

SECTION 15732 - PACKAGED ROOFTOP AIR-CONDITIONING UNITS

PART 1 - GENERAL

- 1.1 SECTION REQUIREMENTS
- A. SUBMITTALS: PRODUCT DATA AND SHOP DRAWINGS.
 - B. COMPLY WITH ASHRAE 15.
 - C. EER: EQUAL TO OR GREATER THAN PRESCRIBED BY THE ENERGY CODE ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
 - D. WARRANTIES: SUBMIT A WRITTEN WARRANTY, SIGNED BY THE MANUFACTURER, AGREEING TO THE REPAIR OR REPLACEMENT OF COMPONENTS THAT FAIL WITHIN 5 YEARS OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

- 2.1 PACKAGED UNITS, 5 TO 20 TONS
- A. FACTORY ASSEMBLED AND TESTED, CONSISTING OF COMPRESSORS, CONDENSERS, EVAPORATOR COILS, CONDENSER AND EVAPORATOR FANS, REFRIGERATION AND TEMPERATURE CONTROLS, FILTERS, AND DAMPERS.
 - 1. REFER TO ROOFTOP HEATING/COOLING UNIT SCHEDULE ON DRAWING M600 FOR CAPACITIES, AND MANUFACTURERS.
 - 2. EVAPORATOR FANS: BELT OR DIRECT DRIVEN, FORWARD CURVED CENTRIFUGAL.
 - 3. EXHAUST/RELIEF FANS: DIRECT DRIVE, FORWARD CURVED CENTRIFUGAL OR PROPELLER.
 - 4. CONDENSER FANS: DIRECT DRIVE PROPELLER.
 - 5. REFRIGERANT COILS: ALUMINUM FINS AND COPPER COIL.
 - 6. COMPRESSORS: SERVICEABLE HERMETIC OR FULLY HERMETIC, WITH SAFETY CONTROLS, HOT GAS BYPASS, AND TIMED OFF CONTROLS.
 - 7. HEAT EXCHANGERS: GAS FIRED, WITH GAS CONTROLS, ELECTRONIC IGNITION, HIGH LIMIT CUTOUT, AND FORCED DRAFT PROVING SWITCH.
 - 8. ECONOMIZER CONTROLS (COMPARATIVE ENTHALPY, 100% CAPACITY).
 - 9. SMOKE DETECTORS: PHOTOELECTRIC IN SUPPLY AND/OR RETURN AS CALLED FOR IN SCHEDULE ON SHEET M600.
 - 10. OPERATING CONTROLS: TWO STAGE HEATING AND TWO STAGE COOLING ON UNITS 7-1/2 TONS AND OVER.
 - 11. ROOF CURB.
 - 12. CONTROL WIRING FROM T-STAT TO ROOFTOP UNIT: SHALL BE 18GA / 7 CONDUCTOR, RATED FOR PLENUM APPLICATIONS.
 - 13. CONTROL WIRING FROM T-STAT TO REMOTE SENSOR: SHALL BE A SEPARATE 18GA / 2 CONDUCTOR SHIELDED, RATED FOR PLENUM APPLICATIONS.

PART 3 - EXECUTION

- 3.1 INSTALLATION
- A. INSTALL UNITS LEVEL AND PLUMB AND FIRMLY ANCHORED.
 - B. CONNECT GAS PIPING TO BURNER WITH PIPE SAME SIZE AS GAS TRAIN INLET, AND PROVIDE UNION WITH SUFFICIENT CLEARANCE FOR BURNER REMOVAL AND SERVICE.
 - C. INSTALL DUCTS TO TERMINATION IN ROOF MOUNTING FRAMES. TERMINATE DUCTS THROUGH ROOF STRUCTURE.
 - D. CONNECT UNITS TO WIRING SYSTEMS AND TO GROUND.

END OF SECTION 15732

SECTION 15810 - DUCTS AND ACCESSORIES

PART 1 - GENERAL

- 1.1 SECTION REQUIREMENTS
- A. SUBMITTALS: PRODUCT DATA FOR FIRE AND SMOKE DAMPERS.
 - B. COMPLY WITH NFPA 90A FOR SYSTEMS SERVING SPACES MORE THAN 25,000 CU. FT. IN VOLUME OR BUILDING TYPES II, IV, AND V CONSTRUCTION MORE THAN 3 STORIES IN HEIGHT.
 - C. COMPLY WITH NFPA 90B FOR SYSTEMS SERVING SPACES IN 1 OR 2 FAMILY DWELLINGS OR SERVING SPACES LESS THAN 25,000 CU. FT..
 - D. COMPLY WITH NFPA 96, "VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS," FOR KITCHEN HOOD DUCTS.
 - E. COMPLY WITH UL 181 AND UL 181A FOR DUCTS AND CLOSURES.
 - F. TESTING, ADJUSTING, AND BALANCING AGENCY QUALIFICATIONS: AABC CERTIFIED (TO BE FURNISHED BY OWNER).

PART 2 - PRODUCTS

- 2.1 DUCTS
- A. SPIRAL DUCT: SPIRAL LOCK SEAM, WITHOUT INSULATION, G90 GALVANIZED FINISH, ASTM A-653/924
 - 1. BASIS OF DESIGN MANUFACTURERS: LINDAB SPIROSAFE, ALTERNATES TO THE BASIS OF DESIGN MUST BE SUBMITTED FOR REVIEW.
 - 2. FITTINGS: FACTORY PRODUCED STANDING SEAM CONSTRUCTION WITH INTERNAL SEALING. FITTINGS WITH A MAJOR AXIS OF 36" OR SMALLER SHALL BE 20 GAUGE. FITTINGS WITH A MAJOR AXIS OF 37"-48" SHALL BE 18 GAUGE.
 - B. GALVANIZED STEEL SHEET: FORMING STEEL, ASTM A 653/653M, G90 COATING DESIGNATION.
 - C. DUCT LINER: ASTM C 1071, TYPE II, WITH AN AIRSTREAM SURFACE COATED WITH A TEMPERATURE RESISTANT COATING. THICKNESS: 1-1/2 INCH. R-VALUE : 8.
 - 1. ADHESIVE: ASTM C 916, TYPE I.
 - 2. MECHANICAL FASTENERS: GALVANIZED STEEL PIN, LENGTH AS REQUIRED TO PENETRATE LINER PLUS A 1/8 INCH PROJECTION MAXIMUM INTO THE AIRSTREAM.
 - D. JOINT AND SEAM TAPE: COMPLY WITH UL 181A.
 - E. JOINT AND SEAM SEALANT: COMPLY WITH UL 181A.
 - F. RECTANGULAR METAL DUCT FABRICATION: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARD" FOR METAL THICKNESS, REINFORCING TYPES AND INTERVALS, TIE ROD APPLICATIONS, AND JOINT TYPES AND INTERVALS.

2.2 ACCESSORIES

- A. VOLUME-CONTROL DAMPERS: FACTORY FABRICATED VOLUME CONTROL DAMPERS, COMPLETE WITH REQUIRED HARDWARE AND ACCESSORIES. SINGLE BLADE AND MULTIPLE OPPOSED BLADE, STANDARD LEAKAGE RATING, AND SUITABLE FOR HORIZONTAL OR VERTICAL APPLICATIONS.
- B. FIRE DAMPERS: FACTORY-FABRICATED FIRE DAMPERS, COMPLETE WITH REQUIRED HARDWARE AND ACCESSORIES. UL LABELED ACCORDING TO UL 555, "FIRE DAMPERS".
- C. FLEXIBLE CONNECTORS: FLAME RETARDANT OR NONCOMBUSTIBLE FABRICS, COATINGS, AND ADHESIVES COMPLYING WITH UL 181, CLASS 1.
- D. FLEXIBLE DUCTS: FACTORY FABRICATED, INSULATED, ROUND DUCT, WITH AN OUTER JACKET ENCLOSING 2 INCH THICK, GLASS FIBER INSULATION, R-VALUE: 6.0, AROUND A CONTINUOUS INNER LINER.

PART 3 - EXECUTION

- 3.1 INSTALLATION
- A. DUCT SYSTEM PRESSURE CLASS: CONSTRUCT AND INSTALL EACH DUCT SYSTEM WITH 2 INCH POSITIVE AND NEGATIVE DUCT PRESSURE CLASSIFICATIONS.
 - B. CONCEAL DUCTS FROM VIEW IN FINISHED AND OCCUPIED SPACES. EXCEPT WHERE NOTED AS EXPOSED.
 - C. AVOID PASSING THROUGH ELECTRICAL EQUIPMENT SPACES AND ENCLOSURES.
 - D. SUPPORT AND CONNECT METAL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARD".
 - E. INSTALL DUCT ACCESSORIES ACCORDING TO APPLICABLE PORTIONS OF DETAILS OF CONSTRUCTION AS SHOWN IN SMACNA STANDARDS.
 - F. INSTALL LINER AND/OR INSULATION ON DUCTWORK PER THE MATERIAL SCHEDULE ON SHEET M010.
 - G. INSTALL VOLUME CONTROL DAMPERS IN LINED DUCT WITH METHODS TO AVOID DAMAGE TO LINER AND TO AVOID EROSION OF DUCT LINER.
 - H. INSTALL FIRE AND SMOKE DAMPERS ACCORDING TO MANUFACTURER'S UL APPROVED WRITTEN INSTRUCTIONS.
 - I. INSTALL FUSIBLE LINKS IN FIRE DAMPERS.
 - J. PROVIDE SADDLE TAPS AT TEES FOR EXPOSED DUCTWORK.

END OF SECTION 15810

SECTION 15855 - DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

- 1.1 SECTION REQUIREMENTS
- A. SUBMITTALS: NONE.

PART 2 - PRODUCTS

- 2.1 OUTLETS AND INLETS
- A. DIFFUSERS:
 - 1. REFER TO GRILLS, REGISTERS, AND DIFFUSERS SCHEDULE FOR EQUIPMENT SCHEDULE
 - 2. MANUFACTURER: AS SCHEDULED (NO SUBSTITUTIONS)
 - 3. MATERIAL: AS SCHEDULED.
 - 4. FINISH: AS SCHEDULED.
 - 5. MOUNTING: AS SCHEDULED.
 - B. WALL AND CEILING REGISTERS:
 - 1. REFER TO GRILLS, REGISTERS, AND DIFFUSERS SCHEDULE FOR EQUIPMENT SCHEDULE
 - 2. MANUFACTURER: AS SCHEDULED (NO SUBSTITUTIONS)
 - 3. MATERIAL: AS SCHEDULED.
 - 4. FINISH: AS SCHEDULED.
 - 5. MOUNTING: COUNTERSUNK SCREW.
 - C. WALL AND CEILING GRILLES:
 - 1. REFER TO GRILLS, REGISTERS, AND DIFFUSERS SCHEDULE FOR EQUIPMENT SCHEDULE
 - 2. MANUFACTURER: AS SCHEDULED (NO SUBSTITUTIONS)
 - 3. MATERIAL: AS SCHEDULED.
 - 4. FINISH: AS SCHEDULED.
 - 5. MOUNTING: COUNTERSUNK SCREW OR LAY IN DEPENDING LOCATION.

