

H.V.A.C. GENERAL NOTES:

SCOPE: THE SCOPE OF THE WORK IS GENERALLY INDICATED BY THE DRAWINGS AND SUMMARIZED BY THIS SCOPE OF WORK. DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO INDICATE ALL DETAILS OF THE INSTALLATION OF MECHANICAL WORK. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE ACTUAL CONDITIONS AND REQUIREMENTS FOR THE INSTALLATION OF THE WORK. WHERE INFORMATION REQUIRED TO PROVIDE A COMPLETE WORK IS OMITTED OR UNCLEAR, THE CONTRACTOR IS RESPONSIBLE FOR REQUESTING A CLARIFICATION FROM THE ENGINEER PRIOR TO SUBMISSION OF BIDS. BIDDING CONTRACTORS MUST VISIT THE SITE, REVIEW ALL CONSTRUCTION DOCUMENTS, AND OBTAIN WRITTEN COPIES OF ALL REFERENCED CODES AND ORDINANCES PRIOR TO SUBMITTING BIDS. NO ALLOWANCE WILL BE MADE FOR ADVERSE CONDITIONS WHICH WERE ASCERTAINABLE PRIOR TO BID TIME.

CODES & STANDARDS: BIDDING CONTRACTORS MUST VISIT THE SITE, REVIEW ALL CONSTRUCTION DOCUMENTS, AND OBTAIN WRITTEN COPIES OF ALL REFERENCED CODES AND ORDINANCES PRIOR TO SUBMITTING BIDS. NO ALLOWANCE WILL BE MADE FOR ADVERSE CONDITIONS WHICH WERE ASCERTAINABLE PRIOR TO BID TIME.

MECHANICAL CODE COMPLIANCE: COMPLY WITH THE REQUIREMENTS OF THE 2012 INTERNATIONAL MECHANICAL CODE AND ALL LOCAL AMENDMENTS IN THE PERFORMANCE OF MECHANICAL WORK REQUIRED FOR THIS PROJECT. ENSURE THAT ALL OUTDOOR AIR INTAKES ARE 10'-0" OR MORE FROM EXHAUSTS, FLUES, PLUMBING VENTS AND OTHER SOURCES OF CONTAMINATION. ALL COMBUSTIBLE MATERIALS INCORPORATED INTO THE PROJECT SHALL HAVE MAXIMUM RATINGS OF 25 FLAME SPREAD AND 50 SMOKE DEVELOPED.

COORDINATION: COORDINATE THE MECHANICAL WORK WITH THE WORK OF THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS. OBTAIN INFORMATION REGARDING THE ROUGH-IN AND FINAL CONNECTION REQUIREMENTS FOR EQUIPMENT TO BE PROVIDED BY THE OWNER OR OTHER CONTRACTORS PRIOR TO COMMENCING WORK. OBTAIN FINAL LOCATIONS OF CEILING GRIDS, LIGHTING FIXTURES, SPRINKLERS, PIPING AND OTHER COMPONENTS THAT WILL AFFECT THE LAYOUT OF HVAC DUCTWORK AND TERMINAL DEVICES PRIOR TO COMMENCING INSTALLATION WORK.

CUTTING & PATCHING: CONTRACTOR SHALL PROVIDE SLEEVES, CURBS, AND PORTALS AS NECESSARY TO MINIMIZE THE NEED TO CUT STRUCTURAL COMPONENTS. PROVIDE LABOR, EQUIPMENT AND SPECIAL SERVICES NECESSARY TO CREATE OPENING NECESSARY FOR THE PASSAGE OF PIPING, DUCTWORK, AND OTHER MECHANICAL WORK. APPLY A ROUGH PATCH TO CLOSE OFF UNUSED PORTIONS OF OPENINGS USING MATERIALS THAT ARE SUBSTANTIALLY SIMILAR TO THAT OF THE ADJACENT STRUCTURE. NO STRUCTURAL COMPONENTS MAY BE CUT WITHOUT 24-HOUR PRIOR WRITTEN APPROVAL OF ARCHITECT/ENGINEER.

MATERIALS, EQUIPMENT, AND SUBMITTALS: PROVIDE MATERIALS AND EQUIPMENT OF THE TYPE SIZE, CAPACITY, AND QUANTITY INDICATED BY THESE DOCUMENTS. WHERE MATERIAL SPECIFICATIONS ARE NOT INDICATED, PROVIDE MATERIALS THAT COMPLY WITH THE HIGHEST QUALITY INDUSTRY STANDARD. IF NO SUCH STANDARD EXISTS, CONTACT THE ARCHITECT/ENGINEER TO ASCERTAIN THE APPROPRIATE SPECIFICATION.

SUBSTITUTIONS: THE OWNER WILL CONSIDER SUBSTITUTIONS OF THE "DESIGN BASIS" SPECIFICATION WHERE GREATER VALUE CAN BE ACHIEVED. OBTAIN THE WRITTEN PERMISSION OF THE ARCHITECT/ENGINEER PRIOR TO MAKING ANY SUBSTITUTIONS AND TAKE RESPONSIBILITY FOR THE DIMENSIONAL AND PERFORMANCE CONSTRAINTS IMPOSED BY THE SUBSTITUTED EQUIPMENT/MATERIAL.

H.V.A.C. EQUIPMENT: ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, PROVIDING AN EFFECTIVE MEANS OF ISOLATING VIBRATIONS GENERATED BY EQUIPMENT FROM DUCTWORK, PIPING, CONDUITS, AND THE BUILDING STRUCTURE.

HVAC ON ROOF: PROVIDE MANUFACTURED CURBS, EQUIPMENT, RAILS, PORTALS, PIPE SUPPORTS AND OTHER ROOF MOUNTING NECESSARY. SECURE MOUNT THE EQUIPMENT WHILE PROTECTING THE ROOF FROM DAMAGE. FLASH, COUNTER-FLASH AND SEAL ALL OPENINGS TO ENSURE A WATERTIGHT ENVELOPE.

REFRIGERANT PIPING: PROVIDE TYPE L-ACR HARD TEMPER COPPER TUBING AND WROUGHT COPPER REFRIGERATION TYPE FITTINGS FOR ALL REFRIGERANT PIPING. BRAZE ALL JOINTS TO WITHSTAND MINIMUM 500 PSIG PRESSURE. PURGE REFRIGERANT PIPES WITH DRY NITROGEN AFTER INSTALLATION AND EVACUATE SYSTEM TO 250 MICRONS FOR A PERIOD OF 24 HOURS PRIOR TO CHARGING SYSTEMS. CHARGE SYSTEMS WITH REFRIGERANT INDICATED IN EQUIPMENT SCHEDULES AS REQUIRED TO OBTAIN PROPER OPERATING PRESSURES DURING NORMAL OPERATION. PROVIDE ALL DX SYSTEMS REFRIGERANT PIPING WITH PRESSURE GAUGES. PROVIDE A LIQUID LINE FILTER-DRIER AND MOISTURE INDICATING SIGHT GLASS FOR EACH SYSTEM, AS WELL AS OTHER REFRIGERATION SPECIALTIES INDICATED ON DRAWINGS. TEST SYSTEMS AFTER STARTUP FOR LEAKS, AND REPAIR ALL LEAKS FOUND AND CLEAN & RECHARGE SYSTEMS ANEW. PROVIDE UNICELLULAR RUBBER INSULATION ON SUCTION PIPING AND COLD REFRIGERATION EQUIPMENT, WITH A MINIMUM THICKNESS OF 3/8" INDOORS AND 3/4" OUTDOORS. PROVIDE A TRAPPED CONDENSATE DRAIN FOR EACH EVAPORATOR COIL, SIZED TO THE

DUCTWORK NOTES:

SHEET METAL WORK

- EXCEPT AS OTHERWISE SHOWN OR NOTED, ALL SUPPLY AND RETURN AIR DUCTWORK AND OTHER SHEET METAL WORK SHALL BE G90 GALVANIZED SHEET STEEL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC.). DUCT CONSTRUCTION STANDARDS. PRESSURE CLASSIFICATION 2 IN. W.C.
- PROVIDE EXTERNAL INSULATION FOR CONCEALED DUCTWORK IN KITCHEN AND RESTROOMS.
- APPLY LINER IN ACCORDANCE WITH MANUFACTURER'S AND SMACNA RECOMMENDATIONS. ALL TRANSVERSE EDGES, OR ANY EDGES EXPOSED TO AIRFLOW SHALL BE COATED WITH AN APPROVED DUCT LINER COATING MATERIAL SUCH AS JOHNS MANVILLE SUPERSEAL PRODUCTS. JOINTS SHALL BE NEATLY BUTTERED AND THERE SHALL BE NO INTERRUPTIONS OR GAPS.
- EXPOSED DUCT AND FITTINGS SHALL BE PROVIDED WITH A MILL FINISH ("PAINT GRIP", "ZINC GRIP" OR SIMILAR ETCH TREATMENT) TO ALLOW THE DUCTWORK TO BE PAINTED.
- TURNING VANES: GALVANIZED STEEL, SMALL DOUBLE-THICKNESS VANES WITH 2 IN. INSIDE RADIUS.
- ALL FLEXIBLE DUCTWORK SHALL BE STRETCHED AND SUSPENDED IN ACCORDANCE WITH LOCAL CODE. SUPPORT EVERY 3' WITH 2" WIDE GALVANIZED STEEL BANDS (MAX. SAG 1/2" BETWEEN SUPPORTS). MAXIMUM LENGTH OF DUCT SHALL BE SIX (6) FEET (KITCHEN ONLY - NO FLEX IN DINING ROOM).
- ALL DUCTWORK IN KITCHEN SHALL BE INSTALLED AS HIGH AS POSSIBLE AND TIGHT TO STRUCTURE, UNLESS NOTED OTHERWISE.
- COORDINATE BRANCH DUCT LOCATIONS WITH TRUSS WEBS AND ROOF SCREEN POSTS.
- DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF DUCTWORK TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ARCHITECT. COORDINATION WITH OTHER TRADES IS REQUIRED.
- ALL DUCT SIZES SHOWN ARE INSIDE. FREE AREA DIMENSIONS REQUIRED FOR PROPER AIRFLOW. UNLESS SPECIFICALLY INDICATED, ALL DUCT TRANSITIONS SHALL BE SMOOTH AND GRADUAL WITH MAXIMUM DIVERGENT ANGLE OF 30°.
- SUPPORT ALL DUCTWORK FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OR SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING.
- PROVIDE VOLUME DAMPER AT CONNECTION OF DIFFUSER BRANCH INCLUDING THOSE CONNECTING TO THE BOTTOM OF MAIN TRUNK.
- PROVIDE TURNING VANES IN ALL ELBOWS IN SUPPLY AIR DUCT
- NO FLEXIBLE DUCTWORK SHALL BE ALLOWED ABOVE INACCESSIBLE CEILINGS.
- ALL DUCTWORK SHALL BE SEALED TO COMPLY WITH INTERNATIONAL ENERGY CONSERVATION CODE 2012 403.2.2 REQUIREMENTS AND LEAK TESTED WITH DUCT LEAKAGE < 6 CFM/100 FT2 AS INDICATED IN CODE.

CONNECTION PROVIDED AND RUN OUT TO AN APPROPRIATE SANITARY DRAIN CONNECTION, OR SUITABLE FRENCH DRAIN, WITH A MINIMUM 2" AIR GAP.
PIPING INSULATION: PROVIDE 1 1/2" THICK FIBERGLASS PIPE INSULATION WITH ALL-SERVICE JACKET (ASTM C-547, C-921, TYPE I or II AS APPROPRIATE FOR TEMPERATURE) ON ALL PIPING WHERE FLUIDS TEMPERATURE ARE MORE THAN 10°F BELOW AMBIENT OR MORE THAN 25°F ABOVE AMBIENT TEMPERATURE. PROVIDE PRESSURE SENSITIVE TAPE, MASTIC, OR OTHER MATERIALS AS MAY BE REQUIRED TO MAINTAIN A CONTINUOUS VAPOR BARRIER THROUGHOUT THE SYSTEM. PROVIDE PRE-MOLDED PVC COVERS AT ALL FITTINGS. JACKETS AND VAPOR BARRIER MATERIALS MUST MEET LOCAL ORDINANCE REQUIREMENTS FOR FLAME SPREAD AND SMOKE DEVELOPED RATINGS. (SEE FLOOR PLANS FOR INSULATION REQUIREMENTS AT SPECIAL SYSTEMS.)

INSTRUMENTATION: PROVIDE THERMOMETERS, THERMOWELLS, PRESSURE GAUGES, FLOW INDICATORS, CALIBRATED BALANCING VALVES, P&T PLUGS, AND OTHER INSTRUMENTATION INDICATED ON THE DRAWINGS. IN THE ABSENCE OF SUCH INDICATION, PROVIDE, AT MINIMUM, THERMOWELLS AND THERMOMETERS AT EACH ITEM OF HEAT TRANSFER EQUIPMENT (BOILER, CHILLER, COOLING TOWER, COIL, HEAT EXCHANGER, ETC.) AND PRESSURE GAUGES WITH GAUGE COCKS AND SNUBBERS, AT ITEM OF HEAT TRANSFER EQUIPMENT AND EACH PRIME MOVER (PUMP, FAN, ETC.).

IDENTIFICATION: PROVIDE MECHANICAL SYSTEMS IDENTIFICATION TO INDICATE THE TAG, TYPE, FLOW, TEMPERATURE RANGE, CAPACITY, ETC. OF EACH ITEM OF EQUIPMENT AND ALL CONVEYANCES (DUCTWORK AND PIPING SYSTEMS). PROVIDE ENGRAVED PLASTIC LAMINATE PLATES FOR EQUIPMENT, "SNAP-ON" PIPE MARKERS FOR PIPING, AND ADHESIVE BACKED PLASTICIZED MARKERS FOR DUCTWORK. PROVIDE ENGRAVED PLASTIC LAMINATE VALVE TAGS AT EACH VALVE AND A VALVE TAG SCHEDULE FRAMED UNDER GLASS.

CONTROLS: PROVIDE ALL CONTROL DEVICES, CONDUIT, CONDUCTORS, AND ACCESSORIES REQUIRED TO FURNISH AND INSTALL A COMPLETE AND OPERATING SYSTEM OF TEMPERATURE CONTROLS TO ACCOMPLISH THE INDICATED SEQUENCE OF OPERATION.

SAFETY DEVICES: ALL AIR MOVING EQUIPMENT WITH RATED AIRFLOW CAPACITY OF 2000 CFM OR GREATER SHALL BE EQUIPPED WITH A RETURN-AIR DUCT-MOUNTED SMOKE DETECTOR. WHERE THE AIRFLOW CAPACITY EXCEEDS 15,000 CFM, PROVIDE SMOKE DETECTORS AT THE SUPPLY AND RETURN DUCTS. WHEN THE DETECTOR SENSES AIRBORNE SMOKE IN THE DUCTS, THE DEVICE SHALL SHUT DOWN THE ASSOCIATED FAN. THE DEVICE SHALL INCLUDE AN AUXILIARY DRY CONTACT FOR FIRE ALARM SYSTEM INTERLOCK, WHERE PROVIDED. PROVIDE A MAGNETICALLY ACTUATED SMOKE DETECTOR TEST STATION FOR EACH SMOKE DETECTOR, LOCATED ON A WALL, 54" A.F.F., AS DIRECTED BY THE FIRE AUTHORITY HAVING JURISDICTION.

AIR TEST & BALANCE: PROVIDE THE SERVICES OF A TECHNICIAN, QUALIFIED AND EXPERIENCED IN THE FIELD OF H.V.A.C. SYSTEMS COMMISSIONING TO INITIATE, QUANTIFY, ADJUST AND CALIBRATE THE OPERATION OF THE INSTALLED SYSTEMS. PERFORM COMMISSIONING WORK IN ACCORDANCE WITH THE STANDARDIZED METHODOLOGY SET FORTH IN ASHRAE GUIDELINE 1-1996 "THE HVAC COMMISSIONING PROCESS". PRIOR TO COMMISSIONING, REPLACE ALL AIR FILTER MEDIA. USE MINIMUM MERV-13 FILTERS FOR LEED-CERTIFIABLE PROJECTS, AND MINIMUM MERV-8 FOR OTHER PROJECTS. SUBMIT COMMISSIONING REPORTS WITHIN 3 DAYS OF METHODOLOGY COMPLETION. THE PROJECT SHALL BE DEEMED SUBSTANTIALLY COMPLETE WHEN THE WORK OR A DESIGNATED PORTION THEREOF IS SUFFICIENTLY COMPLETE, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, SO THAT THE OWNER MAY OCCUPY THE WORK OR DESIGNATED PORTION THEREOF FOR THE USE FOR WHICH IT IS INTENDED.

CONTRACT CLOSEOUT: PROVIDE EVIDENCE THAT ALL CONTRACTUAL OBLIGATIONS HAVE BEEN MET, INCLUDING, BUT NOT NECESSARILY LIMITED TO, PROVIDING "AS-BUILT" DRAWINGS, SYSTEM COMMISSIONING REPORTS, OPERATING AND MAINTENANCE MANUALS, TRAINING OF PERSONNEL, FULLY EXECUTED PUNCHLIST, WARRANTIES, EXTENDED WARRANTIES, AND OTHER DOCUMENTS THAT MAY BE PERTINENT TO THE MECHANICAL PORTION OF THE PROJECT.

WARRANTY: THE CONTRACTOR SHALL WARRANT THE WORK PROVIDED AS PART OF THIS PROJECT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE COMMISSIONING ACCEPTANCE DATE. PROVIDE EVIDENCE OF ALL EXTENDED WARRANTIES AVAILABLE FROM EQUIPMENT MANUFACTURERS.

