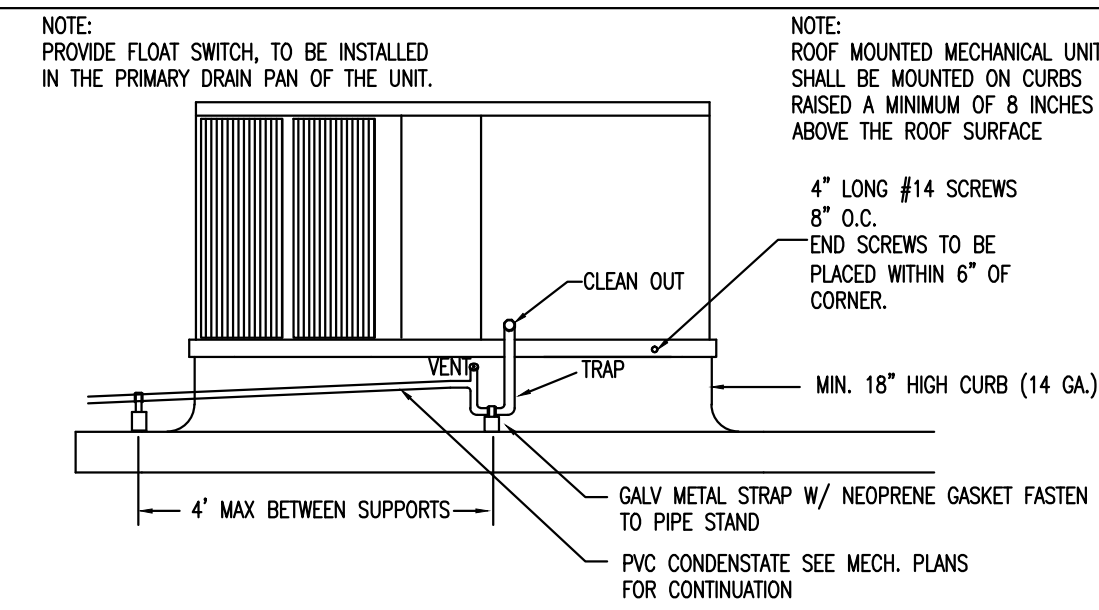
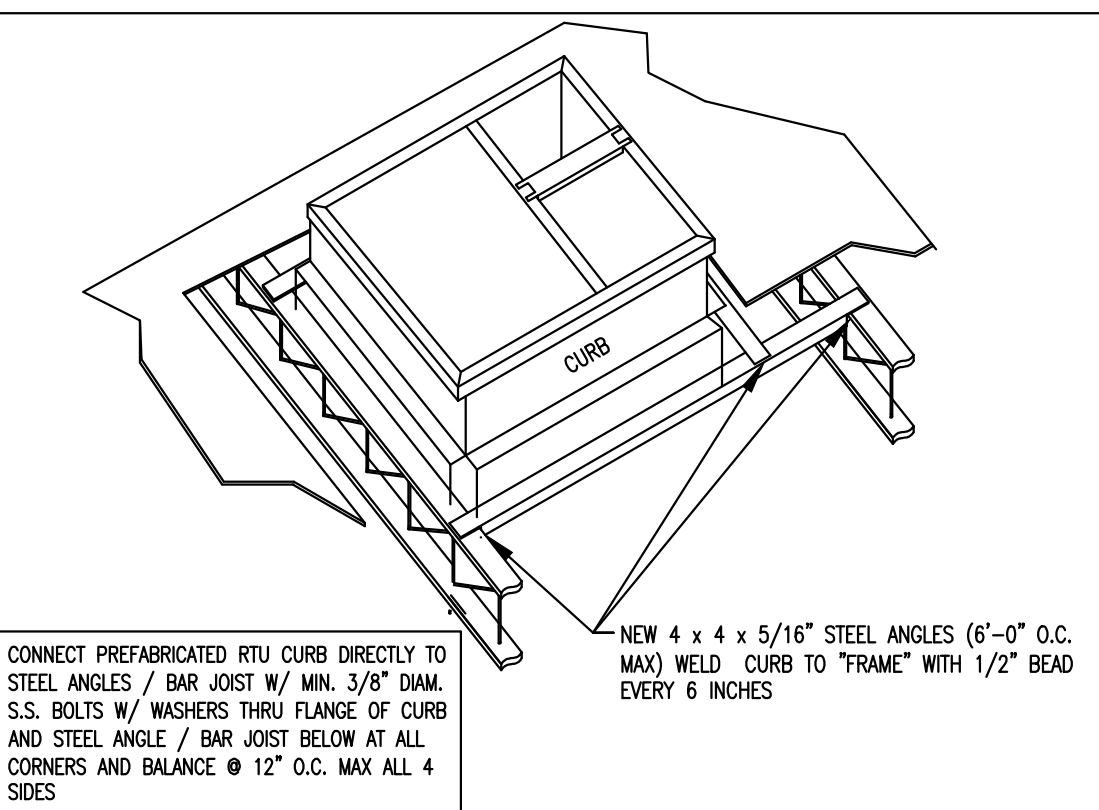


