

SOUTH CAROLINA PROFESSIONAL ENGINEER
   
 No. 35522
   
 NEIL BARTLEY

SIGNATURE DATE: 08/22/2025

**H & B ENGINEERS**
  
 HOSS & BROWN
   
 15902 Midland Drive
   
 Shawnee, Kansas 66217
   
 913.362.9090 | mail@h-be.com
   
 © Hoss & Brown Engineers 2025

**QuikTrip No. 1178**
  
 18985 HIGHWAY 72 EAST
   
 CLINTON, SOUTH CAROLINA

© QUIKTRIP CORPORATION 2015. ALL RIGHTS RESERVED. QUIKTRIP, QUIKTRIP LOGO, DISTRIBUTION OF GAS OR SERVICE OR ANY PART OF SERVICE PROGRAMS.

PROTOTYPE	Fryer
DIVISION	Carolina
VERSION	TCKN
DATE	06-18-2025

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 08/22/2025

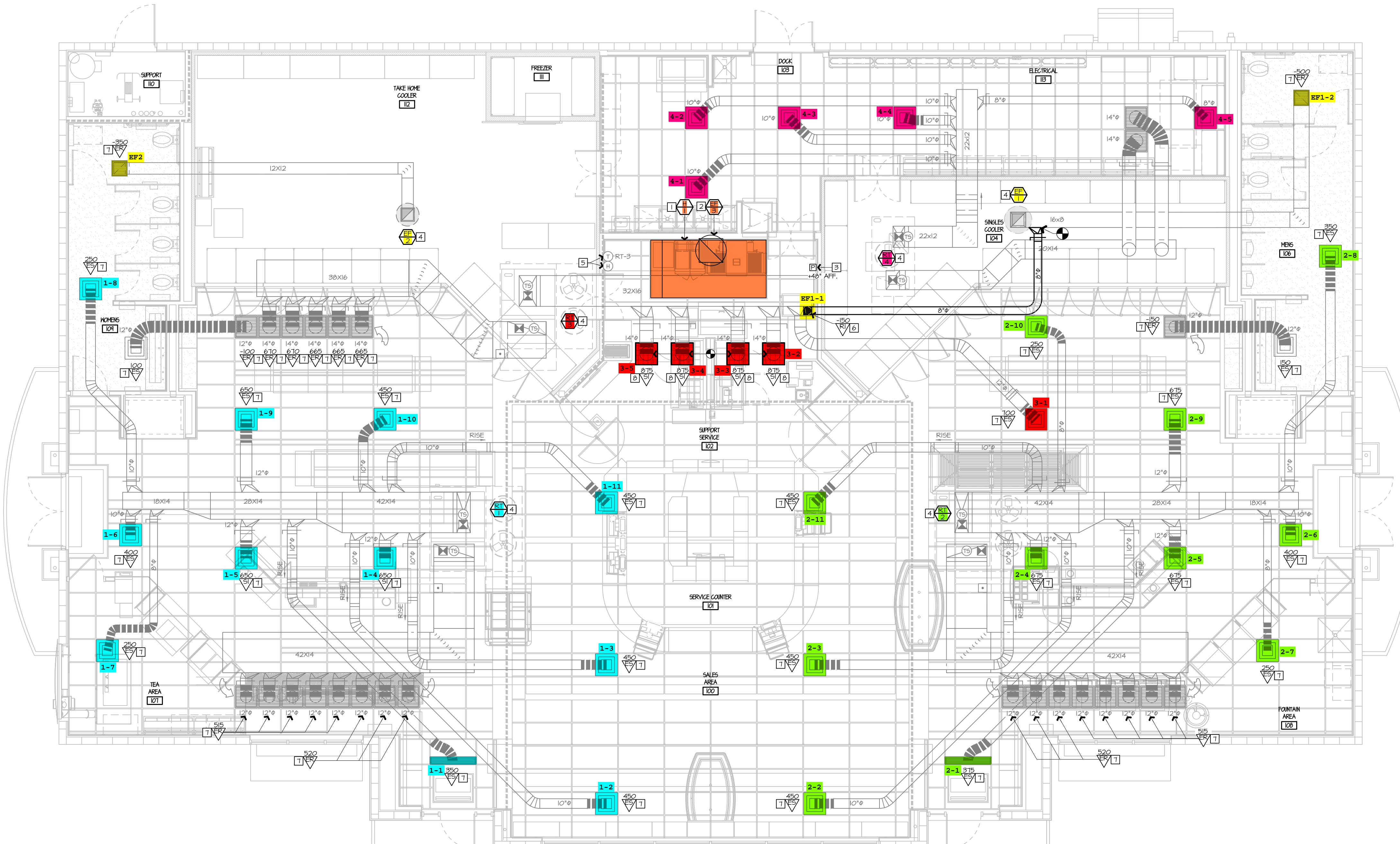
- 1 REMOVE KITCHEN HOOD SYSTEM AND ALL ASSOCIATED GREASE DUCT BETWEEN HOOD AND EXHAUST FAN ON ROOF. REMOVE HOOD SUPPLY FLENUM DUCT BACK TO RTU SUPPLY MAIN AND CAP AND PATCH AS REQUIRED. RE: M102.
- 2 REMOVE ROOF MOUNTED EXHAUST FAN AND ALL ASSOCIATED DUCT WORK.
- 3 EXISTING TEMPERATURE SENSOR AND HUMIDITY 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.