KITCHEN HOOD EXHAUST DUCTS

- GREASE DUCTS SERVING TYPE I HOODS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SMACNA, NFPA 96, AND 2009 INTERNATIONAL MECHANICAL CODE.
- MATERIAL - BLACK IRON WELDED LIQUID TIGHT NOT LESS THAN 0.055 INCH (NO. 16 GAGE) IN THICKNESS OR STAINLESS STEEL NOT LESS THAN 0.044 INCH (NO. 18 GAGE) IN THICKNESS. JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID-TIGHT WELD OR BRAZE MADE ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM.
- ALL TURNS IN KITCHEN EXHAUST DUCT SHALL BE ACHIEVED WITH THE USE OF A 1.5 RADIUS/WIDTH SMOOTH RADIUS ELBOW. ACCESS DOORS IN GREASE DUCT SHALL BE PLACED AT EVERY CHANGE IN DIRECTION AND SHALL BE DUCTMATE HIGH TEMP (FOR GREASE DUCT) OR EQUAL AND MEET NFPA-96 STANDARDS.
- A PERFORMANCE TEST SHALL BE CONDUCTED UPON COMPLETION AND BEFORE FINAL APPROVAL OF THE INSTALLATION OF A VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES. THE TEST SHALL VERIFY THE RATE OF EXHAUST AIRFLOW REQUIRED BY SECTION 507.13, MAKEUP AIRFLOW REQUIRED BY SECTION 508, AND PROPER OPERATION AS SPECIFIED IN CHAPTER 5 OF THE MECHANICAL CODE (INCLUDING CAPTURE AND CONTAINMENT TEST). THE PERMIT HOLDER SHALL FURNISH THE NECESSARY TEST EQUIPMENT AND DEVICES REQUIRED TO PERFORM THE TESTS.
- ALL HORIZONTAL GREASE DUCT IS TO SLOPE 1/4" PER FOOT PER NFPA 96, 2007 EDITION.
- CONTRACTOR TO PROVIDE AND INSTALL ALL CODE REQUIRED FIRE RATED ACCESS DOORS IN GREASE DUCTS AT ALL LOCATIONS REQUIRED BY CODE AND LOCAL AUTHORITY HAVING JURISDICTION.
- PROVIDE CLEANOUTS IN ALL KITCHEN EXHAUST DUCTWORK AT EVERY CHANGE OF DIRECTION AND AT EVERY 12' OF DUCT. PROVIDE ACCESS PANELS AT ALL GREASE DUCT CLEANOUTS.
- COORDINATE EXACT LOCATION OF SUPPLY AIR DUCTWORK IN THE KITCHEN AREA WITH ALL THREAD SUPPORTS FROM HOODS.

| RESTROOM FAN SCHEDULE | | | | | | | | | | |
|-----------------------|-------------------|----------|------------------|-------------|-----------------|------|----------|------------|---------------------|--|
| TAG | MFR MODEL No. | FAN TYPE | SERVICE | AIRFLOW CFM | T.S.P. in. W.C. | RPM | MOTOR HP | ELECTRICAL | ACCESSORIES/REMARKS | |
| EF-1 | GREENHECK SP-B150 | CEILING | RESTROOM EXHAUST | 150 | 0.25 | 1050 | 128W | 115/1Ø | BDD, SED | |
| EF-2 | GREENHECK SP-A200 | CEILING | RESTROOM EXHAUST | 200 | 0.25 | 900 | 172W | 115/1Ø | BDD, SED | |
| EF-3 | GREENHECK SP-A90 | CEILING | RESTROOM EXHAUST | 50 | 0.25 | 900 | 15W | 115/1Ø | BDD, SED | |

FAN ACCESSORIES LEGEND: BDD - BACKDRAFT DAMPER SED - STARTER EQUIPPED DISCONNECT

PACKAGED UNIT SCHEDULE

| TAG | MANUFACTURER MODEL | FAN DATA | | | | | COMPRESSOR DATA | | | | DX COOLING PERFORMANCE | | | | HEATING PERFORMANCE | | | | ELECTRICAL DATA | | | | MISC. DATA | | ACCESSORIES | | |
|-------|--------------------------|------------|----------|--------|----|------|-----------------|-----|--------|-------------|------------------------|-------|---------|---------|---------------------|--------|-----------|------------|-----------------|-----|----------|------|------------|-------------|-------------|-------------|--|
| | | SUPPLY CFM | VENT CFM | E.S.P. | HP | RPM | COMPR TYPE | QTY | REFRIG | CHARGE LBS. | THC | SHC | EDB EWB | LDB LWB | MIN. E.E.R. | STAGES | MBH INPUT | MBH OUTPUT | EAT | LAT | V/PHz | MCA | MAX C/B | OPER WT LBS | | FILTER TYPE | SOUND dB |
| RTU-1 | YSC060E3EYB**C000B2B003A | 1800 | 495 | 0.7" | 1 | 1750 | SCROLL | 1 | R-410A | 9.4 | 62.3 | 48.1 | 80/67 | 55/54 | 11 | 1 | 80 | 64 | - | - | 208/3/60 | 27.4 | 40 | 900 | 2" PLEAT | 82 | COAS, 24CB, GFCI, 5TDR, RASD, FRST, CRHT, NSBT, LOWL, HUMI, MOAD |
| RTU-2 | YSD180F3RX00F000B28001A0 | 5000 | 922 | 0.7" | 3 | 1740 | SCROLL | 2 | R-410A | 11.4/6.0 | 186.1 | 139.1 | 80/67 | 55/54 | 11 | 2 | 250 | 203 | - | - | 208/3/60 | 75 | 100 | 2400 | 2" PLEAT | 92 | COAS, 24CB, GFCI, 5TDR, RASD, FRST, CRHT, NSBT, LOWL, HUMI, MOAD |
| RTU-3 | YSD180F3RX00F000B28001A0 | 5000 | 922 | 0.7" | 3 | 1740 | SCROLL | 2 | R-410A | 11.4/6.0 | 186.1 | 139.1 | 80/67 | 55/54 | 11 | 2 | 250 | 203 | - | - | 208/3/60 | 75 | 100 | 2400 | 2" PLEAT | 92 | COAS, 24CB, GFCI, 5TDR, RASD, FRST, CRHT, NSBT, LOWL, HUMI, MOAD |
| RTU-4 | YSD180F3RX00F000B28001A0 | 5000 | 1000 | 0.7" | 3 | 1740 | SCROLL | 2 | R-410A | 11.4/6.0 | 186.1 | 139.1 | 80/67 | 55/54 | 11 | 2 | 250 | 203 | - | - | 208/3/60 | 75 | 100 | 2400 | 2" PLEAT | 92 | COAS, 24CB, GFCI, 5TDR, RASD, FRST, CRHT, NSBT, LOWL, HUMI, MOAD, LOAC |

ACCESSORIES:
HUMI - HUMIDISTAT
24CB - 24" HIGH CURB
MOAD - MANUAL OUTSIDE AIR DAMPER
LOWL - LOW LIMIT CONTROL

GFCI - SERVICE RECEPTACLE - GFCI
5TDR - 5 MIN. TIME DELAY RELAY
RASD - RETURN AIR SMOKE DETECTOR
SASD - SUPPLY AIR SMOKE DETECTOR

FRST - FROSTAT
CRHT - CRANKCASE HEATER
NSBT - NIGHT SETBACK THERMOSTAT
LOAC - LOW AMBIENT COOLING TO 20°F

TEMPERATURE CONTROL SEQUENCE OF OPERATION:

PACKAGED ROOFTOP AIR CONDITIONING SYSTEMS:

- THE TEMPERATURE CONTROL SYSTEM FOR PACKAGED SYSTEMS SHALL BE MICROPROCESSOR-BASED WITH REMOTELY MOUNTED ZONE TEMPERATURE SENSING DEVICES. EACH H.V.A.C. SYSTEM SHALL BE CONTROLLED INDEPENDENTLY OF THE OTHERS. IF THE CONTROL SYSTEM DOES NOT HAVE TIME CLOCK CAPABILITY, PROVIDE A PROGRAMMABLE SEVEN-DAY TIME CLOCK TO PROVIDE "OCCUPIED" AND "UNOCCUPIED" STATUSES TO THE CONTROL SYSTEM.
- ALL DEVICES SHALL BE MOUNTED ON NEMA RATED ELECTRICAL BOXES AND ALL CONDUCTORS SHALL BE CONTAINED WITHIN E.M.T. CONDUIT. DO NOT RUN LOW VOLTAGE CONTROL WIRING IN CONDUITS WITH LINE VOLTAGE POWER WIRING.
- THE ZONE TEMPERATURE SENSING DEVICES SHALL BE MOUNTED WITHIN THE ASSOCIATED CONDITIONED SPACE, AT 54" ABOVE THE FINISHED FLOOR UNLESS NOTED, AND SHALL INCLUDE AN INTEGRAL TEMPERATURE SENSOR AND MANUALLY OR AUTOMATICALLY OPERATED "FAN" AND "SYSTEM" SWITCHES. WHERE INDICATED ON PLANS, PROVIDE MULTIPLE REMOTE TEMPERATURE SENSORS IN AN ARRAY WIRED TO THE CENTRAL THERMOSTAT.
- THE UNIT SUPPLY FAN SHALL OPERATE CONTINUOUSLY. OUTDOOR AIR INTAKE DAMPERS SHALL OPEN TO MINIMUM POSITION WHENEVER THE SUPPLY FAN OPERATES.
- WHEN THE SYSTEM SWITCH IS SET TO "COOL" AND THE SPACE TEMPERATURE RISES ABOVE THE SETPOINT, THE REFRIGERATION COMPRESSOR(S) SHALL START IN A STAGED SEQUENCE TO PROVIDE COOLED AIR TO THE SPACE UNTIL THE SETPOINT TEMPERATURE IS SATISFIED, AT WHICH TIME THE COMPRESSOR(S) SHALL STOP IN A STAGED SEQUENCE.
- IN OCCUPIED SPACES, WHEN THE SYSTEM SWITCH IS SET TO "HEAT" AND THE SPACE TEMPERATURE DROPS BELOW THE SETPOINT, THE GAS HEATER SHALL OPERATE (IN A STAGED SEQUENCE IF APPLICABLE) TO PROVIDE HEATED AIR TO THE SPACE UNTIL THE SETPOINT TEMPERATURE IS SATISFIED, AT WHICH TIME THE HEATER SHALL TURN OFF IN A STAGED SEQUENCE.
- PROVIDE A REVERSE-ACTING HUMIDISTAT IN OCCUPIED SPACES. WHENEVER THE HUMIDITY RISES ABOVE THE HIGH LIMIT SETPOINT, OPERATE ALL STAGES OF MECHANICAL COOLING. SEQUENCE THE GAS HEATER ON AS NECESSARY TO PREVENT SUB-COOLING OF THE SPACE TEMPERATURE.
- IN ADDITION TO STANDARD SAFETY DEVICES PROVIDED BY THE EQUIPMENT MANUFACTURERS, PROVIDE A DUCT MOUNTED SMOKE DETECTOR IN THE RETURN AIR DUCT OF EACH UNIT WITH A SUPPLY AIR FLOW OF 2000 CFM OR GREATER. PROVIDE A SECOND DUCT-MOUNTED SMOKE DETECTOR IN THE SUPPLY AIR DUCT OF EACH UNIT WITH A SUPPLY AIR FLOW OF 15000 CFM OR GREATER. PROVIDE AUXILIARY N.C. CONTACTS FOR CONNECTION TO A FIRE ALARM SYSTEM. PROVIDE AN AUXILIARY INTERLOCK FROM THE FIRE ALARM SYSTEM TO SHUT DOWN THE UNIT SUPPLY FAN(S) AND CLOSE ALL DAMPER(S) ON A FIRE CONDITION SIGNAL.

| AIR CURTAIN SCHEDULE | | | | | | | | | | |
|----------------------|----------------------|----------|---------|--------|------|-----------------|-----|-------------|-----------|------------------|
| TAG | MANUFACTURER MODEL | FAN DATA | | | | ELECTRICAL DATA | | MISC. DATA | | ACCESSORIES |
| | | MAX CFM | MAX FPM | HP | RPM | V/PHz | FLA | OPER WT LBS | SOUND DBA | |
| AC-1 | BERNER SLC07-2084A | 2100 | 1800 | 2Ø 1/5 | 1550 | 120/1/60 | 6.8 | 75 | 53 | DS, CP, SW, SPCT |
| AC-2 | BERNER SLC07-2084A | 2100 | 1800 | 2Ø 1/5 | 1550 | 120/1/60 | 6.8 | 75 | 53 | DS, CP, SW, SPCT |
| AC-3 | BERNER SLC07-1036A | 1200 | 1800 | 1/5 | 1550 | 120/1/60 | 3.4 | 75 | 40 | DS, DLS, SW |
| AC-4 | BERNER SLC07-1036A | 1200 | 1800 | 1/5 | 1550 | 120/1/60 | 3.4 | 75 | 40 | DS, DLS, SW |
| AC-5 | BERNER IDC12-1048A-1 | 1500 | 5200 | 1/2 | 1550 | 120/1/60 | 6.8 | 75 | 48 | DS, DLS, SW |

FAN ACCESSORIES LEGEND: SW - MANUAL SWITCH CP - CONTROL PANEL DS - DISCONNECT SWITCH DLS - DOOR LIMIT SWITCH
SW - MANUAL SWITCH SPCT - SPEED CONTROLLER
NOTE: AIR CURTAINS PROVIDED BY KITCHEN EQUIPMENT VENDOR

2012 INTERNATIONAL MECHANICAL CODE VENTILATION SCHEDULE

| SPACE NAME | USE OF SPACE | FLOOR AREA SQ. FT. | OCCUPANT DENSITY (PEOPLE/1000 SQ. FT.) | TOTAL PEOPLE | PEOPLE OUTDOOR AIRFLOW RATE (CFM/PERSON) | PEOPLE OUTSIDE AIR CFM | AREA OUTDOOR AIRFLOW RATE (CFM/SQ. FT.) | AREA OUTSIDE AIR CFM | TOTAL OUTSIDE AIR CFM | EXHAUST RATE (CFM/SQ. FT.) | EXHAUST AIR CFM |
|------------------|--------------|--------------------|--|--------------|--|------------------------|---|----------------------|-----------------------|----------------------------|-----------------|
| INDOOR WAITING | LOBBY | 326 | 50 | 16 | 5 | 82 | 0.06 | 20 | 101 | - | - |
| GAME ROOM | GAME ARCADE | 110 | 20 | 2 | 7.5 | 17 | 0.18 | 20 | 36 | - | - |
| BANQUET | DINING ROOM | 270 | 70 | 19 | 7.5 | 142 | 0.18 | 49 | 190 | - | - |
| DINING | DINING ROOM | 2100 | 70 | 147 | 7.5 | 1103 | 0.18 | 378 | 1481 | - | - |
| PORCH | DINING ROOM | 700 | 70 | 49 | 7.5 | 368 | 0.18 | 126 | 494 | - | - |
| MENS | RESTROOM | 170 | - | - | - | - | - | - | - | 50 CFM PER FIXTURE | 200 |
| WOMEN'S | RESTROOM | 150 | - | - | - | - | - | - | - | 50 CFM PER FIXTURE | 150 |
| KITCHEN | KITCHEN | 1720 | - | - | - | - | - | - | - | 0.7 | 1204 |
| TO-GO | LOBBY | 115 | 50 | 6 | 5 | 29 | 0.06 | 7 | 36 | - | - |
| KITCHEN RESTROOM | RESTROOM | 60 | - | - | - | - | - | - | - | 50 CFM PER FIXTURE | 50 |
| OFFICE | OFFICE | 125 | 5 | 1 | 5 | 3 | 0.06 | 8 | - | - | - |
| DRY STORAGE | STORAGE | 330 | - | - | - | - | 0.12 | 40 | 40 | - | - |
| BUILDING TOTALS | | 6176 | | | | 1742 | | 646 | 2377 | | 1604 |

DIFFUSER AND GRILLE SCHEDULE

| TAG | MFR MODEL | MOUNTING & TYPE | BORDER | FACE | MATERIAL | FINISH | OBD | ACCESSORIES / REMARKS |
|-----|---------------|-------------------------------------|--------|------------|----------|--------------|-----|--|
| D1 | TITUS TMS-AA | LAY-IN, ROUND NECK SUPPLY DIFFUSER | TYPE 3 | LOUVERED | ALUMINUM | #26 WHITE | YES | 2x2 MODULE |
| D2 | TITUS TDCA-AA | SURFACE, RECT. NECK SUPPLY DIFFUSER | TYPE 6 | LOUVERED | ALUMINUM | #26 WHITE | YES | DROP FACE, ADJUSTABLE CORE |
| R1 | TITUS 300FS | SURFACE MTD SUPPLY REGISTER | - | ADJ. BLADE | ALUMINUM | #26 WHITE | YES | DOUBLE DEFLECTION |
| D4 | S300FL | SPIRAL DUCT MTD. SUPPLY GRILLE | TYPE 1 | BLADE | ALUMINUM | #01 ALUMINUM | YES | DOUBLE DEFLECTION, PAINTED BLACK COORDINATE W/ ARCHITECT |
| G1 | TITUS 50F-NT | LAY-IN RETURN/EXHAUST GRILLE | TYPE 3 | EGGCRATE | ALUMINUM | #26 WHITE | NO | 1/2" x 1/2" ALUM. GRID |
| G2 | TITUS 50F | SURFACE MTD RETURN/EXHAUST GRILLE | TYPE 1 | EGGCRATE | ALUMINUM | #26 WHITE | YES | 1/2" x 1/2" ALUM. GRID |
| F1 | TITUS FL20 | LINEAR SLOT DIFFUSER | - | FLAT | ALUMINUM | #26 WHITE | YES | TWO SLOT, 48" LENGTH, SUPPLY PLENUM ACCESSORY |

| DUCTWORK LEGEND | |
|-----------------|---|
| | SQUARE TO ROUND SIDE TAKEOFF WITH MANUAL VOLUME DAMPER |
| | LAY-IN DIFFUSER WITH FLEX. DUCT CONN. (5'-0" MAX. LENGTH) |
| | RADIUS ELBOW R=1/2 DUCT WIDTH MINIMUM |
| | SQUARE ELBOW WITH ACOUSTIC TURNING VANES |
| | ECCENTRIC TRANSITION X=30" MAXIMUM |
| | CONCENTRIC TRANSITION X=30" MAXIMUM |
| | TRANSITION FLAT ON TOP |
| | TRANSITION FLAT ON BOTTOM |
| | OFFSET UP OR DOWN AS INDICATED |
| | MANUAL VOLUME DAMPER WITH LOCKING QUADRANT |
| | MOTOR OPERATED OPPOSED BLADE CONTROL DAMPER |
| | SUPPLY DUCT UP |
| | SUPPLY DUCT DOWN |
| | RETURN/EXHAUST DUCT UP |
| | |

GENERAL NOTES:

- THIS DRAWING IS DIAGRAMMATICAL. COORDINATE ALL DUCT SIZES, TURNS, DROPS AND LOCATIONS WITH EXISTING CONDITIONS TO ENSURE NO CONFLICTS. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT, AS SHOWN ON THESE DRAWINGS, WILL NOT CONFLICT WITH ANY DRAINS, SCUTTLES, JOINTS, VENTS, ETC.
- COORDINATE ALL DIFFUSER LOCATIONS AND DUCT ROUTES WITH REFLECTED CEILING PLAN TO ENSURE NO CONFLICTS.
- COORDINATE KITCHEN HOOD LAYOUT/CONNECTIONS WITH HOOD VENDOR TO ENSURE NO CONFLICTS.
- ENSURE ALL EXHAUST OUTLETS ARE AT LEAST 10'-0" HORIZONTALLY OR 3'-0" VERTICALLY AWAY FROM ANY INTAKE SOURCES.
- PROVIDE REMOTE TEMPERATURE SENSOR IN RETURN DUCT OF ALL RTU UNITS. LOCATE TEMPERATURE CONTROLS IN OFFICE. COORDINATE WITH OWNER.
- COORDINATE DUCT ROUTE OVER WOMEN'S RESTROOM WITH FAUX KEG COOLER ABOVE. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR MORE INFORMATION.
- UNDERCUT DOOR TO OFFICE 3/4".
- COORDINATE RESPONSIBILITIES OF EXHAUST HOOD AND EQUIPMENT WITH FOOD SERVICE DRAWINGS AND VENDOR.