H.V.A.C. GENERAL NOTES:

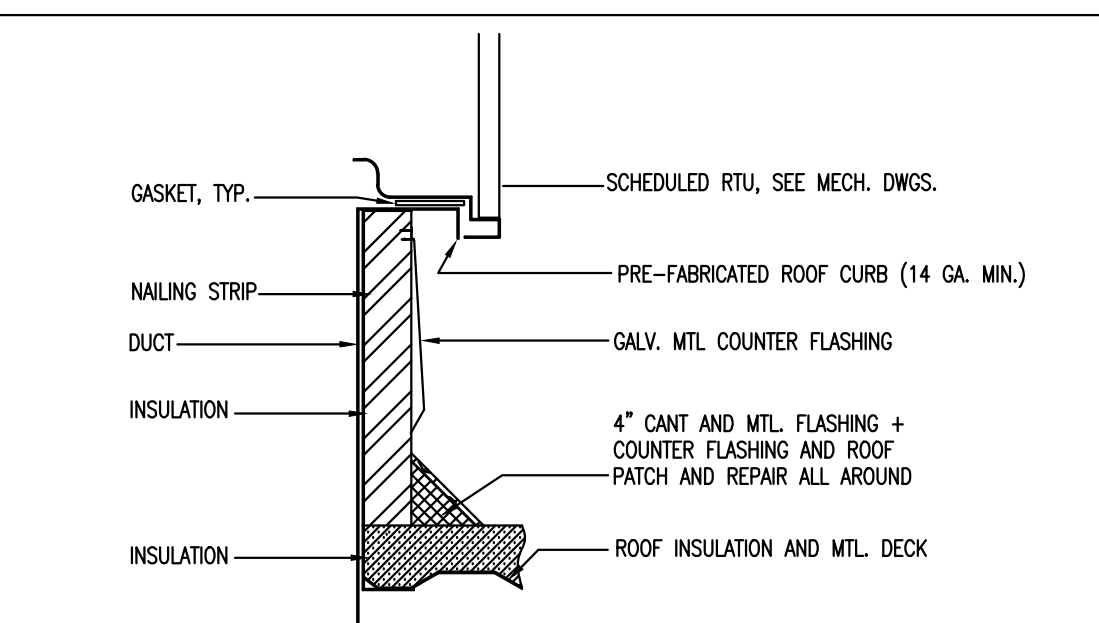
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH FBC-2014, 2012 NFPA-101, 2012 NFPA-1, 2011 NFPA-70.
- ALL WORK SHALL BE PERFORMED BY A LICENSED CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETE SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTANCE BY THE OWNER AND/OR ARCHITECT MUST BE CONDITION OF THE CONTRACT. SUBMIT SHOP DRAWINGS ON ALL EQUIPMENT, FOR REVIEW PRIOR TO PURCHASING.
 - THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL TRADES IN ORDER TO AVOID CONFLICTS. NO CHARGES WILL BE ACCEPTED UNLESS A PRIOR WRITTEN APPROVAL HAS BEEN ISSUED BY THE OWNER/ARCHITECT.
 - THE CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE WITH EXISTING CONDITIONS. PRIOR TO INSTALLING EQUIPMENT AND/OR FABRICATING DUCTWORK, A.C. CONTRACTOR SHALL CHECK THAT THERE IS SUFFICIENT CLEARANCES FOR EQUIPMENT, DUCTWORK, ETC. AND ALSO TO AVOID ANY INTERFERENCE WITH THE PROCESS OF CONSTRUCTION.
 - DRAWINGS ARE DIAGRAMMATIC ILLUSTRATIONS. DO NOT SCALE DRAWINGS FOR THE EXACT LOCATION OF EQUIPMENT, PIPING, DUCTWORK, ETC. THESE DRAWINGS ARE NOT INTENDED TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS REQUIRED FOR A COMPLETE ACCEPTABLE WORKING SYSTEM.
 - CONTRACTOR WILL PAY FOR ALL PERMITS, FEES, INSPECTIONS, AND TESTS.
 - INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS SET FORTH IN THE LATEST ASHRAE GUIDE. ALL MATERIALS SHALL BE NEW AND SHALL BEAR UNDERWRITER'S LABEL WHERE APPLICABLE.
 - AIR FILTERS SHALL BE INSTALLED ON ALL RETURN AIR EQUIPMENT INLETS. PROVIDE AN EXTRA FILTER, INSTALL AT END OF CONSTRUCTION.
 - ALL REQUIRED INSURANCE SHALL BE PROVIDED BY THE CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE APPLICABLE NATIONAL, STATE, AND LOCAL CODES, RULES, AND ORDINANCES.
 - PROVIDE MAIN CONDENSATE DRAIN AND AUXILIARY DRAIN PAN (AUXILIARY DRAIN PAN SHALL BE EQUIPPED WITH A WATER-LEVEL DETECTION DEVICE THAT WILL SHUT OFF THE EQUIPMENT SERVED PRIOR TO OVERFLOW OF THE PAN AS PER FMC 2014 SECTION 307.2.3) FOR ALL AIR CONDITIONING UNITS AND DRAIN TO EXTERIOR PERMEABLE SOIL OR AS SHOWN ON THE PLANS.
 - AIR CONDITIONING CONDENSATE PIPING AND FITTINGS SHALL BE PVC OR DWV (ASTM-D2662), COPPER IN PLENUM AREAS. ALL INTERIOR CONDENSATE PIPING IN UNCONDITIONED SPACES SHALL BE WRAPPED WITH A MINIMUM 1/2" SELF SEALING INSULATING FOAM JACKET. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY CONTROLS FOR THE OPERATION OF THE HVAC SYSTEM.
 - MAINTAIN 4" MINIMUM CLEARANCE AROUND ALL AIR HANDLING UNITS.
 - THERMOSTAT MUST BE PROGRAMMABLE TO BE ABLE TO SET THE TEMPERATURE BACK (OR OFF) WHEN SPACE IS UNOCCUPIED OR AT OTHER TIMES AS NEEDED BY USER.