PART 3 - EXECUTION

- 3.1 INSTALLATION
- A. COORDINATE LOCATION AND INSTALLATION WITH DUCT INSTALLATION AND INSTALLATION OF OTHER CEILING AND WALL MOUNTED ITEMS.
 - B. LOCATE CEILING DIFFUSERS, REGISTERS, AND GRILLES, AS INDICATED ON THE ARCHITECTURAL "REFLECTED CEILING PLANS." UNLESS OTHERWISE INDICATED, LOCATE UNITS IN CENTER OF ACOUSTICAL CEILING PANELS.

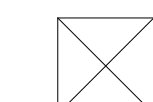
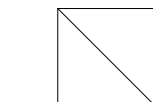
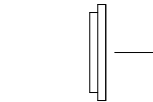
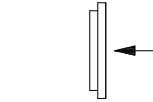
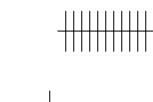
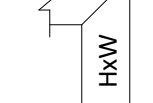
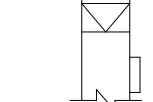
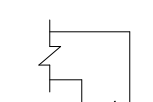
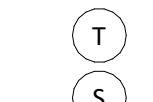
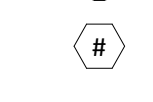
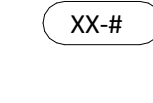
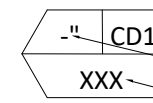

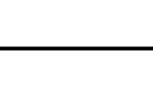

END OF SECTION 15855

| HVAC MATERIAL SCHEDULE | | |
|------------------------|---------------------------------|---|
| CATEGORY | APPLICATION | ALLOWABLE MATERIAL |
| DUCT | EXPOSED SUPPLY | RECT. LINED OR ROUND AS SHOWN, NO EXPOSED DUCT-SEALING MASTIC |
| | EXPOSED RETURN | RECTANGULAR, NO EXPOSED DUCT-SEALING MASTIC |
| | EXPOSED GENERAL EXHAUST | RECTANGULAR, NO EXPOSED DUCT-SEALING MASTIC |
| | CONCEALED, SUPPLY | RECT. OR ROUND AS SHOWN, LINED OR INSULATED |
| | CONCEALED RETURN | RECT. OR ROUND AS SHOWN, LINED OR INSULATED |
| | CONCEALED GENERAL EXHAUST | RECT. OR ROUND AS SHOWN, LINED OR INSULATED |
| | CONCEALED, TYPE I HOOD EXHAUST. | RECT. 16 GA. BLACK IRON W/WRAP OR UL 1978 FACTORY-MANUFACTURED DUCT W/ WRAP. (SUBMIT SHOP DRAWINGS FOR FACTORY-MANUFACTURED DUCT PRIOR TO ORDERING FOR APPROVAL.) |

HVAC ABBREVIATIONS

- AFF ABOVE FINISHED FLOOR
- CD CONDENSATE
- CU CONDENSING UNIT
- EF EXHAUST FAN
- EXT'G EXISTING
- HD HOOD
- MUA MAKEUP AIR UNIT
- OPD OPPOSED BLADE DAMPER
- RG RETURN GRILLE
- RTU ROOFTOP UNIT
- SR SUPPLY REGISTER
- VSC VARIABLE SPEED CONTROL
- CO2AS TENANT'S CO2 ALARM SUPPLIER
- GC GENERAL CONTRACTOR
- HES TENANT'S HVAC EQUIPMENT SUPPLIER
- TAB TENANT'S TEST AND BALANCE VENDOR
- TCC TENANT'S CABLING CONTRACTOR
- KES TENANT'S KITCHEN EQUIPMENT SUPPLIER
- HS TENANT'S HOOD SUPPLIER
- TDC TENANT DUCT CLEANER
- TEMS TENANT'S ENERGY MANAGEMENT SYSTEM SUPPLIER
- TENANT'S LIGHT/LAMP SUPPLIER
- TMB TENANT'S MENU BOARD SUPPLIER
- TMS TENANT'S MILLWORK SUPPLIER
- TP TENANT'S PHONE SUPPLIER
- TRS TENANT'S RAILING SUPPLIER
- TSV TENANT'S SIGN VENDOR
- TUV TENANT'S UV SANITIZER SUPPLIER
- WCS TENANT'S WALK-IN COOLER SUPPLIER
- WHS TENANT'S WATER HEATER SUPPLIER

HVAC SYMBOLS

-  CEILING SUPPLY DIFFUSER
-  CEILING RETURN DIFFUSER
-  SUPPLY REGISTER
-  RETURN REGISTER
-  FLEXIBLE DUCT
-  MITERED CORNER WITH TURNING VANES
-  DUCTWORK INTERNAL FREE DIMENSIONS
-  RECTANGULAR TO ROUND TRANSITION
-  GREASE DUCT CLEANOUT
-  MITERED CORNER WITHOUT TURNING VANES
-  GRIDPOINT THERMOSTAT
-  GRIDPOINT ZONE SENSOR MODULE
-  PLAN NOTE: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING
-  EQUIPMENT TAG: SEE EQUIPMENT SCHEDULE ON SHEET M600 FOR EQUIPMENT INFORMATION.
-  GRILL, REGISTER, OF DIFFUSER TAG: TAG NECK SIZE AIRFLOW (CFM)



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Contents:

HVAC SPECIFICATIONS

M010

HVAC PLAN NOTES

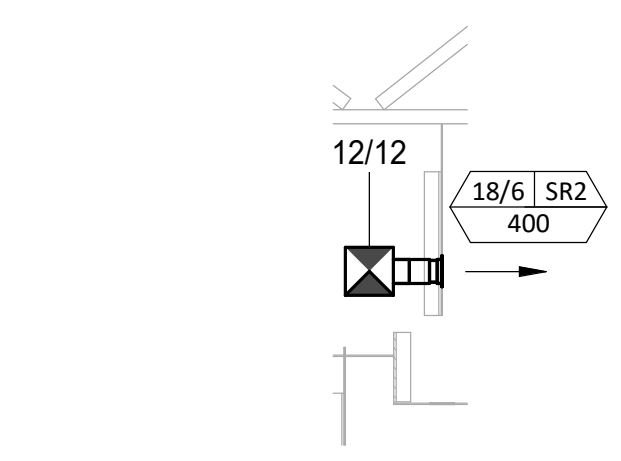
- SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING MOUNTED EQUIPMENT LOCATION. TYPICAL.
- PAINT DUCTWORK VISIBLE THROUGH DINING ROOM SUPPLY REGISTERS BLACK. TYPICAL.
- PENETRATIONS THROUGH SHEAR WALL SHALL BE LIMITED TO 10" DIAMETER (OR A GROUP OF PENETRATIONS ALL CONTAINED WITHIN 10" DIAMETER). IF LARGER PENETRATIONS OR GROUPS OF PENETRATIONS ARE REQUIRED COORDINATE WITH STRUCTURAL ENGINEER FOR APPROPRIATE BRACING. SEE STRUCTURAL DRAWINGS FOR SHEAR WALL LOCATION.
- 26/18 DUCT UP FOR TRANSITION TO RTU-1 RETURN CONNECTION IN ROOF CURB. RTU-1 SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM. INTERLOCK SMOKE DETECTOR TO RTU-1 OPERATION.
- 26/18 DUCT UP FOR TRANSITION TO RTU-2 RETURN CONNECTION IN ROOF CURB. RTU-2 SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM. INTERLOCK SMOKE DETECTOR TO RTU-2 OPERATION.
- 26/18 DUCT UP FROM BUILDING SUPPLY THROUGH ROOF. TRANSITION TO RTU-1 SUPPLY CONNECTION IN ROOF CURB.
- 26/18 DUCT UP FROM BUILDING SUPPLY TO RTU-2 SUPPLY CONNECTION. TRANSITION IN ROOF CURB.
- 14/14 DUCT UP THROUGH ROOF. TRANSITION TO MAU-1 SUPPLY CONNECTION IN ROOF CURB.
- 16/16 DUCT UP FROM HOOD THROUGH ROOF TO EF-1 COMPLIANT WITH NFPA 96. PROVIDE RADIUS ELBOWS WITH AN INSIDE RADIUS OF 0.5W AT ELBOWS IN GREASE DUCT.
- 8/6 DUCT UP THROUGH ROOF TO EF-2.
- 28/12 DUCT DOWN TO MAKEUP AIR PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL FOR 4.
- 8" DIA. DUCT DOWN TO MAKEUP AIR PSP DUCT CONNECTION. TRANSITION TO SUPPLY PLENUM OPENING SIZE. TYPICAL. CAP UNUSED DUCT CONNECTIONS.
- INSTALL GRIDPOINT THERMOSTATS FURNISHED BY TEMS FOR RTU-1 (TS200) AND RTU-2 (TS200) AT THIS LOCATION AT 48" AFF. COORDINATE WITH ELECTRICAL SWITCHING IN THIS AREA. PROVIDE THERMOSTAT WIRING FROM EACH THERMOSTAT TO THE CORRESPONDING ROOFTOP UNIT. PROVIDE CATSE CABLE FROM RTU-1 TS200 TO J-BOX #2 ABOVE ELECTRICAL PANELS (LEAVE 16" OF CABLE COILED UP INSIDE OF J-BOX #2 ND 16" BEHIND WALL OF THERMOSTAT FOR FINAL CONNECTION TO THE EMS SYSTEM BY THE TEMS) AND LABEL BOTH ENDS OF CABLE "TSTATS". SEE GRIDPOINT INSTALLATION INSTRUCTIONS FOR TERMINATION INSTRUCTIONS.
- INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR RTU-1 AT THIS LOCATION 84" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE 18G-24G SHIELDED TWISTED PAIR FROM ZSM TO RTU-1 THERMOSTAT T1 TERMINALS. SEE GRIDPOINT INSTALLATION INSTRUCTIONS FOR TERMINATION INSTRUCTIONS.
- INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR RTU-2 AT THIS LOCATION 60" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE 18G-24G SHIELDED TWISTED PAIR FROM ZSM TO RTU-2 THERMOSTAT T1 TERMINALS. SEE GRIDPOINT INSTALLATION INSTRUCTIONS FOR TERMINATION INSTRUCTIONS.
- INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR RTU-1 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE 18G-24G SHIELDED TWISTED PAIR FROM SUPPLY PROBE TO RTU-1 THERMOSTAT T2 TERMINALS. SEE GRIDPOINT INSTALLATION INSTRUCTIONS FOR TERMINATION INSTRUCTIONS.
- INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR RTU-2 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE 18G-24G SHIELDED TWISTED PAIR FROM SUPPLY PROBE TO RTU-2 THERMOSTAT T2 TERMINALS. SEE GRIDPOINT INSTALLATION INSTRUCTIONS FOR TERMINATION INSTRUCTIONS.
- INSTALL REMOTE TEMPERATURE SENSOR FOR HOOD HD-1 AT THIS LOCATION 84" AFF. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE (2) #18 G. THERMISTOR CABLE FROM TEMPERATURE SENSOR TO HOOD CONTROL PANEL.