KEYED NOTES:

- 8"Ø DUCT UP TO GREENHECK GRS-8 OR EQUIVALENT ROOF CAP. PROVIDE ROOF CURB SIZED TO MATCH ROOF CAP, AND COORDINATE CURB WITH ROOF CONSTRUCTION. PROVIDE ALL NECESSARY ACCESSORIES/CONNECTORS TO ENSURE A LEAK FREE INSTALLATION.
- 6"Ø DUCT UP TO GREENHECK GRS-6 OR EQUIVALENT ROOF CAP. PROVIDE ROOF CURB SIZED TO MATCH ROOF CAP, AND COORDINATE CURB WITH ROOF CONSTRUCTION. PROVIDE ALL NECESSARY ACCESSORIES/CONNECTORS TO ENSURE A LEAK FREE INSTALLATION.
- ENSURE BANQUET ROOM R1 GRILLES HAVE A CLEAR PATH TO THE GROUND.
- 20/16 UP TO FAN-3, SEE CAPTIVEAIRE DRAWINGS ON SHEET M3.02 FOR MORE INFORMATION.
- 20/16 UP TO FAN-2, SEE CAPTIVEAIRE DRAWINGS ON SHEET M3.02 FOR MORE INFORMATION.
- 24/24 UP TO FAN-1, SEE CAPTIVEAIRE DRAWINGS ON SHEET M3.02 FOR MORE INFORMATION.
- 26/24 UP TO MAKE-UP AIR UNIT (FAN-4), SEE CAPTIVEAIRE DRAWINGS ON SHEET M3.03 FOR MORE INFORMATION.
- 12/12 DISHWASHER CONDENSATE DUCT UP TO EXHAUST FAN. FAN PROVIDED BY KITCHEN EQUIPMENT VENDOR, 600 CFM. CONNECT TO VENT STACKS ON DISHWASHER. COORDINATE WITH MANUFACTURER. INTERLOCK EXHAUST FAN TO DISHWASHER SO THAT EXHAUST FAN RUNS FOR TWO MINUTES AFTER WASH CYCLE IS COMPLETE, COORDINATE WITH KITCHEN EQUIPMENT VENDOR.
- 8"Ø TAPS TO CAPTIVEAIRE SUPPLY PLENUM HOOD, PROVIDE DAMPERS FOR EACH CONNECTION. COORDINATE WITH CAPTIVEAIRE.
- 20/20 DUCT DOWN FROM RTU-1. FIELD ROUTE (6) 6"Ø TAPS FROM SUPPLY DUCT TO DIFFUSERS THROUGH JOISTS. COORDINATE WITH STRUCTURAL AND ARCHITECTURAL PLANS. DIFFUSERS TO BE FIELD MOUNTED TO STRUCTURAL MEMBERS TO ACHIEVE DESIGN INTENT. PROVIDE MANUAL DAMPER FOR EACH TAP. ALL DIFFUSERS TO HAVE A CLEAR FLOW PATH TO BELOW.
- 10/10 TRANSFER GRILLE TIGHT TO STRUCTURE. COORDINATE WITH ARCHITECTURAL.
- DFC-1 REFRIGERANT PIPING AND CONDENSATE LINE TO BE ROUTED TO ROOF THROUGH WEATHERPROOF PIPE SEAL. CONDENSATE LINE TO TERMINATE AT ROOF DRAIN. PROVIDE CLEANOUTS AT ALL CHANGES IN DIRECTION. DFC-1 TO BE MOUNTED AT 15'-1" TO BOTTOM OF UNIT. DFC-1 TO BE WRAPPED IN BLACK VINYL TO MATCH PAINT SCHEME. VINYL WRAP TO BE DONE BY THIRD-PARTY. COORDINATE WITH ARCHITECT AND WRAP PROVIDER ON IF MOUNTING UNIT PRIOR TO WRAP IS PREFERRED OR NOT. ENSURE DFC-1 DIRECTIONAL VANES ARE POINTING DOWNWARD AND ACROSS ROOM. TEMPERATURE SENSOR AND THERMOSTAT CONTROL FOR UNIT TO BE AT 54" A.F.F. BELOW UNIT.
- COORDINATE SUPPLY GRILLE LOCATIONS WITH TV RIG SUPPORTS. ENSURE NO SUPPLY AIR PATH IS BLOCKED BY RIG MEMBERS.
- FIELD CUT BOTTOM HORIZONTAL LEG OF EDGE ANGLE AS REQUIRED TO FIT DUCT SNUG TO BOTTOM OF DECK.

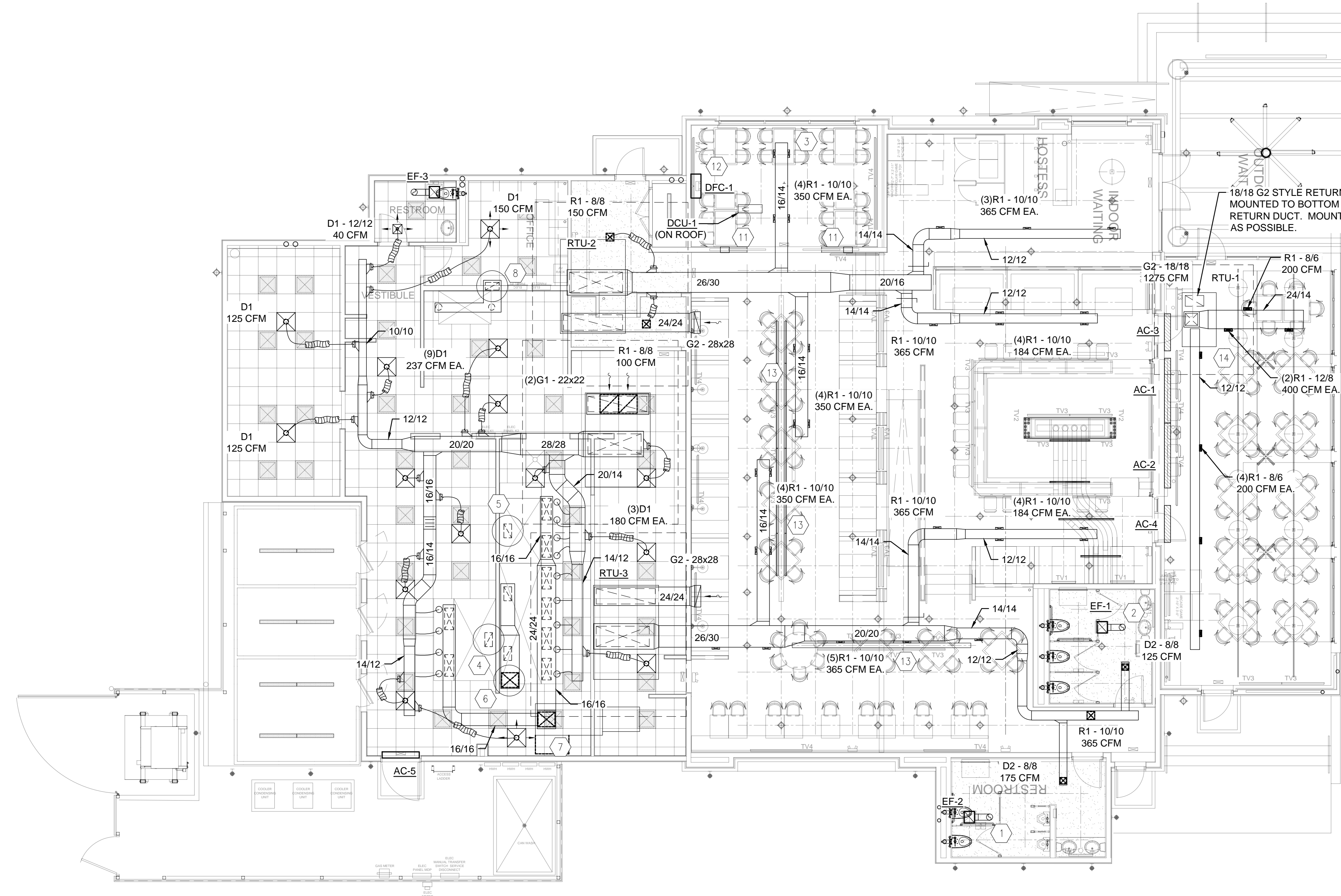
| FLEX DUCT SCHEDULE | |
|--------------------|------|
| AIRFLOW | SIZE |
| 0-90 CFM | 6"Ø |
| 100-140 CFM | 7"Ø |
| 150-200 CFM | 8"Ø |
| 205-260 CFM | 9"Ø |
| 265-360 CFM | 10"Ø |
| 365-550 CFM | 12"Ø |

NOTE: PROVIDE FLEX DUCT TAKE-OFFS WITH AIR SCOOP AND BALANCING DAMPER AT ALL ROUND SA BRANCH DUCTS. FLEX DUCTS SHALL BE EQUAL TO TITUS FLEX DUCT TYPE T-26. MAXIMUM FLEX DUCT SHALL BE 8'-0". PROVIDE EQUAL SIZE HARD DUCT RUNOUTS FOR TAKEOFFS OVER 8'-0" LONG. EXTERNALLY INSULATE ROUND HARD DUCTS WITH 2" THICK, 3/4" DUCT WRAP WITH FOIL FACING.

| DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE | | |
|---|-------------------------|------------|
| SYSTEM TYPE | SPLIT SYSTEM WALL MOUNT | |
| DESIGN BASIS MANUFACTURER | MITSUBISHI | |
| INDOOR EVAPORATOR UNIT | MARK | DFC-1 |
| | DESIGN BASIS MODEL | PKA-A18GA |
| | TOTAL CAPACITY (MBH) | 18 |
| | SENSIBLE HEAT FACTOR | - |
| | ENT. DBWB °F | - |
| OUTDOOR AIR COOLED CONDENSING UNIT | VOLTAGE | 208/1Ø |
| | MCAMOCOP | 1A |
| | MARK | DCU-1 |
| | DESIGN BASIS MODEL | PLU-A18NH4 |
| | REFRIGERANT | R-410a |
| | AMBIENT TEMP °F | 95 |
| | VOLTS/PHASE | 208/1Ø |
| MCAMOCOP | 13/15 | |
| MIN. SEER | 14 | |

THE UNIT MANUFACTURER SHALL PROVIDE A REFRIGERANT PIPING DIAGRAM INDICATING PIPE SIZES AND ALL REQUIRED VALVES AND SPECIALTIES. PROVIDE FACTORY CONDENSATE PUMP, DRAIN PAN SENSOR, AND WIRELESS REMOTE CONTROL.

* THE INDOOR UNIT POWER IS NORMALLY SUB-FED FROM THE OUTDOOR UNIT, BUT MAY BE FIELD CONVERTED.



Notes

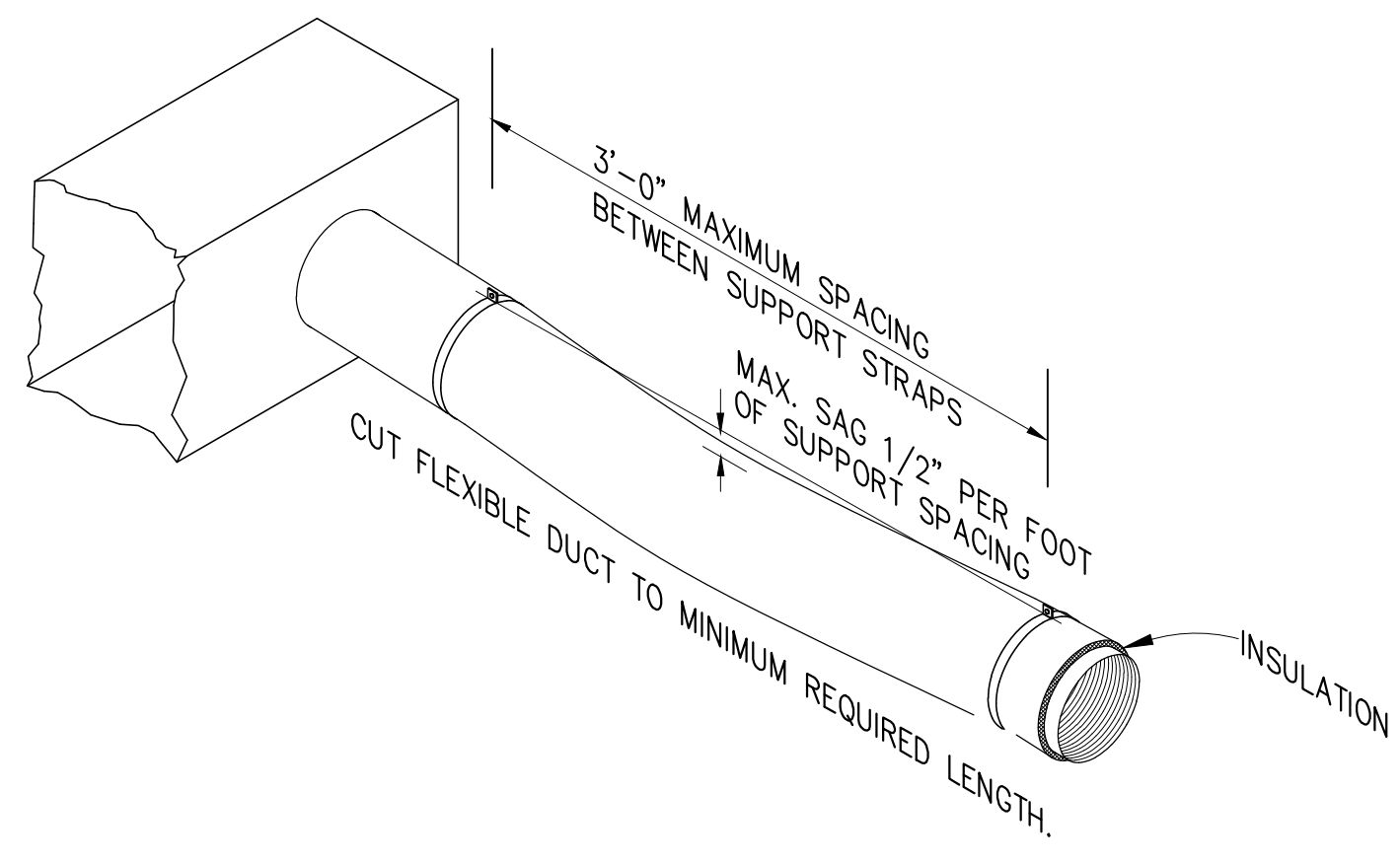
| Revisions | | | |
|-----------|------|-------------|----|
| No. | Date | Description | By |
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Project Title
**WALK-ON'S
 BISTREAUX & BAR**
 MacArthur Drive and Leo Street
 Alexandria, LA
 Sheet Title

