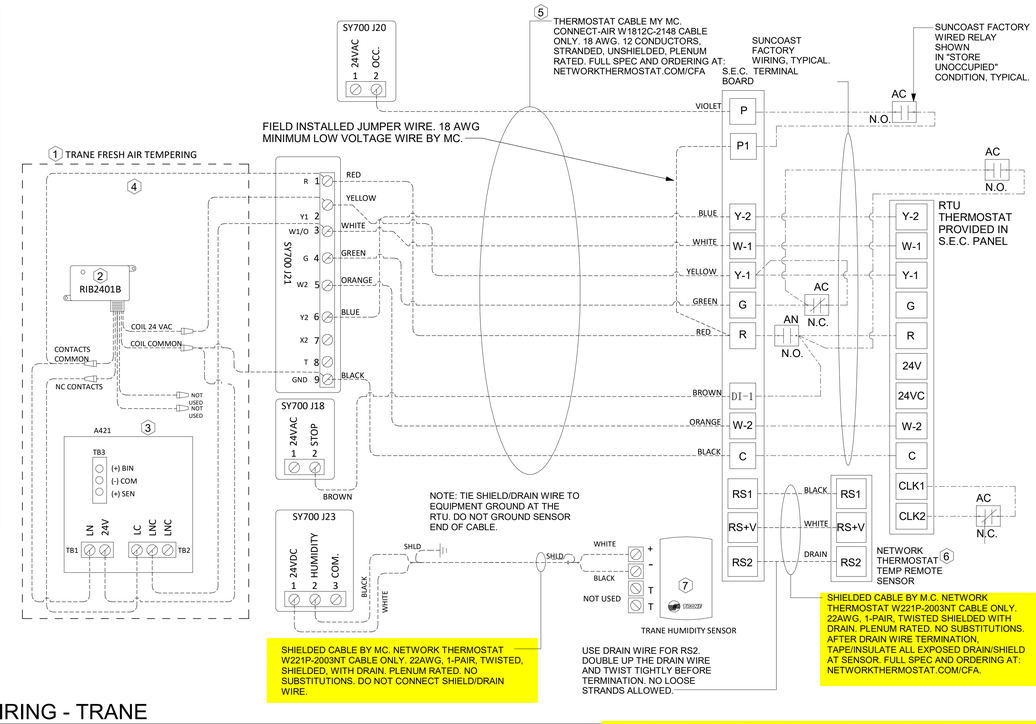
PROVIDE A PROFESSIONAL LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #68624, TELEPHONE NUMBER 800-243-6624, FOR MOUNTING THE DETAIL. ATTACHED THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.

KEYED NOTES:
5. LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY. LEAVE 4FT SERVICE LOOP AT RTU FOR TERMINATION AND FUTURE CONTROLS. DO NOT CUT OFF EXTRA CONDUCTORS.
6. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. SENSOR IS INTENDED TO BE SURFACE MOUNTED AND DOES NOT REQUIRE A SINGLE GANG BOX OR CONDUIT. FIELD CALIBRATE EACH SENSOR. SEAL CABLE PENETRATION AT ALL WALL LOCATIONS.
7. THE RH SETPOINT IS ESTABLISHED BY ADJUSTING THE R41 POTENTIOMETER (LABELED "DEHUMID SP") ON THE RTOM MODULE. SET TO 60%.

NOTES:
1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON INSIDE DOOR OF ROOFTOP UNIT CONTROL COMPARTMENT.
2. SEE DETAILS THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
3. SET ALL THERMOSTATS FOR AUTO CHANGEOVER.
4. PROVIDE PLAIC ENGRAVLABEL AT ALL NEW SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. "AC#2 HUMIDITY SENSOR" OR "AC#2 TEMP SENSOR". PLACE LABELS ON WALL ADJACENT TO DEVICE, DO NOT APPLY DIRECTLY TO DEVICE.

LEGEND	
S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF TEMP/FAN CONTROL PANEL) LOCATED IN THE KITCHEN
(1)	KEY NOTE REFERENCE
MC	MECHANICAL CONTRACTOR
(AC)	SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL, ENERGIZED BY PUTTING STORE SWITCH IN "STORE OCCUPIED" POSITION
(AN)	SUNCOAST RELAY FACTORY INSTALLED AND WIRED N CFA -500 PANEL, DENERGIZED WHEN ANSUL FIRE SUPPRESSION SYSTEM IS ACTIVATED, AS NOTED.
----------	ALL LOW VOLTAGE CABLING BY MC. ONLY USE CABLE SPECIFIED. NO SUBSTITUTIONS.
· · · · · ·	LOW VOLTAGE WIRING BY S.E.C.
————	LINE VOLTAGE BY ELECTRICIAN OR S.E.C.