HVAC PLAN NOTES

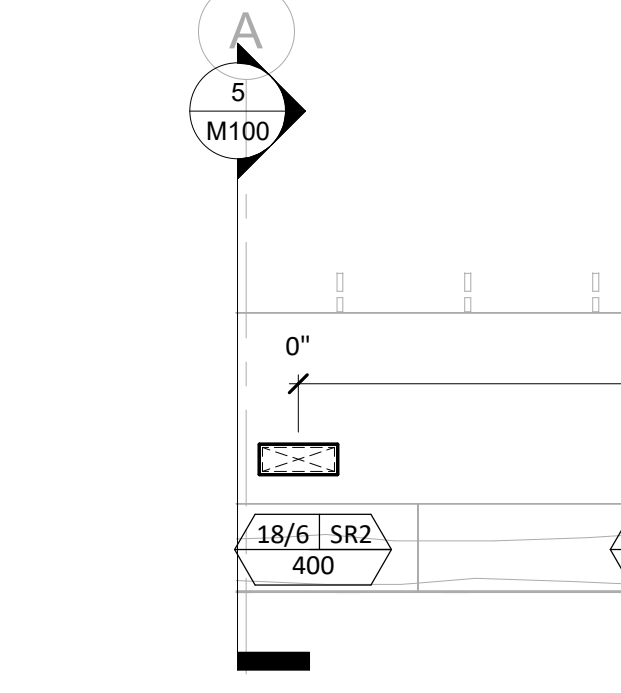
- INSTALL KITCHEN HOOD, HD-1. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL HOOD ACCORDING TO THE REQUIREMENTS OF ITS LISTING, IN COMPLIANCE WITH NFPA 96, THE BUILDING CODE, AND AUTHORITIES HAVING JURISDICTION. HOOD SHALL HAVE AN INTEGRAL DUCT COLLAR TEMPERATURE SENSOR TO AUTOMATICALLY ENERGIZE THE EXHAUST AND MAKEUP AIR FANS IF COOKING TEMPERATURES ARE DETECTED. EXHAUST DUCT SYSTEM TO BE WELDED OR FACTORY-MANUFACTURED WATER AND AIR TIGHT. INSTALL CLEANOUTS PER CODE AND AS SHOWN. INSTALL HOOD PER DETAILS 2 AND 4/M700. CHIPOTLE WILL PROVIDE AN INDEPENDENT TESTING AGENCY FOR TESTING THE INTEGRITY OF THE GREASE DUCT SYSTEM.
- INSTALL REMOTE CONDENSING UNIT FOR WALK-IN COOLER ON ROOF AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. CMG VENDOR TO INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, LOW AMBIENT CONTROLS, AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15. INSTALL THE REFRIGERANT LINE SET UNDER THE ROOF DECK TO WITHIN 3' OF THE CONDENSING UNIT. CUT 2-1/2" HOLE IN WALK-IN COOLER ROOF FOR REFRIGERANT LINE SET AND SEAL PER THE COOLER MANUFACTURER'S INSTALLATION INSTRUCTIONS AFTER LINE SET IS INSTALLED.
- INSTALL REMOTE CONDENSER FOR ICE MACHINE ON ROOF AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. CMG VENDOR TO INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, LOW AMBIENT CONTROLS, AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. SEAL PIPING PENETRATIONS THROUGH ROOF. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15. INSTALL THE REFRIGERANT LINE SET UNDER THE ROOF DECK TO WITHIN 3' OF THE REMOTE CONDENSER. IF REFRIGERANT PIPING TO ICE MAKER IS EXPOSED TO PUBLIC VIEW CONCEAL WITHIN A STAINLESS STEEL SHROUD AS SHOWN IN THE ARCHITECTURAL DRAWINGS.
- INSTALL ROOFTOP EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- INSTALL EXHAUST FAN EF-1 PER DETAIL 5/M700 AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL GREASE VIROGUARD SYSTEM FURNISHED BY CHIPOTLE ON EXHAUST FAN, EF-1.
- PROVIDE SUPPLY DIFFUSER CONNECTION TO SUPPLY SYSTEM PER DETAIL 1/M700. TYPICAL.
- PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET. WIRE A UNIT BACK TO EACH SMOKE DETECTOR. MOUNT UNIT 60" AFF. TYPICAL.
- INSTALL REME HALO AIR PURIFIER FURNISHED BY TUV IN RTU PER DETAIL 6/M700. SEE ELECTRICAL DRAWINGS FOR POWER CONNECTION INFORMATION. INSTALL UV WARNING STICKERS ON FACE OF ENCLOSURE PER DETAIL AND ON ANY RTU ACCESS DOOR(S) THROUGH WHICH THE REME HALO WOULD BE VISIBLE IF OPENED.
- MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER FLUE TERMINATION AND OUTSIDE AIR INTAKES. MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER COMBUSTION AIR INTAKE AND EXHAUST FAN EF-1 DISCHARGE. SEE PLUMBING DRAWINGS FOR MORE INFORMATION ON WATER HEATER FLUE AND COMBUSTION AIR TERMINATIONS.
- ADJUST SUPPLY REGISTERS SO THAT SUPPLY AIR HITS WALL ON OPPOSITE SIDE OF ROOM AT APPROXIMATELY 7' AFF WITH NO DRAFTS FELT IN THE DINING ROOM.

CO2 BULK STORAGE NOTE:
DUE TO ON-SITE BULK STORAGE OF CO2, NFPA 704 PLACECARDS SHALL BE PLACED ON THE ENTRY/EXIT DOORS AND A CO2 ALARM/MONITORING SYSTEM WILL BE REQUIRED TO BE INSTALLED.

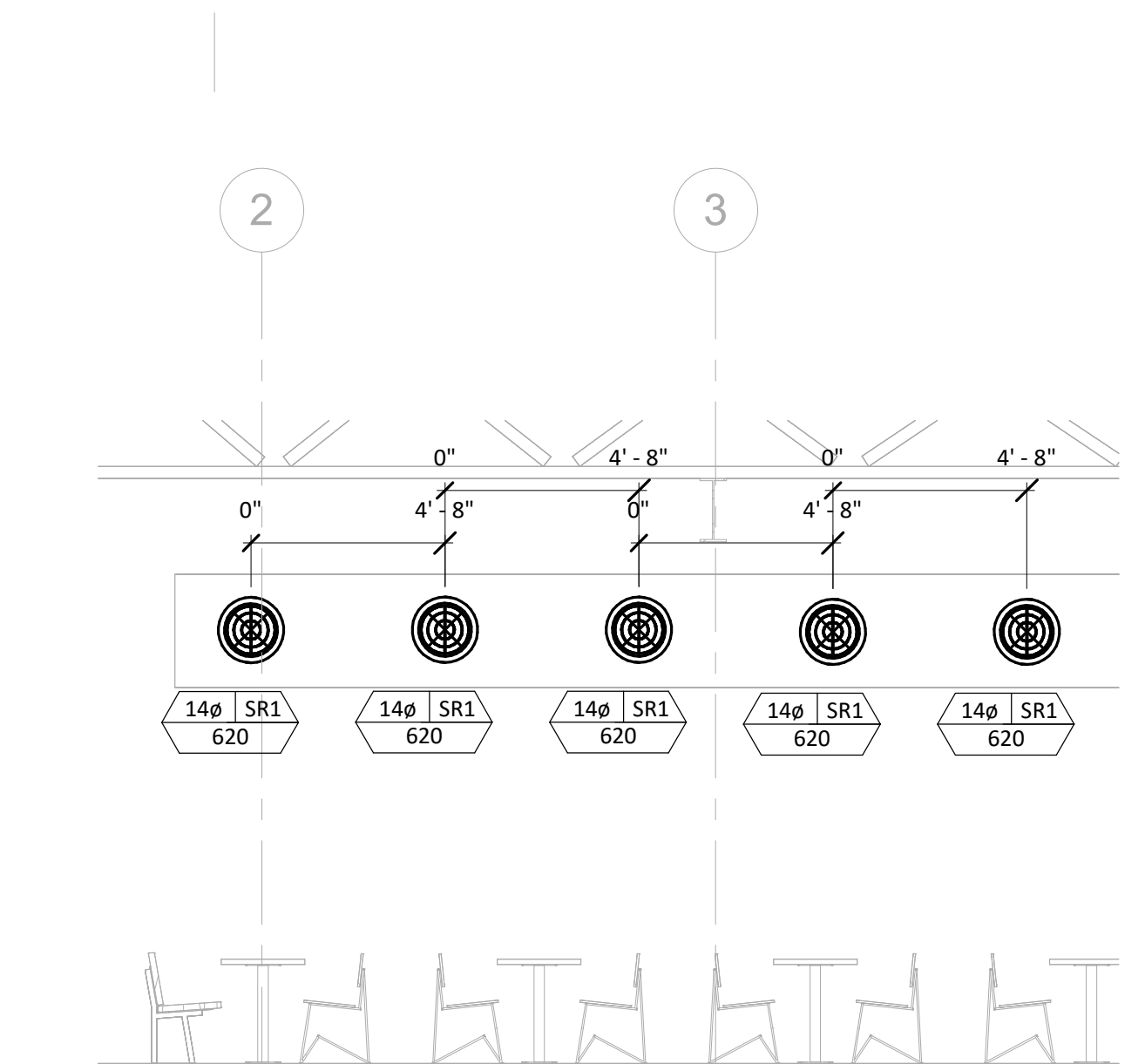
HVAC DINING ROOM RETURN SECTION
1/4" = 1'-0"



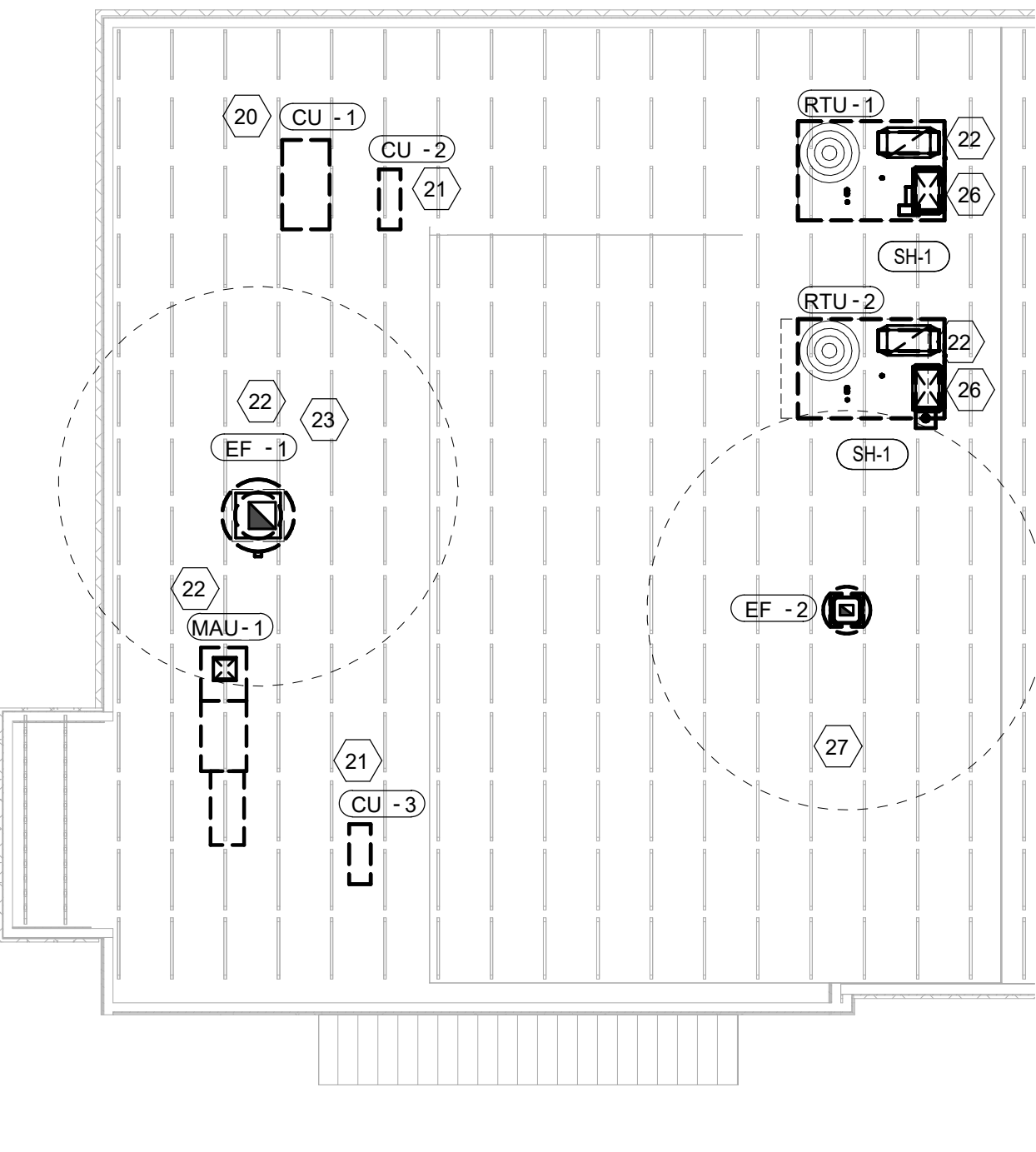
HVAC DINING ROOM SECTION
1/4" = 1'-0"