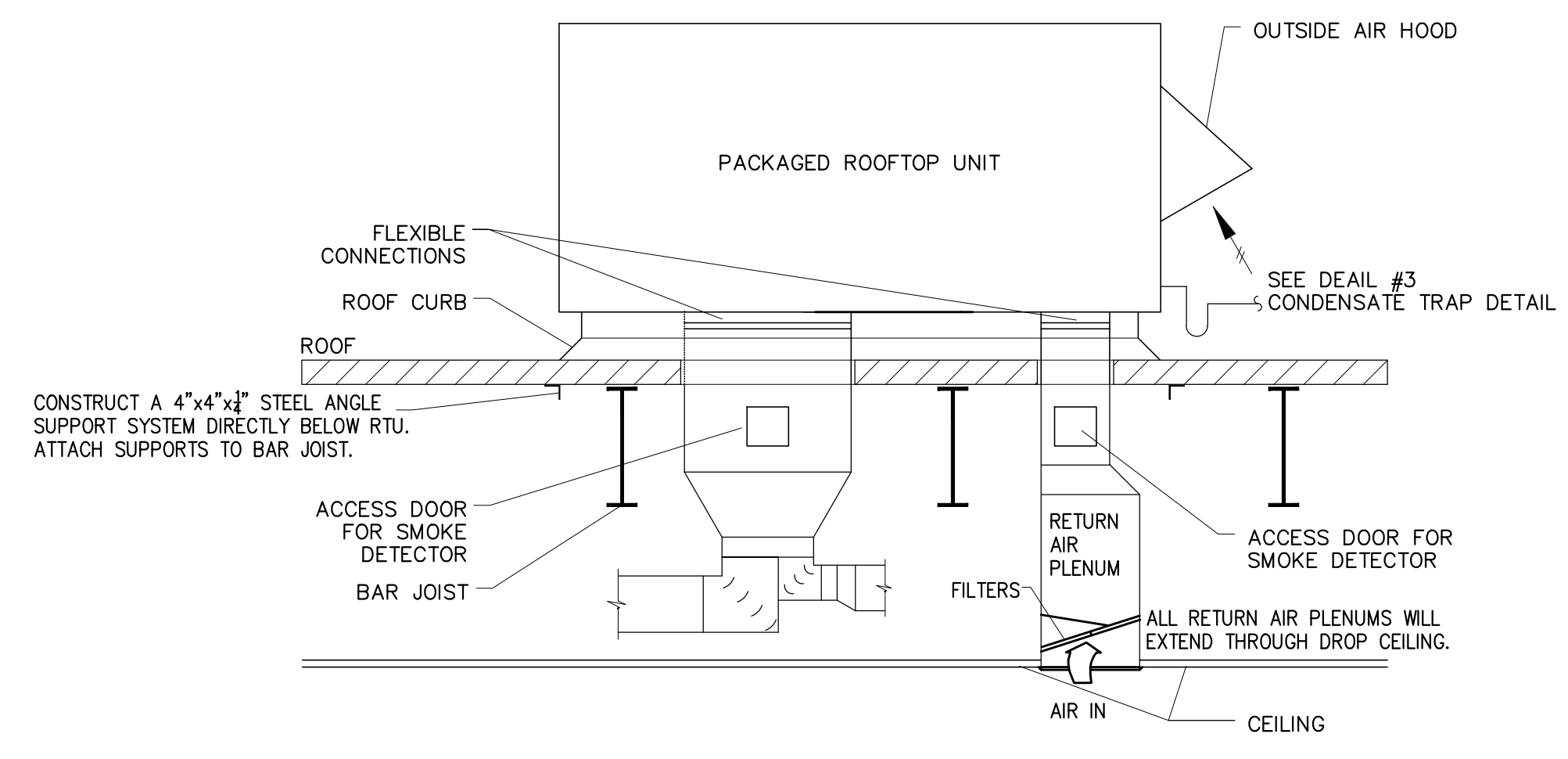
MECHANICAL PLAN
 Key Plan

Seal

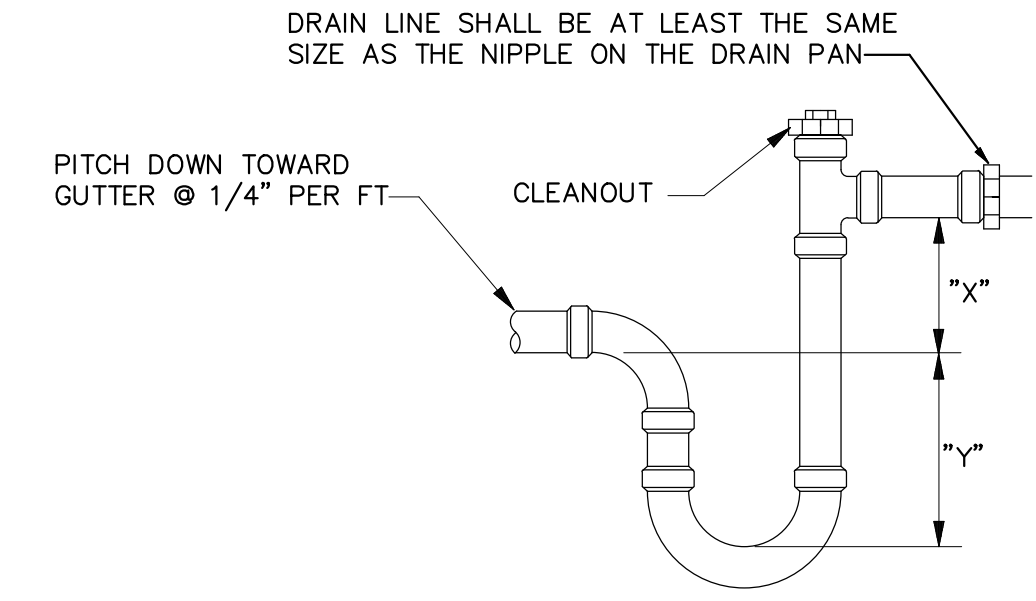
Project Number
 13-07h
 Date
 01/05/2017
 Document Phase
 CONSTRUCTION DOCUMENTS
 Sheet Number



FLEX DUCT SUPPORT DETAIL
 SCALE: NONE **1**

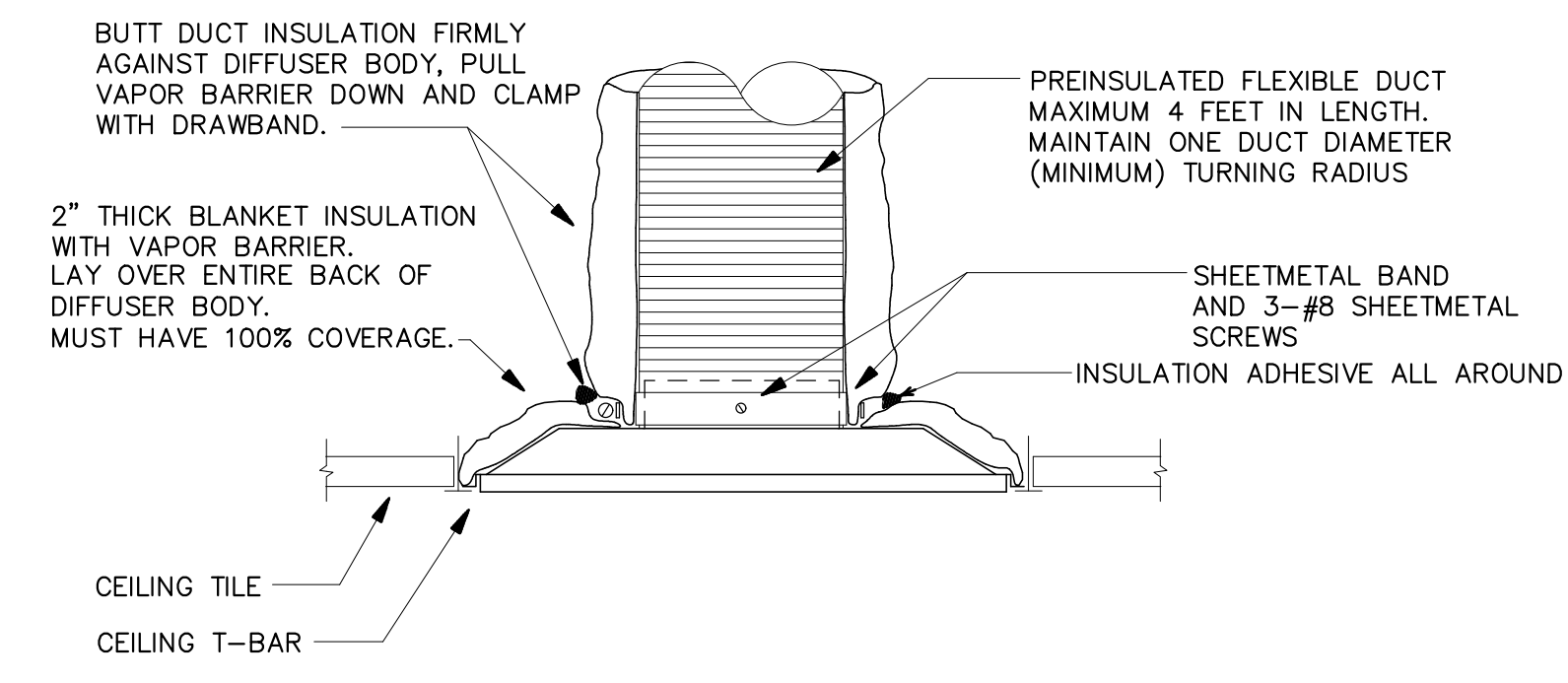


TYPICAL ROOFTOP UNIT DETAIL
 SCALE: NONE **2**

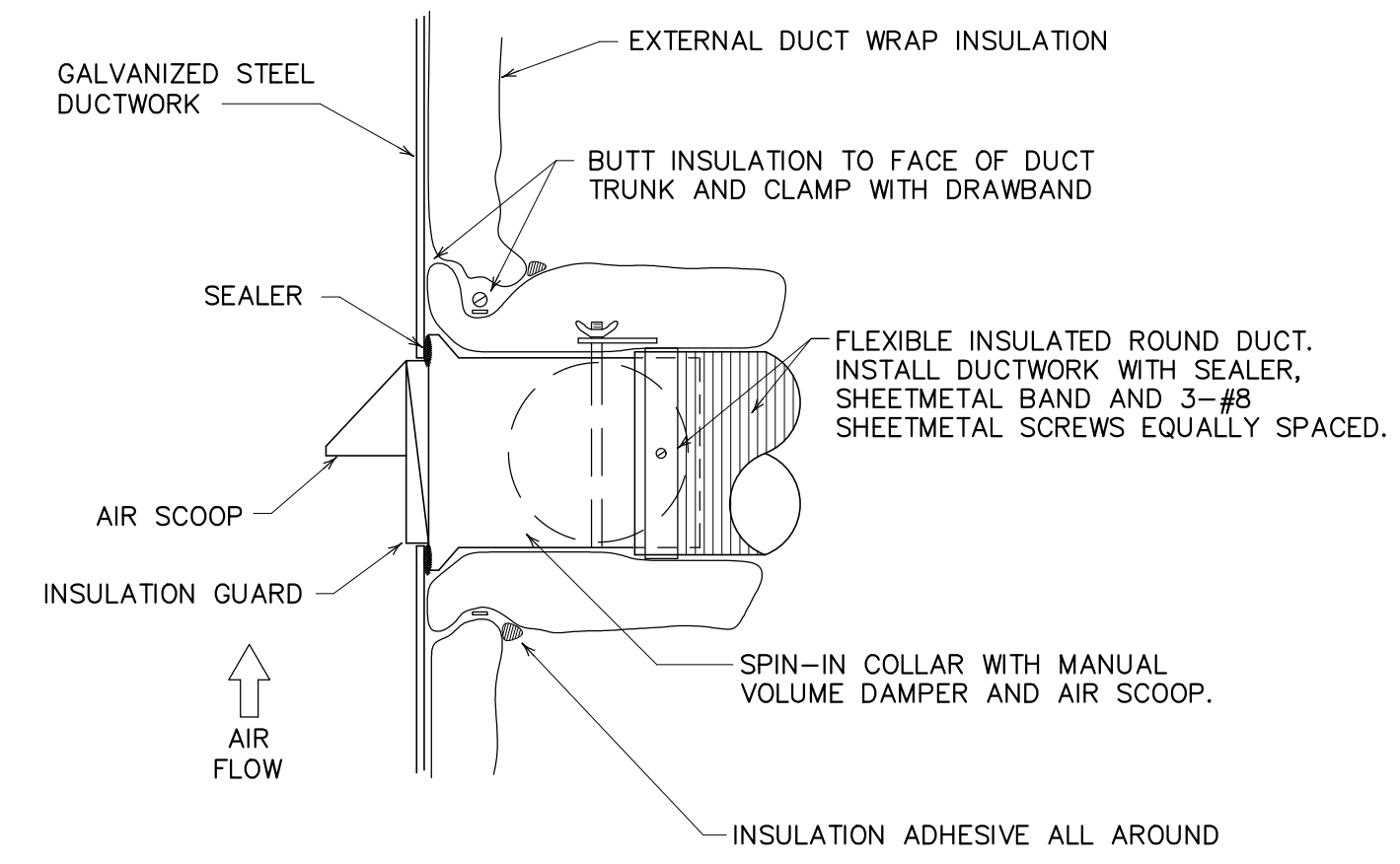


NOTES:
 LENGTHS "X" AND "Y" SHALL BE DETERMINED BY ROOFTOP UNIT EQUIPMENT BASED ON TOTAL STATIC PRESSURE.
 "X" AND "Y" SHALL BE EQUAL TO MINIMUM 1/2 TOTAL UNIT STATIC PRESSURE.
 ALL CONDENSATE PIPING SHALL BE SLOPED AT 1/4" PER FOOT

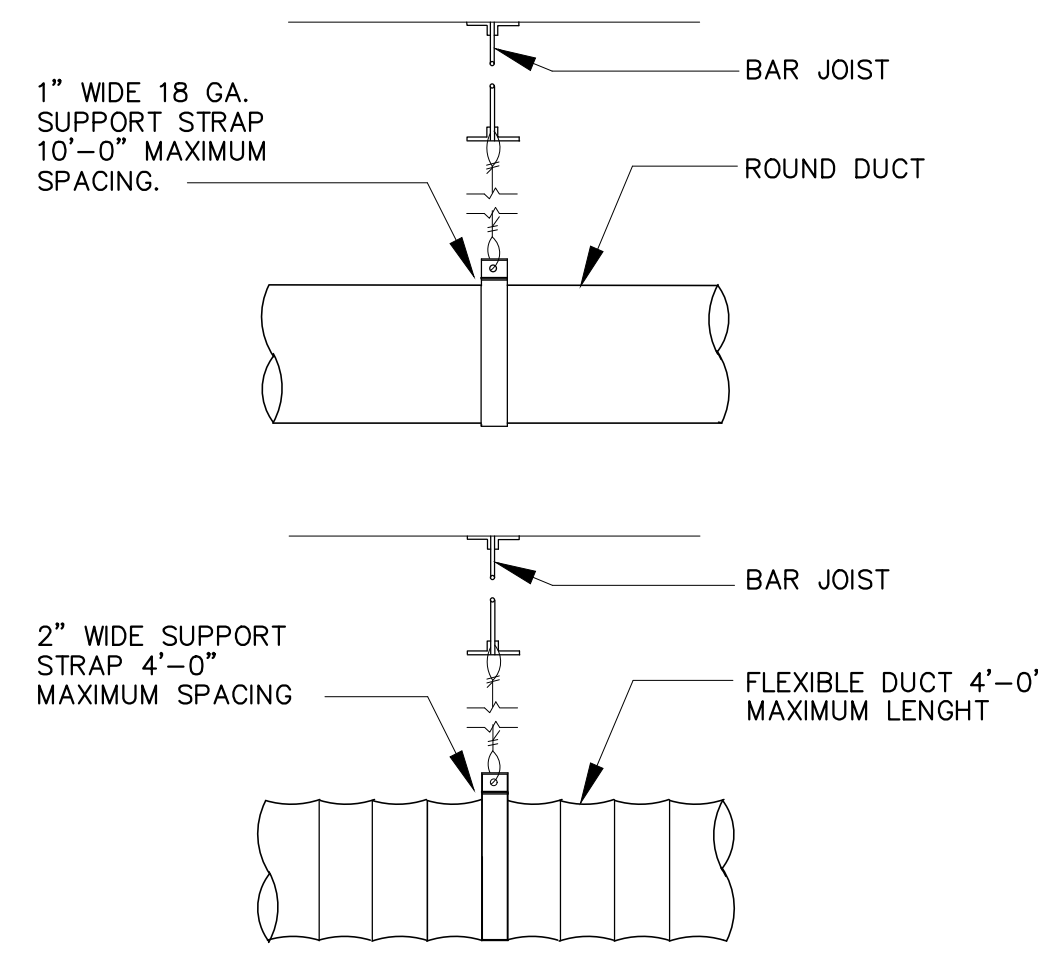
CONDENSATE TRAP DETAIL
 SCALE: NONE **3**



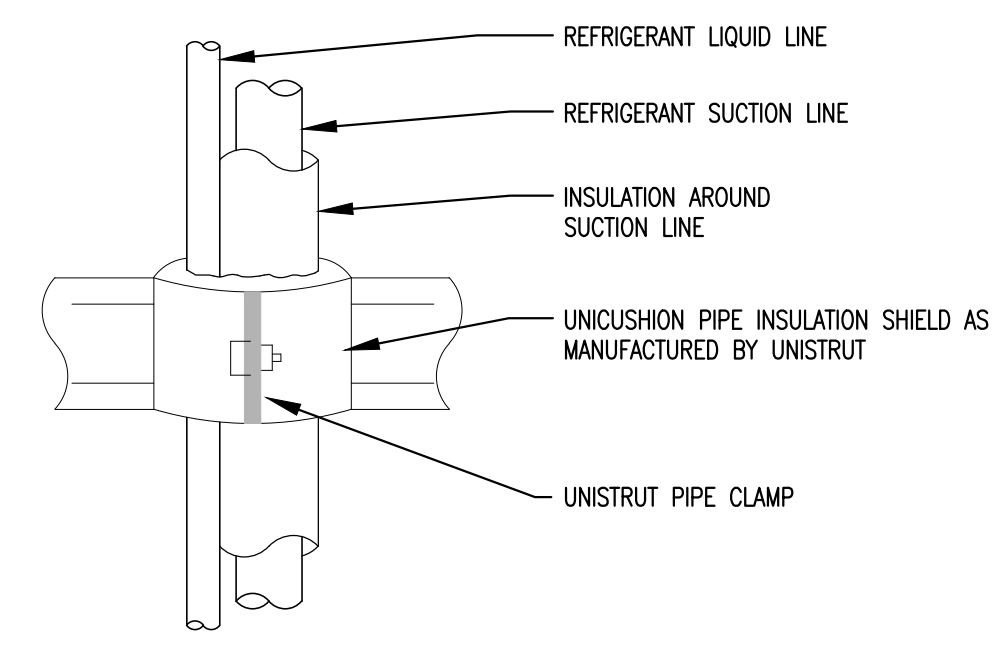
LAY-IN DIFFUSER DETAIL
 SCALE: NONE **4**



