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KDF JOB #: 24010

QuikTrip No. 1432

5960 W BUCKEYE RD
 PHOENIX, ARIZONA

PROTOTYPE: FRYER ADDITION
 DIVISION: PHOENIX
 VERSION: TCMK
 DATE: 06/30/25

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 08/16/2024

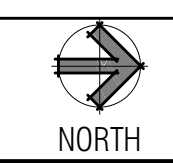
SHEET TITLE:
 MECHANICAL DUCTWORK CEILING PLAN - DEMO

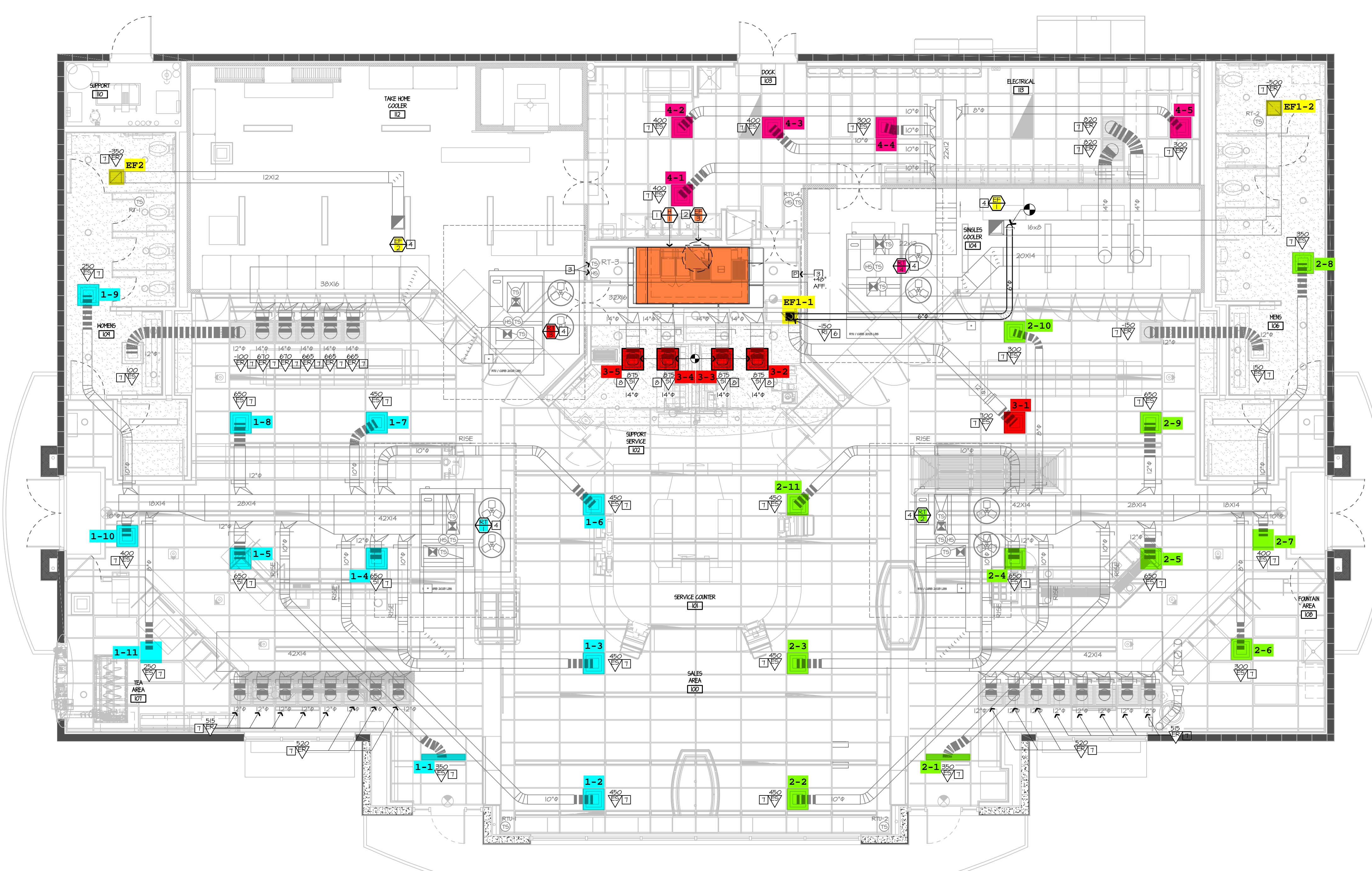
SHEET NUMBER:
 M101

- 1 REMOVE KITCHEN HOOD SYSTEM AND ALL ASSOCIATED GREASE DUCT BETWEEN HOOD AND EXHAUST FAN ON ROOF. REMOVE HOOD SUPPLY FLENUM DUCT BACK TO RTU SUPPLY MAIN AND CAP AND PATCH AS REQUIRED. RE: M02.
- 2 REMOVE ROOF MOUNTED EXHAUST FAN AND ALL ASSOCIATED DUCT WORK.
- 3 EXISTING TEMPERATURE SENSOR AND HUMIDITY SENSOR SERVING KITCHEN RTU TO REMAIN, SHOWN FOR REFERENCE.
- 4 EXISTING ROOF EQUIPMENT TO REMAIN, SHOWN FOR REFERENCE.
- 5 REMOVE DIFFUSER/GRILLE AND MAINTAIN EXISTING DUCT WORK FOR NEW WORK.

A1 MECHANICAL DUCTWORK CEILING PLAN - DEMO

A13 PLAN NOTES





- 1 INSTALL NEW OWNER-FURNISHED TYPE-I KITCHEN HOOD EXHAUST SYSTEM, FIRE SUPPRESSION SYSTEM, GREASE DUCT, AND ALL OTHER REQUIREMENTS FOR A TYPE-I SYSTEM. INSTALL HOOD CONTROL PANEL, TEMPERATURE SENSORS, AND HUMIDITY SENSORS WITHIN HOOD UTILITY CABINET ACCORDING TO MANUFACTURER'S INSTALLATION REQUIREMENTS.
- 2 INSTALL NEW OWNER-FURNISHED ROOF-MOUNTED EXHAUST FAN. INSTALL 12" GREASE DUCT TO ROOF MOUNTED FAN. EXTEND HOOD COLLAR. BALANCE TO AIRFLOW RATE SCHEDULED ON M601. COORDINATE WITH ELECTRICAL CONTRACTOR FOR FAN CONTROLS BETWEEN HOOD AND FAN. RE: Q1 INSTALL DRAWINGS AND HOOD MANUFACTURER'S INSTRUCTIONS.
- 3 INSTALL OWNER-FURNISHED HOOD SUPPRESSION PUSH STATION PER MANUFACTURER'S INSTALLATION REQUIREMENTS. RE: F4-ES01 FOR ELEVATION.
- 4 EXISTING ROOF EQUIPMENT TO REMAIN, SHOWN FOR REFERENCE. RE: G1-M601 TO RE-BALANCE AIRFLOWS AS REQUIRED.
- 5 EXISTING TEMPERATURE SENSOR AND HUMIDITY SENSOR SERVING KITCHEN RTU TO REMAIN, SHOWN FOR REFERENCE.
- 6 PROVIDE EXHAUST GRILLE ABOVE COMBI OVENS AND PROVIDE DUCT AS SHOWN TO TAP INTO EXISTING RESTROOM EXHAUST DUCT. RE: G1-M601 FOR MORE INFORMATION.
- 7 RE-BALANCE EXISTING DIFFUSER/GRILLE TO AIRFLOW SHOWN ON PLAN. RE: G1-M601 FOR MORE INFORMATION.
- 8 PROVIDE NEW DIFFUSER/GRILLE. RECONNECT EXISTING FLEX DUCT AND REBALANCE TO INDICATED CFM.

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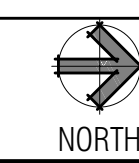
ORIGINAL ISSUE DATE: 08/16/2024

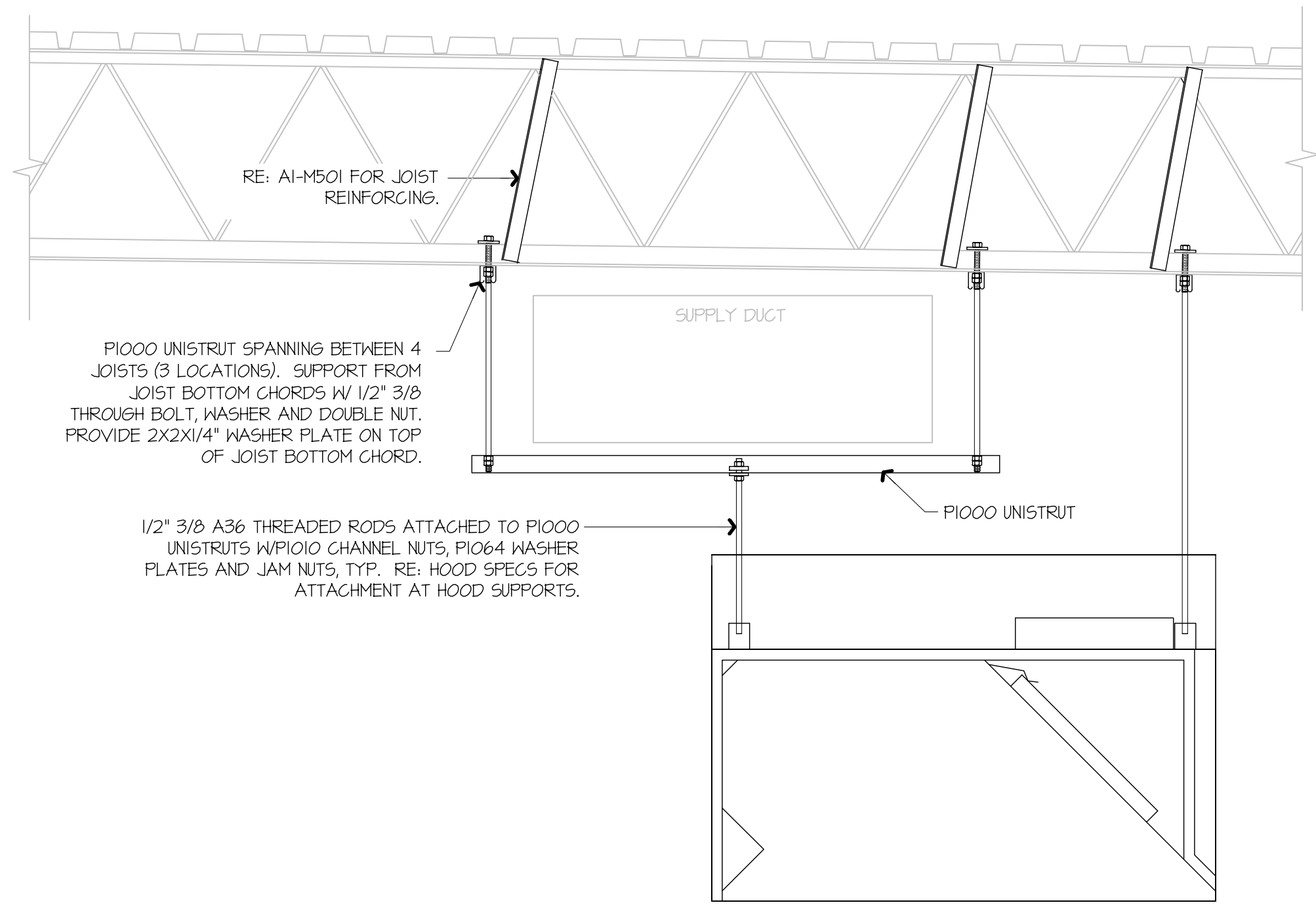
SHEET TITLE:
 MECHANICAL DUCTWORK CEILING PLAN - NEW

SHEET NUMBER:
 M102

A1 MECHANICAL DUCTWORK CEILING PLAN - NEW

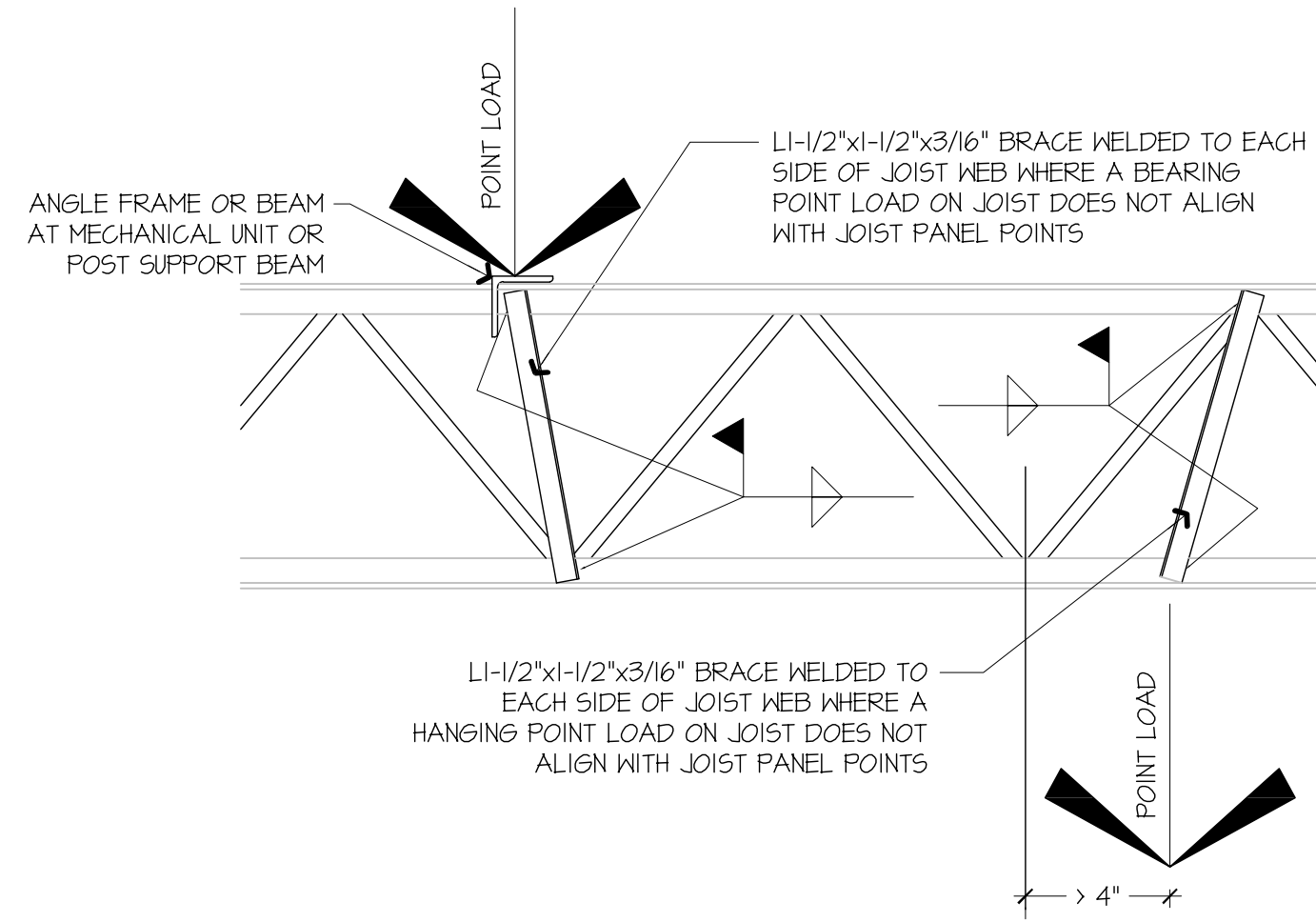
A13 PLAN NOTES





F1 KITCHEN EXHAUST HOOD SUPPORT DETAIL

NOT TO SCALE



A1 JOIST REINFORCING DETAIL

NOT TO SCALE

GENERAL NOTES:
 KITCHEN EXHAUST HOOD SHALL BE TYPE-I RATED FOR MEDIUM DUTY COOKING APPLIANCES THAT PRODUCE GREASE OR SMOKE AS A RESULT OF THE COOKING PROCESS. HOOD SHALL BE PROVIDED WITH AUTOMATIC FIRE SUPPRESSION SYSTEM INTERLOCKED WITH EQUIPMENT SHUTDOWN CONTROLS. HOOD SHALL BE PROVIDED WITH UL 1046 GREASE FILTERS. HOOD SHALL BE LISTED IN ACCORDANCE WITH UL710. HOOD SHALL BE LISTED AND LABELED FOR 0" CLEARANCE REQUIREMENTS TO COMBUSTIBLES.