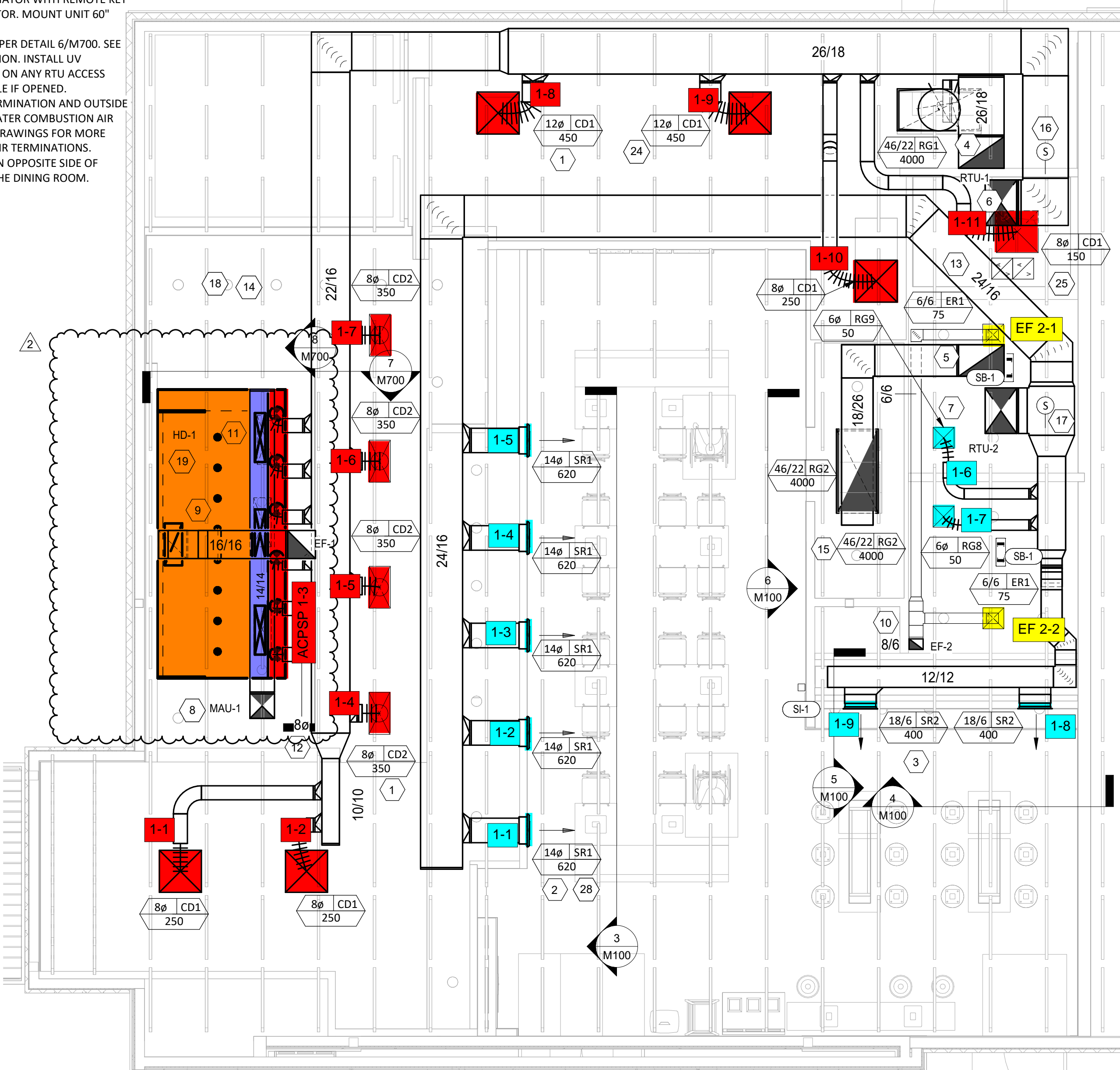
HVAC DINING ROOM SECTION
1/4" = 1'-0"



HVAC DINING ROOM SECTION
1/4" = 1'-0"



HVAC ROOF PLAN
1/8" = 1'-0"



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

ARCHITECT OF RECORD



513 MAIN STREET, SUITE 300
FORT WORTH, TEXAS 76102
(817) 820-0433

SEAL



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CHIPOTLE MEXICAN GRILL, INC.
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STAR RANCH
2260 MUIRFIELD BEND DR.
SUITE 100
HUTTO, TX 78634

Issue Record:

| | |
|----------|------------|
| 10/18/24 | PERMIT SET |
|----------|------------|

Revisions:

| | | |
|---|---------|-------------------------|
| 1 | 12/9/24 | CITY COMMENTS |
| 2 | 7/2/25 | Construction Bulletin B |

Drawn: JW
Checked: JW

Project No:
24-0074

Contents:
HVAC PLAN



M100



513 MAIN STREET, SUITE 300
FORT WORTH, TEXAS 76102
(817) 820-0433

SEAL



12-06-2024

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Issue Record:
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Revisions:
2 7/2/25 Construction Bulletin B

Drawn: JW Checked: JW

Project No:
24-0074

Contents:

MECHANICAL
SCHEDULES

M600

AIR BALANCE SCHEDULE

| TAG | SUPPLY FLOW | RETURN FLOW | EXHAUST FLOW | SUBTOTAL |
|--------------------|-------------|-------------|--------------|------------|
| EF-1 | 0 CFM | 0 CFM | 2,550 CFM | -2,550 CFM |
| EF-2 | 0 CFM | 0 CFM | 150 CFM | -150 CFM |
| MAU-1 | 1,300 CFM | 0 CFM | 0 CFM | 1,300 CFM |
| RTU-1 | 4,000 CFM | 3,500 CFM | 0 CFM | 500 CFM |
| RTU-2 | 4,000 CFM | 3,000 CFM | 0 CFM | 1,000 CFM |
| NET PRESSURIZATION | | | | 100 CFM |

CONTROL FUNCTIONS

- THE MAIN COOKING EXHAUST FAN AND MAKE-UP AIR UNIT SHALL BE INTERLOCKED TO OPERATE TOGETHER. THIS CONTROL CIRCUIT IS ACTIVATED BY A SWITCH AND INCLUDES A FIRE PROTECTION OVERRIDE.
- THE TEMPERATURE IN EACH ZONE IS CONTROLLED BY SPACE TEMPERATURE SENSORS CONNECTED TO THE THERMOSTATS LOCATED IN THE OFFICE. ALL ZONES SHALL OPERATE WITH CONTINUOUS FAN OPERATION DURING OCCUPIED TIMES AND INTERMITTENTLY AS NEEDED TO MAINTAIN SET POINTS DURING UNOCCUPIED TIMES. OUTSIDE AIR DAMPERS SHALL BE OPEN CONTINUOUSLY WHEN EITHER IN OCCUPIED MODE OR WHEN THE HOOD SYSTEM IS ON AND SHALL BE CLOSED DURING UNOCCUPIED PERIODS.
- THE THERMOSTATS SHALL DETERMINE OCCUPIED/UNOCCUPIED STATUS BASED ON THE SCHEDULE IN THE ENERGY MANAGEMENT SYSTEM.

SANITIZING EQUIPMENT SCHEDULE

| TAG | COUNT | DESCRIPTION | FURNISHED BY | INSTALLED BY | BASIS FOR DESIGN | | REMARKS |
|------|-------|--------------------------------|--------------|--------------|-------------------------|--------------|---|
| | | | | | MANUFACTURER | MODEL | |
| SB-1 | 2 | BATHROOM AIR PURIFICATION UNIT | TUV | GC | RGF ENVIRONMENTAL GROUP | BRU ASSEMBLY | SEE ELECTRICAL SHEETS FOR CONNECTION INFORMATION |
| SH-1 | 2 | HVAC AIR PURIFICATION UNIT | TUV | GC | RGF ENVIRONMENTAL GROUP | REME-HALO | SEE DETAIL 6/M700 FOR INSTALLATION INFORMATION. |
| SI-1 | 3 | ICE MACHINE TREATMENT SYSTEM | TUV | GC | RGF ENVIRONMENTAL GROUP | IMS-B-GA | SEE PLUMBING DRAWINGS FOR INSTALLATION INFORMATION. |

FAN SCHEDULE

| TAG | DESCRIPTION | AIRFLOW | E.S.P. | WEIGHT | ELECTRICAL | | FURNISHED BY | INSTALLED BY | BASIS FOR DESIGN | | REMARKS |
|------|--------------------------------|-----------|------------|---------|-------------|----------|--------------|--------------|------------------|-------------|---|
| | | | | | MOTOR POWER | V/P/H | | | MANUFACTURER | MODEL | |
| EF-1 | UPBLAST GREASE EXHAUST FAN | 2,550 CFM | 1.20 in-wg | 106 lb | 2 hp | 208/1/60 | HS | GC | ACCUREX | XCUE-160-VG | DIRECT DRIVE DU180HFA UPBLAST EXHAUST FAN FURNISHED WITH WEATHERPROOF DISCONNECT AND VENTED ROOF CURB |
| EF-2 | DOWNBLAST RESTROOM EXHAUST FAN | 150 CFM | 0.60 in-wg | 43.2 lb | 0.25 hp | 115/1/60 | HS | GC | ACCUREX | XRED-097-VG | DIRECT DRIVE DOWNBLAST RESTROOM EXHAUST FAN FURNISHED WITH INTEGRAL DISCONNECT, SPEED CONTROL, BACKDRAFT DAMPER, AND CURB |