ROUND DUCT SPIN-IN DETAIL
 SCALE: NONE **5**

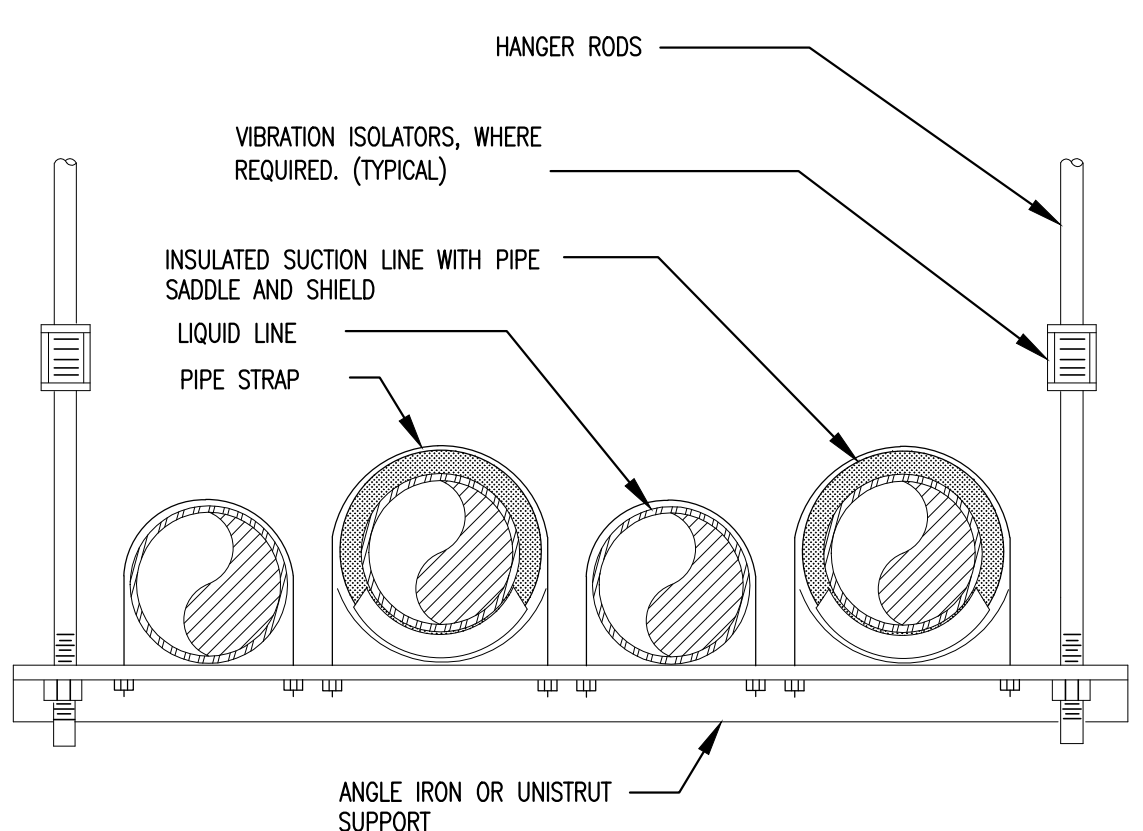


DUCT SUPPORT DETAIL
 SCALE: NONE **6**

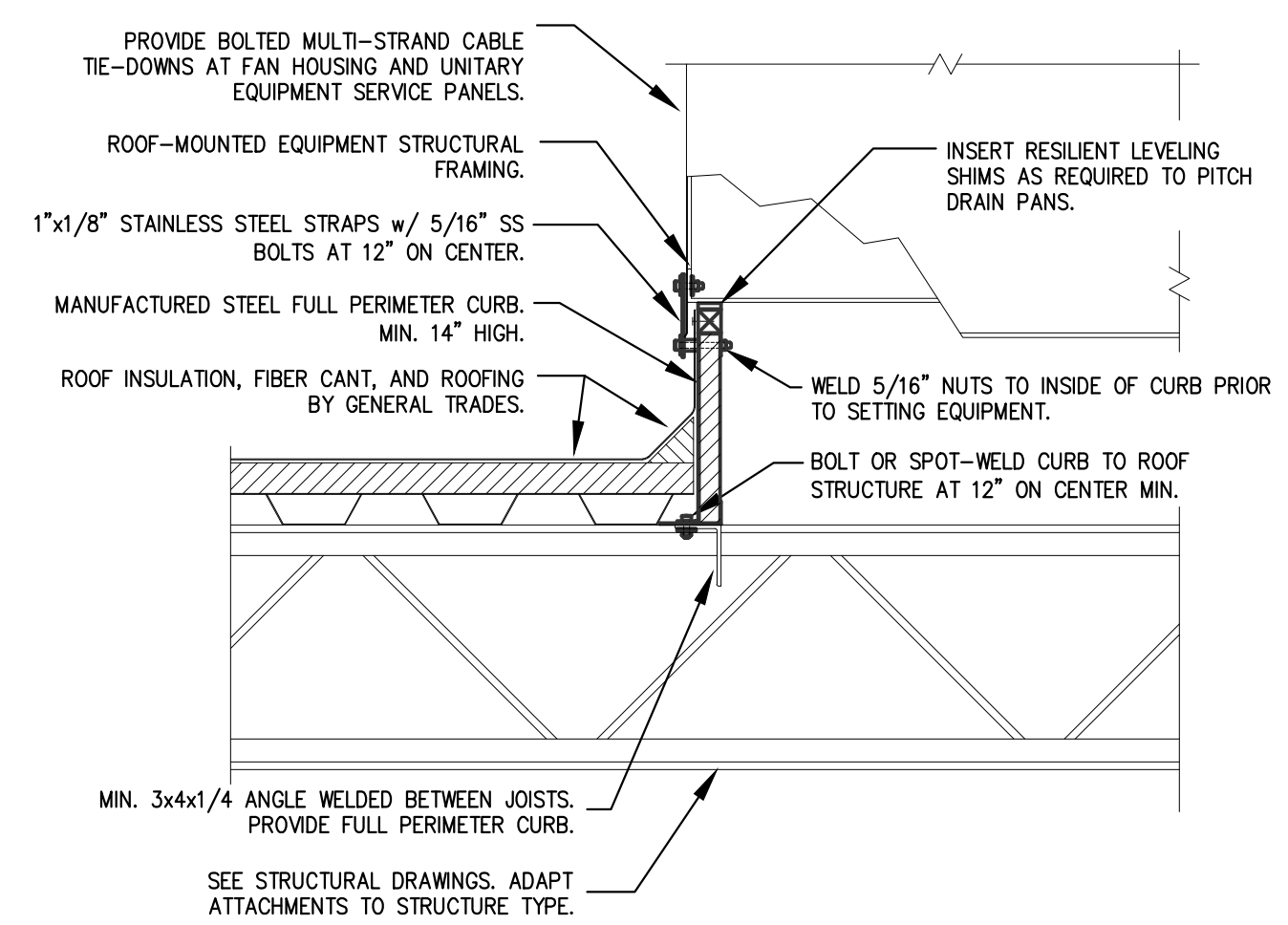


NOTES:
 1.) LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.
 2.) LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE.
 3.) USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.
 4.) REFER TO MANUFACTURER'S GUIDELINES FOR THE COMPLETE INSTALLATION.

VERTICAL REFRIGERANT PIPING DETAIL
 SCALE: NONE **7**



HORIZONTAL REFRIGERANT PIPING DETAIL
 SCALE: NONE **8**

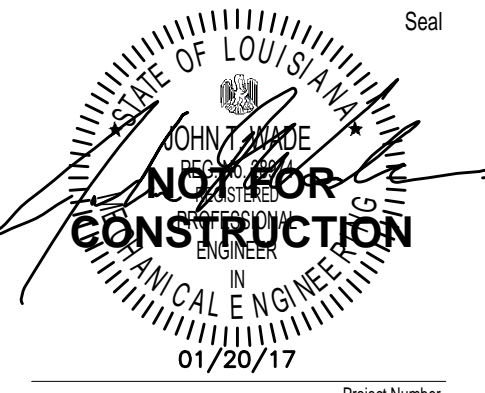


CURB ATTACHMENT DETAIL
 SCALE: NONE **9**

| Revisions | | |
|-----------|------|-------------|
| No. | Date | Description |
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Project Title
WALK-ON'S BISTREAUX & BAR
 MacArthur Drive and Leo Street
 Alexandria, LA
 Sheet Title

MECHANICAL DETAILS
 Key Plan



Project Number
 13-078
 Date
 01/05/2017
 Document Phase
 CONSTRUCTION DOCUMENTS
 Sheet Number

HOOD INFORMATION - Job#2880911

| HOOD NO. | TAG | MODEL | LENGTH | MAX. COOKING TEMP. | TOTAL EXH. CFM | EXHAUST PLENUM | | | | | MUA CFM | AC CFM | HOOD CONSTRUCTION | HOOD CONFIG. | | |
|----------|-----|----------------------|-----------|--------------------|----------------|----------------|-------|--------|------|------|---------|--------|-------------------|-------------------------|------------|-------|
| | | | | | | WIDTH | LENG. | HEIGHT | DIA. | CFM | | | | S.P. | END TO END | ROW |
| 1 | | 5424 ND-2-ACPSP-F | 13' 0.00" | 600 Deg. | 3575 | 10" | 17" | 4" | | 1787 | -0.777" | 2881 | 645 | 430 SS Where Exposed | LEFT | FRONT |
| 2 | | 5424 ND-2-ACPSP-F | 7' 0.00" | 600 Deg. | 1610 | 10" | 15" | 4" | | 1610 | -0.648" | 1610 | 432 | 430 SS Where Exposed | RIGHT | FRONT |
| 3 | | 5424 ND-2-ACPSP-F | 8' 10.00" | 450 Deg. | 1943 | 10" | 18" | 4" | | 1943 | -0.686" | 1554 | 400 | 430 SS Where Exposed | ALONE | BACK |

PATENT NUMBERS

AC-PSP (United States) - US Patent 7963830 B2
AC-PSP Wall (Canada) - CA Patent 2820509
AC-PSP Island (Canada) - CA Patent 2520330

HOOD INFORMATION

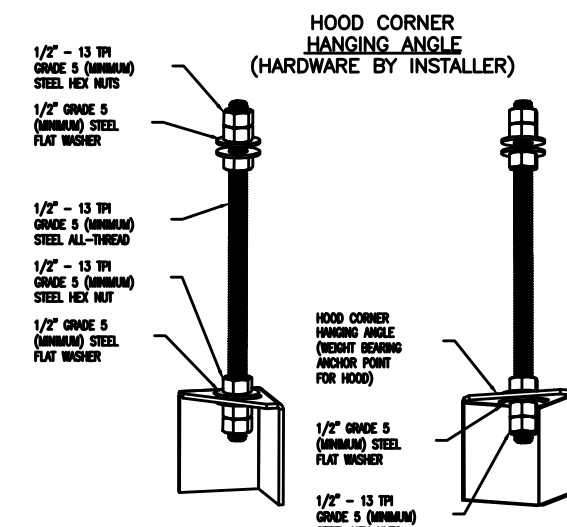
| HOOD NO. | TAG | FILTER(S) | | | | LIGHT(S) | | | UTILITY CABINET(S) | | | | FIRE SYSTEM PIPING | HOOD HANGING WGT | | | | | |
|----------|-----|----------------------|------|--------|--------|------------------------|------|----------------|--------------------|----------|-------------|-------------|--------------------|------------------|------------------|------------|---------|----------|----------|
| | | TYPE | QTY. | HEIGHT | LENGTH | EFFICIENCY @ 9 MICRONS | QTY. | TYPE | WIRE GUARD | LOCATION | SIZE | FIRE SYSTEM | | | SIZE | ELECTRICAL | MODEL # | SWITCHES | QUANTITY |
| 1 | | Captrate Solo Filter | 9 | 20" | 16" | 93% See Filter Spec. | 7 | L55 Series E26 | NO | | | | | | | | | YES | 837 LBS |
| 2 | | Captrate Solo Filter | 5 | 20" | 16" | 93% See Filter Spec. | 4 | L55 Series E26 | NO | Right | 20"x54"x24" | Ansul R102 | 3.0/3.0/3.0/3.0 | DCV-3111 | 1 Light 1 Fan | | YES | 720 LBS | |
| 3 | | Captrate Solo Filter | 6 | 20" | 16" | 93% See Filter Spec. | 6 | L55 Series E26 | NO | | | | | | | | YES | 606 LBS | |

HOOD OPTIONS

| HOOD NO. | TAG | OPTION |
|----------|-----|---|
| 1 | | FIELD WRAPPER 18.00" High Front, Left BACKSPASH 80.00" High X 260.00" Long 430 SS Vertical |
| 2 | | FIELD WRAPPER 18.00" High Front, Right FIELD WRAPPER 18.00" High Front, Left, Right |
| 3 | | BACKSPASH 80.00" High X 106.00" Long 430 SS Vertical |

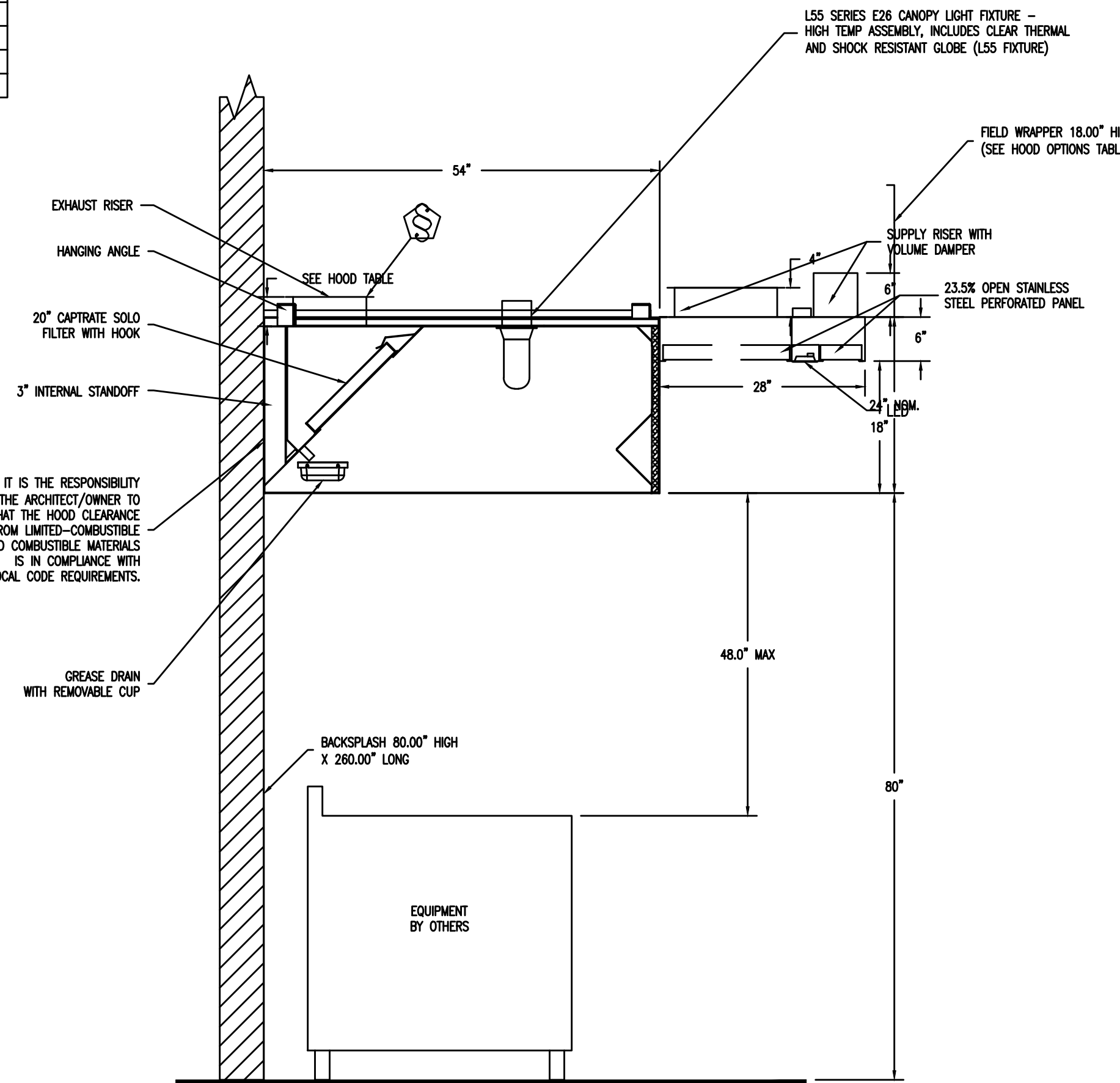
PERFORATED SUPPLY PLENUM(S)

| HOOD NO. | TAG | POS. | LENGTH | WIDTH | HEIGHT | TYPE | RISER(S) | | | | |
|----------|-----|-------|--------|-------|--------|------|----------|-------|------|--------|--------|
| | | | | | | | WIDTH | LENG. | DIA. | CFM | S.P. |
| 1 | | Front | 156" | 28" | 6" | MUA | 12" | 28" | | 670 | 0.171" |
| | | | | | | MUA | 12" | 28" | | 670 | 0.171" |
| | | | | | | MUA | 12" | 28" | | 670 | 0.171" |
| | | | | | | MUA | 12" | 28" | | 670 | 0.171" |
| | | | | | | AC | | 8" | 129 | 0.052" | |
| | | | | | | AC | | 8" | 129 | 0.052" | |
| 2 | | Front | 104" | 28" | 6" | MUA | 12" | 28" | | 805 | 0.241" |
| | | | | | | MUA | 12" | 28" | | 805 | 0.241" |
| | | | | | | AC | | 8" | 108 | 0.037" | |
| | | | | | | AC | | 8" | 108 | 0.037" | |
| | | | | | | AC | | 8" | 108 | 0.037" | |
| | | | | | | AC | | 8" | 108 | 0.037" | |
| 3 | | Front | 106" | 26" | 6" | MUA | 12" | 28" | | 777 | 0.225" |
| | | | | | | MUA | 12" | 28" | | 777 | 0.225" |
| | | | | | | AC | | 8" | 100 | 0.032" | |
| | | | | | | AC | | 8" | 100 | 0.032" | |
| | | | | | | AC | | 8" | 100 | 0.032" | |
| | | | | | | AC | | 8" | 100 | 0.032" | |



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.