HEAT AND MOISTURE LOADS FOR APPLIANCES THAT DO NOT PRODUCE GREASE OR SMOKE AS A RESULT OF THE COOKING PROCESS AND ARE NOT LOCATED UNDER THE HOOD, HAVE BEEN INCORPORATED INTO THE HVAC SYSTEM CAPACITY SERVING THE KITCHEN.

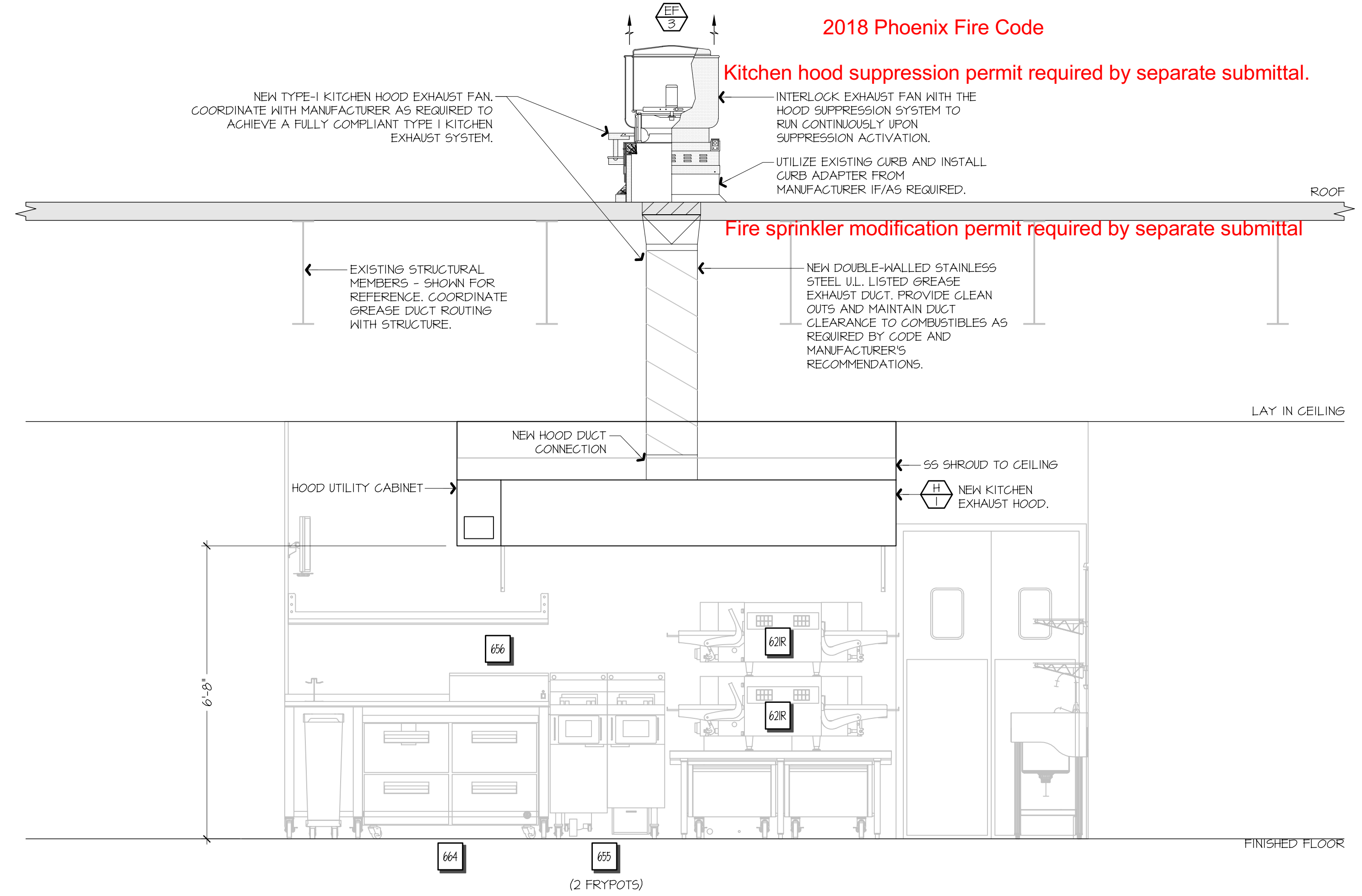
ALL OVENS NOT LOCATED UNDERNEATH A HOOD ARE UL710B LISTED FOR VENTLESS OPERATION.

SEQUENCE OF OPERATION:
 THE FOLLOWING KITCHEN EQUIPMENT SHALL BE INTERLOCKED WITH CURRENT TRANSFORMERS THAT AUTOMATICALLY ACTIVATE THE HOOD EXHAUST FAN UPON THE KITCHEN EQUIPMENT BEING ENERGIZED: [621] PIZZA OVENS, [648] COMBI OVENS, [641] STEAM DRAWER, [655] FRYER, [656] FRY HOLDING STATION.

AS HOOD EXHAUST FAN ENERGIZES, RTU'S SHALL MODULATE OUTSIDE AIR TO MAINTAIN BUILDING PRESSURIZATION. RE: M601.

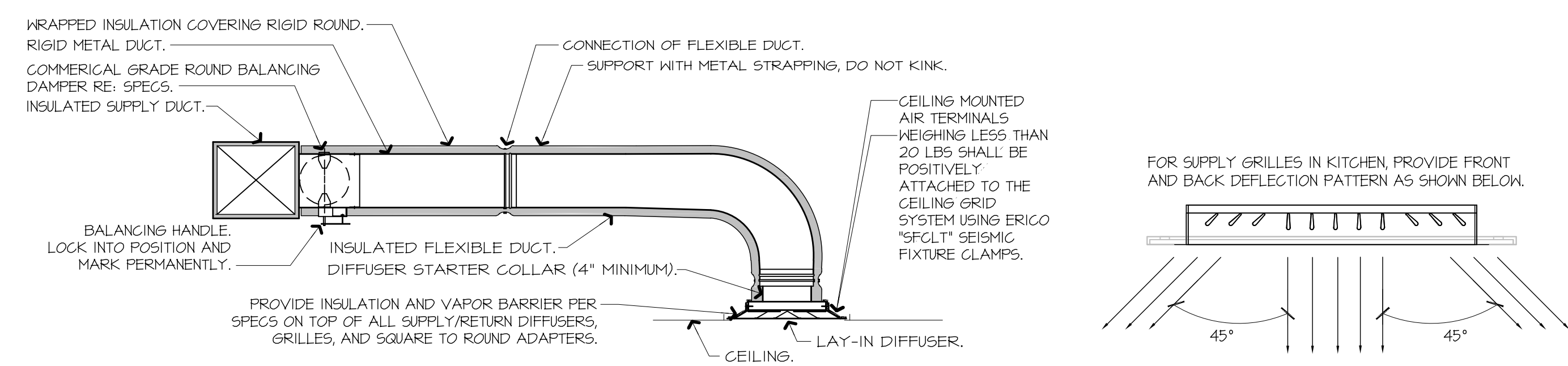
HEAT SENSORS SHALL BE PROVIDED WITHIN HOOD CANOPY FOR TEMPERATURE AND HUMIDITY MONITORING. RE: MANUFACTURER DRAWINGS.

UPON ACTIVATION OF THE FIRE SUPPRESSION SYSTEM, ALL EQUIPMENT LOCATED UNDER THE HOOD SHALL BE SHUTDOWN VIA CONTACTORS LOCATED WITHIN THE HOOD UTILITY CABINET, AND RTU SERVING KITCHEN SPACE SHALL BE AUTOMATICALLY SHUTDOWN. RE: H13-E601.



F9 FSC REAR WALL ELEVATION - NEW

1/8" = 1'-0"



A9 DIFFUSER CONNECTION DETAIL

NOT TO SCALE

- NOTES:**
- PROVIDE AT FLEXIBLE DUCT CONNECTION METAL OR "PANUIT" DRAWBAND ON THE INTERIOR FLEXIBLE DUCT HELIX. SECURE THE INSULATION OVER THE DRAWBAND WITH AN ADDITIONAL DRAWBAND.
 - PROVIDE BEADING ON ROUND METAL DUCT 12" OR LARGER IN DIAMETER.
 - PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF THE FLEX DUCT TO ROUND DUCT, DAMPERS AND DIFFUSERS.
 - BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE FIBER REINFORCED FOIL BACKED TAPE FOR INSULATION OVERLAP.

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QuikTrip No. 1432

5940 W BUCKEYE RD
 PHOENIX, ARIZONA

City of Phoenix Plan #: 2505047-LPRR Date: 09/26/25

QT

PROTOTYPE: FRYER ADDITION
 DIVISION: PHOENIX
 VERSION: TCMK
 DATE: 08/30/25

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 08/16/2024

SHEET TITLE:
 MECHANICAL SECTIONS & DETAILS

SHEET NUMBER:
 M501

FOR QUESTIONS, CALL THE
Tulsa Office
REGION 80
PHONE: (918) 258-0291
EMAIL: reg80@captiveaire.com

PATENT NUMBERS
EXHAUST HOODS ND-2/BD-2/5ND-2 (CANADA) - CA PATENT 2520435 C.

HOOD INFORMATION - JOB#7593782

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST FLENUM RISER(S)					HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM		VEL	SP
1		6030 ND-2	CAPTIVEAIRE	9' 0"	450 DEG	I	MEDIUM	150	1350	4"	12"	1350	1719	-0.540"	430 55 WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

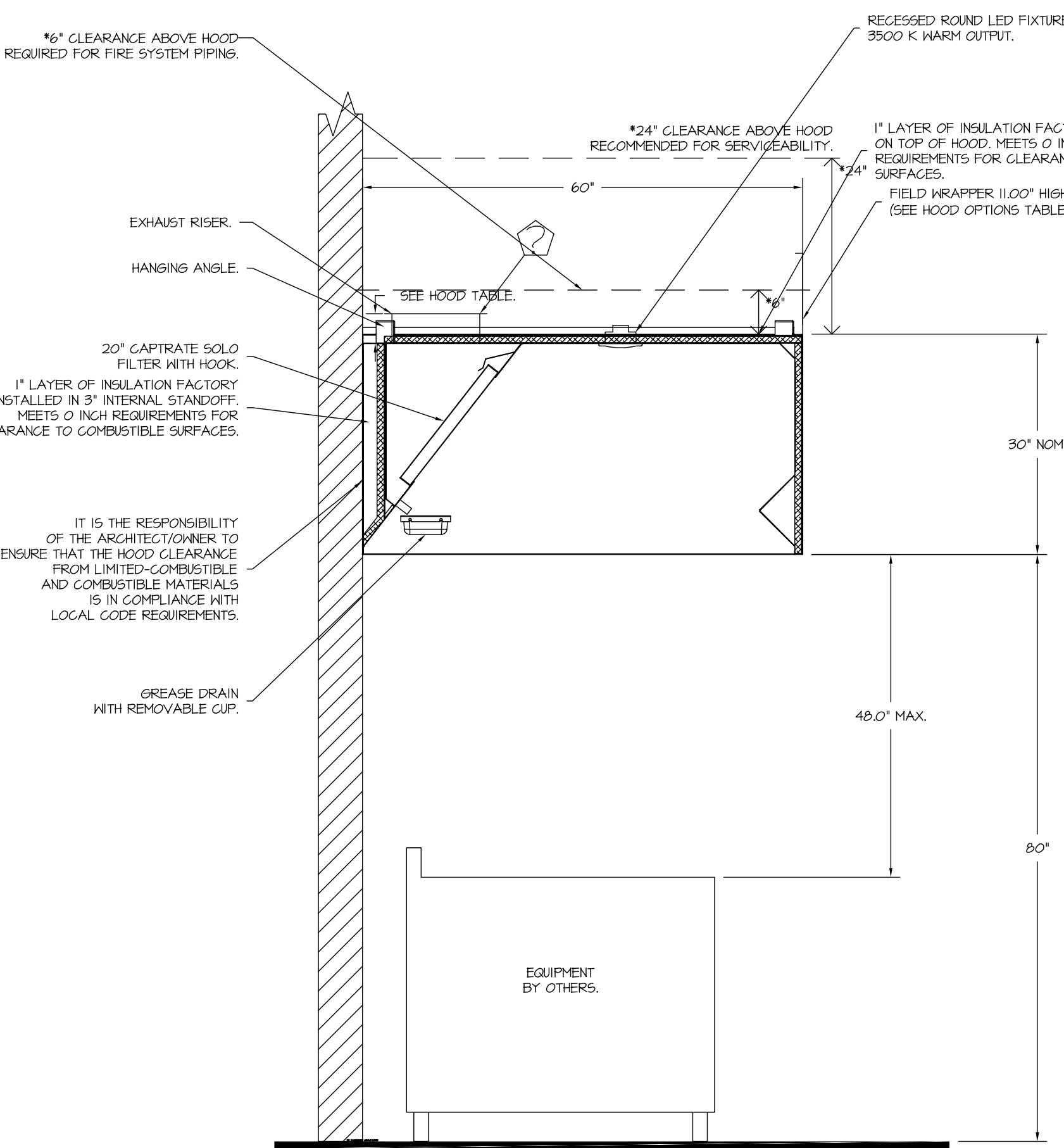
HOOD NO	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT			
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	AVERAGE FOOT CANDLES @ 36" AFF	LOCATION	SIZE	FIRE SYSTEM			ELECTRICAL	SWITCHES	
1		CAPTRATE SOLO FILTER	6	20"	16"	85% SEE FILTER SPEC	6	RECESSED ROUND	NO	66	LEFT	12"x60"x30"	TANK FS	4.0	DCV-1011	1 LIGHT 1 FAN	YES	887 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 11.00" HIGH FRONT, LEFT, RIGHT. RIGHT END STANDOFF (FINISHED) 1" WIDE 60" LONG INSULATED. INSULATION FOR TOP OF HOOD. INSULATION FOR BACK OF HOOD. SENSOR-CV.