 - ALL MATERIAL EXPOSED WITHIN PLENUM MUST BE NON COMBUSTIBLE OR RATED 25/50 FLAME SPREAD.
 - ALL AIR CONDITIONING AND VENTILATION DUCTS MUST CONFORM WITH SMACNA STANDARDS AND ALL LOCAL CODES. DUCT DROPS TO CEILINGS MAY BE INSULATED FLEXIBLE DUCT AS INDICATED ON THE HVAC PLAN. "FLEX" DUCTS SHALL BE FULLY EXTENDED AND OPEN. FIBERGLASS DUST INSULATION VALUE SHALL BE MIN. R-6 IN ATTICS AND MIN. R-4.2 IN AIR CONDITIONED SPACE.
 - ALL VENTILATION DUCTWORK SHALL BE GALVANIZED SHEET METAL.
 - DUCT SIZES SHOWN OR INDICATED ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS.
 - HANGERS SHALL BE PROVIDED IN ACCORDANCE WITH S.M.A.C.N.A. RECOMMENDATIONS.
 - AIR DISTRIBUTION ACCESSORIES SHALL BE AIR GUIDE, ANEMOSTAT, TITUS, OR APPROVED EQUAL. ALL SUPPLY A.C. DUCT ELBOWS MUST BE FURNISHED WITH APPROVED TURNING VANES. BRANCH TAKEOFFS MUST BE PROPORTIONAL SPLITS.
 - THE OWNER SHALL APPROVE THE FINISH COLOR OF ALL EXPOSED AIR DISTRIBUTION DEVICES.
 - PROVIDE FIRE DAMPERS IN ALL DUCTS PASSING THROUGH FIRE DIVISION ASSEMBLIES. FIRE DAMPERS MUST HAVE FIRE RATING EQUAL TO OR GREATER THAN THE PENETRATED ASSEMBLY RATING. FIRE DAMPER INSTALLATIONS SHALL COMPLY WITH ALL LOCAL CODES. PROVIDE ACCESS PANEL TO ALL FIRE DAMPERS.
 - ELECTRIC STRIP HEATERS SHALL BE BLAST COIL TYPE WITH NICKEL CHROMIUM WIRE AND INSULATING BUSHINGS FACTORY MOUNTED AND WIRED INCLUDING ALL HEAT LIMITERS, HIGH LIMIT SWITCHES, AND CONTRACTORS IN ACCORDANCE WITH THE "NATIONAL ELECTRIC CODE".
 - EXHAUST FANS SHALL HAVE THE CAPACITIES AS STATED ON THE DRAWINGS AND BE PROVIDED WITH BACK DRAFT DAMPER, BIRD SCREEN.
 - THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD NOT LESS THAN 1 YEAR FROM THE DATE OF ACCEPTANCE, UNLESS OTHERWISE NOTED. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENTS OR REPAIRS OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED OR IS NOT OPERATING PROPERLY.
 - ARCHITECTURAL AND/OR ENGINEERING EXPENSES THAT ARE INCURRED DUE TO REVISIONS FOR SUBSTITUTIONS BY THE CONTRACTOR SHALL BE PAID FOR BY THE CONTRACTOR.
 - AIR DISTRIBUTION SYSTEM TESTING, ADJUSTING AND BALANCING. A WRITTEN BALANCE REPORT SHALL BE PROVIDED TO THE OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER FOR HVAC SYSTEMS SERVING ZONES WITH A TOTAL CONDITIONED AREA EXCEEDING 5000 SQUARE FEET. AIR DISTRIBUTION SYSTEMS SHALL BE TESTED, ADJUSTED, AND BALANCED BY AN ENGINEER LICENSED IN THIS STATE OR A COMPANY OR INDIVIDUAL HOLDING A CURRENT CERTIFICATION FROM A RECOGNIZED TESTING AND BALANCING AGENCY ORGANIZATION IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS.