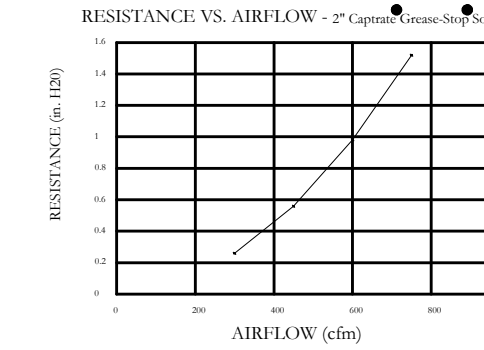
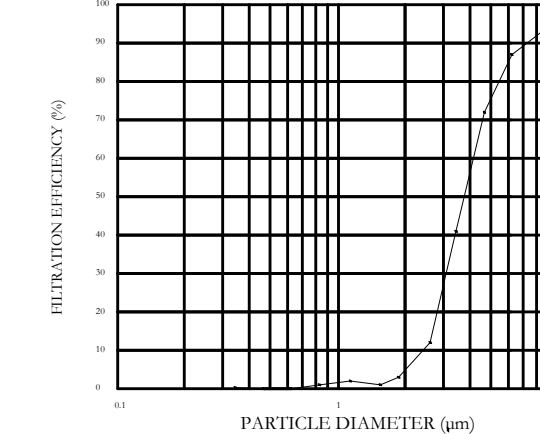


**SECTION VIEW - MODEL 5424ND-2-ACPSP-F
HOOD - #1-2**

SPECIFICATION: CAPTRATE GREASE-STOP SOLO FILTER

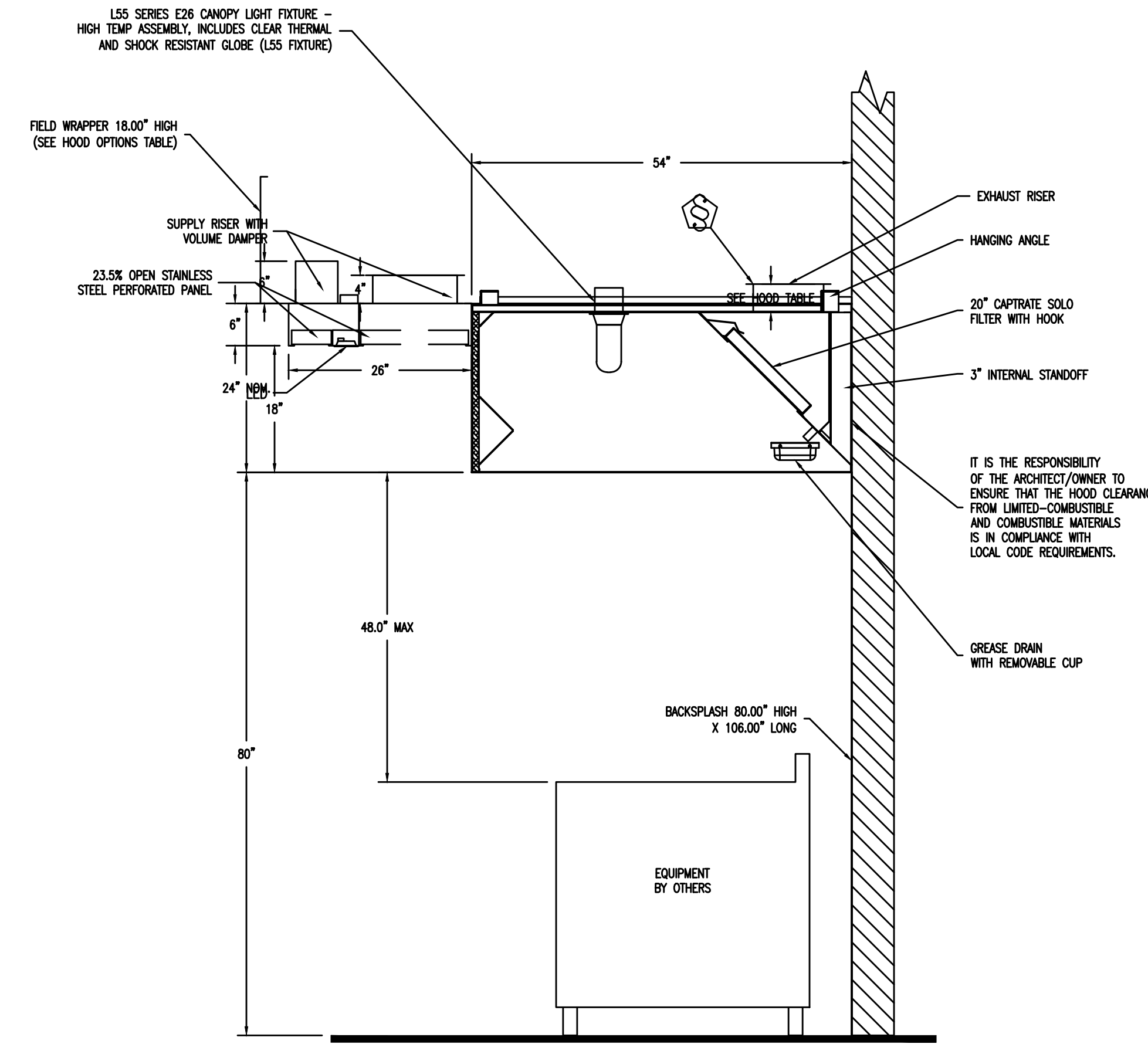
THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-Baffle DESIGN IN CONJUNCTION WITH A SLOTTED REAR Baffle DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).
UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 90% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.
THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.

FILTER COLLECTION EFFICIENCY



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:

- NFPA #96
- NSF STANDARD #2
- UL STANDARD #1046
- INT. MECH. CODE (IMC)
- ULC-S649



**SECTION VIEW - MODEL 5424ND-2-ACPSP-F
HOOD - #3**

| REVISIONS | |
|-------------|------|
| DESCRIPTION | DATE |
| | |
| | |
| | |
| | |

CAPTIVE
PIEDMONT AREA OFFICE
6303 Carmel Road, Suite #105, Charlotte, NC, 28226 PHONE: (704) 844-9888 FAX: (919) 227-5852 EMAIL: reg30@captiveaire.com

Walk-Ons - Alexandria, LA
ALEXANDRIA, LA, 71301

DATE: 1/9/2017
DWG.#: 2880911
DRAWN BY: evan.zipperer
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
1

| No. | Date | Description | Revisions |
|-----|------|-------------|-----------|
| | | | |
| | | | |
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Project Title
**WALK-ON'S
BISTREAUX & BAR**
MacArthur Drive and Leo Street
Alexandria, LA
Sheet Title

**MECHANICAL
HOOD DETAILS
SHEET 1 OF 6**
Key Plan

Seal
STATE OF LOUISIANA
EVAN ZIPPERER
REGISTERED PROFESSIONAL ENGINEER
MECHANICAL ENGINEERING
01/20/17
Project Number
13-07h
Date
01/05/2017
Document Phase
CONSTRUCTION DOCUMENTS
Sheet Number

FOR QUESTIONS, CALL THE
CHARLOTTE, NORTH CAROLINA OFFICE
EVAN ZIPPERER
PHONE: 919-719-7636
EMAIL: reg30@captiveaire.com

CAPTIVE-AIRE HOODS ARE
ETL LISTED AND LABELED
IN COMPLIANCE WITH
NSF #96
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

EXHAUST FAN INFORMATION - Job#2880911

| FAN UNIT NO. | TAG | FAN UNIT MODEL # | CFM | ESP. | RPM | H.P. | B.H.P. | Ø | VOLT | FLA | WEIGHT (LBS.) | SONES |
|--------------|-----|------------------|------|-------|------|-------|--------|---|------|-----|---------------|-------|
| 1 | | DU180HFA | 3575 | 1.600 | 1450 | 3.000 | 1.6340 | 3 | 208 | 9.5 | 112 | 23 |
| 2 | | DU180HFA | 1610 | 1.500 | 1125 | 1.000 | 0.6610 | 3 | 208 | 3.8 | 112 | 13.7 |
| 3 | | DU180HFA | 1943 | 1.500 | 1151 | 1.500 | 0.7620 | 3 | 208 | 4.4 | 112 | 14.2 |

MUA FAN INFORMATION - Job#2880911

| FAN UNIT NO. | TAG | FAN UNIT MODEL # | BLOWER | HOUSING | MIN CFM | DESIGN CFM | ESP. | RPM | H.P. | B.H.P. | Ø | VOLT | FLA | WEIGHT (LBS.) | SONES | BURNER EFFICIENCY(%) |
|--------------|-----|------------------|--------|----------|---------|------------|-------|-----|-------|--------|---|------|------|---------------|-------|----------------------|
| 4 | | A3-D.500-G18 | G18-PB | A3-D.500 | 3500 | 5845 | 0.750 | 788 | 5.000 | 2.9410 | 3 | 208 | 15.0 | 1002 | 13.6 | 92 |

GAS FIRED MAKE-UP AIR UNIT(S)

| FAN UNIT NO. | TAG | INPUT BTUs | OUTPUT BTUs | TEMP. RISE | REQUIRED INPUT GAS PRESSURE | GAS TYPE |
|--------------|-----|------------|-------------|------------|-----------------------------|----------|
| 4 | | 308768 | 284067 | 45 deg F | 7 in. w.c. - 14 in. w.c. | Natural |

FAN OPTIONS

| FAN UNIT NO. | TAG | OPTION (Qty. - Descr.) |
|--------------|-----|--|
| 1 | | 1 - Grease Box |
| 2 | | 1 - Grease Box |
| 3 | | 1 - Grease Box |
| 4 | | 1 - AC Interlock Relay - 24VAC Coil 1 - Motorized Backdraft Damper for A3-D Housing 1 - Low Fire Start 1 - Inlet Pressure Gauge, 0-35" 1 - Manifold Pressure Gauge, -5 to 15" wc 1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only |

FAN ACCESSORIES

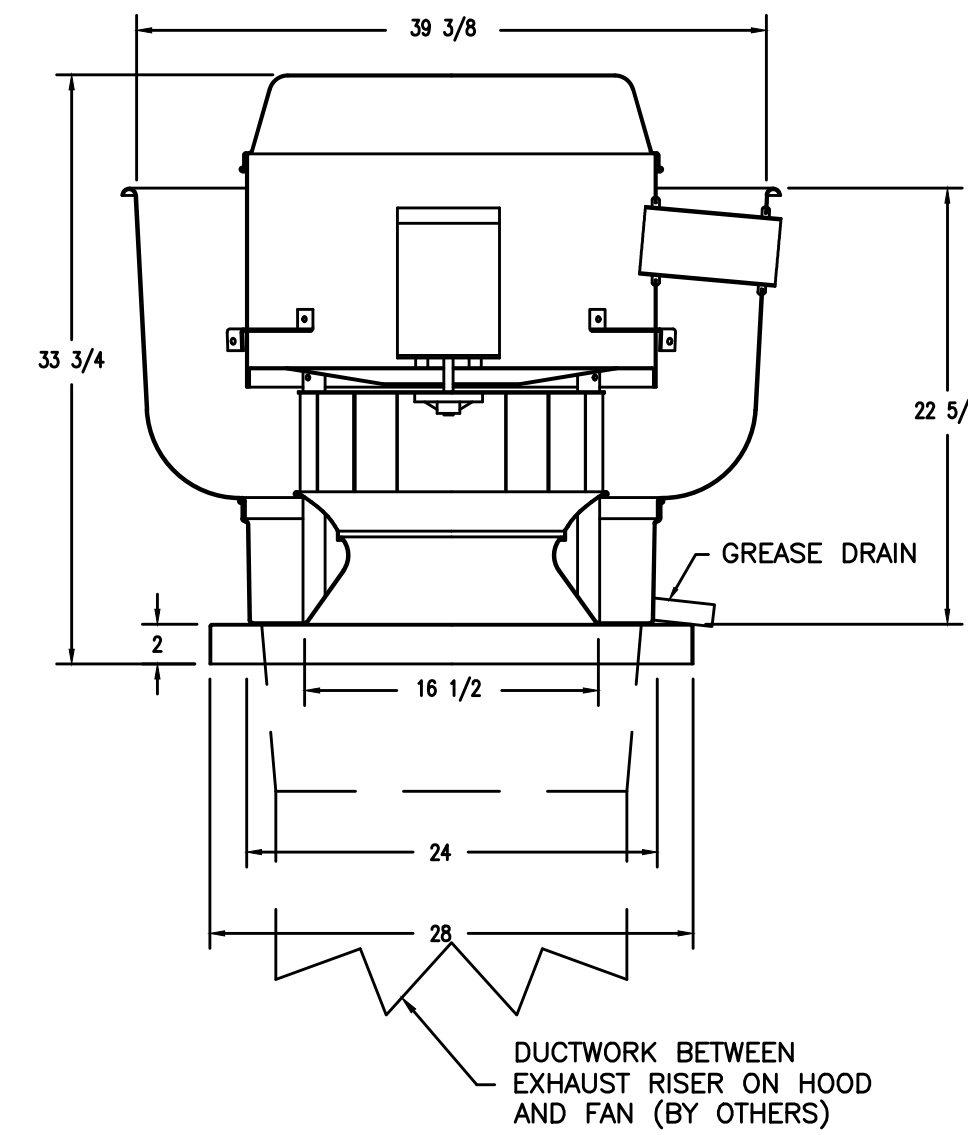
| FAN UNIT NO. | TAG | EXHAUST | | | | SUPPLY | | |
|--------------|-----|------------|----------------|------------|----------------|----------------|------------------|------------|
| | | GREASE CUP | GRAVITY DAMPER | WALL MOUNT | SIDE DISCHARGE | GRAVITY DAMPER | MOTORIZED DAMPER | WALL MOUNT |
| 1 | | YES | | | | | | |
| 2 | | YES | | | | | | |
| 3 | | YES | | | | | | |
| 4 | | | | | | | YES | |

CURB ASSEMBLIES

| NO. | ON FAN | WEIGHT | ITEM | SIZE |
|-----|--------|--------|------|--|
| 1 | # 1 | 34 LBS | Curb | 26.500"W x 26.500"L x 26.000"H Vented Hinged |
| 2 | # 2 | 34 LBS | Curb | 26.500"W x 26.500"L x 26.000"H Vented Hinged |
| 3 | # 3 | 34 LBS | Curb | 26.500"W x 26.500"L x 26.000"H Vented Hinged |
| 4 | # 4 | 82 LBS | Curb | 35.000"W x 84.000"L x 20.000"H Insulated |

NOTE:
 FANS SIZED FOR CURRENT STATIC PRESSURE, INCREASES MAY VARY PERFORMANCE. PLEASE VERIFY.
 FAN START-UP AND AIR BALANCE ARE BY INSTALLING CONTRACTOR AND ARE CRITICAL TO THE PROPER OPERATION OF THE HOOD SYSTEM