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

1" LAYER OF INSULATION FACTORY INSTALLED IN 100" END STANDOFF MEETS 0" REQUIREMENTS CLEARANCE TO COMBUSTIBLE SURFACES.

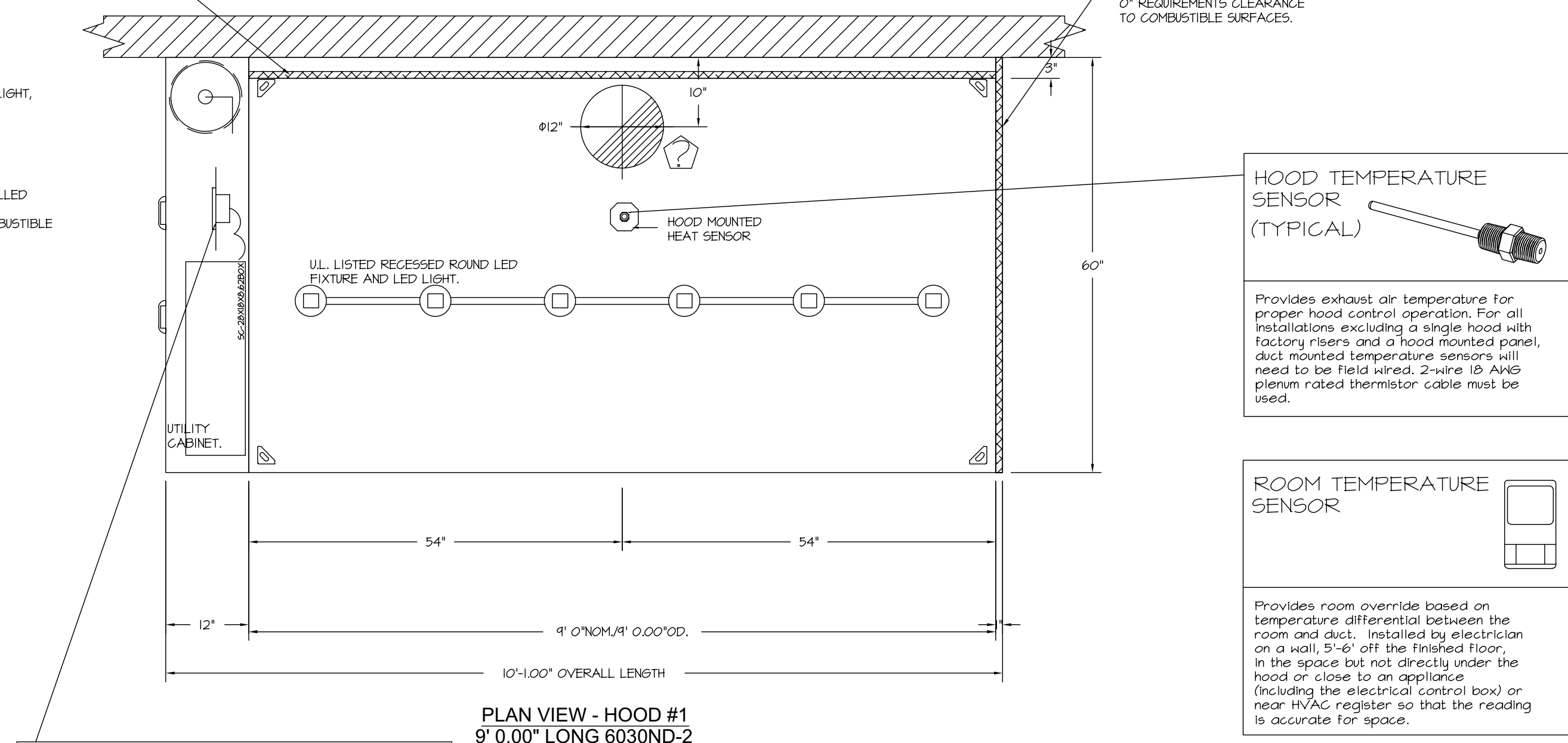


SECTION VIEW - MODEL 6030ND-2 HOOD - #1

CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	0"
	FRONT	0"
	BACK	0"
	LEFT	0"
	RIGHT	0"

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.

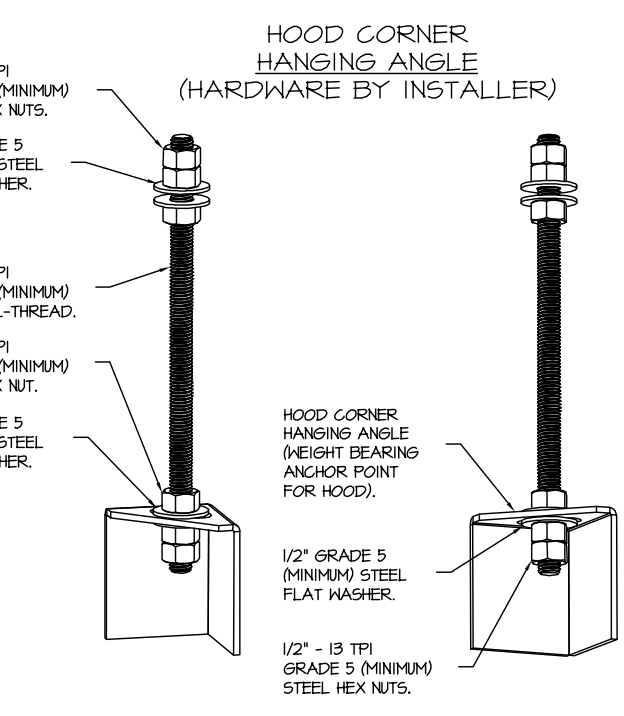


PLAN VIEW - HOOD #1 9'0.00" LONG 6030ND-2

HOOD TEMPERATURE SENSOR (TYPICAL)
Provides exhaust air temperature for proper hood control operation. For all installations excluding a single hood with factory risers and a hood mounted panel, duct mounted temperature sensors will need to be field wired. 2-wire 18 AWG plenum rated thermistor cable must be used.

ROOM TEMPERATURE SENSOR
Provides room override based on temperature differential between the room and duct. Installed by electrician on a wall, 5'-6" off the finished floor in the space but not directly under the hood or close to an appliance (including the electrical control box) or near HVAC register so that the reading is accurate for space.

HOOD CONTROL INTERFACE
LEFT INSIDE HOOD CABINET
The LCD interface provides user control and hood status. The faceplate is connected to the hood control panel through CAT-5 cable. A faceplate has 2 RJ-45 connectors. One connects to port J4 or J5 in the hood control panel and the other will typically be occupied by a RJ-45 end-of-line terminator.



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

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

NFPA #96
NSF

E.T.L. LISTED 3054804-001 TO UL 710 & ULCT10 STANDARDS

ENTIRE SHEET UPDATED.

SYSTEM DESIGN VERIFICATION (SDV)

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

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

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

REVISIONS

NO.	DESCRIPTION	DATE

CAPTIVEAIRE
Tulsa Office
12101 East 51st Street, Suite 101A, Tulsa, OK 74146
PHONE: (918) 258-0291 FAX: 9192275947 EMAIL: reg80@captiveaire.com

QT - 62.5/63.0 - FRYER ADD - TYPE I (60X300W)
2954 N Maize Road,
Nichita, KS, 67205

DATE: 6/19/2025
DWG.#: 7593782
DRAWN BY: RJH-80
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET TITLE:
MECHANICAL HOOD DETAILS
SHEET NO. 1

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QT
PROTOTYPE FRYER ADDITION
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REV	DATE	DESCRIPTION

SHEET NUMBER:
M510

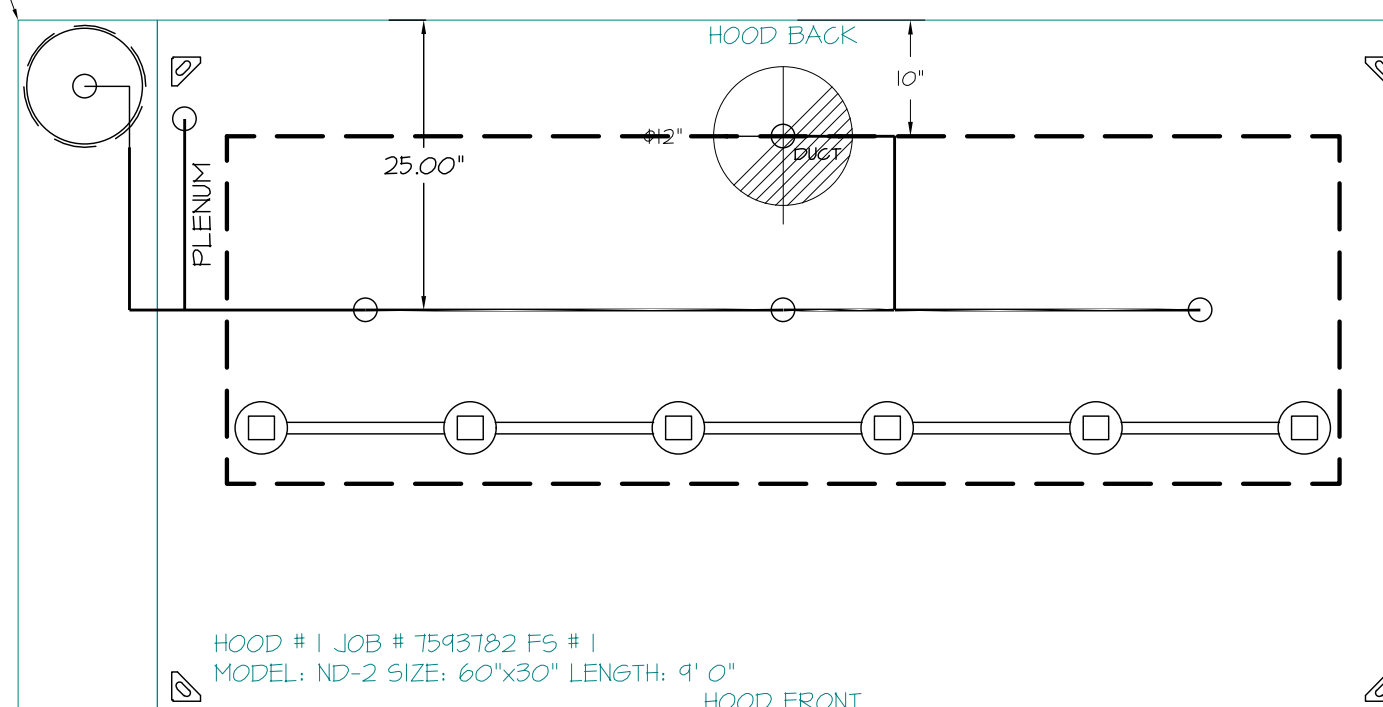
FIRE SYSTEM INFORMATION - JOB#7593782

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
I		TANK FS	4.0	20	20	FIRE CABINET LEFT	LEFT, HOOD I

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
0 - 0		TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
0 - 0		TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
0 - 0		12-F28021-32144-01-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO. CLOSE ON TEMP RISE AT 360°F. (A0034310).	1	0
0 - 0		32-00002 QUIK SEAL - 1/2" (UL).	1	0
0 - 0		4429K153 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
0 - 0		4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
0 - 0		79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" ANPT FEMALE CONNECTION, VIEGA.	1	0
0 - 0		79580 1/2" X 1/2" PRO-FRESS TEE X 1/2" ANPT FEMALE CONNECTION, VIEGA.	1	0
0 - 0		81-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	1	0
0 - 0		81-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
0 - 0		81-300033-001 DIN CONNECTOR, CANFIELD PART #5J560-201-EUOA, TANK FIRE SUPPRESSION, SUBMINATURE SOLENOID CONNECTION (CED VENDOR 30371).	1	0
0 - 0		81-300152-001 HARDWARE, 5VA BOLTS, TANK FIRE SUPPRESSION.	4	0
0 - 0		9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	4	0
0 - 0		9091200PC PRO PRESS PC611 1/2 PRESS TEE LD.	4	0
0 - 0		98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	2	0
0 - 0		A0034332 JUNCTION BOX FOR MANUAL PULL STATION, 15" DEEP BACK BOX, RED COLOR.	1	0
0 - 0		A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES, 1/4" FLARE X 1/4" MPT HALF UNION, USED ON TANK SERVICE PORT.	1	0
0 - 0		B1145 3/8" BLACK IRON 90 ELL.	2	0
0 - 0		DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	1	0
0 - 0		TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	3	0
0 - 0		TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	1	0
0 - 0		KK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	1	0
16 - 16		79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	5	0
16 - 16		OL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	5	0
26 - 26		05A-3/8 QUIK SEAL - 3/8" (UL).	5	0
34 - 34		A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT, RED COLOR.	1	0

- SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 1.5 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS



NOTES

- FIELD PIPE DROPS AS SHOWN
- PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.
- THIS PRE-ENGINEERED FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-55

JOB #: 7593782.
JOB NAME: QT - 62.5/63.0 - FRYER ADD - TYPE I (60X30DW).