VIROGUARD SCHEDULE

| TAG | COUNT | DESCRIPTION | DUCT CONNECTION SIZE | FAN | FURNISHED BY | INSTALLED BY | BASIS FOR DESIGN |
|------|-------|---|----------------------|---------------------|--------------|--------------|------------------|
| VG-1 | 1 | VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM | 16" X 16" | ACCUREX XRED-097-VG | TDC | GC | ENVIROMATIC |

CONDENSING UNIT SCHEDULE

| TAG | DESCRIPTION | NOMINAL CAPACITY | NUMBER OF | | REFRIGERANT | | WEIGHT | ELECTRICAL | | | FURNISHED BY | INSTALLED BY | BASIS FOR DESIGN | | REMARKS |
|------|---|------------------|-------------|----------|-------------|----------|--------|------------|-----|----------|--------------|--------------|------------------|-----------------|-------------------------------|
| | | | COMPRESSORS | CIRCUITS | TYPE | CHARGE | | MOC/P | FLA | V/P/H | | | MANUFACTURER | MODEL | |
| CU-1 | CONDENSING UNIT - WALK-IN COOLER | | 1 | 1 | R-404A | 10.4 lb | 250 lb | 15 A | 9 A | 208/1/60 | WCS | GC | RUSSELL DOE | RF0060M4SDAALNT | FURNISHED WITH WALK-IN COOLER |
| CU-2 | REMOTE CONDENSER - LOW CAPACITY ICE MAKER | | 0 | 1 | R-404A | 11.46 lb | 100 lb | | | 120/1/60 | KES | GC | HOSHIZAKI | URC-9F | FURNISHED WITH ICE MAKER |
| CU-3 | REMOTE CONDENSER - SODA MACHINE ICE MAKER | | 0 | 1 | R-404A | 3.86 lb | 100 lb | | | 120/1/60 | KES | GC | HOSHIZAKI | URC-5F | FURNISHED WITH ICE MAKER |

MAKEUP AIR UNIT SCHEDULE

| TAG | DESCRIPTION | AIRFLOW | E.S.P. | HEATING | | | WEIGHT | ELECTRICAL | | FURNISHED BY | INSTALLED BY | BASIS FOR DESIGN | | REMARKS |
|-------|------------------------------|-----------|------------|--------------|--------------|-------|--------|------------|----------|--------------|--------------|------------------|------------------|---|
| | | | | INPUT | OUTPUT | EAT | | MCA/MOCP | V/P/H | | | MANUFACTURER | MODEL | |
| MAU-1 | DIRECT-FIRED MAKEUP AIR UNIT | 1,300 CFM | 0.50 in-wg | 91,600 Btu/h | 84,200 Btu/h | 10 °F | 421 lb | 21.3/35.0 | 115/60/1 | HS | GC | ACCUREX | XDGX-P115-H05-VG | 12.5:1 MAX TURNDOWN. FURNISHED WITH DISCONNECT, ROOF CURB, SCREEN INTAKE, AND WASHABLE ALUMINUM FILTERS |

KITCHEN HOOD SCHEDULE

| TAG | DESCRIPTION | MAX COOKING TEMP. | AIRFLOW | E.S.P. | EXHAUST PLENUM | | | | PERFORATED SUPPLY PLENUMS | | | | | | NO. OF LIGHT FIXTURES | WEIGHT | FURNISHED BY | INSTALLED BY | BASIS FOR DESIGN | | REMARKS | | | | |
|------|--|-------------------|-----------|------------|----------------|-------|--------|--------|---------------------------|--------|--------|-----------|-----|----------|-----------------------|---------|--------------|--------------|------------------|--------|---------|-----|----------|------------|---|
| | | | | | DUCT COLLARS | | | | MAU PLENUM | | | AC PLENUM | | | | | | | MANUFACTURER | MODEL | | | | | |
| | | | | | NO. | WIDTH | LENGTH | LENGTH | NO. | WIDTH | LENGTH | AIRFLOW | NO. | DIAMETER | | | | | | | | NO. | DIAMETER | | |
| HD-1 | TYPE I CANOPY HOOD WITH PERFORATED MAU AND AC SUPPLY PLENUMS | 600 °F | 2,550 CFM | 0.96 in-wg | 1 | 10" | 24" | 13'-9" | 4'-6" | 13'-9" | 24" | 1,300 CFM | 4 | 12" | 2'-4" | 696 CFM | 6 | 8" | 8 | 732 lb | HS | GC | ACCUREX | XXEW-153-S | MAT'L: 18 GA. TYPE 430 SS. FURNISHED WITH QUARTER END PANELS, VAPORPROOF INCANDESCENT LIGHT FIXTURES, 16" TALL HE SS FILTERS, INTEGRAL UTILITY CABINET, ANSUL SYSTEM, DUCT COLLAR TEMPERATURE SENSOR, PIREWIRE PACKAGE, SPARE FIRE SYSTEM DRY CONTACT, AND 4-POLE 20A CONTACTOR |

ROOFTOP UNIT SCHEDULE

| TAG | DESCRIPTION | NOMINAL CAPACITY | EER | AIRFLOW | | | NET COOLING CAPACITY | | | | HEATING CAPACITY | | | NUMBER OF | | REFRIGERANT | | ELECTRICAL | | | FURNISHED BY | INSTALLED BY | BASIS FOR DESIGN | | REMARKS | |
|-------|--------------------------|------------------|------|-----------|-----------|-----------|----------------------|--------------|-------|-------|------------------|---------------|---------------|-----------|-------------|-------------|--------|------------|-------|------|--------------|--------------|------------------|--------------|----------|--|
| | | | | TOTAL | OA | E.S.P. | TOTAL | SENSIBLE | DB | WB | COND. EAT | INPUT | OUTPUT | EAT | COMPRESSORS | CIRCUITS | TYPE | WEIGHT | MOC/P | FLA | | | V/P/H | MANUFACTURER | | MODEL |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RTU-1 | KITCHEN ROOFTOP UNIT | 10 ton | 11.2 | 4,000 CFM | 500 CFM | 1.0 in-wg | 118,000 Btu/h | 91,000 Btu/h | 80 °F | 67 °F | 80 °F | 250,000 Btu/h | 205,000 Btu/h | 65 °F | 2 | 2 | R-410A | 1,445 lb | 63 A | 66 A | 208/3/60 | CMG | GC | CARRIER | 48FEFN12 | FURNISHED WITH COMP. ENTHALPY ECON., BAROMETRIC RELIEF, RET. SMOKE DETECTOR W/ REMOTE KEYED ANNUNCIATOR/RESET, M.O.D., MERV-8 FILTERS, CURB, HAIL GUARD, TOOLLESS HINGED ACCESS PANELS, DISCONNECT, HOT GAS REHEAT & UNIT-MOUNTED CONVENIENCE RECEPTACLE |
| RTU-2 | DINING ROOM ROOFTOP UNIT | 10 ton | 11.2 | 4,000 CFM | 1,000 CFM | 1.0 in-wg | 118,000 Btu/h | 91,000 Btu/h | 80 °F | 67 °F | 80 °F | 250,000 Btu/h | 205,000 Btu/h | 65 °F | 2 | 2 | R-410A | 1,445 lb | 63 A | 66 A | 208/3/60 | CMG | GC | CARRIER | 48FEFN12 | FURNISHED WITH COMP. ENTHALPY ECON., BAROMETRIC RELIEF, RET. SMOKE DETECTOR W/ REMOTE KEYED ANNUNCIATOR/RESET, M.O.D., MERV-8 FILTERS, CURB, HAIL GUARD, TOOLLESS HINGED ACCESS PANELS, DISCONNECT, HOT GAS REHEAT & UNIT-MOUNTED CONVENIENCE RECEPTACLE |

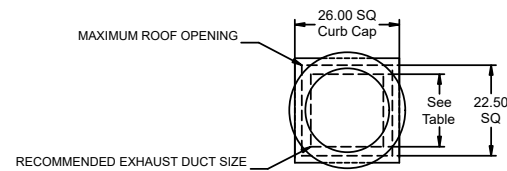
Direct Drive Upblast Centrifugal Roof Exhaust Fan

| MARK INFORMATION | | FAN INFORMATION | | | | | | | | | SOUND INFORMATION | | | MOTOR INFORMATION | | | | | | | | | | |
|------------------|-----|-----------------|------------|--------------|----------------------|----------------------------|-----------------|--------------------------|-----|-------------------|-------------------|-------------|-------------------------|-------------------|--------------|----------------------|-----------------|----------------------|-----------|---------|-------|-------|-----------|----------|
| MARK | QTY | MODEL | DRIVE TYPE | VOLUME (CFM) | EXTERNAL SP (IN. WG) | TOTAL EXTERNAL SP (IN. WG) | FAN SPEED (RPM) | OUTLET VELOCITY (FT/MIN) | FEI | TOTAL WEIGHT (LB) | INLET dBA | INLET SONES | INLET SONES (SPHERICAL) | OUTLET dBA | OUTLET SONES | OPERATING POWER (HP) | MOTOR SIZE (HP) | FEP INPUT POWER (KW) | ENCLOSURE | VOLTAGE | CYCLE | PHASE | EC MOTOR | NEC FLA* |
| EF-1 (Hood-1) | 1 | XCUE-160-VG | Direct | 2,550 | 1.2 | 1.2 | 1,330 | 1,482.56 | 1.4 | 106 | 68.74 | 16.82 | 0 | 0 | 0 | 0.87 | 2 | 0.78 | TF | 208 | 60 | 1 | VariGreen | 13.2 |

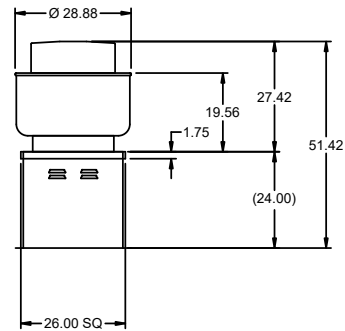
*NEC FLA - Based on table 430.250 or 430.248 of National Electrical Code 2020. Actual motor FLA may vary for sizing thermal overload, consult factory"

EF-1 (Hood-1) : SELECTED OPTIONS AND ACCESSORIES

One piece fully welded windband
 Tapered bushing wheel hub
 Breather tube outlet area min. 4.4 sq. in. (sizes 99-480), 2.0 sq. in. (sizes 60-95)
 Min. windband material thickness: 0.051" aluminum (060-240), 0.064" aluminum (240HP, 240XP), 0.080" aluminum (sizes 300-480)
 Larger Curb Cap Size - 26 Square
 UL/cUL 705 Listed - Supplement SC - "Power Ventilators for Restaurant Exh. Appliances" (Formerly UL 762)
 Switch, NEMA-3R, Toggle,
 Aluminum Wheel Material



| DUCT TYPE | SIZE |
|--------------|-------|
| STANDARD | 18 SQ |
| FIRE-WRAPPED | 12 SQ |



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB. CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

SHOP DRAWING REVIEW

- NO EXCEPTIONS TAKEN
- MAKE CORRECTIONS NOTED
- REVISE AND RESUBMIT
- REJECTED

REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS AND SPECIFICATIONS. NO RESPONSIBILITY IS ASSUMED BY THIS ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTNESS OF QUANTITIES, DIMENSIONS AND DETAILS

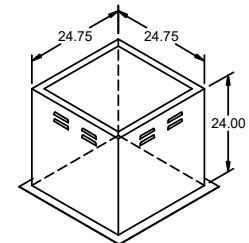
CASE
 Engineering Inc.