FANS #1, #2, #3 - DU180HFA EXHAUST FAN



FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST

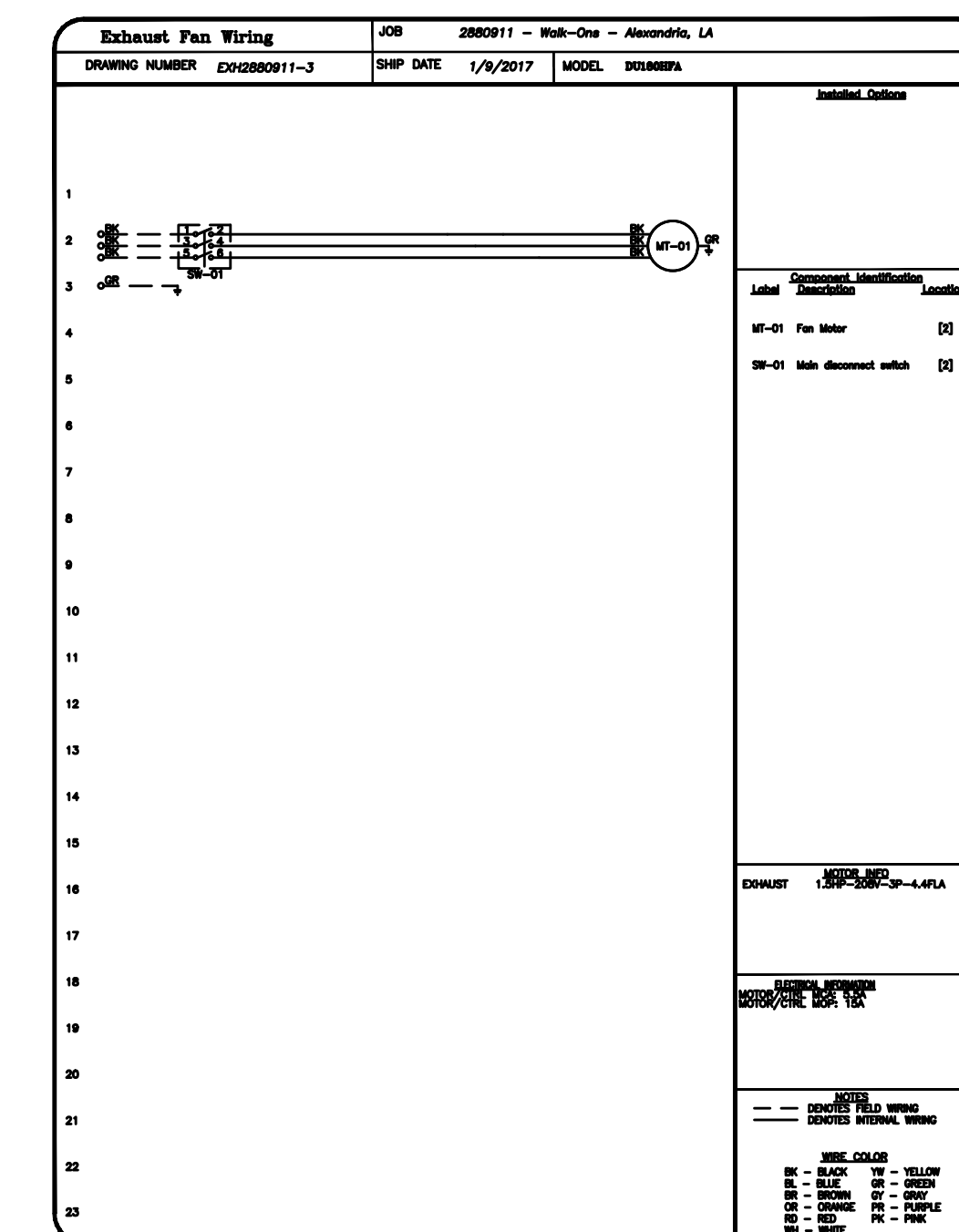
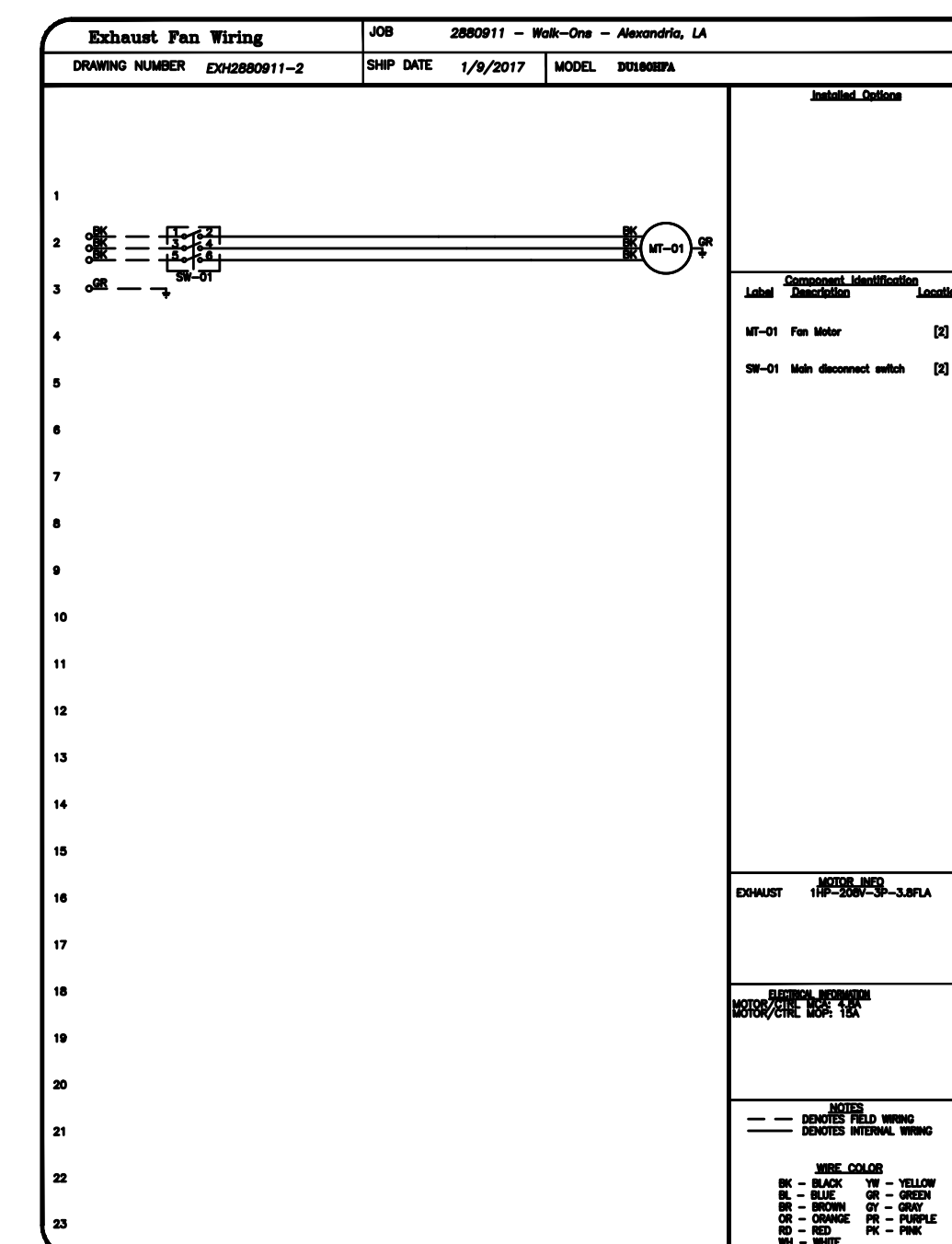
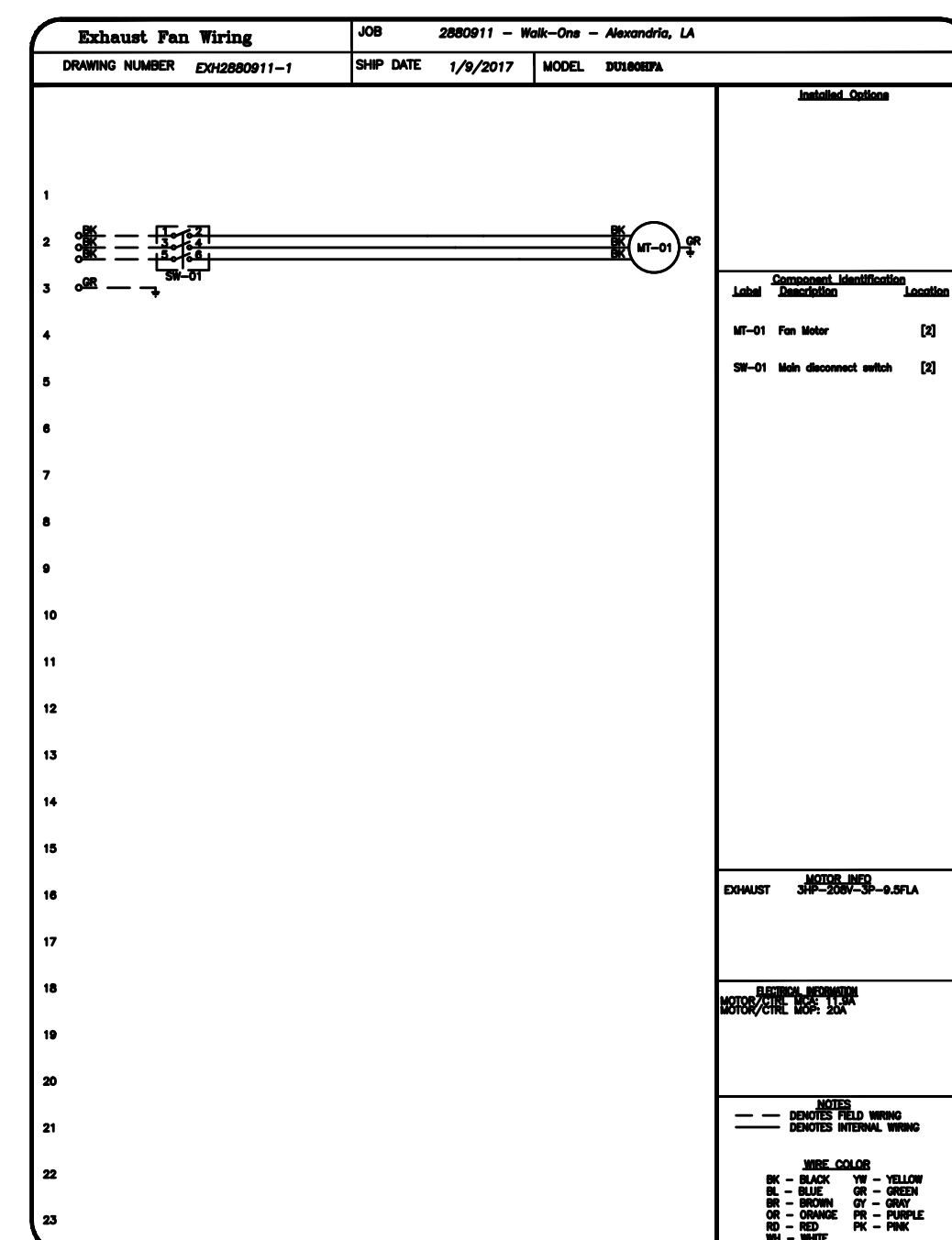
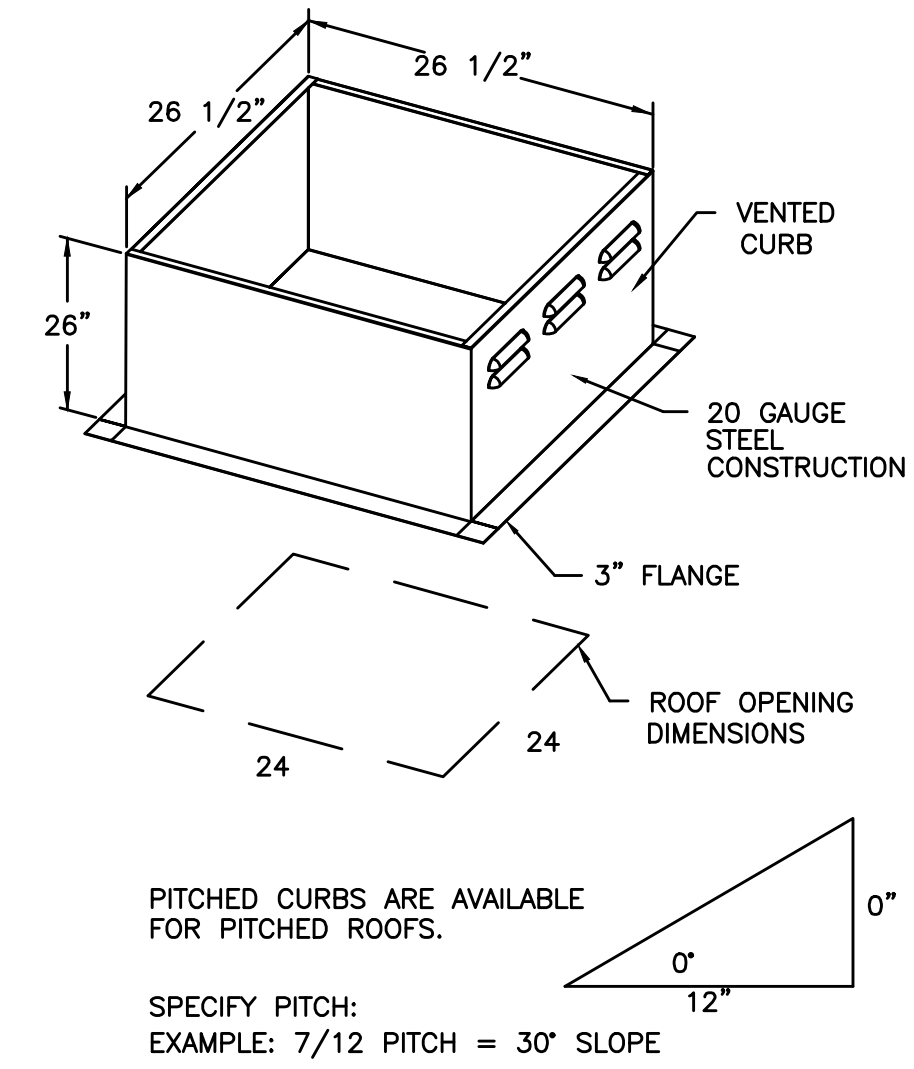
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

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



REVISIONS

| NO. | DESCRIPTION | DATE |
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Walk-Ons - Alexandria, LA
 ALEXANDRIA, LA, 71301

DATE: 1/9/2017
 DWG.#: 2880911
 DRAWN BY: evan.zipperer
 SCALE: 3/4" = 1'-0"
 MASTER DRAWING
 SHEET NO. 3

Notes

Revisions

| No. | Date | Description |
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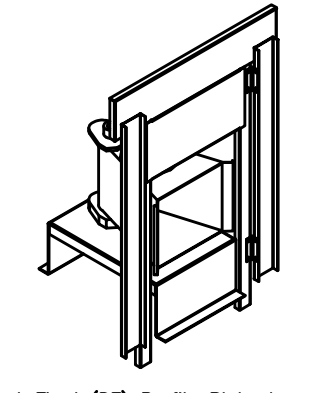
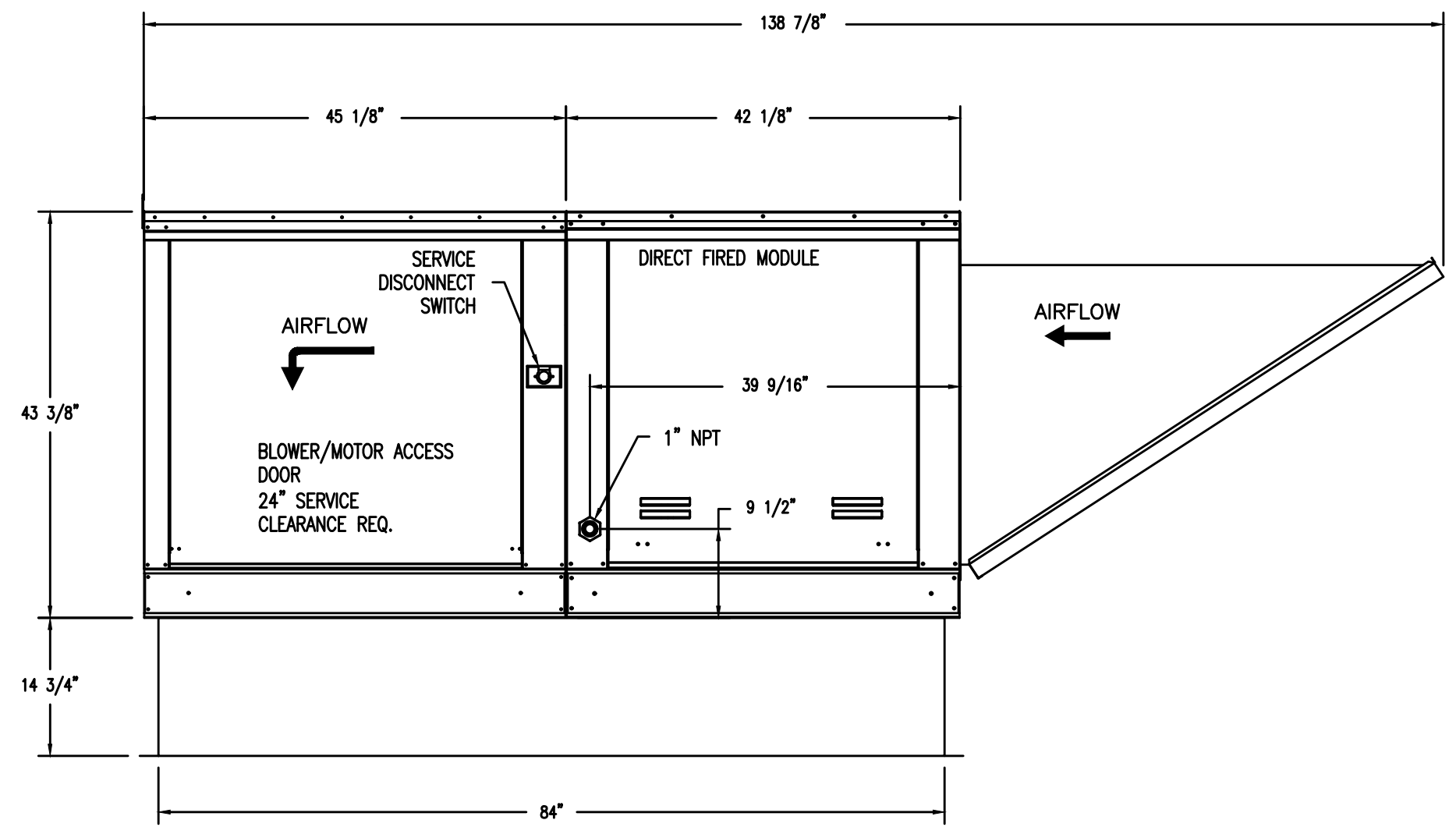
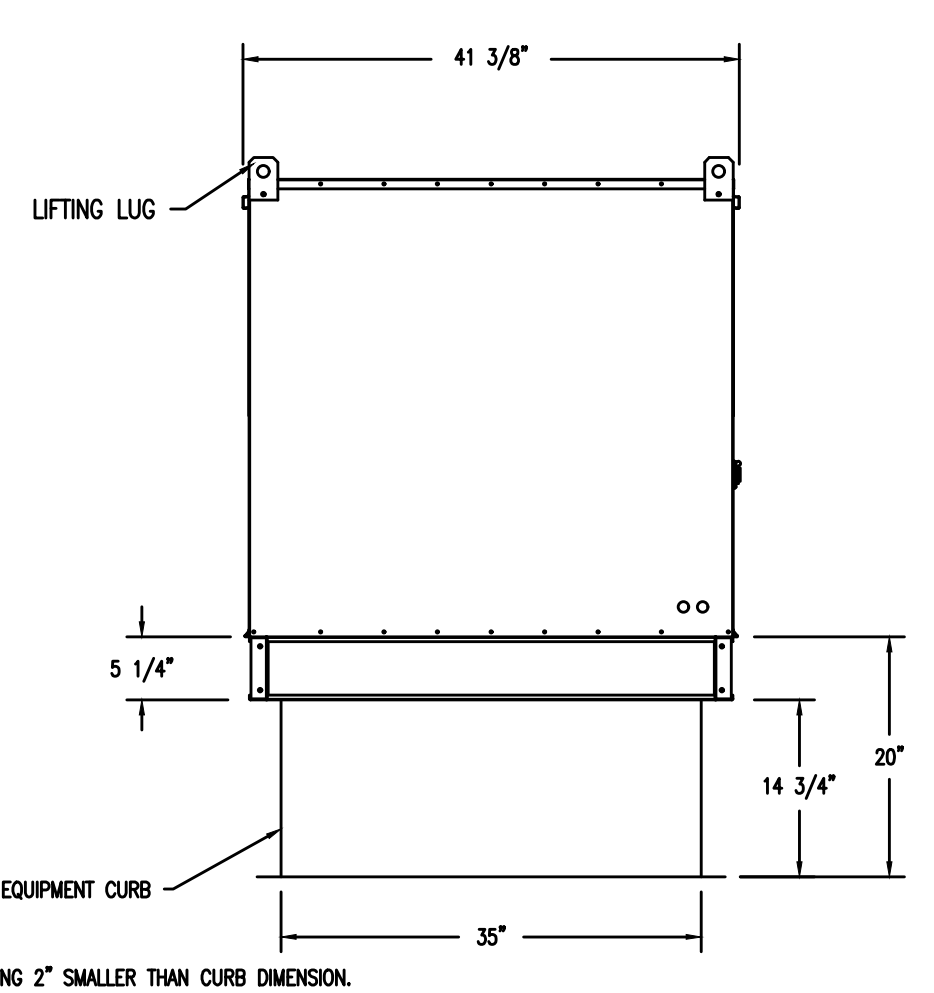
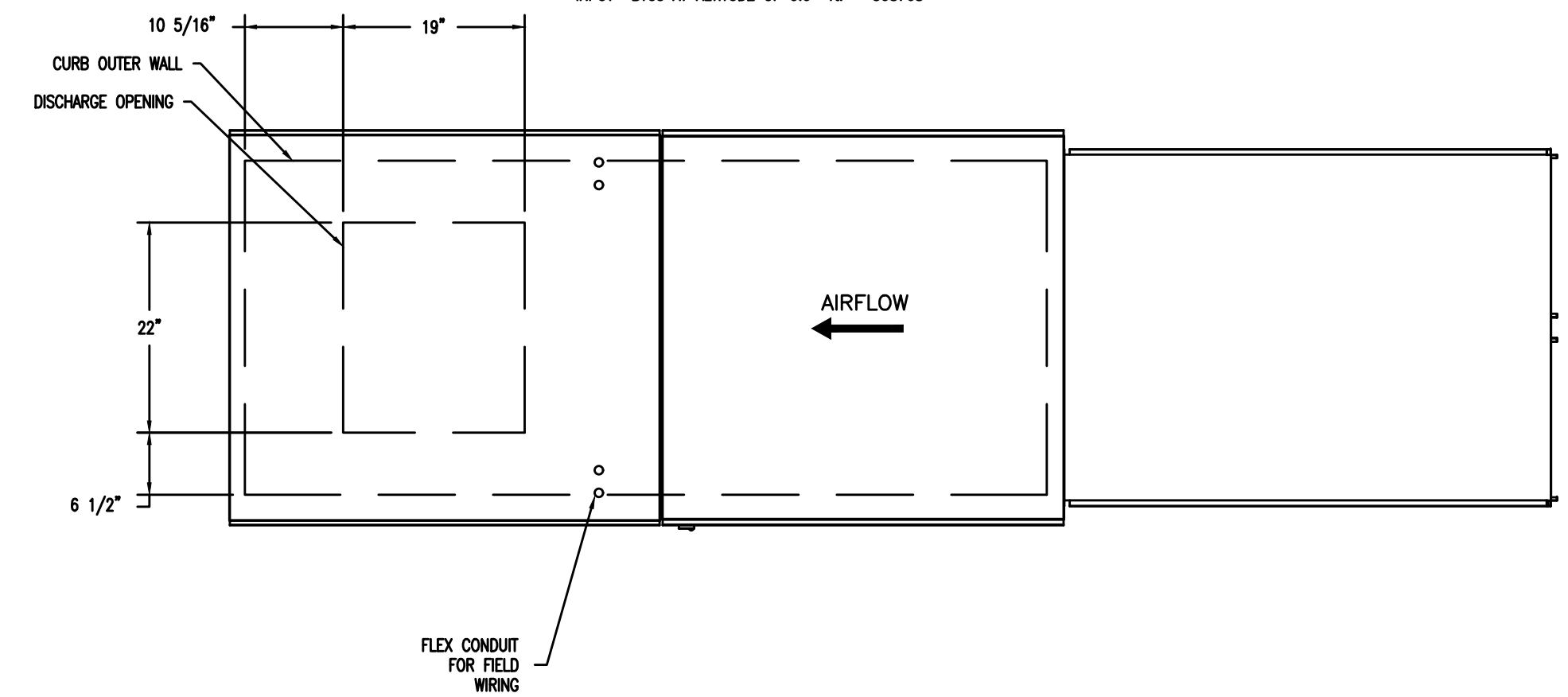
Project Title
WALK-ON'S BISTREAUX & BAR
 MacArthur Drive and Leo Street
 Alexandria, LA
 Sheet Title