SYSTEM SIZE: TANK-5P-I DESIGN FP: 20, MAXIMUM FP: 20.
HOOD # 1 9' 0.00" LONG X 60" WIDE X 30" HIGH.
RISER # 1 SIZE: 12" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

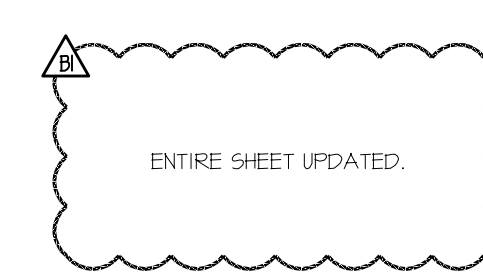
- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

AGENT DISTRIBUTION PIPING LIMITATIONS	
PIPE SECTION	MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE	42
OVERLAPPING NOZZLE APPLIANCE BRANCH	10
DEDICATED NOZZLE APPLIANCE BRANCH	10

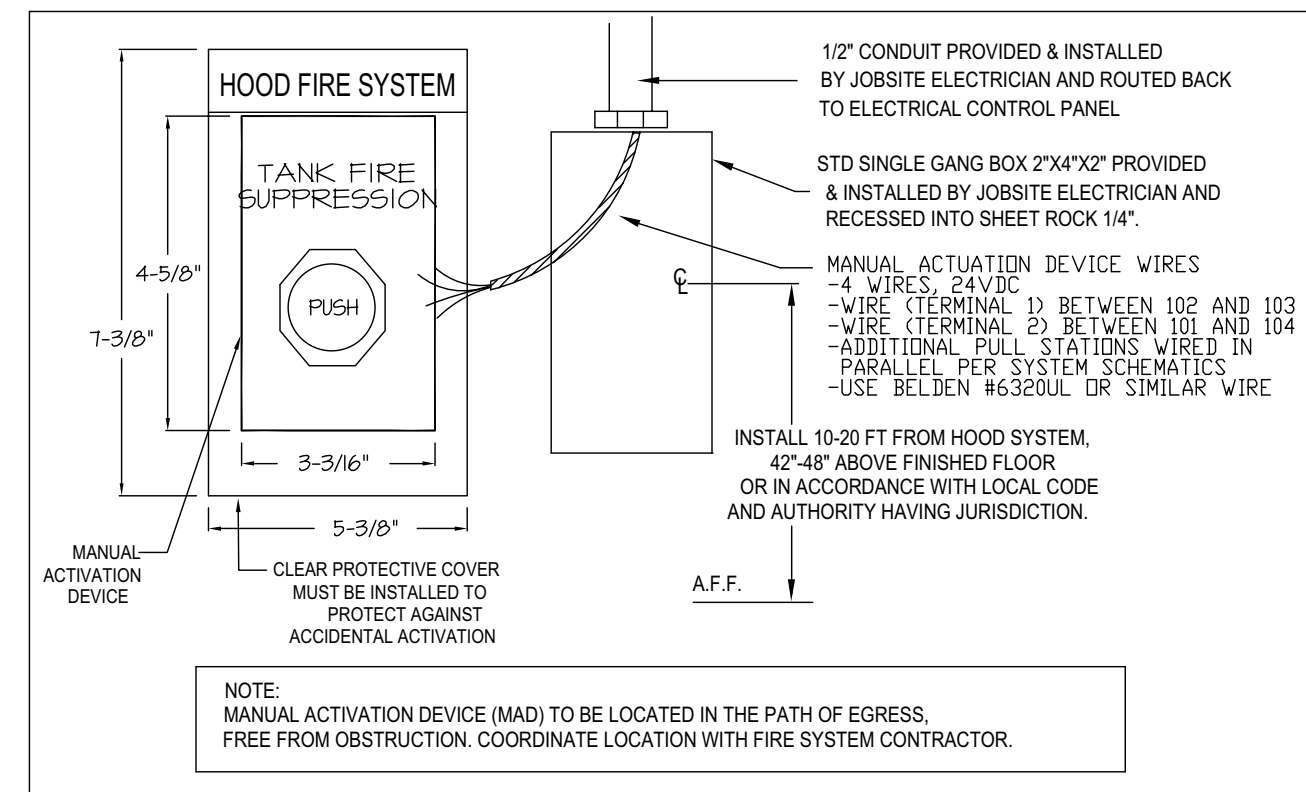
LEGEND - FIRE CABINET TANK SYSTEM

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

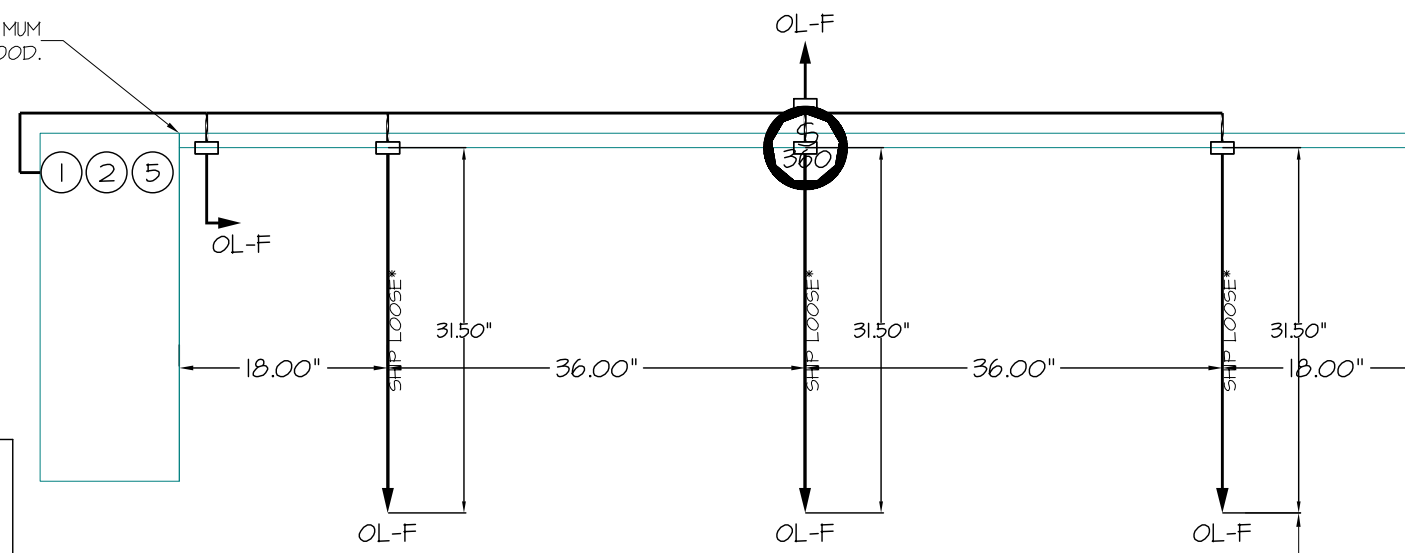
INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE, TWO SITE VISITS ONLY (ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST; ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES), ONE MECHANICAL OR ELECTRICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2", PERMIT, AND SYSTEM TEST.
EXCLUDES: UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE), GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHIRT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.



TANK MANUAL ACTIVATION DEVICE DETAIL



FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.



TANK OVERLAPPING PROTECTION - 36 HIGH PROXIMITY 46000' L 86000' D

CAPTIVE
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RT# 29288

QuikTrip No. 1432
5960 W BUCKEYE RD
PHOENIX, ARIZONA

QT
PROTOTYPE - FRYER ADDITION
DIVISION - PHOENIX
VERSION - TCM
DATE - 06/30/25

REV	DATE	DESCRIPTION
BI	9/25	CITY COMMENTS

SHEET TITLE:
MECHANICAL HOOD DETAILS

SHEET NUMBER:
M511

QT - 62.5/63.0 - FRYER ADD - TYPE I (60X30DW)
2954 N Maize Road,
Nichita, KS, 67205

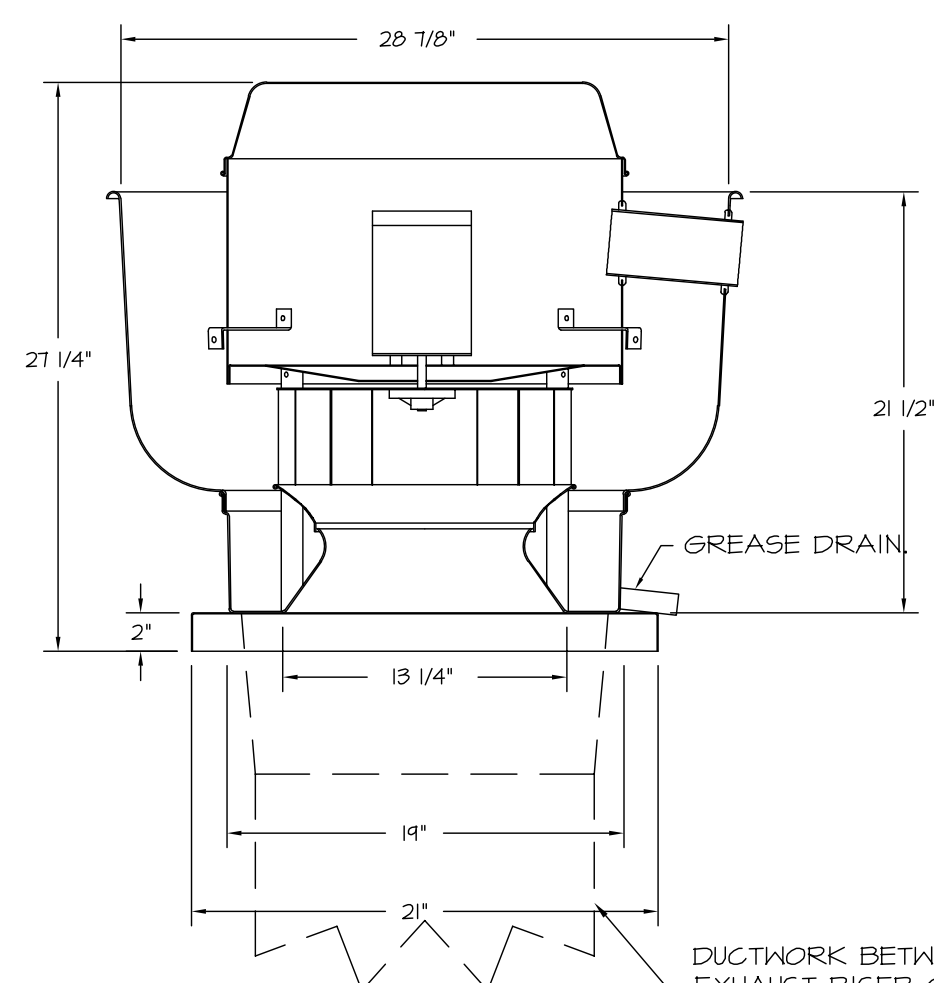
DATE: 6/19/2025
DWG.#: 7593782
DRAWN BY: RJH-80

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

MASTER DRAWING

SHEET NO. 2

FAN #1 DU50HFA - EXHAUST FAN (EF-3 (TYPE I))



FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND UL-C-5645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTS.
- NEMA 3R SAFETY DISCONNECT SWITCH.

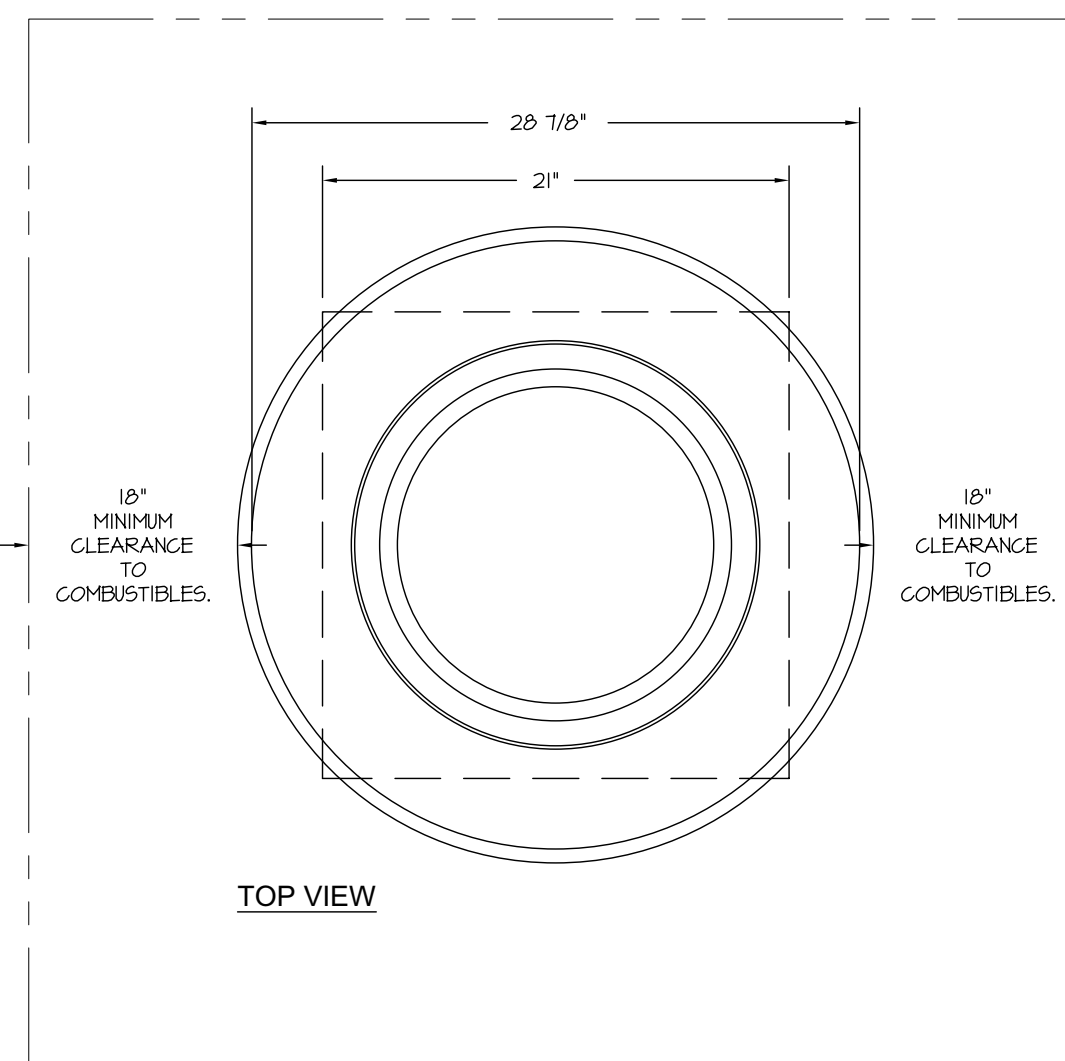
NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- GREASE BOX.
- HINGE KIT - SHIPS LOOSE FOR CURB SUPPLIED BY OTHERS.
- FAN BASE CERAMIC SEAL - DU/DR50HFA
- SHIP LOOSE - FOR GREASE DUCTS.
- ECM WIRING PACKAGE - EXHAUST - MODEBUS CONTROL -M5C- (TELCO), CCW ROTATION.
- 2 YEAR PARTS WARRANTY.