SHEET TITLE:

MECHANICAL DUCTWORK CEILING PLAN - DEMO

SHEET NUMBER:

M101



- 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 SENSOR(S), AND HUMIDITY SENSOR(S) 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 SPECIFIED ON MGOI. COORDINATE WITH ELECTRICAL CONTRACTOR FOR FAN CONTROLS BETWEEN HOOD AND FAN. RE: GT INSTALL DRAWINGS AND HOOD MANUFACTURER'S INSTRUCTIONS.
- 3 INSTALL OWNER-FURNISHED HOOD SUPPRESSION PUSH STATION PER MANUFACTURER'S INSTALLATION REQUIREMENTS. RE: F4-ESOI FOR ELEVATION.
- 4 EXISTING ROOF EQUIPMENT TO REMAIN, SHOWN FOR REFERENCE. RE: 6I-M60I 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: 6I-M60I FOR MORE INFORMATION.
- 7 RE-BALANCE EXISTING DIFFUSER/GRILLE TO AIRFLOW SHOWN ON PLAN. RE: 6I-M60I FOR MORE INFORMATION.
- 8 PROVIDE NEW DIFFUSER/GRILLE, RECONNECT EXISTING FLEX DUCT AND REBALANCE TO INDICATED CFM.

SOUTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
HOSS & BROWN ENGINEERS, INC.  
NO. 4248

SOUTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
No. 35522  
KEVIN BARTLEY

SIGNATURE DATE: 08/22/2025

**H & B**  
HOSS & BROWN ENGINEERS

15902 Midland Drive  
Shawnee, Kansas 66217  
913.362.9090 | mail@h-be.com  
© Hoss & Brown Engineers 2025

**QuikTrip No. 1178**

18985 HIGHWAY 72 EAST  
CLINTON, SOUTH CAROLINA

**QT**

© QUIKTRIP CORPORATION 2015  
ALL RIGHTS RESERVED. UNAUTHORIZED REPRODUCTION, DISTRIBUTION OR SALE IN WHOLE OR IN PART, IS STRICTLY PROHIBITED.