EXCEPTIONS:
1. BUILDINGS WITH COOLING OR HEATING SYSTEM CAPACITIES OF 15 TONS OR LESS PER SYSTEM MAY BE TESTED AND BALANCED BY A MECHANICAL CONTRACTOR LICENSED TO DESIGN AND INSTALL SUCH SYSTEM(S).
2. BUILDINGS WITH COOLING OR HEATING SYSTEM CAPACITIES OF 65,000 BTU/H OR LESS PER SYSTEM ARE EXEMPT FROM THE REQUIREMENTS OF THIS SECTION.
AIR SYSTEM BALANCING SHALL COMPLY WITH FBC 2014 ENERGY CONSERVATION 5TH EDITION SECTION C408.2.2.
 - AS PER FBC 2014 ENERGY CONSERVATION 5TH EDITION SECTION C408.2.5.2, AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER BY THE MECHANICAL CONTRACTOR. THE MANUAL SHALL INCLUDE, AT LEAST, THE FOLLOWING:
1. EQUIPMENT CAPACITY (INPUT AND OUTPUT) AND REQUIRED MAINTENANCE ACTIONS.
2. EQUIPMENT OPERATION AND MAINTENANCE MANUALS.
3. HVAC SYSTEM CONTROL MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SET POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS, AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS.
4. A COMPLETE WRITTEN NARRATIVE HOW EACH SYSTEM IS INTENDED TO OPERATE.
 - ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH FBC 2014 ENERGY CONSERVATION 5TH EDITION SECTION C403.2.8.
 - IF THERE ARE ANY CHANGES IN ENGINEER'S DRAWINGS, IN DESIGN OR IN EQUIPMENT, WITHOUT ENGINEER'S CONSENT, THE A.C. CONTRACTOR SHALL ASSUME ALL RESPONSIBILITIES FOR THE PROJECT.
 - SMOKE DETECTORS ARE REQUIRED ON ALL PRIMARY AIR CONDITIONING SYSTEMS WHERE TOTAL AIR VOLUME EXCEEDS 2,000 C.F.M. (FBC-MECHANICAL 2014, SECTION 606.2.1) A DUCT ACCESS DOOR IS REQUIRED TO ACCESS THE DETECTOR. 606.4 CONTROLS OPERATION. UPON ACTIVATION, THE SMOKE DETECTORS SHALL SHUT DOWN THE AIR DISTRIBUTION SYSTEM. AIR DISTRIBUTION SYSTEMS THAT ARE PART OF A SMOKE CONTROL SYSTEM SHALL SWITCH TO THE SMOKE CONTROL MODE UPON ACTIVATION OF A DETECTOR.
606.4.1 SUPERVISION. THE DUCT SMOKE DETECTORS SHALL BE CONNECTED TO A FIRE ALARM SYSTEM WHERE A FIRE ALARM SYSTEM IS REQUIRED BY THE FLORIDA FIRE PREVENTION CODE. THE ACTUATION OF A DUCT SMOKE DETECTOR SHALL ACTIVATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL AT A CONSTANTLY ATTENDED LOCATION.
EXCEPTIONS:
1. THE SUPERVISORY SIGNAL AT A CONSTANTLY ATTENDED LOCATION IS NOT REQUIRED WHERE THE DUCT SMOKE DETECTOR ACTIVATES THE BUILDING'S ALARM-INDICATING APPLIANCES.
2. IN OCCUPANCIES NOT REQUIRED TO BE EQUIPPED WITH A FIRE ALARM SYSTEM, ACTUATION OF A SMOKE DETECTOR SHALL ACTIVATE A VISIBLE AND AUDIBLE SIGNAL IN AN APPROVED LOCATION. DUCT SMOKE DETECTOR TROUBLE CONDITIONS SHALL ACTIVATE A VISIBLE OR AUDIBLE SIGNAL IN AN APPROVED LOCATION AND SHALL BE IDENTIFIED AS AIR DUCT DETECTOR TROUBLE.