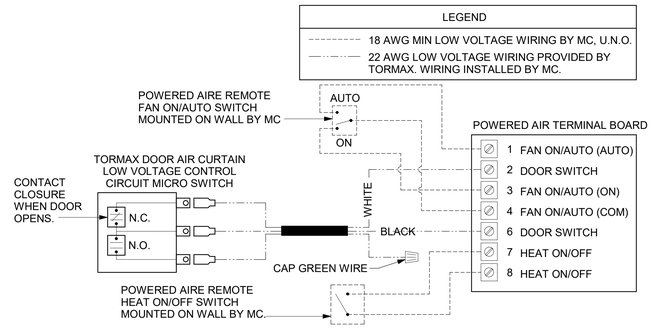
FRESH AIR TEMPERING KEYED NOTES:
1. INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.
2. RIB2401B SPDT RELAY PROVIDED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
3. JCI A421 TEMPERATURE CONTROLLER PROVIDED BY TRANE AND INSTALLED BY CONTRACTOR. DIN-MOUNTED IN THE RTU CONTROL CABINET. SET TO 58F. LOCATE TRANE PROVIDED A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE6001-1 SENSOR DUCT MOUNTING PLATE PROVIDED BY TRANE; DO NOT RUN WIRING INSIDE DUCTWORK.
4. 18 AWG MIN. LOW VOLTAGE WIRING BY MC.



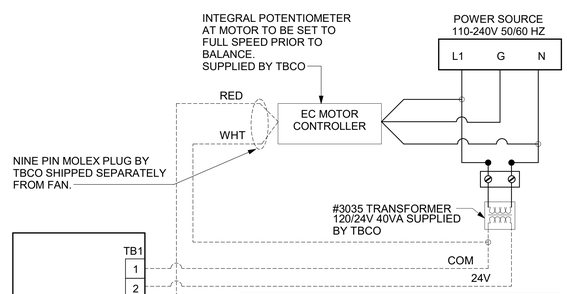
1 ROOFTOP UNIT CONTROL WIRING - TRANE
NOT TO SCALE

IF TEMPERATURE AND HUMIDITY SENSOR WIRING IS RAN, IT MUST BE THE SPECIFIED TWISTED PAIR. IT WILL HAVE AN ORANGE JACKET

LEGEND	
18 AWG MIN LOW VOLTAGE WIRING BY MC, U.N.O.	
22 AWG LOW VOLTAGE WIRING PROVIDED BY TORMAX. WIRING INSTALLED BY MC.	



3 AIR CURTAIN WIRING DIAGRAM
NOT TO SCALE



NOTES
1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON SIDE OF FAN HOUSING.
2. PROVIDE PLASTIC ENGRAVED LABEL AT ALL NEW THERMOSTATS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. "RF#1 THERMOSTAT". PLACE LABELS ON WALL ADJACENT TO DEVICE, DO NOT APPLY DIRECTLY TO DEVICE.
3. PARAMETERS PRESET BY TBCO, BUT MC TO CHECK: SET THERMOSTAT TO 76° F. (FAN SHALL RUN AT 20% WHEN TEMP IS BELOW 76° F AND 100% WHEN TEMP IS ABOVE 80° F. FAN SPEED WILL LINEARLY INCREASE FROM 20% TO 100% AS TEMP INCREASES FROM 76° F TO 80° F.)

LEGEND	
MC	MECHANICAL CONTRACTOR
TBCO	TOM BARROW COMPANY
----------	18 AWG MIN LOW VOLTAGE WIRING BY MC.
————	LINE VOLTAGE BY ELECTRICAL CONTACTOR

4 TECH CLOSET CONTROL DIAGRAM
NOT TO SCALE

Chick-fil-A
5200 Buffington Road
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30349-2998

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2705 Lebanon Pike - Suite One
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Telephone: (615) 255-5203

STATE OF MISSOURI
MARK T. KURZYNSKE
NUMBER E-20001520
REGISTERED PROFESSIONAL ENGINEER
06/12/23

CHICK-FIL-A
Creve Coeur FSU

12398 Olive Blvd
Creve Coeur, MO 63141

FSR#05161

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DRAWN BY BLM

SHEET: HVAC CONTROLS

SHEET NUMBER **M-501**

Autodesk Docs://MO_05161_Creve Coeur (MO) FSU_2022.7_FSR05161_Creve Coeur (MO)_MEC.rvt
6/9/2023 7:25:11 AM
30-SE-05161-M-501-HVAC CONTROLS

1. SECTION C15000 - MECHANICAL SPECIFICATIONS

PART I - GENERAL

1.01 SCOPE

A. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF HIS WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY TO SECURE COORDINATION.