DUCTWORK BETWEEN EXHAUST RISER ON HOOD AND FAN (BY OTHERS).



EXHAUST FAN INFORMATION - JOB#7593782

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	EF-3 (TYPE I)	1	DU50HFA	CAPTIVEAIRE	1350	0.750	1543	TEAO-ECM	0.500	0.3710	1	208	3.8	513 FPM	84	16.6

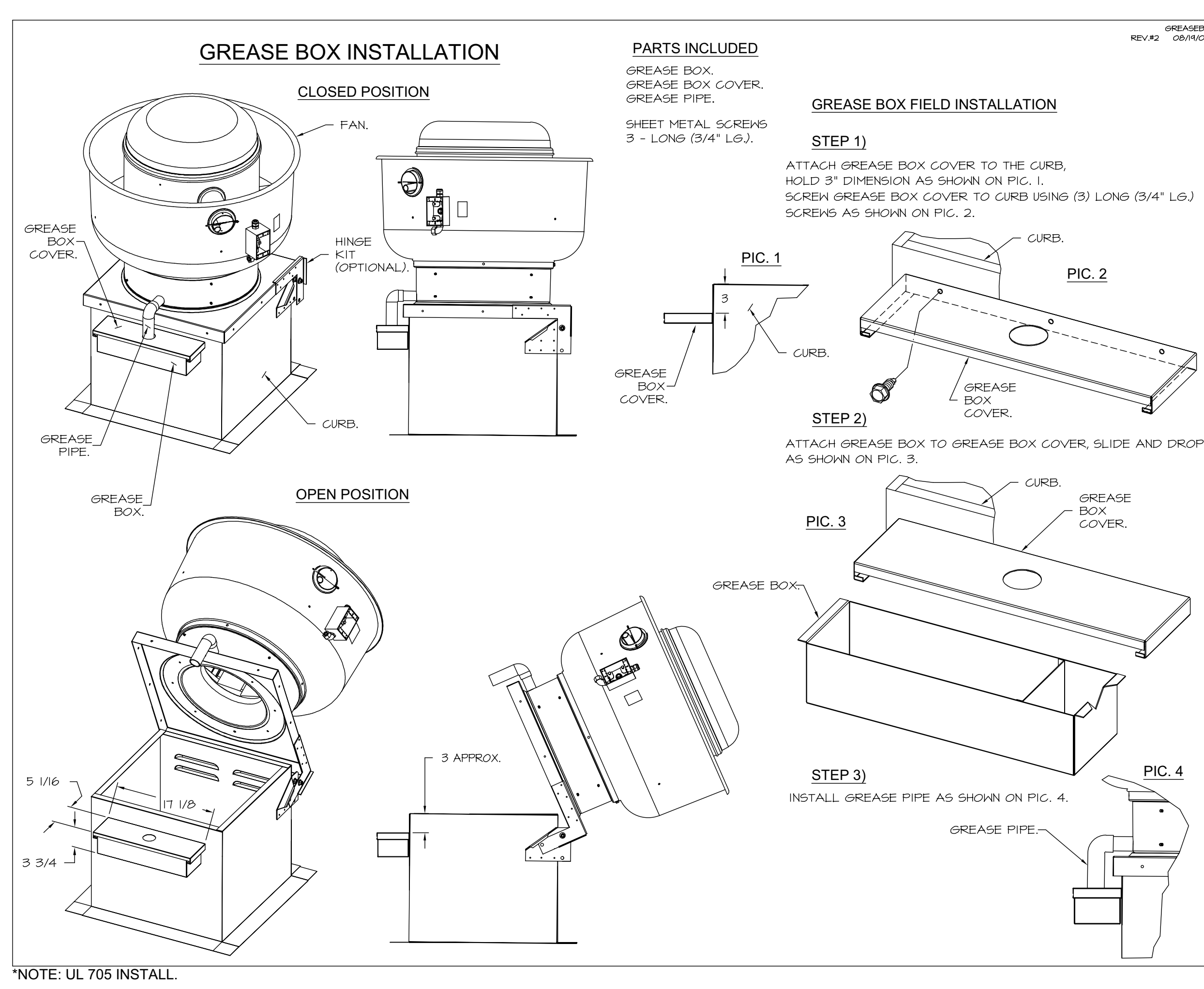
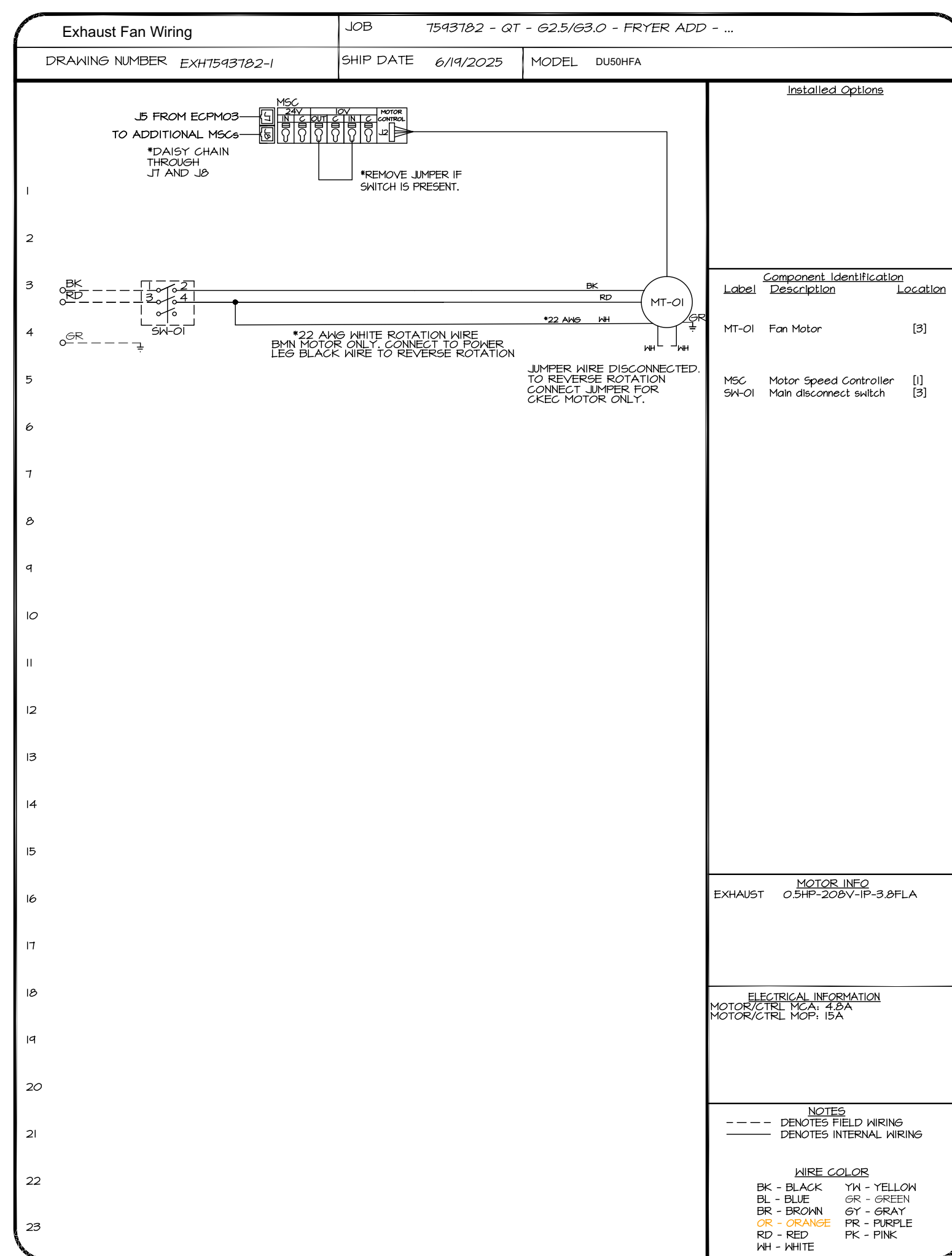
FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST				SUPPLY										
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT								
1	EF-3 (TYPE I)	YES														

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF-3 (TYPE I)	1	GREASE BOX
		1	HINGE KIT - SHIPS LOOSE FOR CURB SUPPLIED BY OTHERS
		1	FAN BASE CERAMIC SEAL - DU/DR50HFA - SHIP LOOSE - FOR GREASE DUCTS
		1	ECM WIRING PACKAGE - EXHAUST - MODEBUS CONTROL -M5C- (TELCO), CCW ROTATION
		1	2 YEAR PARTS WARRANTY

ENTIRE SHEET UPDATED.



REVISIONS

DESCRIPTION	DATE

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QuikTrip No. 1432
 5960 W BUCKEYE RD PHOENIX, ARIZONA

QT - 62.5/63.0 - FRYER ADD - TYPE I (60X30DM)
 2954 N Maize Road, Nichita, KS, 67205