PROTOTYPE	Fryer
DIVISION	Carolina
VERSION	TCNK
DATE	06-18-2025

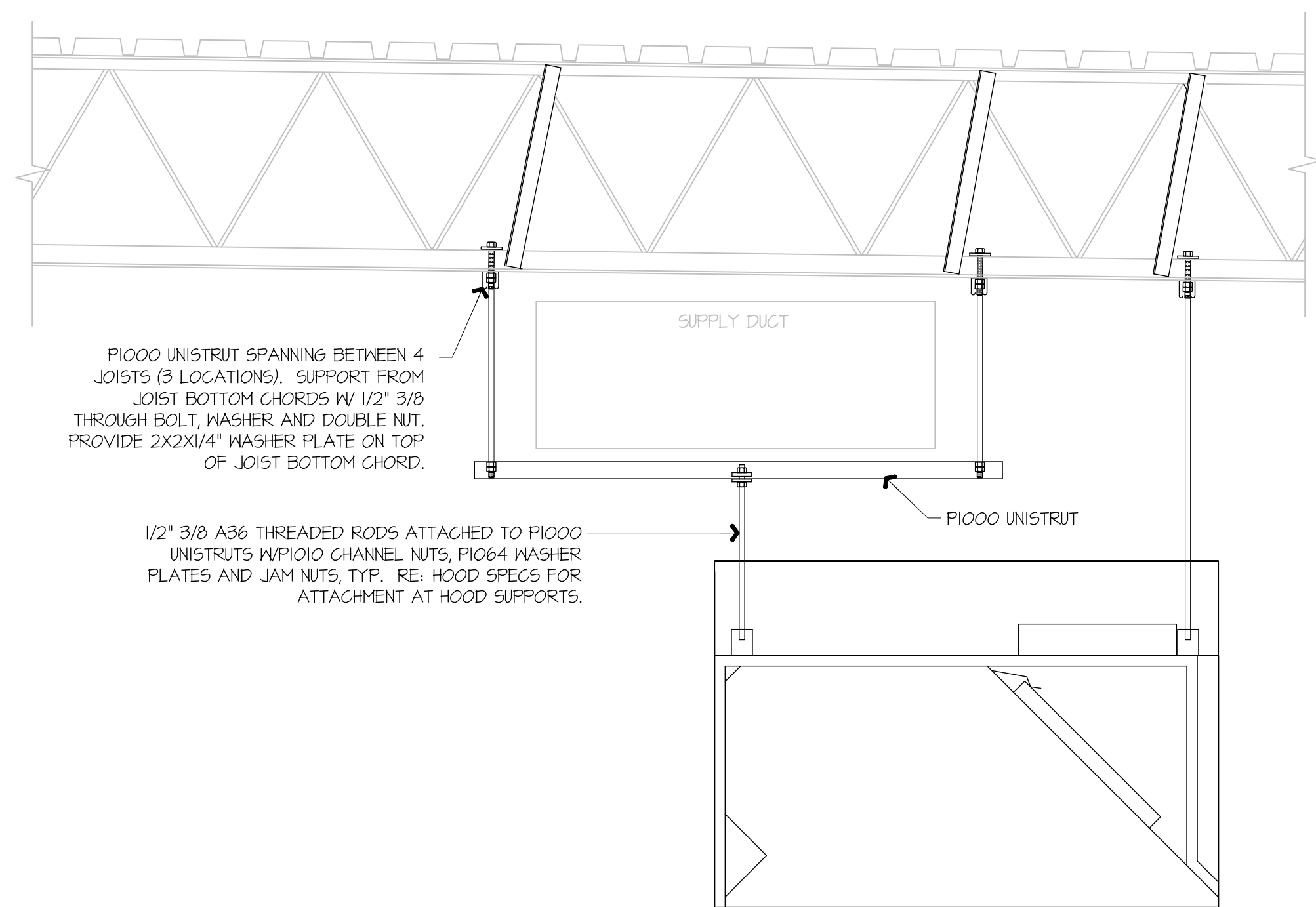
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 08/22/2025

