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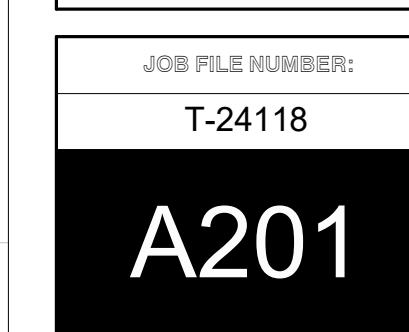












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Diagram illustrating the installation of a square neck diffuser:

- S.A. DUCT
- MANUAL VOLUME DAMPER
- INSULATED FLEXIBLE DUCT NO LONGER THAN 20' WITH ONE ELBOW ONLY (U.O.N.)
- DRAWBAND CONNECTOR BENEATH INSULATION
- INSULATED ROUND COLLAR
- DIFFUSER OR GRILLE
- CEILING
- INSULATED SQUARE BOX FOR SQUARE NECK DIFFUSER OR DIFFUSERS ROUND NECK WITH REDUCER IF REQUIRED

1. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL TRADES IN ORDER TO AVOID CONFLICTS. NO CHANGES WILL BE ACCEPTED UNLESS A PRIOR WRITTEN APPROVAL HAS BEEN ISSUED BY THE ARCHITECT.
2. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE HVAC SYSTEM AND PROVIDE ALL THE REQUIREMENTS NECESSARY FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. SUBMIT SHOP DRAWINGS FOR APPROVAL.
3. AIR FILTERS SHALL BE INSTALLED ON ALL RETURN AIR EQUIPMENT INLETS AND FRESH AIR INLETS.
4. PROVIDE MAIN AND AUXILIARY CONDENSATE DRAINS FOR ALL AIR CONDITIONS UNITS AND DRAIN TO EXTERIOR OR AS SHOWN ON THE PLANS. INSULATE IN UNCONDITIONED INTERIOR SPACE W/ 1/2" FOAM JACKET.
5. AIR CONDITIONING CONDENSATE PIPING AND FITTINGS SHALL BE PVC OR DWV / ASTM D2562. ALL INTERIOR CONDENSATE PIPING IN UNAIRCONDITIONED SPACES SHALL BE WRAPPED WITH A MINIMUM 1/2" SELF SEALING INSULATING FOAM JACKET.
6. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY CONTROLS FOR THE OPERATION OF THE HVAC SYSTEM. THERMOSTAT SHALL BE ONE STEP HEATING WITH SYSTEM "HEAT- AUTO -COOL-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES. USE "HONEYWELL" OR AN APPROVED EQUAL.
7. ALL DUCT TRUNK LINES SHALL BE 1 1/2" FIBERGLASS. DUCT DROPS TO CEILING MAY BE INSULATED FLEXIBLE DUCT AS INDICATED ON THE HVAC PLAN. "FLEX" DUCTS SHALL BE EXTENDED AND OPEN.
8. FIBERGLASS DUCTWORK SHALL BE "OWENS-CORNING" 1 1/2" HEAVY DUTY FIRE RETARDANT WITH GLASS REINFORCED FOIL-FACED SCRM. CLOSE JOINTS AND SEAMS WITH FLARE STAPLES @ 2" O.C. AND GLASS REINFORCED TAPE WITH CLASS-1 RATED MASTIC. FOLLOW MANUFACTURER'S INSTALLATION PROCEDURES FOR ALL SUCH WORK.
9. DUCT SIZES SHOWN OR INDICATED ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS.
10. HANGERS SHALL BE PROVIDED IN ACCORDANCE WITH S.M.A.C.N.A. RECOMMENDATION
11. ALL AIR DISTRIBUTION DEVICES INCLUDING DIFFUSERS, REGISTERS, GRILLES, ETC. SHALL BE ALL ALUMINUM CONSTRUCTION AS MANUFACTURED BY "NALOIT-HART" OR "METALAIRES". PROVIDE OPPOSED BALD DAMPERS, TURNING VANES AND EXTRACTORS AT
12. THE OWNER SHALL APPROVE THE FINISH COLOR OF ALL EXPOSED AIR DISTRIBUTION DEVICES.
13. SMOKE DETECTORS SHALL ONLY BE REQUIRED ON AIR CONDITIONING SYSTEMS WHERE THE SUPPLY AIR IS GREATER THAN 2000CFM, PER SMC 606.2.1. AND THEN SMOKE DETECTORS SHALL BE PROVIDED AND WIRED BY ALARM COMPANY. DETECTORS SHALL BE INSTALLED BY MECHANICAL CONTRACTOR IN SUPPLY DUCT PER NFPA 90.
14. PROVIDE FIRE DAMPERS IN ALL DUCTS PASSING THROUGH FIRE DIVISION WALLS, ROOFS, AND/OR FLOOR PENETRATIONS. FIRE DAMPER INSTALLATIONS SHALL COMPLY WITH ALL LOCAL CODES.
15. ELECTRIC STRIP HEATERS SHALL BE BALLAST COIL TYPE WITH NICKEL CHROMIUM WIRE AND INSULATING BRUSHING FACTORY MOUNTED AND WIRED INCLUDING ALL HEAT LIMITERS, HIGH LIMIT, SWITCHES, AND CONTRACTORS IN ACCORDANCE WITH THE "NATIONAL ELECTRIC CODE".
16. EXHAUST FANS SHALL HAVE THE CAPACITIES AS STATED ON THE DRAWINGS AND BE PROVIDED WITH BACK DRAFTER DAMPER, BIRD SCREEN, AND WHEN REQUIRED A SAFETY SWITCH.
17. THE CONTRACTOR WILL BE RESPONSIBLE FOR BALANCING THE HVAC SYSTEM, ADJUST DAMPERS AND FANS TO OBTAIN AIR QUANTITIES WITHIN 5% OF THOSE INDICATED ON THE DRAWINGS.
18. TESTING OF THE SYSTEM, IF REQUIRED SHALL BE PERFORMED BY AN INDEPENDENT TEST AND BALANCE AGENCY. RECORD OUTDOOR AND INDOOR WET AND DRY BULB TEMPERATURES ALONG WITH FULL LOAD AMPERAGE READING FOR ALL MOTORS AT BALANCED CONDITION. SUBMIT ALL TEST AND BALANCE REPORTS TO THE ARCHITECT AND/OR OWNER FOR APPROVAL.
19. CEILING REGISTERS WILL BE "NALOIT-HART" CEILING AIR DIFFUSERS (24" X 24") WITH ADJUSTABLE BLADE VOLUME CONTROL OR EQUAL.