REV	DATE	DESCRIPTION
BI	9/15/25	CITY COMMENTS

DATE: 6/19/2025
DWG.#: 7593782
DRAWN BY: R.JH-80
SCALE: 3/4" = 1'-0"
MASTER DRAWING

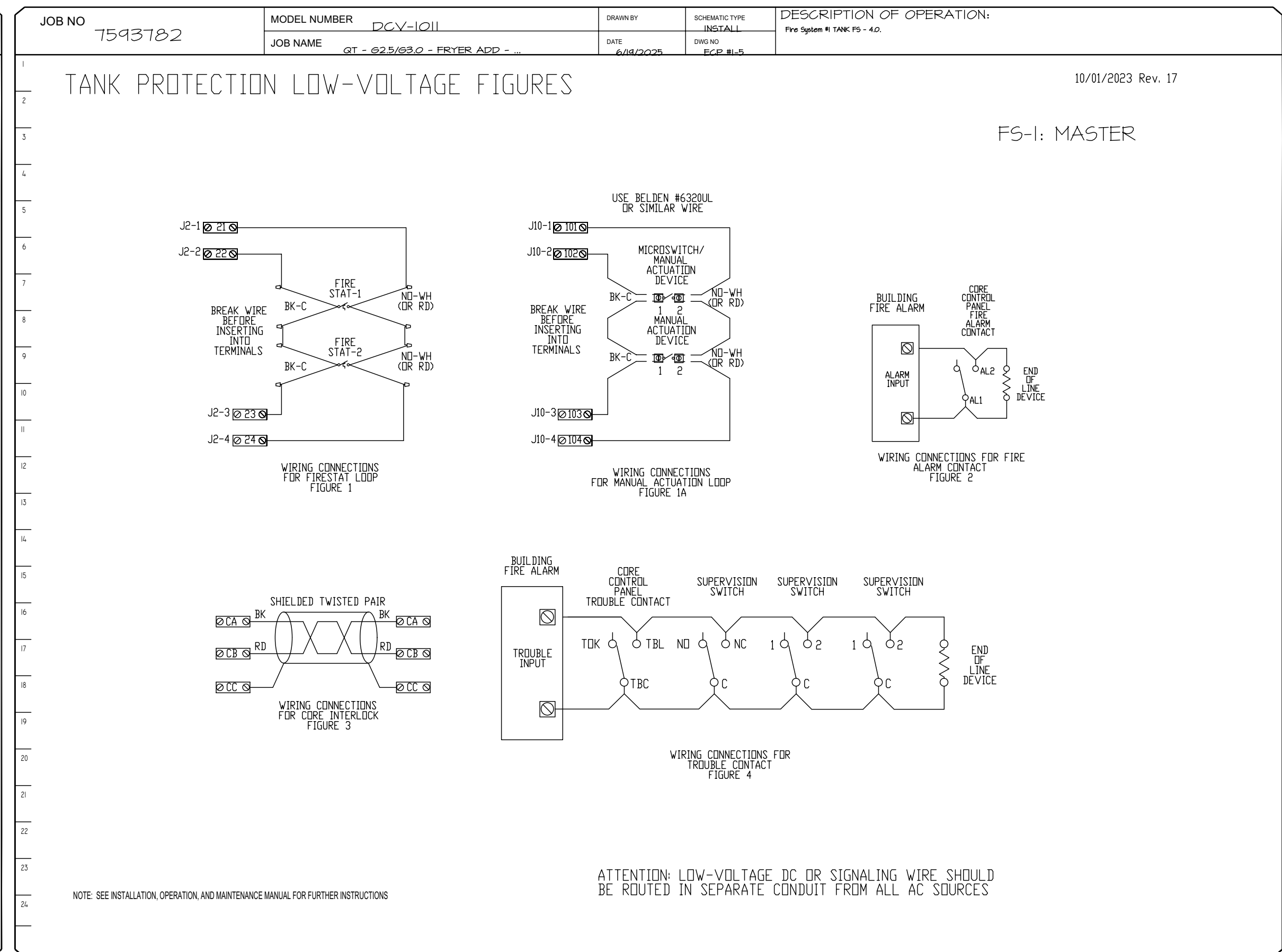
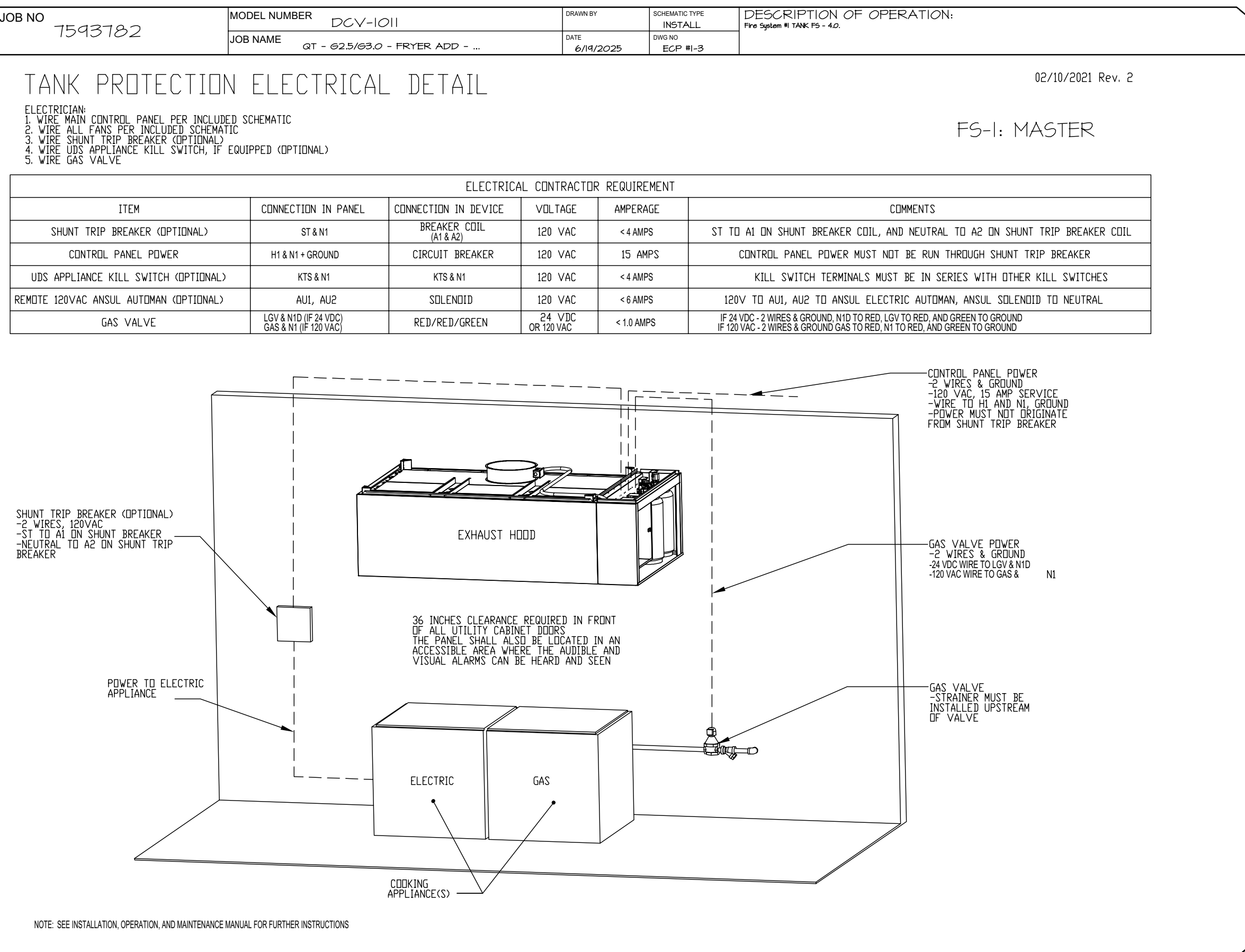
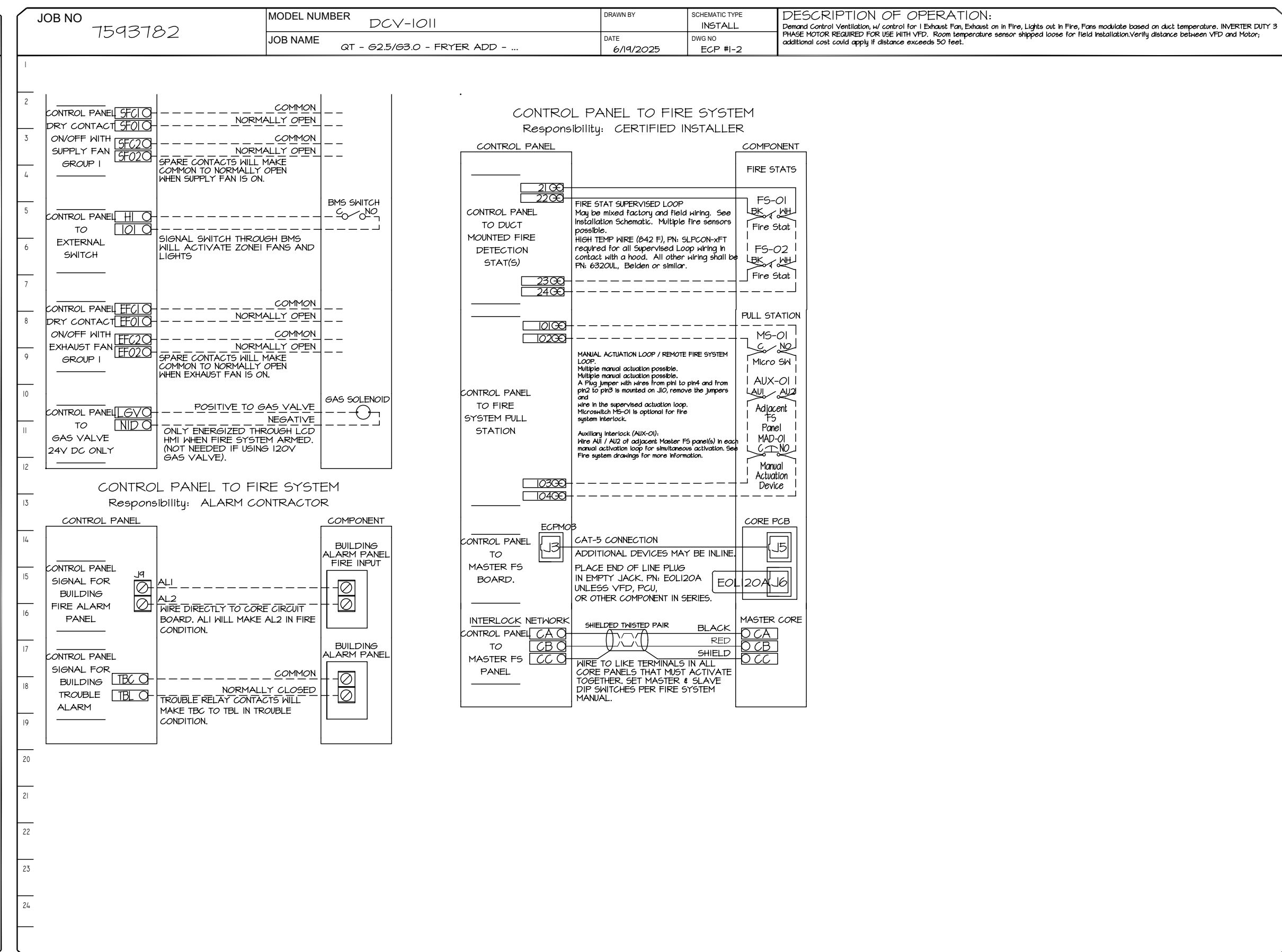
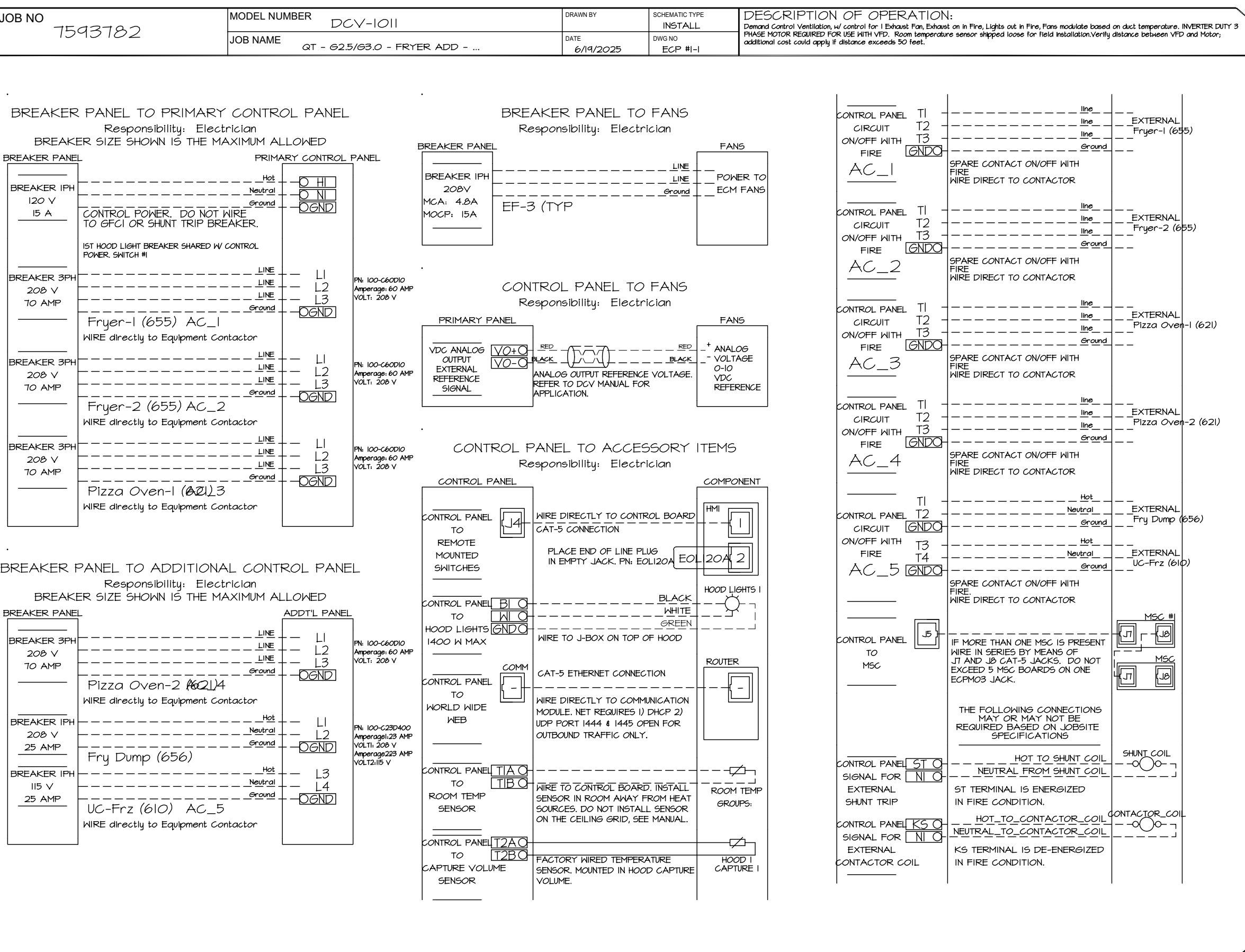
SHEET NO. 3

SHEET TITLE:
 MECHANICAL HOOD DETAILS

SHEET NUMBER:
 M512

ELECTRICAL PACKAGE - JOB#7593782

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	HP	VOLT	FLA	
1	TYPE I ECP	DCV-1011	UTILITY CABINET LEFT	SHIP LOOSE W/ PREWIRE	1 LIGHT 1 FAN	SMART CONTROLS DCV	EF-3 (TYPE I)	EXHAUST	1	0.500	208	3.8



REVISIONS

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QT - 62.5/69.0 - FRYER ADD - TYPE I (60X300M)
2954 N Maize Road,
Micheita, KS, 67205

DATE: 6/19/2025
DWG.#: 7593782
DRAWN BY: R.JH-80
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET TITLE:
MECHANICAL HOOD
DETAILS
SHEET NO. 4

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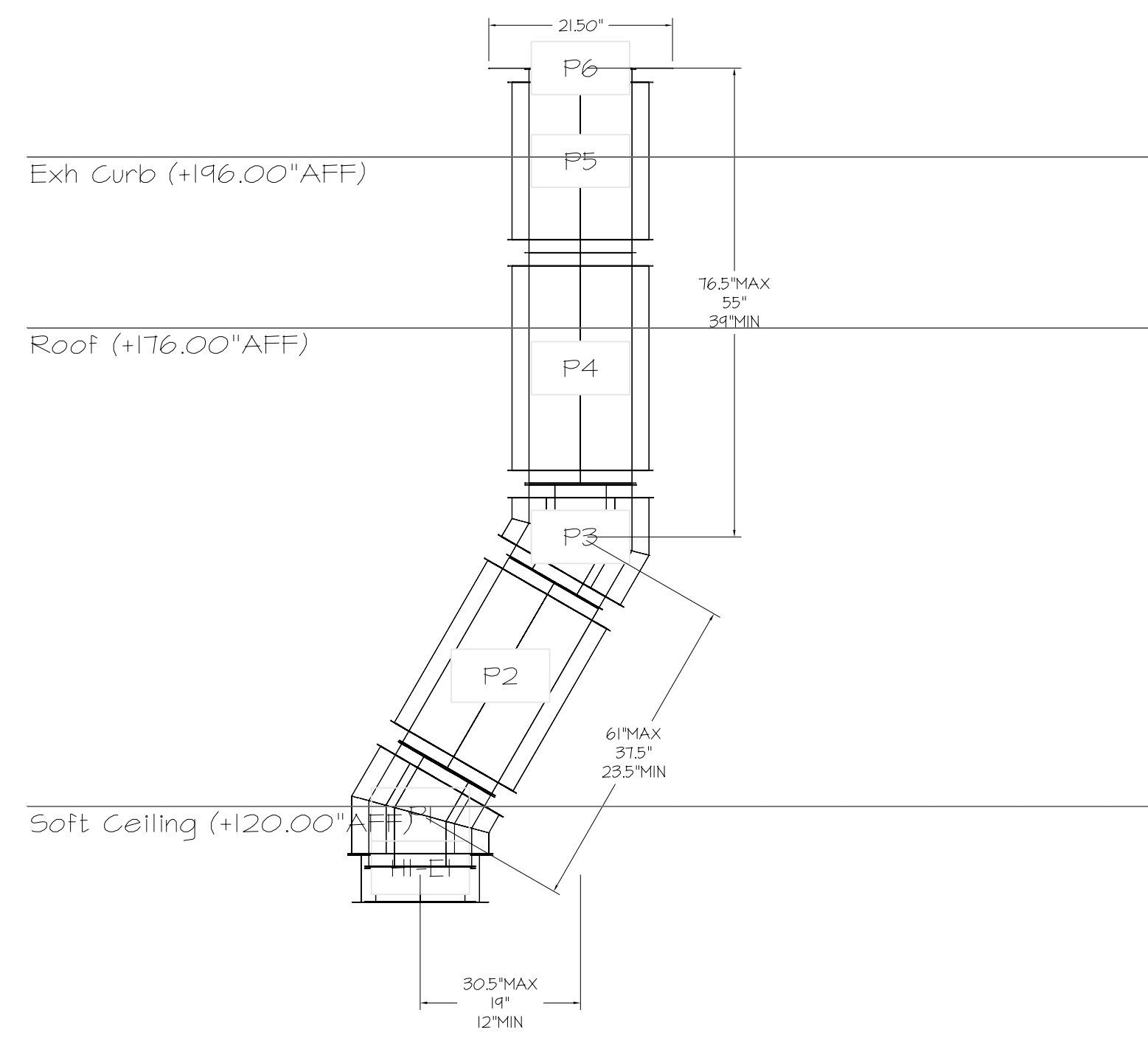
QT