 - AS PER FBC 2014 ENERGY CONSERVATION SECTION 5TH EDITION SECTION C403.2.4.4 (SHUTOFF DAMPER CONTROLS) PROVIDE MOTORIZED DAMPERS FOR O/A INTAKE FOR AHU. CONNECT MOTORIZED DAMPER TO TIME CLOCK TO CLOSE OUTSIDE AIR INTAKE AUTOMATICALLY WHEN THE SPACE SERVED IS NOT IN USE (OFF BUSINESS HOURS).
 - GRAVITY HOODS, VENTS, AND VENTILATORS. ALL OUTDOOR AIR SUPPLY AND EXHAUST HOODS, VENTS, AND VENTILATORS SHALL BE EQUIPPED WITH DAMPERS THAT WILL AUTOMATICALLY SHUT WHEN THE SPACES SERVED ARE NOT IN USE.
EXCEPTION: VENTILATION SYSTEMS SERVING UNCONDITIONED SPACES.
 - MINIMUM DUCT INSULATION R-VALUES, HEATING AND COOLING SUPPLY AND RETURN DUCTS SHALL BE PER FBC 2014 ENERGY CONSERVATION 5TH EDITION TABLE C403.2.7.1.
 - AS PER FBC-301.4 ALL APPLIANCES REGULATED BY THIS CODE SHALL BE LISTED AND LABELED UNLESS OTHERWISE APPROVED IN ACCORDANCE WITH SECTIONS 301.4.1 THROUGH 301.4.4.
 - AS PER FMC-304.10 GUARDS SHALL BE PROVIDED WHERE APPLIANCES, EQUIPMENT, FANS OR OTHER COMPONENTS THAT REQUIRE SERVICE AND ROOF HATCH OPENINGS ARE LOCATED WITHIN 10 FT. OF ROOF EDGE OR OPEN SIDE OF A WALKING SURFACE AND SUCH EDGE OR OPEN SIDE IS LOCATED MORE THAN 30" ABOVE THE FLOOR, ROOF OR GRADE BELOW.
 - AS PER 306.5.1 SLOPED ROOFS. WHERE APPLIANCES, EQUIPMENT, FANS OR OTHER COMPONENTS THAT REQUIRE SERVICE ARE INSTALLED ON A ROOF HAVING A SLOPE OF THREE UNITS VERTICAL IN 12 UNITS HORIZONTAL OR GREATER AND HAVING AN EDGE MORE THAN 30" ABOVE GRADE AT SUCH EDGE A LEVEL PLATFORM SHALL BE PROVIDED ON EACH SIDE OF THE APPLIANCE TO WHICH ACCESS IS REQUIRED FOR SERVICE, REPAIR OR MAINTENANCE. THE PLATFORM SHALL BE NOT LESS THAN 30" IN ANY DIMENSION AND SHALL BE PROVIDED WITH GUARDS. THE GUARDS SHALL EXTEND NOT LESS THAN 42" ABOVE THE PLATFORM. SHALL BE CONSTRUCTED SO AS TO PREVENT THE PASSAGE OF A 21" DIAMETER SPHERE AND SHALL COMPLY WITH THE LOADING REQUIREMENTS FOR GUARDS SPECIFIED IN THE FBC.
 - ANY INTAKE OPENINGS SHALL BE LOCATED A MINIMUM OF 10FT. FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT SOURCE.
 - ALL COOKING APPLIANCES THAT ARE DESIGNED FOR PERMANENT INSTALLATION SHALL BE LISTED, LABELED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTION.
 - THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND INFORM THE PROJECT ENGINEER AND ARCHITECT OF ANY DISCREPANCY BETWEEN THESE PLANS AND THE EXISTING CONDITIONS. THE CONTRACTOR SHALL INCLUDE IN HIS BID TO CORRECT SUCH CONDITION AS DIRECTED. THE ENGINEER AND ARCHITECT ARE NOT RESPONSIBLE FOR ANY ADDITIONAL COSTS RESULTING FROM VERIFIABLE EXISTING CONDITIONS DISCOVERED AFTER CONTRACT HAS BEEN AWARDED.