SHEET TITLE:  
MECHANICAL DUCTWORK CEILING PLAN - NEW

SHEET NUMBER:  
**M102**

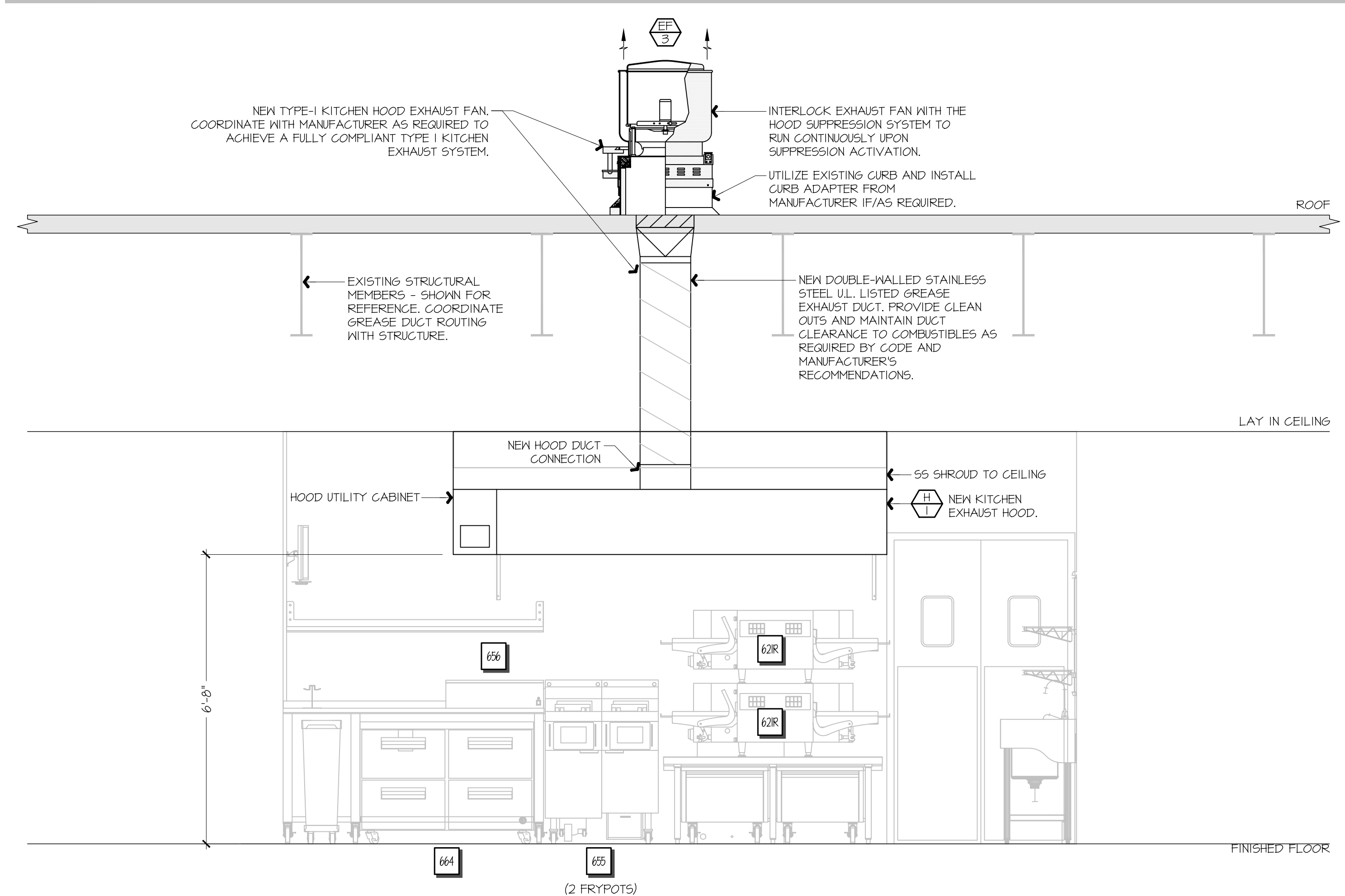




**F1** KITCHEN EXHAUST HOOD SUPPORT DETAIL

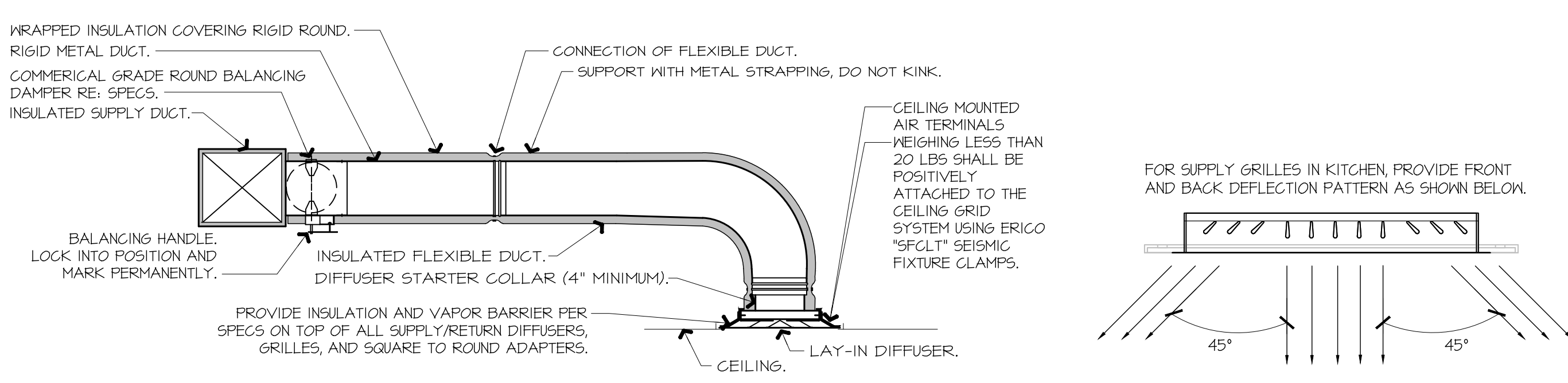
NOT TO SCALE

**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 UL100. 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 UL100 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

1/2" = 1'-0"