B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES, INCLUDING BUT NOT LIMITED TO THE LATEST APPROVED EDITIONS OF NFPA-96, NFPA-90A, NFPA-54, SMACNA, ASHRAE 90.1 AND ASHRAE 62.

C. SYSTEM LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY STRUCTURAL CONDITIONS, COORDINATION WITH OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM. TEN FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN OUTSIDE AIR INTAKES AND EXHAUST FANS AND PLUMBING VENT TERMINALS.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM.

E. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNERS REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS AND DUCTWORK, AND AIR DEVICES SHALL BE INSPECTED AND THOROUGHLY CLEANED, CLEARED OF DEBRIS, AND READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.

F. CONTRACTOR SHALL PROVIDE TWO SETS OF 2" MERV 8 OR HIGHER THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO TEST AND BALANCE AND AGAIN PRIOR TO OPENING.

PART II - PRODUCTS

2.01 HEATING AND COOLING EQUIPMENT (C15730)

A. FURNISH AND INSTALL R-410A ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.

B. ACCESSORIES SHALL INCLUDE LOW AND HIGH PRESSURE SAFETIES, CRANK CASE HEATER, OVERCURRENT AND OVERTEMPERATURE SAFETY, COMPRESSOR VIBRATION ISOLATORS, FILTER DRIERS, REFRIGERANT SERVICE VALVES, COIL HAIL GUARDS WHERE SCHEDULED, CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.

C. COMPRESSORS SHALL BE FULLY HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.

D. THE UNIT HEAT EXCHANGERS SHALL BE STEEL WITH ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION/EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. ALL UNITS SHALL BE CAPABLE OF TWO STAGES OF HEAT. HEAT EXCHANGES SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE ALUMINIZED IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.

E. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR ROOFTOP UNITS. PRICING FOR THE EQUIPMENT HAS BEEN ESTABLISHED IN ADVANCE. CONTACT NATIONAL ACCOUNTS LISTED ON THIS SHEET FOR PRICING, ORDERING AND AVAILABILITY.

2.02 DUCTWORK (C15735) (SEE DWG M-301 FOR ADDITIONAL GREASE DUCT SYSTEM REQ.)

A. ACCEPTABLE MANUFACTURERS OF INSULATION ARE MANVILLE, OWENS CORNING OR KNAUF.

B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).

C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.

D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT INCLUDING DUCT CONNECTION TO AIR DEVICE COLLAR SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.

E. DUCT SHALL BE SUPPORTED AT BASE OF DUCT DROPS. CURB DUCT RAILS ARE NOT INTENDED TO AND SHALL NOT SUPPORT THE WEIGHT OF THE DUCT.

F. ALL DUCT INSULATION SHALL MEET MINIMUM R-VALUE REQUIRED BY ASHRAE 90.1 LATEST EDITION. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING.

G. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.

H. SUPPLY AND RETURN AIR DUCTWORK SERVING ALL AREAS SHALL BE EXTERNALLY INSULATED.

I. ALL AIR CONVEYANCE COMPONENTS SUCH AS, BUT NOT LIMITED TO DUCT, DUCT PLENUMS, GRILLES/DIFFUSERS, BACK PANS, AND BOOTS SHALL BE INSULATED. INSULATION TYPE IS COVERED ELSEWHERE IN THIS SPECIFICATION.

J. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED WITH 1" THICK, 1-1/2 PCF INSULATION. RESTROOM ROUND EXHAUST DUCT SHALL BE EXTERNALLY INSULATED PER SECTION 2.02F.

K. TRUNK DUCTS SHALL BE ISOLATED FROM UNIT VIBRATION WITH THE USE OF NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS INSTALLED AT THE TOP OF BOTH SUPPLY AND RETURN DROPS.

L. INSULATED FLEXIBLE DUCT MAY BE UTILIZED FOR RUNOUTS TO GRILLES AND DIFFUSERS ONLY IN THE HORIZONTAL POSITION AND IN MAXIMUM LENGTHS OF 4'-0", NO EXCEPTIONS. SEE TAKE-OFF DETAIL ON DRAWING M-401.