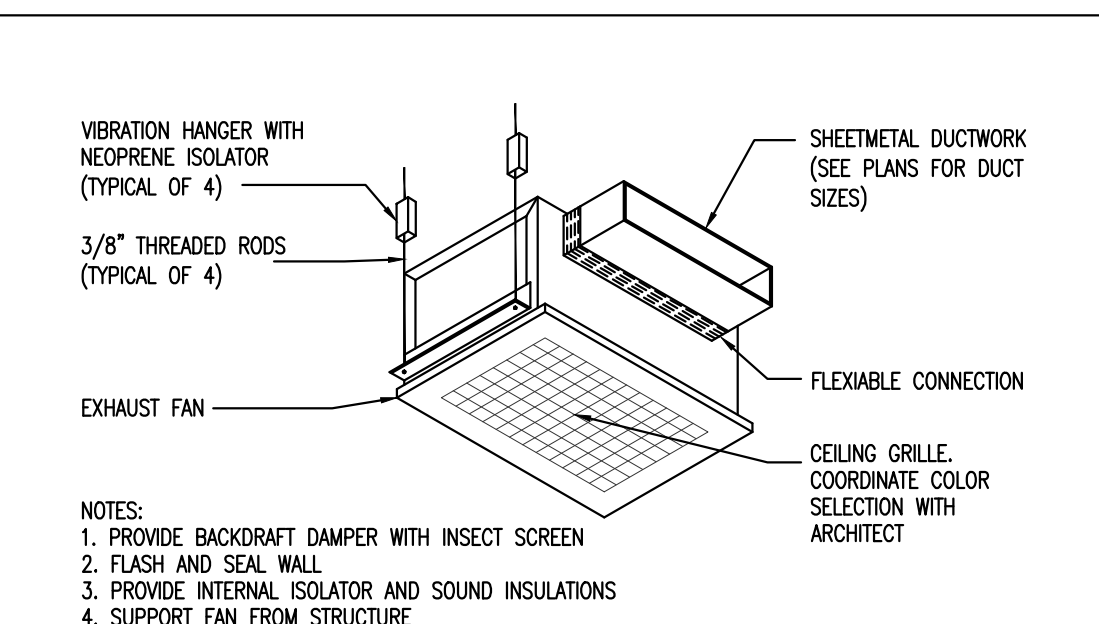
RTU TO CURB ATTACHMENT & DRAIN DETAIL
NTSC