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

**A9** DIFFUSER CONNECTION DETAIL

NOT TO SCALE

**A1** NOT USED

**SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION**  
**HOSS & BROWN ENGINEERS, INC.**  
 NO. 4248

**SOUTH CAROLINA PROFESSIONAL ENGINEER**  
 No. 35522  
**NEIL BARTLEY**

Signature: *[Signature]*  
 SIGNATURE DATE: 08/22/2025

**H & B ENGINEERS**  
 15902 Midland Drive  
 Shawnee, Kansas 66217  
 913.362.9090 | mail@h-be.com  
 © Hoss & Brown Engineers 2025

**QuikTrip No. 1178**  
 18985 HIGHWAY 72 EAST  
 CLINTON, SOUTH CAROLINA

**QT**

© QUIKTRIP CORPORATION 2015  
 ALL RIGHTS RESERVED. REPRODUCTION, PUBLICITY, DISTRIBUTION OR SALE IN WHOLE OR IN PART, IS STRICTLY PROHIBITED.

PROTOTYPE	Fryer
DIVISION	Carolina
VERSION	TCKN
DATE	06-18-2025

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 08/22/2025

SHEET TITLE:  
**MECHANICAL SECTIONS & DETAILS**

SHEET NUMBER:  
**M501**

HOOD / EXHAUST FAN SCHEDULE									
	MANUFACTURER	MODEL	SIZE	CFM OFF/ON	MISC.	LIGHTS	FIRE SYSTEM	WEIGHT	NOTES
H-I	CAPTEVAIRE	60BOND-2-F	(9) 60"X30"	0 / 1950	12"Ø EXHAUST C.XN	(6) LED	YES	861 LBS	I-10
EF-3	CAPTEVAIRE	DUBOHA	1/2 HP	0 / 1950	DIRECT-DRIVE	-	-	74 LBS	IJ2

**NOTES:**

- HOODS, FANS, AND ACCESSORIES SHALL BE MANUFACTURER-FURNISHED, CONTRACTOR-INSTALLED.
- HOOD SHALL BE 480 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 CURB, 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							
	MANUFACTURER	MODEL	SERVICE	FACE SIZE	NECK SIZE	DESCRIPTION	NOTES
SI	TITUS	300FS	SUPPLY	22" X 22"		DOUBLE DEFLECTION GRILLE, ALL WHITE.	I3
RI	TITUS	350RL	EXHAUST	Ø" X Ø"	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 NONASBESTOS 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 **	
HOOD OFF	0	0.0%	0	0	415	0 / (FAN# X SUPPLY AIRFLOW)	
HOOD ON	1950	100.0%	10	5	865	1350 / (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	4195	415	865
RT-2	5000	4195	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	-1350
	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 FLEX/DUCT RINGOUT

ELEWON 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

SOUTH CAROLINA PROFESSIONAL ENGINEER  
NEIL BARTLEY  
No. 35522

H & B ENGINEERS  
HOSS & BROWN ENGINEERS, INC.  
15902 Midland Drive  
Shawnee, Kansas 66217  
913.362.9090 | mail@h-be.com  
© Hoss & Brown Engineers 2025

**QuikTrip No. 1178**

18985 HIGHWAY 72 EAST  
CLINTON, SOUTH CAROLINA

**G1 MECHANICAL SCHEDULES**

**G13 MECHANICAL SYMBOLS LEGEND**

**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" I.P.C. 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°.

TRAPEZE DUCT HANGERS: MINIMUM 1"X2"X1/8 18 GAUGE CHANNELS WITH 1" X18 GAUGE STRAPS TO STRUCTURAL SUPPORT ABOVE.

DUCT WRAP/AS-J INSULATION (ON ALL RIGID ROUND AND RECTANGULAR SUPPLY AIR DUCTWORK): PROVIDE 2" THICK (MIN R-6) FIBERGLASS AS-J DUCT WRAP WITH VAPOR SEAL ON ALL RIGID ROUND DUCTWORK ABOVE THE CEILING. CONFORM TO SPEC ASTM C 1290.

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

FLEX DUCT: PROVIDE FACTORY ASSEMBLED CLASS I AIR DUCT (UL 181) WITH 1" THICK I 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" I.P.C. PRESSURE AND 0 TO 250 DEGREE FAHREHNEIT. 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 70 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 GAN SLOT POSITION INDICATOR. PIVOT BEARING, 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 NEBS 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% I.P.C. 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.

**A1 MECHANICAL DUCTWORK SPECIFICATIONS**

**A13 GENERAL NOTES**

PROTOTYPE Fryer

DIVISION Carolina

VERSION TCN

DATE 06-18-2025

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 08/22/2025

SHEET TITLE:  
**MECHANICAL GENERAL NOTES, SCHEDULES, & SYMBOLS**

SHEET NUMBER:  
**M601**