M. CONSTRUCTION OF FLEXIBLE DUCTWORK SHALL INCLUDE SPIRAL METAL HELIX BONDED TO A POLYESTER CORE, FIBERGLASS INSULATION WITH POLYETHYLENE OR MYLAR VAPOR BARRIER. ALL COMPONENTS SHALL HAVE APPROPRIATE U.L. APPROVAL AND SHALL BE EQUIVALENT TO THERMAFLEX MKE.

N. FLEXIBLE DUCT SHALL BE INSTALLED PER THE "ADC FLEXIBLE DUCT PERFORMANCE AND INSTALLATION STANDARDS, 4TH ED" USING FOIL TAPE AND DRAWBAND ON THE INNER CORE AND TAPE OR DRAWBAND ON THE OUTER JACKET.

O. DUCT TAPE SHALL BE EQUAL TO FASSON 181-B FX, 2-1/2" WIDE.

P. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT 90 DEGREE TURNS IN SUPPLY DUCTWORK WHERE ANY ONE DIMENSION IS GREATER THAN 12".

Q. RADIUSED ELBOWS MAY BE SUBSTITUTED FOR 90 DEGREE ELBOWS AT THE DISCRETION OF THE CONTRACTOR. CENTERLINE RADIUS EQUAL TO; R=W PER FIGURE NO. 4-2 IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

R. EXTERNAL INSULATION ON BOTTOM OF DUCTS 24" OR WIDER SHALL BE SUPPORTED WITH STICK PINS ON 18" CENTERS. STICK PIN WASHERS SHALL BE COVERED WITH DUCT TAPE OR MASTIC.

2.03 CONTROLS (C15735)

A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 877-544-6679). THE PANEL IS PROVIDED AND MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR.

B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.

C. A FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.

D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE AND TURNED OVER TO THE MECHANICAL CONTRACTOR FOR INSTALLATION.

E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. ANNUCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.

F. THE RESTROOM FAN SHALL BE INTERLOCKED TO THE LIGHTS SERVING THE MEN AND WOMEN'S RESTROOMS. THE HOOD FANS SHALL BE CONTROLLED VIA THE SUNCOAST CFA-500 CONTROL PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.

G. ROOFTOP UNITS - THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENT CONTROLS. SUNCOAST WILL PROVIDE A NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. A REMOTE TEMPERATURE SENSOR FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR AND THE ROOFTOP UNIT.

H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. NO SPLICING OF WIRING WILL BE ACCEPTED. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

PART III - EXECUTION

3.01 SCOPE

A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.

B. CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT THROUGH DEMONSTRATION AND EXPLANATION OF OPERATING & MAINTENANCE MANUALS.

C. CONTRACTOR SHALL PROVIDE A "SAMPLE MAINTENANCE PROPOSAL" TO THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.

D. CONTRACTOR SHALL COMPLETE A/C EQUIPMENT STARTUP DOCUMENTATION PROVIDED BY OWNER AND/OR MANUFACTURER. THIS SHALL INCLUDE RE-TORQUE OF ALL FIELD AND FACTORY HIGH VOLTAGE CONNECTIONS.

3.02 LEED PROJECTS

A. CONTRACTOR SHALL COMPLETE RECEIPT INSPECTION CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN WITHIN 5 DAYS OF RECEIVING EQUIPMENT ON SITE.

B. CONTRACTOR SHALL COMPLETE PRE-FUNCTIONAL CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN. CHECKLISTS SHALL BE RETURNED AT LEAST 5 DAYS PRIOR TO SCHEDULING FUNCTIONAL PERFORMANCE TESTING.

C. CONTRACTOR SHALL PROVIDE A TECHNICIAN TO ASSIST THE THIRD PARTY COMMISSIONING AUTHORITY WITH FUNCTIONAL TESTING. FUNCTIONAL TESTING SHALL OCCUR AFTER ALL CONTROLS HAVE BEEN INSTALLED AND VERIFIED AND AFTER TEST AND BALANCE IS COMPLETE. THE FUNCTIONAL PERFORMANCE TEST PROCEDURES CAN BE FOUND IN THE COMMISSIONING PLAN.

D. IF THE TOTAL TIME REQUIRED TO CORRECT PROBLEMS DURING TESTING IS GREATER THAT FORTY-FIVE (45) MINUTES (UNLESS EXTENUATING CIRCUMSTANCES EXIST), THE TEST SHALL BE CONSIDERED FAILED AND MUST BE REPEATED IN ITS ENTIRETY.