CURB TO ROOF JOIST ATTACHMENT DETAIL
NTSC



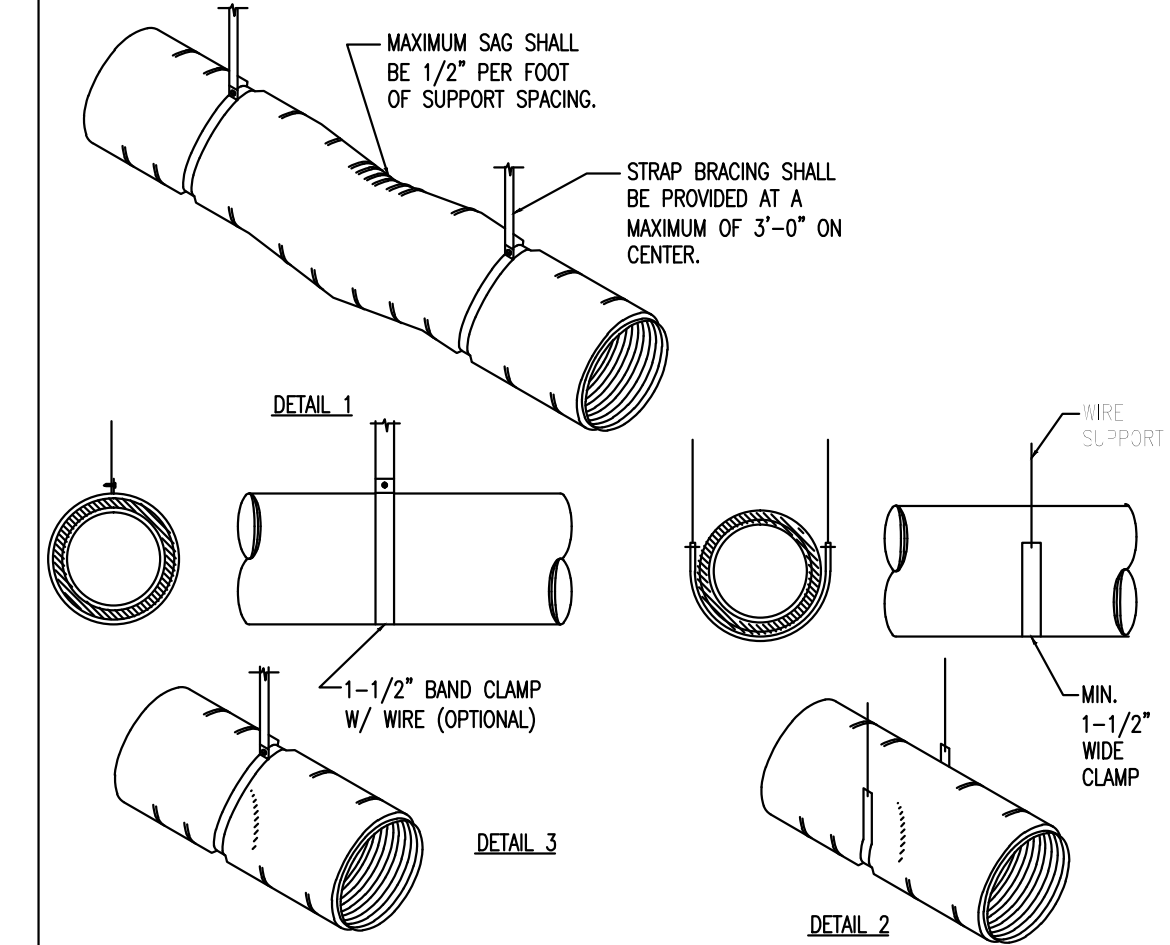
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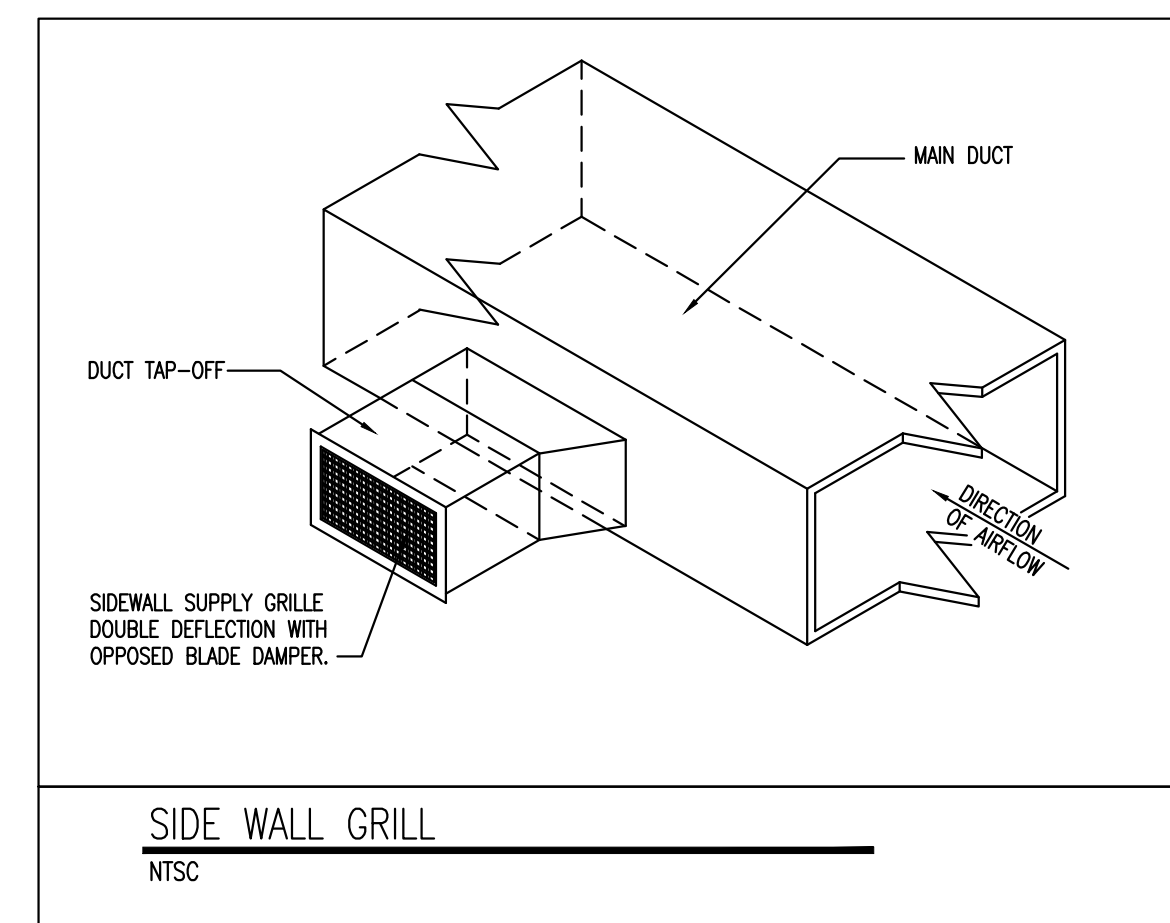
CEILING FAN DETAIL
NTSC