REV	DATE	DESCRIPTION

PROTOTYPE: FRYER ADDITION
DIVISION: PHOENIX
VERSION: TCM
DATE: 06/30/25
ORIGINAL ISSUE DATE: 08/16/2024

SHEET NUMBER:
M513

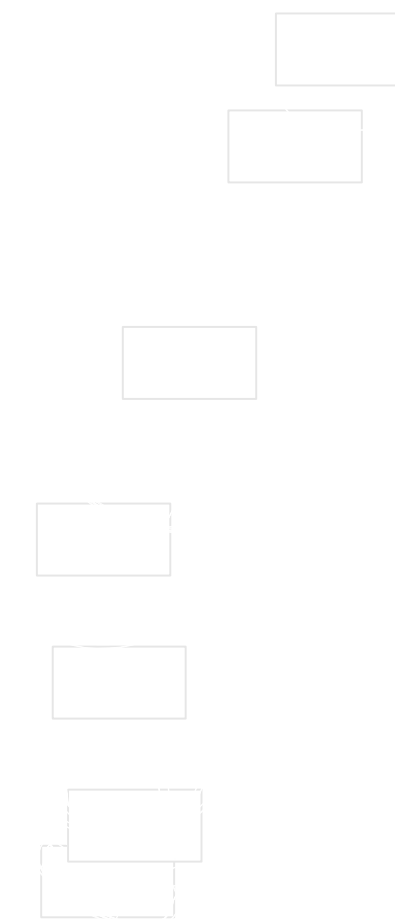
DUCTWORK #1 SIDE VIEW



DUCTWORK #1 TOP VIEW



DUCTWORK #1 SE VIEW



DOUBLE WALL GREASE DUCT SPECIFICATION

FURNISH DOUBLE WALL, FACTORY BUILT GREASE DUCT FOR USE WITH TYPE I KITCHEN HOODS, WHICH CONFORMS TO THE REQUIREMENTS OF NFPA-96. PRODUCTS SHALL BE ETL LISTED TO UL-197B AND UL-2221 FOR VENTING AIR AND GREASE VAPORS FROM COMMERCIAL COOKING OPERATION. MODELS DW-2R, 3R AND 3Z ARE USED FOR GREASE DUCT APPLICATIONS WHEN INSTALLED IN ACCORDANCE WITH THESE INSTRUCTIONS AND NATIONAL FIRE PROTECTION ASSOCIATION "NFPA 96"; STANDARD FOR VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS. DOUBLE WALL GREASE DUCTS ARE LISTED FOR A CONTINUOUS INTERNAL TEMPERATURE OF 500 DEGREES F AND INTERMITTENT TEMPERATURES OF 2000 DEGREES F.

THE DUCT SECTIONS SHALL BE CONSTRUCTED OF AN INNER DUCT WALL AND AN OUTER WALL WITH INSULATION IN BETWEEN. THE INNER DUCT WALL SHALL BE CONSTRUCTED OF .036 INCH THICK, 430 TYPE STAINLESS STEEL AND BE AVAILABLE IN DIAMETERS 8" THROUGH 24". THE OUTER WALL SHALL BE CONSTRUCTED OF STAINLESS STEEL AT A MINIMUM OF .024 INCH THICKNESS. THE DUCT, BASED ON MODEL NUMBER, SHALL INCLUDE LAYERS OF SUPER WOOL 60T PLUS INSULATION BETWEEN THE INNER AND OUTER WALL. GREASE DUCT JOINTS SHALL BE HELD TOGETHER BY MEANS OF FORMED V CLAMPS AND SEALED WITH 3M FIRE BARRIER 2000+. THE DUCT WALL ASSEMBLY SHALL BE TESTED AND LISTED AT 3/4" OR ZERO INCH CLEARANCE, ACCORDING TO CLASSIFICATIONS.

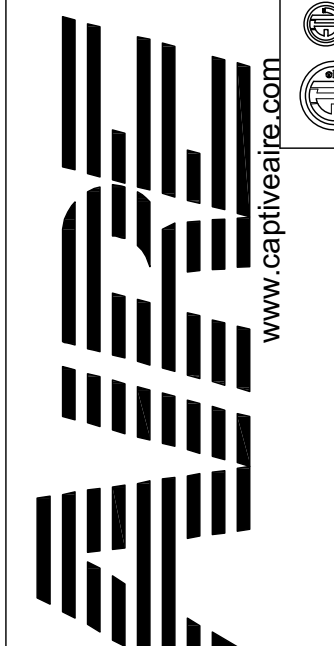
CLASSIFICATIONS AND CLEARANCES

UL 2221: STANDARD FOR FIRE RESISTIVE GREASE DUCT ENCLOSURE ASSEMBLIES. CHAPTER 7 OF THIS STANDARD REFERENCES A TEST LABELED INTERNAL FIRE TEST. SECTION 7.1.1 REFERENCES TWO INSTALLATION CONDITIONS, CONDITION A AND CONDITION B. CONDITION A REPRESENTS ALL INSTALLATION CONDITION EXCEPT FOR INSTALLATION WITHIN NON-VENTILATED COMBUSTIBLE ENCLOSURES. CONDITION B REPRESENTS INSTALLATION WITHIN A NON-VENTILATED COMBUSTIBLE ENCLOSURE.

MODEL DW-2R IS CLASSIFIED UNDER UL2221 (TEST OF FIRE RESISTIVE DUCT ENCLOSURE ASSEMBLIES) AS AN ALTERNATE TO 2-HR. FIRE RESISTIVE SHAFT ENCLOSURES WITH A REDUCED CLEARANCE TO COMBUSTIBLES (SIZES 8" TO 16" DIAMETER). MODEL 2R IS LISTED IN ACCORDANCE WITH THE REQUIREMENTS FOR DUCT ENCLOSURE CONDITION B.

REVISIONS

NO.	DESCRIPTION	DATE



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QT - 62.5/63.0 - FRYER ADD - TYPE I (60X30DW)
2954 N Maize Road,
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DATE: 6/19/2025

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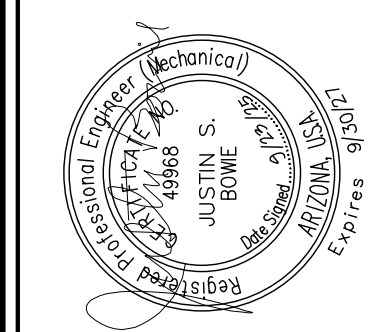
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SCALE: 3/4" = 1'-0"

MASTER DRAWING

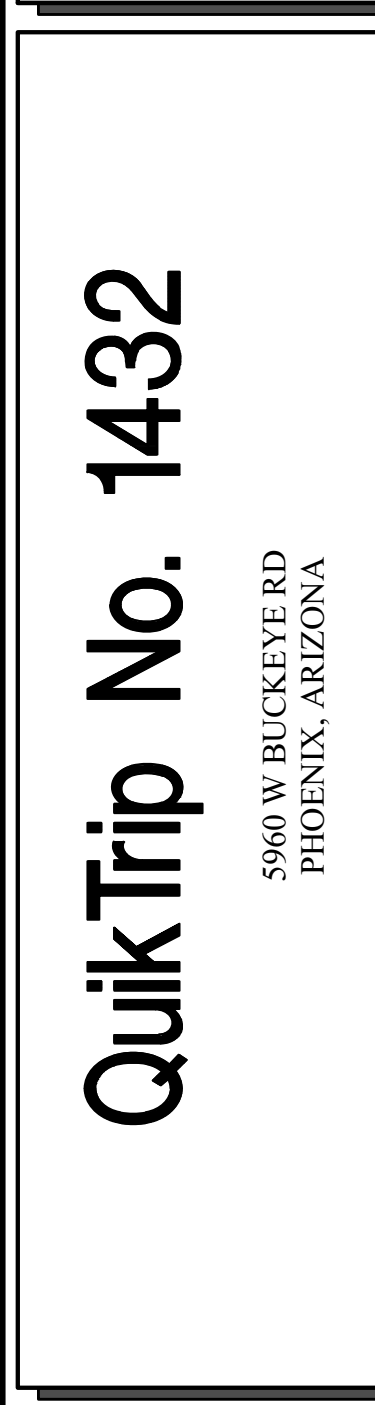
SHEET NO. 6

ENTIRE SHEET UPDATED.



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KDF JOB #: 24010



PROTOTYPE: FRYER ADDITION
DIVISION: PHOENIX
VERSION: TCM
DATE: 06/30/25

REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION

SHEET TITLE:
MECHANICAL HOOD DETAILS

SHEET NUMBER:
M515

HOOD / EXHAUST FAN SCHEDULE									
SYMBOL	MANUFACTURER	MODEL	SIZE	CFM OFF/ON	MISC.	LIGHTS	FIRE SYSTEM	WEIGHT	NOTES
H-1	CAPTIVEAIRE	6030ND-2-F	(1) 60"X30"	0 / 1950	(2) EXHAUST C/W	(6) LED	YES	861 LBS	I-10
EF-3	CAPTIVEAIRE	DUSCHFA	1/2 HP	0 / 1950	DIRECT-DRIVE	-	-	74 LBS	IJ2

NOTES:

- HOODS, FANS, AND ACCESSORIES SHALL BE MANUFACTURER-FURNISHED, CONTRACTOR-INSTALLED.
- HOOD SHALL BE 430 STAINLESS STEEL.
- HOOD SHALL BE FURNISHED WITH FAN INDICATOR AND LIGHTSWITCH MOUNTED ON FRONT PANEL.
- MANUFACTURER FURNISHED DOUBLE-WALLED UL LISTED STAINLESS STEEL DUCT KIT AND ALL REQUIRED CONNECTION ACCESSORIES FOR FIELD-INSTALLATION FROM HOOD TO FAN.
- HOOD SHALL HAVE RIGHT AND LEFT QUARTER END PANELS, AND FRONT, LEFT, AND RIGHT STAINLESS STEEL FIELD WRAPPER.
- HOOD SHALL BE FURNISHED WITH UL 1046 LISTED GREASE FILTERS.
- HOOD SHALL BE FURNISHED WITH DUCT MOUNTED HEAT SENSORS AND AUTOMATIC FAN CONTROLS MOUNTED IN HOOD UTILITY CABINET.
- SYSTEM SHALL BE CAPABLE OF MODULATING FAN AS SCHEDULED, AND INTERLOCKED WITH BUILDING HVAC SYSTEM FOR BUILDING PRESSURIZATION.
- EQUIPMENT SHUT DOWN CONTACTORS ARE FACTORY-FURNISHED WITHIN HOOD UTILITY CABINET.
- HOOD SHALL BE LISTED AND LABELED FOR 0" CLEARANCE REQUIREMENTS TO COMBUSTIBLES.
- FAN SHALL BE FURNISHED WITH VENTED AND HINGED CASE, GREASE BOX, AND DISCONNECT.
- VARIABLE SPEED CONTROLLER PRE-MOUNTED IN FAN HOUSING, SPEED CONTROLLER SHALL BE MANUALLY ADJUSTED BY TEST AND BALANCE CONTRACTOR.

GRILLE, REGISTER, & DIFFUSER SCHEDULE							
SYMBOL	MANUFACTURER	MODEL	SERVICE	FACE SIZE	NECK SIZE	DESCRIPTION	NOTES
S1	TITUS	300FS	SUPPLY	22" X 22"	SEE PLAN	DOUBLE DEFLECTION GRILLE, ALL WHITE.	I3
R1	TITUS	350RL	EXHAUST	8" X 8"	SEE PLAN	3/4" 35" BLADE TRANSFER GRILLE, ALL WHITE.	I2

NOTES:

- PROVIDE TRIM RINGS FOR ALL DIFFUSERS OR GRILLES IN GYP. BOARD CEILINGS.
- PROVIDE PLASTER FRAME IN HARD CEILINGS.
- PROVIDE BORDER TYPE I WITH NO SCREEN HOLES.

GENERAL NOTES (APPLY TO ALL THE ABOVE):

- GRILLES, REGISTERS, AND DIFFUSERS SHALL BE CONTRACTOR-FURNISHED, CONTRACTOR-INSTALLED.
- MAXIMUM NG OF 30 FOR ALL GRILLES, REGISTERS, AND DIFFUSERS.
- FOUR-WAY THROW PATTERN FOR SQUARE DIFFUSERS UNLESS SHOWN OTHERWISE.
- PROVIDE SQUARE-TO-ROUND ADAPTER ON ALL GRILLES AND DIFFUSERS AS REQUIRED PER THE DRAWINGS.
- PROVIDE NON-ASBESTOS THERMAL INSULATING BLANKETS WITH VAPOR BARRIER FOR ALL SUPPLY DIFFUSERS AND RETURN GRILLES.
- RE: THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- RE: DRAWINGS FOR FURTHER INSTALLATION AND APPLICATION DETAILS.

EXHAUST FAN CONTROL SETTINGS				RTU 1, 2, 3 O/A CONTROL SETTINGS			
CONDITION	EXHAUST FAN CFM	PERCENTAGE OF MAX EXHAUST	CONTROL VOLTAGE Vdc ±	CONTROL VOLTAGE Vdc ±	OUTSIDE AIR CFM	O/A DAMPER POSITION ±	O/A DAMPER POSITION ±
HOOD OFF	0	0.0%	0	0	420	0 / (FAN# X SUPPLY AIRFLOW)	0 / (FAN# X SUPPLY AIRFLOW)
HOOD ON	1950	100.0%	10	5	870	1950 / (FAN# X SUPPLY AIRFLOW)	1950 / (FAN# X SUPPLY AIRFLOW)

* CONTROL VOLTAGE SIGNAL RECEIVED FROM HOOD CONTROL PANEL ** O/A CFM / (SUPPLY FAN# X SUPPLY AIRFLOW)

AIR BALANCE & PRESSURIZATION SCHEDULE				
	SA CFM	HOOD ON RA CFM	HOOD OFF OA CFM	HOOD ON OA CFM
RT-1	5000	4135	415	865
RT-2	5000	4135	415	865
RT-3	4200	3335	415	865
RT-4	1800	1640	160	160
EF-1 MENS RR	0	0	-650	-650
EF-2 WOMENS RR	0	0	-350	-350
EF-3 KITCHEN EXHAUST HOOD	0	0	0	-1950
	16000	13245	405	405

NEW SUPPLY DIFFUSER WITH CFM AMOUNT, NEW RETURN OR EXHAUST GRILLE WITH TYPE AND CFM AMOUNT.