E. RE-TESTING: DURING THE COURSE OF THE RETEST, IF AT ANY POINT A MAJOR DEFICIENCY IS DISCOVERED, THE TEST WILL BE STOPPED. REPEAT TESTS UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. IF MORE THAN TWO FUNCTIONAL PERFORMANCE TESTS (ONE INITIAL TEST AND ONE RETEST) FOR ANY TYPE OF EQUIPMENT DUE TO ISSUES THAT THE CONTRACTOR HAD DIRECT OR INDIRECT CONTROL OVER ARE REQUIRED, THE COSTS FOR THE CXA TO WITNESS RETESTING OF SIMILAR TYPES OF EQUIPMENT UNTIL SATISFACTORY RESULTS ARE OBTAINED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3.03 TEST & BALANCE

A. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH NEBB, NBC OR AABC STANDARDS TO ASSURE CONFORMANCE WITH DESIGN. G.C. WILL MAKE MECHANICAL CONTRACTOR AVAILABLE DURING TEST AND BALANCE TO ASSIST TESTING AGENCY AND TO MAKE CORRECTIONS IMMEDIATELY NECESSARY. CONTRACTOR SHALL CORRECT ITEMS ON WRITTEN TEST AND BALANCE REPORT.

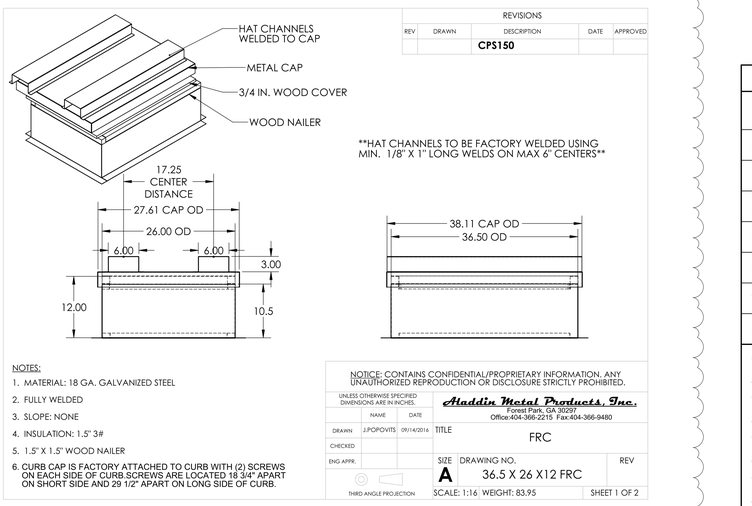
B. ALL EQUIPMENT TO BE BALANCED MUST HAVE GONE THRU SUCCESSFUL START-UP PROCEDURE BY THE MECHANICAL CONTRACTOR (MC) PRIOR TO TAB VISIT.

C. THE FLOOR OF THE RESTAURANT SHALL BE CLEARED OF DEBRIS, STAGED CONSTRUCTION MATERIALS, EQUIPMENT, ETC. WHICH MAY, IN THE OPINION OF THE TAB TECHNICIAN, OBSTRUCT ACCESS TO AIR DISTRIBUTION COMPONENTS IN AND ABOVE THE CEILING.

D. EQUIPMENT ACCESS PANELS, DUCT AIR DEVICES SUCH AS BALANCING DAMPERS AND ACTUATORS SHALL BE ACCESSIBLE AND CLEAR OF PIPING, CONDUIT, FRAMING, SUPPORTS ETC...

E. PROVIDE AN 8 FT PORTABLE A-FRAME STYLE LADDER DEDICATED FOR THE TAB TECHNICIAN'S USE DURING THE ENTIRE TAB EFFORT DURATION.

F. THE MC SHALL BE AVAILABLE DURING THE ENTIRE DURATION OF THE TAB EFFORT AND HAVE ON-SITE THE RESOURCES AND TOOLS TO MAKE CORRECTIONS AS NEEDED UNDER THE DIRECTION OF THE TAB TECHNICIAN.



2 EXHAUST FAN CURB & CAP DETAIL
NOT TO SCALE

VENTILATION CALCULATIONS

ZONE	PEOPLE OUTDOOR AIR RATE (Rp)	ZONE POPULATION (Pz)	AREA OUTDOOR AIR RATE (Ra)	ZONE FLOOR AREA (Az)	OUTDOOR AIRFLOW RATE REQ'D (Vbz)
CORRIDOR (ENTRYWAYS)	--	--	0.06	211	13
SALES (SERVING AREA)	7.5	12	0.12	767	182
DINING (CAFETERIA, FAST FOOD)	7.5	136	0.18	1364	1266
OFFICE	5	1	0.06	68	9
STORAGE	--	--	0.12	231	28
TEAM MEMBER (RECEPTION)	5	5	0.06	171	35
KITCHEN	7.5	24	0.12	1221	327

ZONE 1 - KITCHEN = 327 CFM.
327 CFM (Vbz) / 0.8 = 409 CFM (Voz)
AC#1 PROVIDES 1,750 CFM OUTSIDE AIR TO ZONE 1.