FMC TABLE 403.3.1.1 OCCUPANCY, TELEPHONE/DATA ENTRY NET OCCUPIABLE AREA = 1,046 Sq Ft  
 $Vbz = R_2 \times P_2 + R_3 \times A_2$  (EQUATION 4-1)  
 $Vbz = (7.5 \text{ cfm} \times 16 \text{ occ.}) + (0.12 \times 1,046 \text{ sf})$  (EQUATION 4-1)  
 $250 \text{ cfm} = (5 \text{ cfm} \times 7 \text{ occ.}) + (0.12 \times 1,046 \text{ sf})$   
FMC TABLE 403.3.1.1.2 ZONE AIR DISTRIBUTION EFFECTIVENESS  
 $Es = 1.0$  (EQUATION 4-2)  
 $Voz = 250 \text{ cfm}$   
 $Voz = Vbz$  (EQUATION 4-3)



**NOTE: NO INCREASE TO  
EXISTING SERVICE REQUIRED**

- ## ELECTRICAL NOTES
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND OTHER LOCAL CODES AND STANDARDS. COORDINATE AND ADHERE TO ALL STANDARD REQUIREMENTS OF THE LOCAL ELECTRIC UTILITY, CABLE, & TELEPHONE COMPANIES. CONTRACTOR SHALL PROVIDE WRITTEN VERIFICATION TO THE OWNER FROM FPL&S AS TO LOCATION, VOLTAGE, & PHASE OF SERVICE TO BE SUPPLIED BY FPL&S FOR THIS PROJECT. ANY DISCREPANCIES ON THE PLANS, OR DEVIATIONS FROM THE CONTRACT, AS REGARDS THE ABOVE SERVICES, LOCATIONS, ETC., SHALL REQUIRE WRITTEN NOTIFICATION AND CONSENT OF ALL EFFECTED PARTIES, (OWNER, FPL, GEN. & SUB. CONTRACTORS, ARCHITECT, AND/OR ENGINEER).
  2. THE CONTRACTOR IS RESPONSIBLE FOR EVALUATING FIELD CONDITIONS BY VISITING THE SITE AND CONTACTING THE SERVICE PROVIDERS PRIOR TO COMMENCING/BIDDING WORK.
  3. THE CONTRACTOR SHALL PAY FOR ALL FEES, PERMITS, TESTING, AND INSPECTIONS.
  4. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A NEAT AND WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE.
  5. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
  6. ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST THE PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
  7. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE OF DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM THE DATE OF ACCEPTANCE OR CERTIFICATE OF OCCUPANCY. CORRECTION OF DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENTS OR REPAIR OF ANY OTHER PHASE OF INSTALLATION THAT MAY HAVE BEEN DAMAGED.
  8. THE CONTRACTOR SHALL SATISFACTORILY REPAIR/REPLACE EQUIPMENT OR PART OF STRUCTURE DAMAGED AS A RESULT OF HIS WORK. SURFACES AND FINISHED AREAS SHALL BE RESTORED TO MATCH ADJACENT AREAS.
  9. APPROVAL SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO CUTTING OR DRILLING ANY STRUCTURAL SUPPORT MEMBER.
  10. THIS DRAWING IS A GUIDE FOR THE INSTALLATION OF ELECTRICAL SERVICE. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM, AND PROVIDE ALL THE REQUIREMENTS NECESSARY FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