796 Menus Court
 St. Louis, MO 63026

T 636.349.1600
 F 636.349.1730

BY: JW

DATE: 03/03/2025



CHIPOTLE-STAR RANCH, TX
 5132

PROJECT
 2/19/2025

DIRECT CHAIN ACX
 JOE AYOUB
 JOE.AYOUB@ACCUREX.COM
 (857)272-8727

ACCUREX



EF-1 (HOOD-1)

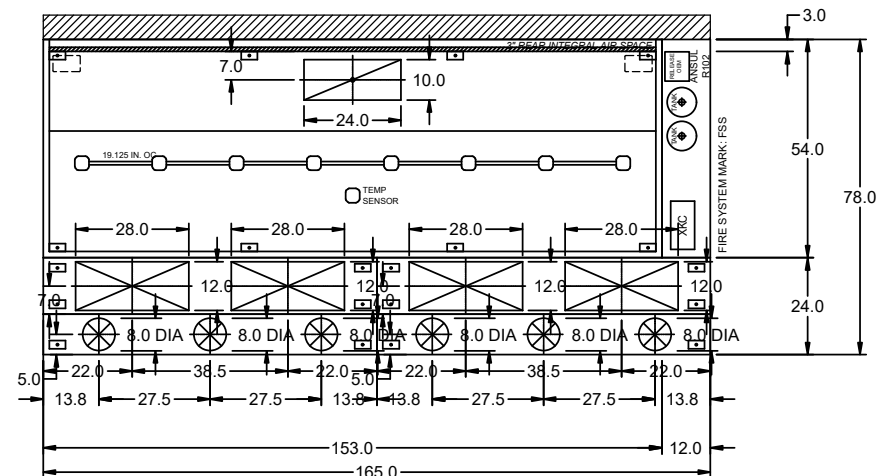
| HOOD INFORMATION | | | | | | | | | | | | | | | | | |
|------------------|--------|------------|-----------------------|-------|--------|----------------------|----------------------------|-----------|-----------|----|--|---------|--------|------|---------------------|------------------|--------|
| HOOD NO. | MARK | MODEL | HOOD DIMENSIONS (IN.) | | | HOOD CONSTR. | COOKING LOAD / DUTY RATING | EXHAUST | | | | | SUPPLY | | HANGING WEIGHT LBS. | SECTION LOCATION | |
| | | | LENGTH | WIDTH | HEIGHT | | | TOTAL CFM | COLLAR(S) | | | MUA CFM | AC CFM | | | | |
| 1 | HOOD-1 | XXEW-153-S | 153 | 54 | 24 | 430 SS WHERE EXPOSED | HEAVY | 2550 | 10 | 24 | | 2550 | 0.483 | 1300 | 700 | 732 | SINGLE |

| HOOD INFORMATION | | | | | | | | | | | | | | | |
|------------------|--------|----------------------|----------------------------|-----|--------------|--|-----|----------------|----------|--------------------|---|----------|-------------|--|--|
| HOOD NO. | MARK | LIGHTING DETAILS | | | | GREASE FILTRATION DETAILS | | | | UTILITY CABINET(S) | | | | | |
| | | FIXTURE TYPE | BULB / LAMP INFO | QTY | FOOT CANDLES | TYPE / MODEL MATERIAL | QTY | SIZE (IN.) L H | LOCATION | FIRE SYSTEM | | CONTROLS | | | |
| 1 | HOOD-1 | INCANDESCENT (GLOBE) | 100W A19 (BULBS NOT INCL.) | 8 | 54.77 | X-TRACTOR (SPARK ARRESTOR INCL.) STAINLESS STEEL | 2 | 16 20 | RIGHT | ANSUL R102 | 6 | XKC | TOUCHSCREEN | | |

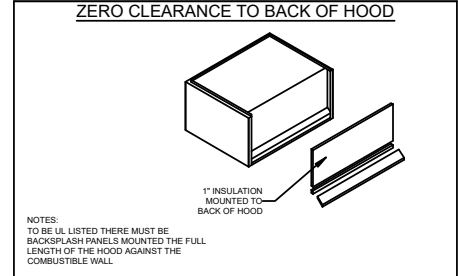
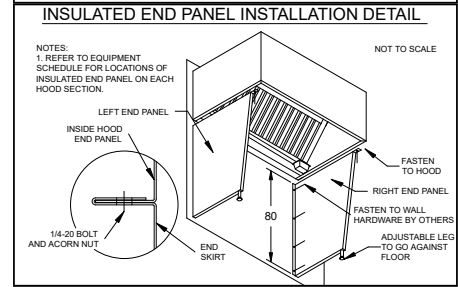
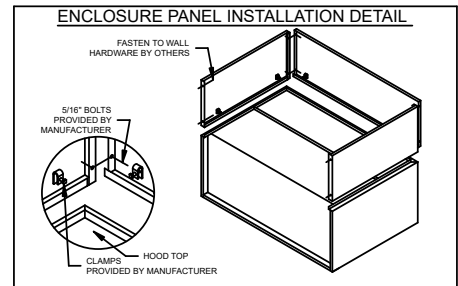
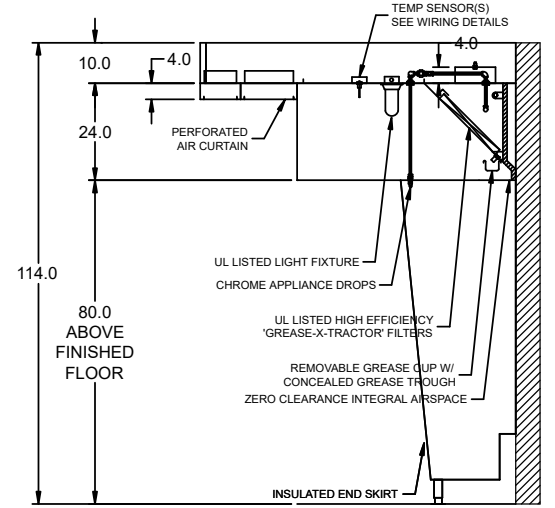
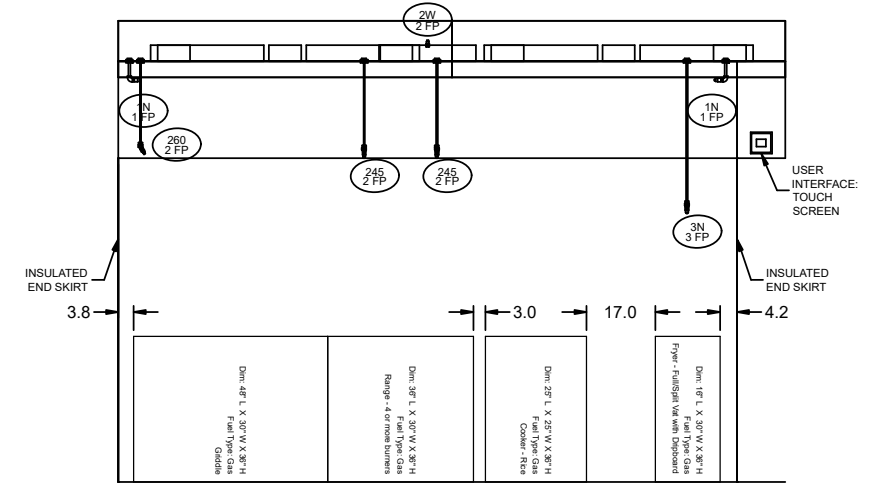
| SUPPLY PLENUM INFORMATION | | | | | | | | | | | | | | | | | | |
|---------------------------|--------|-------|-----------|------------|----|---|-----------|-----------|--------------|-----|-----------|------------|---------|----------|-----|----|-----|------|
| HOOD NO. | MARK | POS. | TYPE | SIZE (IN.) | | | INSULATED | DAMPER(S) | LED LIGHT(S) | | TOTAL CFM | TOTAL S.P. | COLLARS | | | | | |
| | | | | L | W | H | | | SUPPLIED | QTY | | | TYPE | MOUNTING | QTY | W | L | DIA. |
| 1 | HOOD-1 | FRONT | SPLIT ASF | 82.5 | 14 | 4 | NO | NO | | 650 | 0 | MUA | FACTORY | 2 | 12 | 28 | 325 | 139 |
| | | | | 82.5 | 10 | 4 | YES | YES | | 350 | 0.02 | AC | FACTORY | 3 | | | 117 | 335 |
| 1 | HOOD-1 | FRONT | SPLIT ASF | 82.5 | 14 | 4 | NO | NO | | 650 | 0 | MUA | FACTORY | 2 | 12 | 28 | 325 | 139 |
| | | | | 82.5 | 10 | 4 | YES | YES | | 350 | 0.02 | AC | FACTORY | 3 | | | 117 | 335 |

HOOD OPTIONS

- UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER - UL #R25625
- BACK INTEGRAL AIR SPACE - 3 IN WIDE - ZERO CLEARANCE
- 10 IN HIGH CEILING ENCLOSURES - FRONT LEFT RIGHT - FIELD INSTALLED
- FACTORY MOUNTED EXHAUST COLLAR(S)
- LEFT INSULD END PNL W/ ADJ LEG 80 IN HIGH 27.00 IN TOP WIDTH 21.0 IN BOTTOM WIDTH
- RIGHT INSULD END PNL W/ ADJ LEG 80 IN HIGH 27.00 IN TOP WIDTH 21.0 IN BOTTOM WIDTH
- PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY
- STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH

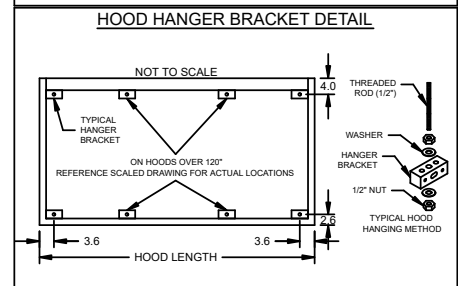
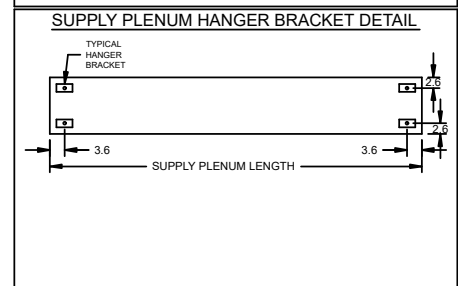


FIRE (PIPING/DROPS/NOZZLES/ETC.) SUBJECT TO CHANGE. AS-BUILT DRAWINGS CAN BE PROVIDED AT TIME OF ORDER AND INCLUDED WITH PRODUCT SHIPMENT



HOOD HANGING HEIGHT FOR FIRE SYSTEMS
 VERIFICATION OF HOOD HANGING HEIGHT ABOVE FINISHED FLOOR (A.F.F.) IS REQUIRED FOR CORRECT PLACEMENT OF FIRE SYSTEM NOZZLES.

- RECOMMENDED HANGING HEIGHT = 80" FROM FINISHED FLOOR TO LOWER FRONT EDGE OF HOOD.
- OTHER HANGING HEIGHT = * FROM FINISHED FLOOR TO LOWER EDGE OF HOOD.