ZONE 2 - SALES (SERVING AREA) = 182 CFM.
182 CFM (Vbz) / 0.8 = 228 CFM (Voz)
AC#2 PROVIDES 900 CFM OUTSIDE AIR TO ZONE 2.

ZONE 3 - DINING + CORRIDORS = 1,279 CFM.
1,279 CFM (Vbz) / 0.8 = 1,599 CFM (Voz)
AC#3 PROVIDES 1,600 CFM OUTSIDE AIR TO ZONE 3.

ZONE 4 - TEAM MEMBER (RECEPTION) + STORAGE + OFFICE = 72 CFM.
72 CFM (Vbz) / 0.8 = 90 CFM (Voz)
AC#4 PROVIDES 500 CFM OUTSIDE AIR TO ZONE 4.

KITCHEN IS 1,221 SQUARE FEET. AT 0.70 CFM EXHAUST REQUIRED PER SQ. FT. KITCHEN IS REQUIRED TO EXHAUST 855 CFM.
KITCHEN EXHAUSTS 3,315 CFM.

CALCULATIONS ARE BASED ON TABLE 403.3.3.1, 2018 INTERNATIONAL MECHANICAL CODE.
(FOR OA RATE: Vbz = RpPz + RaAz || FOR ZONE OA RATE: Voz = Vbz/0.8)

NATIONAL ACCOUNTS

1. LOREN COOK FAN AND CURB PACKAGE - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE FAN/CURB PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. FANS AND CURBS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
2. PRICE AIR DEVICES - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE AIR DEVICES DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. AIR DEVICES NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
3. AIR DOORS - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE AIR DOORS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. AIR DOORS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
4. SUNCOAST ENVIRONMENTAL CONTROLS - THE CFA 500 PANEL AND THE TEST/RESET STATIONS WILL BE PURCHASED AND PROVIDED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE. SEE PART II PARAGRAPH 3A, 3D, AND 3E OF THE MECHANICAL SPECIFICATIONS FOR MORE INFORMATION.
5. HALTON HOODS - CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
6. ROYAL METAL PRODUCTS START COLLARS - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE START COLLARS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. START COLLARS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
7. SCHWANK INFRARED HEATER PACKAGE - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE HEATER PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. HEATERS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
8. BROMIC ELECTRIC HEATER - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE HEATER DIRECTLY FROM BROMIC HEATING USA. CONTACT MR. BLAKE RUSSIE AT 858-381-4850 FOR PRICING AND AVAILABILITY. HEATERS NOT PURCHASED THRU BROMIC HEATING USA WILL NOT BE ACCEPTED.
9. TRANE EQUIPMENT - CONTACT MR. SCOTT ROWLEY AT 630-200-7155 FOR PRICING, ORDERING AND AVAILABILITY. TRANE EQUIPMENT NOT PURCHASED THRU TRANE NATIONAL ACCOUNTS WILL NOT BE ACCEPTED.

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

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

STATE OF MISSOURI
MARK T. KURZYNSKE
E-2000153901
REGISTERED PROFESSIONAL ENGINEER
06/12/23

CHICK-FIL-A
Creve Coeur FSU
12398 Olive Blvd
Creve Coeur, MO 63141

FSR#05161
BUILDING TYPE / SIZE: P14 SE LRG
RELEASE: 22.08
PRINTED FOR
ISSUED FOR CONSTRUCTION
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
3	05/05/23	ISSUED FOR CONSTRUCTION
7	06/09/23	MECHANICAL COMMENTS

CONSULTANT PROJECT # 23040.CD.S
DATE 03/20/2023
DRAWN BY BLM

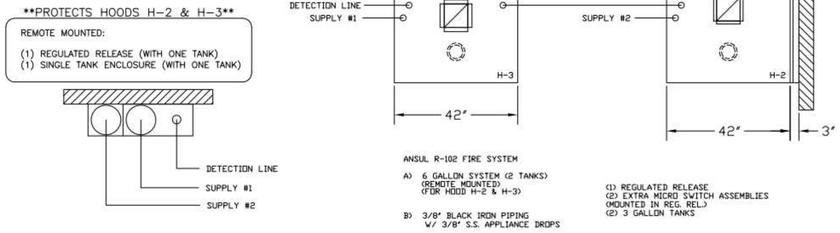
SHEET
MECHANICAL SPECIFICATIONS

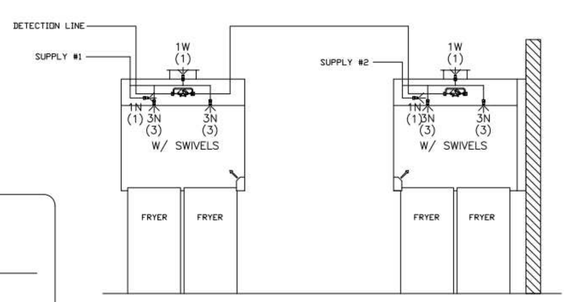
SHEET NUMBER
M-901

NOTE:

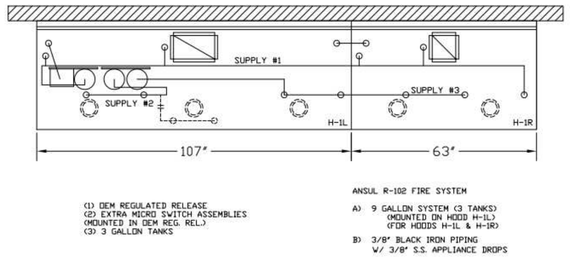
FIRE SYSTEM TYPE TO BE DETERMINED AT TIME OF ORDER RELEASE.

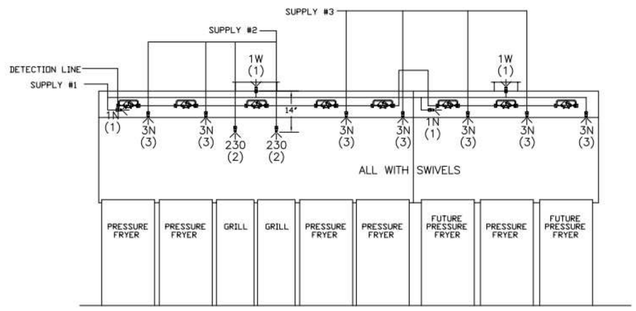
ANSUL





ANSUL R-102 FIRE SYSTEM LAYOUT





ANSUL R-102 FIRE SYSTEM LAYOUT

FUSIBLE LINK RATINGS

ITEM	TEMP
OPEN FRYERS	450°
2 BURNER / FLAT TOP	450°
PRESSURE FRYERS	450°
GRILL	450°
EXHAUST COLLARS	450°

ANSUL R-102 FIRE SYSTEM NOTES
THREE TANK SYSTEM MOUNTED ON TOP OF (H-1L)
MAXIMUM FLOW POINTS = 33

ANSUL R-102 FIRE SYSTEM NOTES
TWO TANK SYSTEM REMOTE MOUNTED
MAXIMUM FLOW POINTS = 22

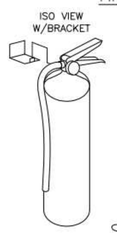
ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
1W	4	DUCT NOZZLES	4
1N	4	PLENUM NOZZLES	4
230	2	APPLIANCE NOZZLES	4
3N	11	APPLIANCE NOZZLES	33
		TOTAL FLOW POINTS - 45	

ITEM #	QTY	DESCRIPTION
#200	8	SERIES DETECTORS W/ FUSIBLE LINKS
#201	2	TERMINAL DETECTOR W/ FUSIBLE LINKS
#202	1	OEM REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#202	1	REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#203	5	3 GALLON TANKS
#204	1	SINGLE TANK ENCLOSURE
#205	2	REMOTE PULL STATION

ANSUL R-102 FIRE SYSTEM
UL LISTED PER STD LATEST STD 300

1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICAPBLE CODES
2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN.
   MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY ANSUL INSTALLER
3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

FIRE EXTINGUISHER



5 LBS. ABC
MODEL B402 QTY:_____

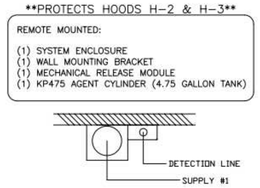
10 LBS. ABC
MODEL B456 QTY:_____

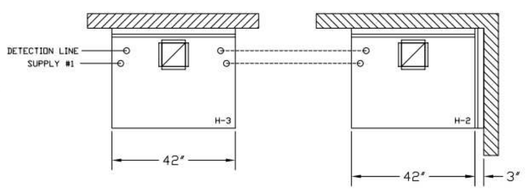
6 LTR CLASS K
MODEL C-260 QTY:_____

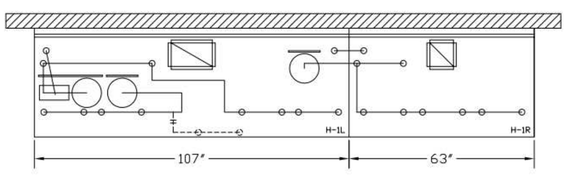
SUPPLIED BY HALTON

1/2" BLACK IRON SUPPLY LINE REQ'D FROM TANK TO FIRST BRANCH LINE FOR 475 TANKS ONLY!