  12. ALL EQUIPMENT AND PANEL SIZES SHALL BE FIELD VERIFIED BEFORE ORDERING. THE CONTRACTOR SHALL PROVIDE CIRCUIT ROUTINGS TO SUIT THE JOB CONDITIONS.
  13. FURNISH AND INSTALL ALL FIXTURES AS CALLED FOR ON THE PLANS OR AS SELECTED BY OTHERS (OWNER OR TENANT).
  14. ALL RACEWAYS AND PIPES PLACED IN OR THROUGH ANY CONCRETE SLAB SHALL BE SPACED A MINIMUM OF THREE DIAMETERS OF THE LARGEST CONDUIT OR PIPE FROM ANY OTHER SERVICE.
  15. CONTRACTOR SHALL SEAL ALL FLOOR AND/OR TENANT SEPARATION WALL OPENINGS WITH A UL-LISTED FIRE SEAL ASSEMBLY.
  16. ALL DEVICE BOXES SHALL BE INSTALLED FLUSH AND CONDUITS RUN CONCEALED IN FINISHED AREAS EXCEPT AS SPECIFICALLY SHOWN/NOTED OTHERWISE. RISERS ARE DIAGRAMMATIC ONLY. THEY DO NOT SHOW EVERY BEND REQUIRED FOR THE INSTALLATION.
  17. THE ELECTRICAL SYSTEM SHALL BE COMPLETELY AND EFFECTIVELY GROUNDED AS REQUIRED BY THE LATEST EDITION OF THE N.E.C.
  18. ALL MATERIAL SHALL BE NEW AND SHALL BE U.L. APPROVED AND LABELED WHERE APPLICABLE.
  19. ALL EMPTY CONDUITS TO BE PROVIDED WITH NYLON PULL STRINGS.
  20. ALL PULL AND JUNCTION BOXES SHALL BE ACCESSIBLE AT ALL TIMES.
  21. EXACT POINTS AND METHODS OF CONNECTION SHALL BE DETERMINED IN THE FIELD.
  22. ALL CABLES SHALL BE RUN WITHOUT SPLICES EXCEPT AS OTHERWISE INDICATED.
  23. ALL CONDUCTORS SHALL BE COPPER.
  24. WIRE SIZE SHALL BE #12 THIN/THWN UNLESS OTHERWISE NOTED ON PLANS, CONDUCTORS #6 AND LARGER SHALL BE THW./RCLUI.
  25. ALL BRANCH CIRCUITS MUST BE PROPERLY PHASE BALANCED.
  26. BRANCH CIRCUIT BREAKERS THE BOLT-ON TYPE OR PLUG-IN CIRCUIT BREAKERS WILL BE ACCEPTED.
  27. FUSES SHALL BE DUAL ELEMENT, TIME DELAY TYPE UNLESS OTHERWISE NOTED.
  28. ALL LUMINAIRES SHALL BE PROPERLY SUPPORTED IN ACCORDANCE WITH CEILING SYSTEM MANUFACTURER RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS.
  29. A/C EQUIPMENT WIRING, BREAKER AND FUSE SIZE ARE BASED ON A/C EQUIPMENT SPECIFIED ON CONTRACT DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL WIRING, BREAKER AND FUSES SIZES IN ACCORDANCE WITH A/C EQUIPMENT NAMEPLATE REQUIREMENTS IF DIFFERENT FROM THAT SPECIFIED ON DRAWINGS, AS WELL AS ANY FEEDER CHANGES BEING AFFECTED BY THIS CHANGE. CONTRACTOR SHALL MAKE ABOVE MENTIONED CHANGES AT NO EXTRA COST.
  30. CONTRACTOR SHALL COORDINATE ALL HIS WORK WITH OTHER TRADES IN ORDER TO FURNISH AND INSTALL ALL CONTROL WIRING AND RACEWAYS. ALL POWER CIRCUIT CIRCUITS WIRING AND RACEWAYS, AS SHOWN ON THE AIR CONDITIONING DRAWINGS REFER TO MANUFACTURER'S WIRING DIAGRAMS.