MECHANICAL HOOD DETAILS SHEET 3 OF 6
 Key Plan

Seal
 STATE OF LOUISIANA
 EVAN ZIPPERER
 ENGINEER
 01/20/17
 Project Number
 13-07h
 Date
 01/05/2017
 Document Phase
 CONSTRUCTION DOCUMENTS
 Sheet Number

- FAN #4 A3-D-500-C18 - HEATER
1. DIRECT GAS FRED HEATED MAKE UP AIR UNIT WITH 18" BLOWER AND 12" BURNER.
 2. INTAKE HOOD WITH EZ FILTERS
 3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
 4. COOLING INTERLOCK RELAY - 24VAC COIL, 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
 5. MOTORIZED BACK DRAFT DAMPER 30" X 30" FOR SIZE 3 STANDARD & MODULAR DIRECT FIRED HEATERS W/EXTENDED SHFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, NEBUP-S ACTUATOR INCLUDED
 6. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
 7. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
 8. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE
 9. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO WIA SWITCH.

SUPPLY SIDE HEATER INFORMATION:
 WINTER TEMPERATURE = 30°F. TEMP. RISE = 45°F.
 BTUs CALCULATED OFF STANDARD AIR DENSITY
 OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 284087
 INPUT BTUs AT ALTITUDE OF 0.0 FT. = 308768



Direct Fired (DF) Profile Plate Assembly

Direct Fired Profile Plate Specifications:

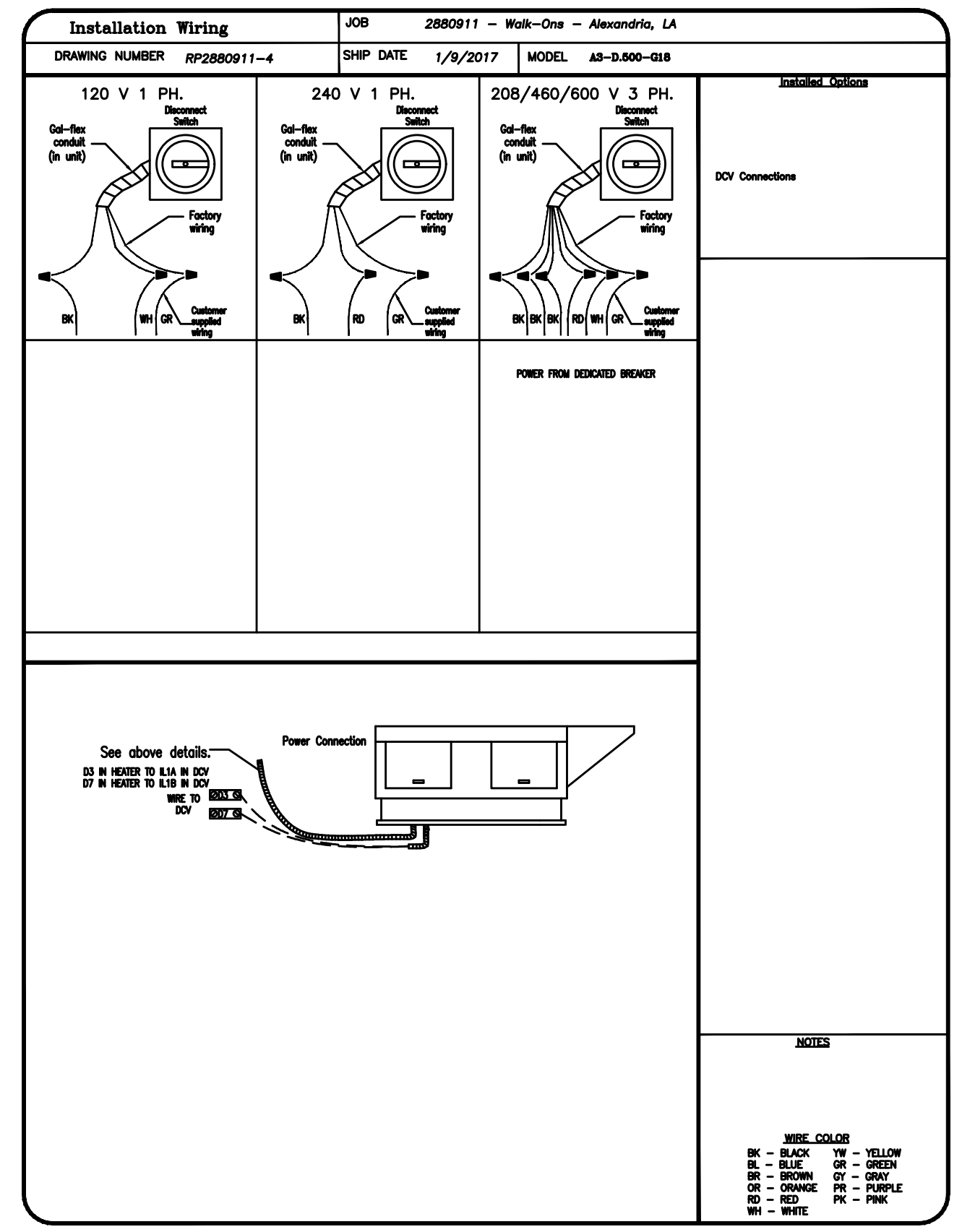
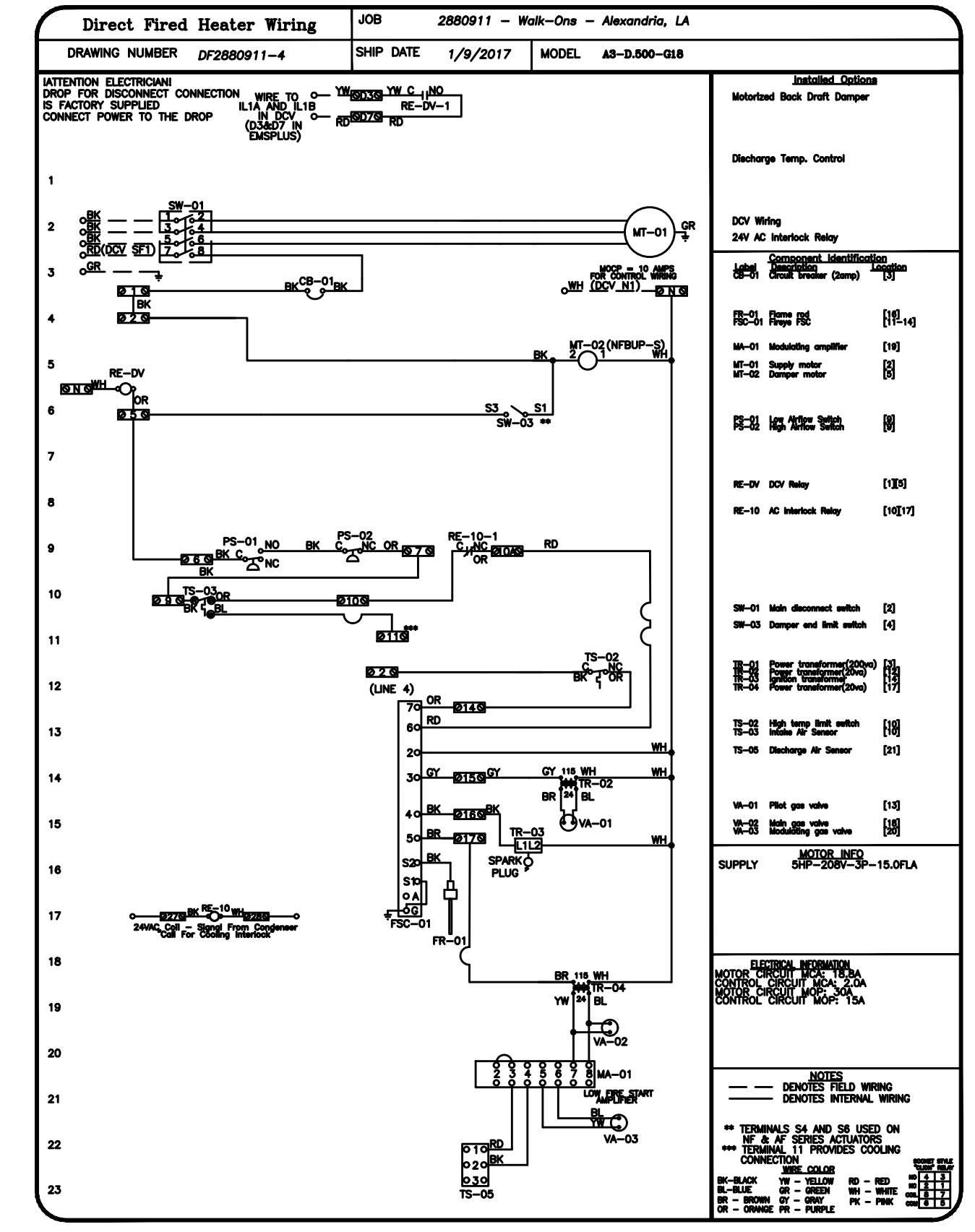
Description:
 Direct fired burners shall have patented (US Patent No.: US662923B2), self-adjusting profile plates designed to ensure proper air velocity and pressure drop across the burner. Profile plates shall allow burners to achieve clean combustion by limiting by-product levels to a maximum of 5ppm of carbon monoxide (CO), and 0.5ppm of nitrogen dioxide (NO2).

Application:
 Spring-loaded burner profile plates are engineered to automatically react to the momentum of a fresh air stream, without the need for any motors or actuators to mechanically adjust them. With this feature, all DF units are designed for demand control ventilation (DCV) requirements.

Certifications:
 All profile plate assemblies shall be included in the DF unit's ETL listing and comply with combined safety standards ANSI Z83.4 and CSA 3.7 (non-recirculating DF heaters) and ANSI Z83.18 (recirculating DF heaters).

General Construction:

- Profile plates shall be formed from G90 galvanized steel.
- Profile plates shall vary in size per unit.
- Profile plates shall be mounted along the same plane as the discharge of the burner.
- Design shall incorporate properly torqued, permanently mounted spring hinges.
- Spring hinges shall be made from plated steel.



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 DRAWN BY: evan.zipperer
 SCALE: 3/4" = 1'-0"
 MASTER DRAWING

SHEET NO. 4

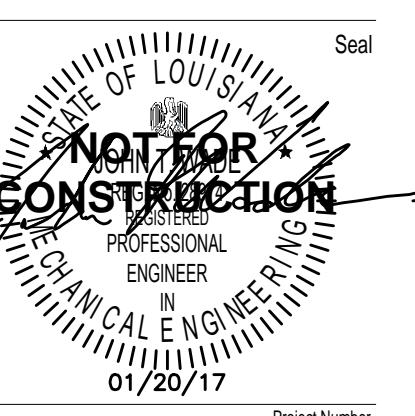
Notes

| Revisions | |
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| No. | Description |
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Project Title
WALK-ON'S BISTREAUX & BAR
 MacArthur Drive and Leo Street
 Alexandria, LA
 Sheet Title

MECHANICAL HOOD DETAILS SHEET 4 OF 6

Key Plan



Project Number
 13-076
 Date
 01/05/2017
 Document Phase
 CONSTRUCTION DOCUMENTS
 Sheet Number

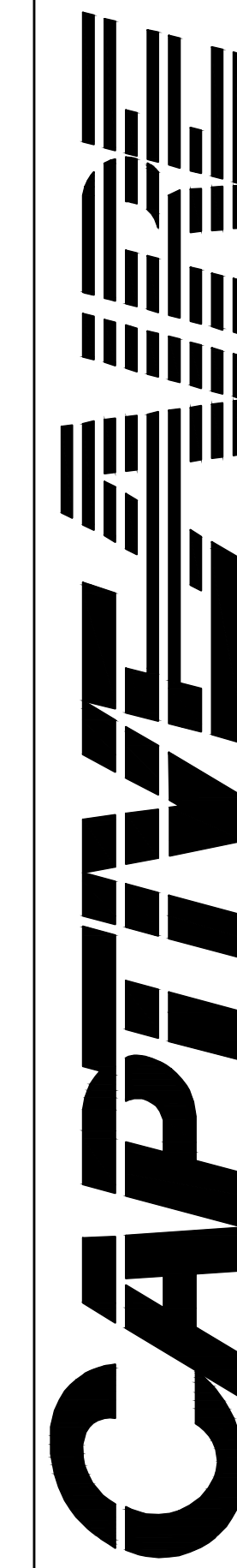
System Design Verification (SDV)

If ordered, CAS Service will perform a System Design Verification (SDV) once all equipment has had a complete start up per the Operation and Installation Manual. Typically, the SDV will be performed after all inspections are complete.

Any field related discrepancies that are discovered during the SDV will be brought to the attention of the general contractor and corresponding trades on site. These issues will be documented and forwarded to the appropriate sales office. If CAS Service has to resolve a discrepancy that is a field issue, the general contractor will be notified and billed for the work. Should a return trip be required due to any field related discrepancy that cannot be resolved during the SDV, there will be additional trip charges.

During the SDV, CAS Service will address any discrepancy that is the fault of the manufacturer. Should a return trip be required, the general contractor and appropriate sales office will be notified. There will be no additional charges for manufacturer discrepancies.

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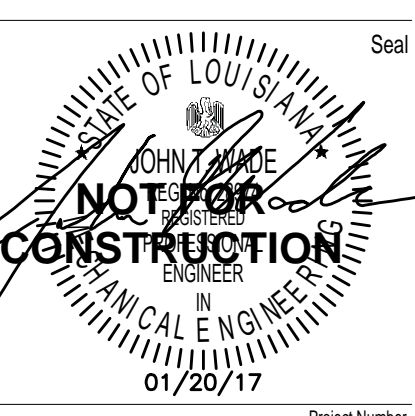
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Project Title
WALK-ON'S BISTREAUX & BAR
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 Sheet Title

MECHANICAL HOOD DETAILS SHEET 6 OF 6
 Key Plan



Project Number
 13-07h
 Date
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 Document Phase
 CONSTRUCTION DOCUMENTS
 Sheet Number