AMEREX

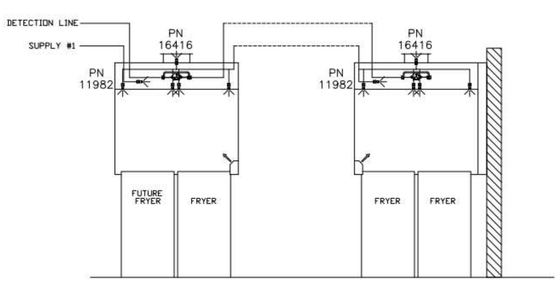




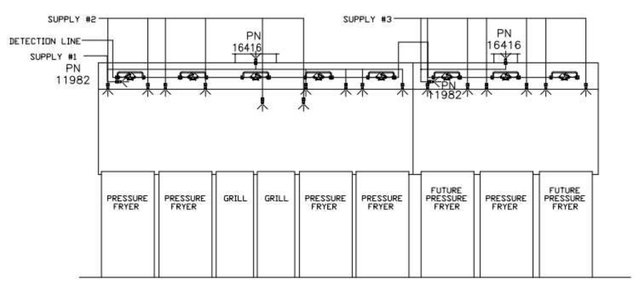


ALL APPLIANCE NOZZLES FOR H-2 & H-3 ARE PN 11982 NOZZLES W/ SWIVELS.

ALL APPLIANCE NOZZLES FOR PRESSURE FRYERS ARE PN 13729 NOZZLES W/ SWIVELS. ALL GRILL NOZZLES ARE 14178 NOZZLES W/ SWIVELS.



AMEREX FIRE SYSTEM LAYOUT



AMEREX FIRE SYSTEM LAYOUT

FUSIBLE LINK RATINGS

ITEM	TEMP
OPEN FRYERS	450°
2 BURNER / FLAT TOP	450°
PRESSURE FRYERS	450°
GRILL	450°
EXHAUST COLLARS	450°

AMEREX FIRE SYSTEM NOTES
(1) KP375 & (2) KP475 TANK SYSTEM MOUNTED ON TOP OF (H-1L)
MAXIMUM FLOW POINTS = 39

AMEREX FIRE SYSTEM NOTES
KP475 TANK SYSTEM REMOTE MOUNTED
(1) TANK
MAXIMUM FLOW POINTS = 14

ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
16416	4	DUCT NOZZLES	4
11982	4	PLENUM NOZZLES	4
11982	8	APPLIANCE NOZZLES	8
14178	2	APPLIANCE NOZZLES	4
13729	14	APPLIANCE NOZZLES	28
		TOTAL FLOW POINTS - 48	

ITEM #	QTY	DESCRIPTION
12508-P001	10	DETECTOR BRACKET ASSEMBLY
13334	1	KP375 AGENT CYLINDER
17379	3	KP475 AGENT CYLINDER
18001	1	MECHANICAL RELEASE MODULE W/ DOUBLE POLE MICRO SWITCH
25851	1	SYSTEM ENCLOSURE W/ DOUBLE POLE MICRO SWITCH
16920	1	WALL MOUNTING BRACKET
21481	3	REMOTE MANUAL PULL STATION

AMEREX FIRE SYSTEM
TESTED & LISTED BY UNDERWRITERS LABORATORIES, INC. TO UL STANDARD 300.

1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICAPABLE CODES
2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN.
   MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY AMEREX INSTALLER
3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFYING THE FOLLOWING:
1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.
NOTE TO APPROVER
ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.
☐ REVISE AND RESUBMIT
APPROVED FOR FABRICATION ☐ WITH CHANGES AS NOTED ☐ WITH NO CHANGES
APPROVED BY DATE

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (USA) ☒
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600
WEBSITE: WWW.HALTON.COM

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

REV.	BY	DATE	REVISION DESCRIPTION
1	–	–	
2			
3			
4			
5			
6			
7			

PROJECT: CHICK-FIL-A P14
LS/LE/SE/DTO/DTN BUILDING
LOCATION: – –
DRAWN BY: CG
SCALE: NTS
DATE: 08.09.22
Halton Dwg: U22-606-02FS

Halton CARE FOR INDOOR AIR

Sheet
MH-1.2