EXHAUST FAN SCHEDULE										
TAG	BASIS OF DESIGN			FLOW RATE	STATIC PRESSURE	RPM	ELECTRICAL DATA		PANEL (LxW)	WEIGHT
	MANUFACTURER	MODEL OR SERIES	CFM				POWER (W)	VOLT		
EF-1	GREENHECK OR EQUAL	SP-870	50	0.25	675	40	115	13.25x14.875	9	

- NOTES:
- METALLIC FLEXIBLE DUCTWORK SHALL BE ATTACHED USING A MINIMUM OF THREE #8 SHEET METAL SCREWS EQUALLY SPACED AROUND THE DUCTWORK CIRCUMFERENCE. DUCTWORK LARGER THAN 12" SHALL HAVE A MINIMUM OF FIVE #8 SHEET METAL SCREWS. SCREWS SHALL BE LOCATED AT LEAST 8" FROM THE DUCTWORK END.
 - NON-METALLIC FLEXIBLE DUCTWORK SHALL BE SECURED TO THE SLEEVE OR COLLAR USING A DRAW BAND. IF THE DUCTWORK COLLAR EXCEEDS 12", THE DRAW BAND MUST BE POSITIONED BEHIND A BEAD ON THE METAL COLLAR.
 - INSULATION AND VAPOR BARRIERS PRESENT ON FACTORY-FABRICATED DUCTWORK SHALL BE FITTED OVER THE CORE CONNECTION AND SHALL BE SUPPLEMENTALLY SECURED WITH A DRAW BAND.
 - FLEXIBLE DUCTWORK SEALING SHALL BE A CLASS 'B' SEAL FOR LOW PRESSURE DUCTWORK.
 - SUPPORT SYSTEM SHALL NOT DAMAGE OR CAUSE OUT-OF-ROUND SHAPE.



INSULATED FLEXIBLE DUCTWORK DETAIL
NTSC

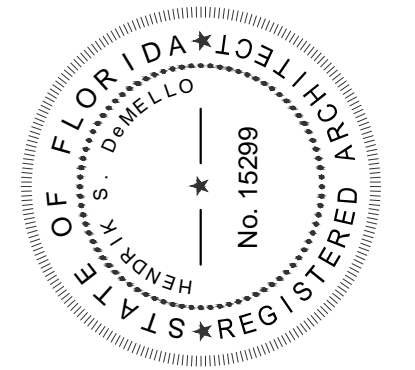


SIDE WALL GRILL
NTSC

MECHANICAL NOTES & DETAILS

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SECOND FLOOR ADDITION FOR
DIXIE DIVERS
455 U.S. HIGHWAY #1
DEERFIELD BEACH, FL.

drawing name:

revisions

designed H. DeMello
drawn H. DeMello
date AUG. 21, 2015
scale AS SHOWN
project # 15.138
sheet

M-2
of 2 sheets