RELOCATED SUPPLY DIFFUSER WITH CFM AMOUNT, RELOCATED RETURN OR EXHAUST GRILLE WITH TYPE AND CFM AMOUNT.

EXISTING SUPPLY DIFFUSER WITH CFM AMOUNT, EXISTING RETURN GRILLE WITH CFM AMOUNT.

REMOVED SUPPLY DIFFUSER WITH CFM AMOUNT, REMOVED RETURN GRILLE WITH CFM AMOUNT.

RECTANGULAR DUCTWORK WIDTH INCHES X DEPTH INCHES

TAKE-OFF WITH GASKET AND DAMPER 45° OR 90° AS SHOWN ON PLAN FLEXDUCT RUNOUT

ELBOW WITH TURNING VANES

ROOF-MOUNTED EXHAUST FAN

ROOFTOP UNIT (HIDDEN OUTLINE REPRESENTS SERVICE CLEARANCE)

TEMPERATURE SENSOR

HUMIDITY SENSOR

DUCT SMOKE DETECTOR

INTERIOR ELEVATION TAG

CONNECT TO EXISTING

DISCONNECT FROM EXISTING

HOOD SUPPRESSION PUSH STATION

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G1 MECHANICAL SCHEDULES

MECHANICAL SYSTEM SECTION 230000

THE WORK INCLUDES INSTALLATION OF THE HVAC SYSTEM AND PROVIDING NEW DUCTWORK, DIFFUSERS AND GRILLES, INSULATION, CONTROLS, AND EQUIPMENT NECESSARY FOR A COMPLETE FUNCTIONING SYSTEM. HVAC SYSTEM INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

- HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) UNITS.
- SUPPLY AND RETURN DUCTWORK SYSTEM WITH GRILLES, DIFFUSERS, FILTERS, AND DAMPERS.
- CONTROL SYSTEM INCLUDING LOW VOLTAGE WIRING AND CONDUIT.
- DUCT, PIPING, AND EQUIPMENT INSULATION, WHERE INDICATED HEREIN.
- ROOF CURBS AND FLASHING OF ROOF PENETRATIONS FOR EQUIPMENT NOTED.

EQUIPMENT INDICATED ON THE DRAWINGS OR AS REQUIRED FOR A COMPLETE INSTALLATION, SUCH AS ROOFTOP UNITS, DUCTWORK, HOODS, EXHAUST FANS, SUPPLY AND RETURN DIFFUSERS, ETC., SHALL BE PROVIDED WITHIN THE SCOPE OF WORK OF THIS SECTION.

COMPLY WITH ALL LAWS APPLYING TO MECHANICAL INSTALLATIONS IN EFFECT. ALL MATERIALS USED SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS ESTABLISHED BY LOCAL CODES AND SMACNA.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS AS REQUIRED. PROVIDE ALL DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE SYSTEM FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. THE WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES OR ORDINANCES AND SUBJECT TO INSPECTION.

COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITES.

CONTRACTOR SHALL INSTALL ONE SET OF NEW FILTERS AT THE END OF CONSTRUCTION, WHEN QUIKTRIP TAKES OCCUPANCY OF THE BUILDING.

SHEET METAL DUCTWORK: SHEET METAL FABRICATED AND INSTALLED TO CONFORM TO THE 2005 EDITION OF "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE" OF THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION. SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK-FORMING QUALITY, ASTM A-525, UNLESS OTHERWISE NOTED. DUCT DIMENSIONS ON DRAWINGS ARE INTERNAL AIRWAY DIMENSIONS. DUCT REINFORCEMENT SHALL BE SUITABLE FOR "1" AND "1/2" N.G. STATIC PRESSURE.

ALL UNISTRUT USED FOR SUPPORT SHALL BE PRIMED STEEL SHOP PAINTED. CONNECTIONS TO WALLS OR FLOORS SHALL BE AIRTIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIRTIGHT WITH UNITED SHEET METAL "DUCT SEALER" TO SMACNA CLASS 'B'. PROVIDE TURNING VANES AT ALL ELBOWS OR OFFSETS EXCEEDING 45°.

TRAPEZOID DUCT HANGERS: MINIMUM 1"X2"X1/8" GAUGE CHANNELS WITH 1" X1/8" GAUGE STRAPS TO STRUCTURAL SUPPORT ABOVE.

DUCT WRAP/ASJ INSULATION (ON ALL RIGID ROUND AND RECTANGULAR SUPPLY AIR DUCTWORK): PROVIDE 2" THICK (MIN R-6) FIBERGLASS ASJ DUCT WRAP WITH VAPOR SEAL ON ALL RIGID ROUND DUCTWORK ABOVE THE CEILING. CONFORM TO SPEC ASTM C 1240.

RIGID ROUND GALVANIZED DUCT SHALL BE SPIRAL OR SNAP LOCK GALVANIZED SHEET METAL COMPLYING WITH SMACNA.

FLEX DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 18) WITH 1" THICK 1 PCF (MIN R-5) FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEX DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR 2" H.G. PRESSURE AND 0 TO 250 DEGREE FAHRENHEIT. PROVIDE STAINLESS STEEL ADJUSTABLE CLAMPING DEVICES, SCREW OPERATED. USE TWIST-LOCK CONICAL TAP COLLARS AT CONNECTIONS INTO SHEET METAL DUCTWORK. DO NOT EXCEED SIX (6) FEET IN LENGTH FOR ANY FLEX DUCT. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS. FLEXIBLE DUCTWORK SHALL BE SERIES TO BY ATCO, OR EQUIVALENT.

ROUND BALANCING DAMPERS: FABRICATED OF SAME MATERIAL AS DUCT, TWO METAL GAUGES HEAVIER THAN DUCT. MOUNT ON 3/8" SQUARE ROD WITH SAK SLOT POSITION INDICATOR. PIVOT BEARINGS, LOCKING POSITION REGULATOR, YOUNG REGULATOR CO., SERIES 443. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING.

CEILING DIFFUSERS/RETURNS: PROVIDE SUPPLY DIFFUSERS AND DAMPER IN SIZES, CAPACITIES, MATERIALS, AND PATTERN INDICATED ON THE DRAWINGS.

ACCESS PANELS: PROVIDE HINGED ACCESS PANELS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS IN INSULATED DUCTWORK.

AUTOMATIC TEMPERATURE CONTROL: ENTIRE BUILDING IS SERVED BY A BUILDING ENERGY MANAGEMENT SYSTEM REFERRED TO AS "EMS". SYSTEM WILL INCLUDE THERMOSTATIC AND HUMIDITY CONTROL FOR HVAC ROOFTOP UNITS.

HVAC TEST AND BALANCING AND CRITERIA:
 HVAC TEST AND BALANCING AND SHALL BE PERFORMED BY A CERTIFIED BALANCING CONTRACTOR WHO IS AN INDEPENDENT CONTRACTOR FROM THE HVAC INSTALLING CONTRACTOR. A COMPLETED AND CERTIFIED TEST & BALANCE REPORT SHALL BE PRESENTED TO THE OWNER'S CONSTRUCTION MANAGER PRIOR TO REQUEST FOR FINAL PAYMENT.

CONTRACTOR SHALL FIRST VERIFY THAT THE SYSTEM MATCHES THE CONSTRUCTION DOCUMENTS FOR LOCATIONS OF ALL DIFFUSERS, GRILLES, ROOFTOP UNITS, EXHAUST FAN, THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, SMOKE DETECTORS, TEST UNITS, AND ANNUNCIATORS. MAKE VISUAL OBSERVATIONS OF INSTALLATION SUCH AS ROOFTOP UNITS INSTALLED LEVEL AND COMPLETE, CLEAN FILTERS, GOOD REFRIGERANT CHARGE, ADEQUATE CONDENSATE DRAINAGE, ETC. VERIFY THAT ALL DUCTS ARE CONNECTED (NONE HAVE COME LOOSE AND ARE BLOWING AIR INTO THE PLENUM). NO KINKED FLEX-DUCT, ALL DUCTS WELL INSULATED AND NO GAPS EXIST THAT COULD CREATE A SOURCE FOR CONDENSATION, PARTICULARLY ON TOP OF DIFFUSERS. INDICATE DIRECTION THAT STOREFRONT FACES. (PROVIDE A NORTH ARROW ON PLAN). ANY DISCREPANCIES SHALL BE MARKED ON A DRAWING TO BE PRESENTED TO THE OWNER'S REPRESENTATIVE ALONG WITH THE FINAL REPORT.

MINOR REPAIR WORK, SUCH AS LOOSE FLEX CONNECTIONS, REPLACEMENT BELTS, ETC., SHALL BE PERFORMED BY THE TEST AND BALANCE CONTRACTOR PRIOR TO AIR BALANCING. MAJOR REPAIR WORK SHALL BE REPORTED TO THE QUIKTRIP REPRESENTATIVE AND NEGOTIATED PRIOR TO WORK BEING DONE. INSTALL ALL NEW FILTERS.

ADJUST EACH PIECE OF HVAC EQUIPMENT AS REQUIRED TO ASSURE PROPER BALANCE AND OPERATION. FOLLOW NEEDS AND ASHRAE STANDARDS. BALANCE ALL SYSTEMS TO WITHIN 5% OF AIR VOLUMES INDICATED OR PROPORTIONALLY PER THE DRAWING TO ACHIEVE A SLIGHTLY POSITIVE BUILDING PRESSURIZATION OF +.05"WC. TEST AND VERIFY PROPER ECONOMIZER AND GRAVITY RELIEF VENT OPERATION. CHECK RESTROOM PRESSURIZATION AND VERIFY THAT AN ADEQUATE TRANSFER AIR PATH EXISTS. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF ALL CONTROLS, MAINTENANCE OF TEMPERATURE AND HUMIDITY WHERE APPLICABLE, AND OVERALL OPERATION. FINAL BALANCED POSITIONS SHALL BE MARKED ON EACH DAMPER WITH A PERMANENT MARKER.

AUTOMATIC TEMPERATURE & HUMIDITY CONTROL: EACH ROOFTOP UNIT SHALL BE CONTROLLED BY THE BUILDING ENERGY MANAGEMENT SYSTEM BY OTHERS. EMS LOCATED IN THE LOW-VOLTAGE CABINET, TEMPERATURE AND/OR HUMIDITY SENSORS IN THE SPACE. SET OUTSIDE AIR DAMPER TO MINIMUM POSITION DURING OCCUPIED MODE. ALL PROGRAMMING SHALL BE THROUGH THE EMS BY OTHERS. VERIFY THAT ROOFTOP UNITS EQUIPPED WITH DEHUMIDIFICATION (HOT GAS REHEAT) ARE WIRED, FUNCTIONAL, AND SET. ALL WIRING SHALL BE IN CONDUIT.

CONTRACTOR SHALL PRESENT A FINAL DRAWING AND CERTIFIED BALANCE REPORT TO THE QT REPRESENTATIVE THAT CONTAINS ALL ACTUAL DIFFUSER AND GRILLE LOCATIONS WITH AIR QUANTITIES SHOWN FOR EACH DEVICE, EXHAUST AND OUTSIDE AIR QUANTITIES, SUPPLY AIR TEMPERATURE, FAN RPM, MOTOR CURRENTS, MAIN DUCT STATIC PRESSURE, AND DUCT TEMPERATURES, INDOOR/OUTDOOR PRESSURE DIFFERENTIAL, AND ROOFTOP UNIT(S) MAKE AND MODEL NUMBER.

CONTRACTOR TO OBTAIN COPY OF "QT TEST AND BALANCE REPORT FORM" FROM QT REP FOR REPORTING PURPOSES.

G13 MECHANICAL SYMBOLS LEGEND

- REFER TO THE SPECIFICATIONS, DETAILS, AND SCHEDULES FOR ADDITIONAL REQUIREMENTS NOT SHOWN ON THE PLAN.
- ALL TEMPERATURE CONTROL WIRING SHALL BE TAPPAN OR BELDEN CABLE BY THE EMS INSTALLER AND SHALL MEET NATIONAL ELECTRIC CODE REQUIREMENTS. SEE ROOFTOP UNIT SCHEDULE FOR ADDITIONAL REQUIREMENTS. CONCEAL ALL WIRING IN WALL CAVITIES OR ABOVE CEILING.
- MECHANICAL CONTRACTOR SHALL REMOVE AND REPLACE FILTERS FOR ALL EXISTING ROOFTOP UNITS AT THE END OF PROJECT CONSTRUCTION.
- CONTRACTOR SHALL FIELD REVIEW AND VERIFY EXISTING CONDITIONS AS APPLICABLE AND COORDINATE WITH OTHER TRADES.
- TRANSITION AS REQUIRED FROM BRANCH DUCT TO DIFFUSER NECK. COORDINATE BETWEEN PLANS AND SCHEDULES.
- DUCTWORK DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
- FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 6' IN LENGTH.
- HOLD TOP OF DUCTWORK INSULATION TO UNDERSIDE OF STRUCTURE WHEREVER POSSIBLE.
- ALL BRANCH DUCTS SHALL HAVE BALANCING DAMPERS INSTALLED AS INDICATED ON DRAWINGS. HANDLE SHALL BE BOTH ACCESSIBLE AND CAPABLE OF OPENING AND CLOSING FULLY. REFER TO DIFFUSER CONNECTION DETAIL.
- FINAL LOCATION OF TEMPERATURE CONTROLS SHALL BE FIELD-VERIFIED BY OWNER AT JOB SITE.
- MECHANICAL CONTRACTOR SHALL CLEAN ALL CONDENSERS AFTER CONSTRUCTION HAS BEEN COMPLETED.
- ALL DUCTWORK SHALL RECEIVE DUCT WRAP INSULATION PER SPECIFICATIONS. LINED DUCTWORK IS NOT ACCEPTABLE.
- A TEST & BALANCE REPORT SHALL BE PROVIDED TO THE MECHANICAL INSPECTOR UPON COMPLETION.

QT

PROTOTYPE: PHOENIX
 DIVISION: PHOENIX
 VERSION: TCM
 DATE: 06/30/25

REV	DATE	DESCRIPTION
BI	9/1/25	CITY COMMENTS

ORIGINAL ISSUE DATE: 08/16/2024

A1 MECHANICAL DUCTWORK SPECIFICATIONS

A13 GENERAL NOTES

SHEET TITLE:
 MECHANICAL SCHEDULES, SPECIFICATIONS, & NOTES

SHEET NUMBER:
M601