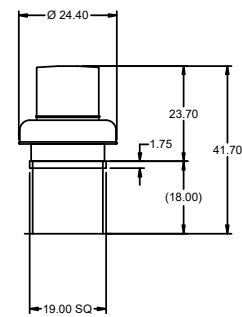
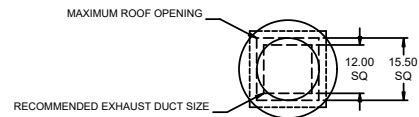


Direct Drive Centrifugal Roof Exhaust Fan

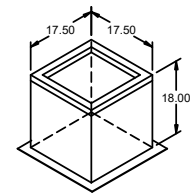
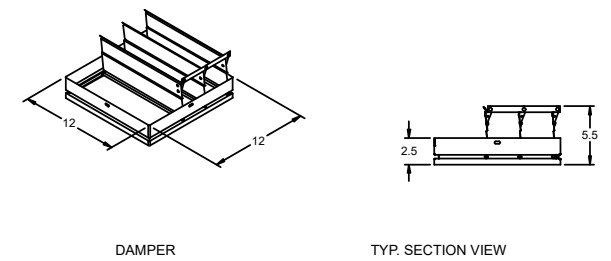
| MARK INFORMATION | | FAN INFORMATION | | | | | | | | | SOUND INFORMATION | | | | MOTOR INFORMATION | | | | | | | | | |
|------------------|-----|-----------------|------------|--------------|----------------------|----------------------------|-----------------|--------------------------|-----|-------------------|-------------------|-------------|-------------------------|------------|-------------------|----------------------|-----------------|----------------------|-----------|---------|-------|-------|-----------|----------|
| MARK | QTY | MODEL | DRIVE TYPE | VOLUME (CFM) | EXTERNAL SP (IN. WG) | TOTAL EXTERNAL SP (IN. WG) | FAN SPEED (RPM) | OUTLET VELOCITY (FT/MIN) | FEI | TOTAL WEIGHT (LB) | INLET dBA | INLET SONES | INLET SONES (SPHERICAL) | OUTLET dBA | OUTLET SONES | OPERATING POWER (HP) | MOTOR SIZE (HP) | FEP INPUT POWER (KW) | ENCLOSURE | VOLTAGE | CYCLE | PHASE | EC MOTOR | NEC FLA* |
| EF-2 (Restroom) | 1 | XRED-097-VG | Direct | 150 | 0.6 | 0.6 | 1,330 | 156.25 | 0 | 43.2 | 51.87 | 6.22 | 0 | 0 | 0 | 0.05 | 0.25 | 0 | TN | 115 | 60 | 1 | VariGreen | 5.8 |

*NEC FLA - Based on table 430.250 or 430.248 of National Electrical Code 2020. Actual motor FLA may vary for sizing thermal overload, consult factory"

| EF-2 (Restroom) : SELECTED OPTIONS AND ACCESSORIES |
|--|
| Standard Curb Cap Size - 19 Square UL/cUL 705 Listed - "Power Ventilators" Switch, NEMA-1, Toggle, Damper Shipped Loose, BD-100-PB-12X12, Gravity Operated, Not Coated, Nominal Size Birdscreen: Galvanized, nom. 84% Free Area Conduit Chase Qty 1 |



DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.
 CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.
 OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR
 HINGE BASE.



CHIPOTLE-STAR RANCH, TX
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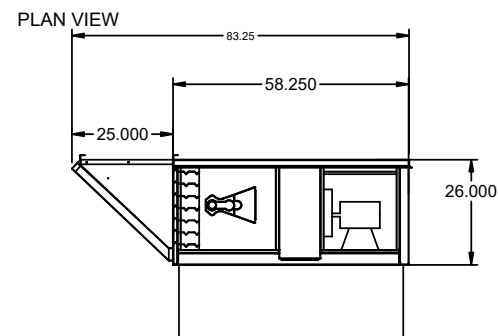
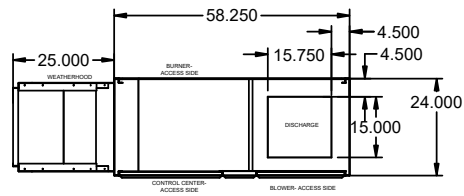
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2/19/2025

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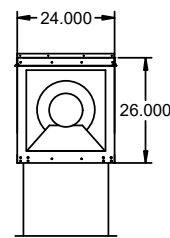


MARK
EF-2 (RESTROOM)

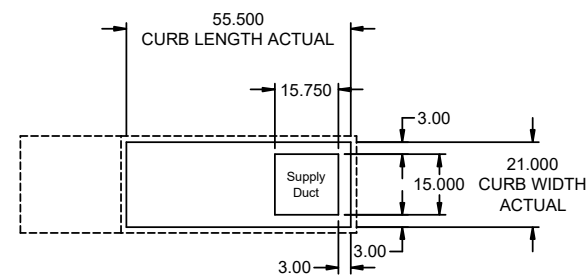
| EQUIPMENT SCHEDULE | | | | | | | | | | OPTIONS AND ACCESSORIES | | | | | | | | | |
|----------------------------------|------------------|-----------------------------|-----------------------------|--------------|-----------------|------------|--------------------|------|-------------|--|--|--|--|--|--|--|--|--|--|
| Tempered Make-Up Air Unit | | | | | | | | | | Air Flow Arrangement: Outdoor Air Only Weatherhood: Aluminum Mesh, 16x20x2 - (2) Dampers: Inlet Outdoor Air Intake Position: End Discharge Position: Bottom Coating: Galvanized Insulation: Double Wall - Tempering On Supply Fan Control: Vari-Green ECM Vari-Green Control: Dial on Motor Access Side: Right-Hand Unit Weight: 421 lb Control Center Heat Inlet Air Sensor External Cooling Lockout Relay Unit Controls: Terminal Strip Temperature Control: Discharge Direct Gas Options/Accessories Approvals: ETL FM Compliant Flame Sensing: Flame Rod Ignition Control: Pilot | | | | | | | | | |
| Qty | Accurex Model | Volume | External SP | Total SP | MCA | MOP | Weight | SCCR | Mark: MAU-1 | | | | | | | | | | |
| 1 | XDGX-P115-H05-VG | 1,300 CFM | 0.5 in. wg | 1,446 in. wg | 21.3 | 35 | 421 lb | 5kA | | | | | | | | | | | |
| Motor Information | | | | | | | | | | | | | | | | | | | |
| Size | V/CP | Enclosure | Motor with Shaft Grounding | Motor RPM | Operating Power | | | | | | | | | | | | | | |
| 1 hp | 115/60/1 | ODP | No | 1725 | 0.68 hp | | | | | | | | | | | | | | |
| Heating | | | | | | | | | | | | | | | | | | | |
| Type | Gas Type | Temperature | Energy | Connection | Building | Control | Gas Pressure | | | | | | | | | | | | |
| Direct Gas | Natural | Winter DB Max Δ Max LAT | Input Output Efficiency | Gas (IN) | Pressure | Access | Min Max | | | | | | | | | | | | |
| | | 10.0 F 60.0 F 70.0 F | 91.6 MBH 84.2 MBH 92% | 3/4" | 1/2 PSI | Right Hand | 7 in. wg 0.5 PSI | | | | | | | | | | | | |



ELEVATION VIEW



END VIEW



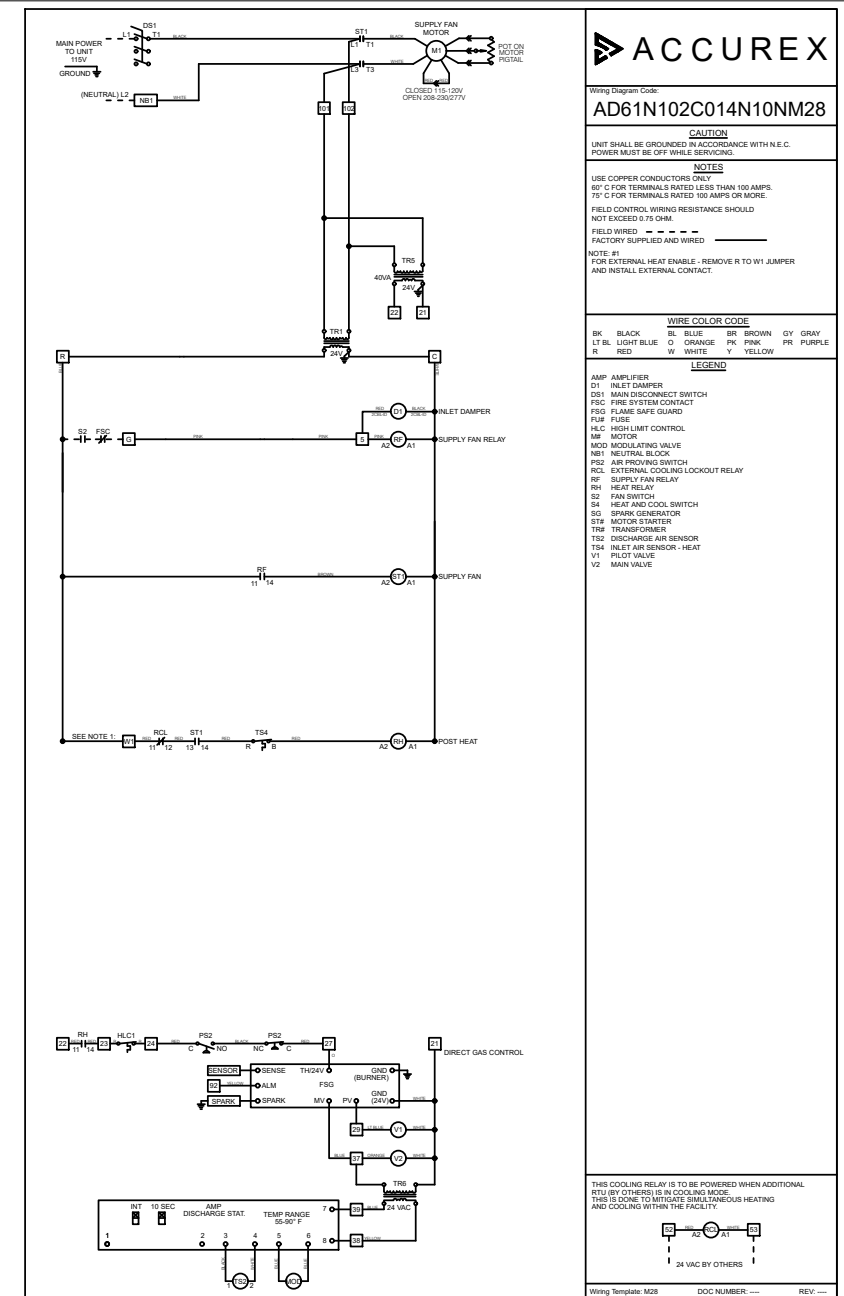
FOOTPRINT

NOTE: Roof Opening Requirements:

Minimum Roof Opening: The minimum roof opening size is the illustrated duct diameter plus 0.25 in. on all sides. For example: If the duct size is 14 x 14 in. square, the minimum roof opening size is 14.5 x 14.5 in. square.

Maximum Roof Opening: There must be a minimum perimeter of 1.75 in. between the roof opening and the roof curb. For example: If the roof curb is 75 x 30 in. square, the maximum roof opening is 71.5 x 26.5 in. inches square.

NOTE: The weatherhood and filter sections of the make-up air unit are not supported by the curb. This is by design, in order to help alleviate water infiltration issues. MUA Unit supports are shipped loose with unit.



ACCUREX

Wiring Diagram Code:
AD61N102C014N10NM28

CAUTION
UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. POWER MUST BE OFF WHILE SERVICING.

NOTES
USE COPPER CONDUCTORS ONLY
60° C FOR TERMINALS RATED LESS THAN 100 AMPS.
75° C FOR TERMINALS RATED 100 AMPS OR MORE.
FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM.
FIELD WIRING: ———— NO ————
FACTORY SUPPLIED AND WIRED

NOTE #1
FOR EXTERNAL HEAT ENABLE, REMOVE R TO W1 JUMPER AND INSTALL EXTERNAL CONTACT.

WIRE COLOR CODE
BK BLACK BL BLUE BR BROWN GY GRAY
LT LT LIGHT BLUE O ORANGE PK PINK PR PURPLE
R RED W WHITE Y YELLOW

LEGEND
AMP AMP LIFIER
D1 INLET DAMPER
D2 MAIN DISCONNECT SWITCH
FSC FIRE SYSTEM CONTACT
FSG FLAME SAFE GUARD
FUSE FUSE
HLC HIGH LIMIT CONTROL
IM MOTOR
MCM MODULATING VALVE
NBT NEUTRAL BLOCK
P2 AIR PROVIDING SWITCH
RCL EXTERNAL COOLING LOCKOUT RELAY
RFL SUPPLY FAN RELAY
RHL HEAT RELAY
R2 FAN SWITCH
S4 HEAT AND COOL SWITCH
SG SPARK GENERATOR
STB MOTOR STARTER
TRF TRANSFORMER
T2S DISCHARGE AIR SENSOR
T2R INLET AIR SENSOR - HEAT
V1 PILOT VALVE
V2 MAIN VALVE

THE COOLING RELAY IS TO BE POWERED WHEN ADDITIONAL RTU'S BY OTHERS IS IN COOLING MODE. THIS IS DONE TO MITIGATE SIMULTANEOUS HEATING AND COOLING WITHIN THE FACILITY.

Wiring Template: M28 DOC NUMBER: ——— REV: ———

ACCUREX

PROJECT: 2/19/2025
MARK: MAU-1

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CHIPOTLE-STAR RANCH, TX
5132

SERVICE INFORMATION

| | |
|---------------------|----------------------|
| MARK: CERTIFICATION | MODEL: CERTIFICATION |
| ITEM: SERVICE | QUANTITY: 1 |

ACCUREX AFTERMARKET CERTIFICATION PROGRAM CONFIRMS THE EQUIPMENT IS INSTALLED AND OPERATING ACCORDING TO THE MANUFACTURER'S REQUIREMENTS BY A FACTORY AUTHORIZED SERVICER (FAS). INSTALLATION AND START-UP OF EQUIPMENT PER THE MANUFACTURER'S INSTALLATION AND OPERATIONS MANUAL TO BE PERFORMED BY OTHERS PRIOR TO THIS SERVICE. A WRITTEN REPORT WILL BE PROVIDED AFTER THIS SERVICE IS COMPLETED.

TRIP QUANTITY: 1

ONE TRIP TO THE JOBSITE INCLUDED FOR THE CERTIFICATION WORK TO BE PERFORMED (TIME ONSITE TBD BASED ON EQUIPMENT SELECTED)

EQUIPMENT INCLUDED IN CERTIFICATION:

- HOOD CONTROLS
- MAU-1
- EF-2 (RESTROOM)
- HOOD-1
- EF-1 (HOOD-1)

| | |
|--|---|
|  ACCUREX | DIRECT CHAIN ACX JOE AYUB JOE.AYUB@ACCUREX.COM (857)272-8727 |
| | PROJECT) 2/19/2025 |
| MARK | CHIPOTLE-STAR RANCH, TX 5132 CERTIFICATION |
|  | |

FIRE SYSTEM INFORMATION

| MARK | MODEL | LOCATION | FLOW POINTS | | SUPPLY LINE | DETECTION | MARK(S) PROTECTED BY FIRE SYSTEM |
|------|-----------------------------|-------------------------------|-----------------------------|-----|-------------|--------------|----------------------------------|
| | | | HOODS | PCU | | | |
| FSS | ANSUL R-102 WET CHEMICAL | CABINET – RIGHT END OF HOOD-1 | 13 UTILIZED 22 AVAILABLE | | CONTINUOUS | FUSIBLE LINK | HOOD-1 SECTION 1 |

FIRE SYSTEM OPTIONS AND ACCESSORIES

FULL INSTALLATION (INCLUDES PRE-PIPED HOOD(S) WITH DETECTION AND FACTORY COORDINATED INSTALL)
 CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS - INCLUDED
 METAL BLOW-OFF CAPS - INCLUDED
 GAS VALVE - INCLUDED - ELECTRICAL SHUTOFF VALVE, 1.5", 110V, 60HZ - PART# 455396
 HOOD SUPPRESSION TANK - INCLUDED - 6 GAL. - [(2) 3.0 TANK(S)]
 REMOTE PULL STATION - STANDARD - FIELD INSTALLATION AT SINGLE POINT OF EGRESS

ANSUL R102 (WET CHEMICAL) FIRE PROTECTION SYSTEM - MODEL FSSC

CONTROL PANEL

NOTES:

WET CHEMICAL FIRE PROTECTION SYSTEM TO BE ANSUL R-102, DESIGNED IN COMPLIANCE WITH UL 300 REQUIREMENTS.

- VERIFICATION OF ALL COOKING EQUIPMENT MAKE, MODEL AND LOCATION REQUIRED FOR ALL FIRE PROTECTION SYSTEMS.
- ALL FIRE SYSTEM PIPING IS STANDARDLY TO THE RIGHT END OF THE HOOD UNLESS A WALL IS LOCATED ON THE RIGHT END.
- ANSUL AUTOMAN RELEASE TO BE LOCATED WITHIN 60" OF HOOD.

THE BASIC FIRE SYSTEM WILL INCLUDE THE FOLLOWING:

- GAS SHUT-OFF VALVE, IF REQUIRED, TO BE SUPPLIED BY MANUFACTURER (UP TO 2" DIAMETER AS STANDARD), AND INSTALLED BY A LICENSED PLUMBER.
- MICRO SWITCH TO BE SUPPLIED BY MANUFACTURER FOR CONNECTION TO, BUT NOT LIMITED TO, BUILDING ALARM SYSTEM(S), EXHAUST AND SUPPLY FANS AND ELECTRICAL POWER SHUT DOWN. FIELD WIRING AND CONNECTIONS TO BE PERFORMED BY A LICENSED ELECTRICIAN.

THE BASIC FIRE SYSTEM DOES NOT INCLUDE THE FOLLOWING:

- FULL DUMP TEST OTHER THAN WHAT IS SPECIFIED PER THE INSTALLATION MANUAL, OR TO SATISFY A STATE OR LOCAL CODE. PERMIT AND TESTING FEES ARE NOT INCLUDED UNLESS NOTED UNDER THE EQUIPMENT SCHEDULE FOR THE FIRE SYSTEM.
- MORE THAN TWO TRIPS TO THE JOBSITE OR SPECIAL TRANSPORTATION, OR OVERNIGHT LODGING REQUIREMENTS IN REMOTE AREAS. NORMAL TRAVEL DISTANCE IS FIRST 50 MI. (80.5 KM) FROM OFFICE.
- SPECIAL CLASSES OR ADDITIONAL LABOR FOR ACCESS TO SECURITY SENSITIVE AREAS.
- INSTALLATION OF GAS SHUT-OFF VALVE.
- SPECIAL DRAWINGS REQUIRED TO SATISFY STATE OR LOCAL CODE. PLAN EXAMINATION FEES, PE OR FS APPROVAL STAMP.
- UNION LABOR, GOVERNMENT LABOR, OR PREVAILING WAGES REQUIRED FOR FINAL FIELD HOOK-UP.
- ANY AND ALL ELECTRICAL COMPONENTS/CONNECTIONS REQUIRED TO SHUT DOWN FANS, SHUT OFF DEVICE FOR ELECTRIC COOKING EQUIPMENT (SHUNT TRIP BREAKER), OR ACTIVATE AN ALARM SYSTEM, ETC.
- ANY DISMANTLING OR REASSEMBLY REQUIRED TO GAIN ACCESS TO THE FIRE SUPPRESSION PIPING LOCATED ON THE TOP OF THE HOOD.
- ROUGH-IN HIDDEN CONDUIT FOR REMOTE PULL STATION OR GAS VALVE (FLUSH MOUNTED PULL STATION).
- INSTALLATION OF MORE THAN (1) REMOTE PULL STATIONS OR DISTANCES GREATER THAN 20 FT (6.1M).
- PARTS OR LABOR REQUIRED TO CORRECT PIPING DUE TO COOKING EQUIPMENT CHANGES OR DEVIATION FROM PLANS. OR ANY CHARGES FOR MISSING OR ADDITIONAL PARTS OTHER THAN THOSE INDICATED ON THE FIRE SUPPRESSION DETAIL.

WIRING DIAGRAM FOR MICRO SWITCHES

NOTES:

IF ELECTRIC RELEASE, BOTH UPPER SWITCHES WILL BE USED FOR ACTUATING ADDITIONAL AUTOMANS (THEY WILL BE WIRED TO EACH OTHER AND TO THE BROWN WIRE ON THE ELECTRIC SOLENOID). THEREFORE, USE ONE OF THE UN-UTILIZED LOWER SWITCHES TO WIRE BACK TO CONTROL PANEL (DO NOT USE EITHER OF THE UPPER SWITCHES).

IF USING LOWER SWITCHES TO WIRE BACK TO CONTROL PANEL, NORMALLY-CLOSED WILL BE BLACK LEAD, AND NORMALLY-OPEN WILL BE BROWN LEAD.

DPDT SWITCHES PROVIDED BY MANUFACTURER MAY BE WIRED PER TYPICAL EXAMPLES SHOWN. VERIFY WITH LOCAL CODES AND EQUIPMENT SUPPLIED AS THE CONNECTION NEEDED FOR YOUR INSTALLATION.

CONNECTION TO BUILDINGS ALARM

CONNECTION TO KC (PCB) CONTROL PANEL

NOTES:

1. --- DENOTES FIELD INSTALLATION.
 2. ——— DENOTES FACTORY INSTALLATION.

WIRING DIAGRAM FOR MANUAL RESET RELAY (ELECTRIC GAS VALVE ONLY)

ANSUL PN 426151 (FACTORY PN 468825)

NOTES:

**GAS VALVES: "UL LISTED ELECTRICALLY-OPERATED SAFETY VALVE FOR NATURAL OR LP GAS AS NEEDED OF APPROPRIATE PRESSURE AND TEMPERATURE RATING, 110/60/1/2" OR ANSUL GAS VALVES, PART NUMBERS 13707, 13708, 13709, 13710 AND 17643.

SEE ANSUL MANUAL SECTION 5 - INSTALLATION INSTRUCTIONS FOR ADDITIONAL WIRING SCHEMATICS FOR MANUAL RESET RELAY.