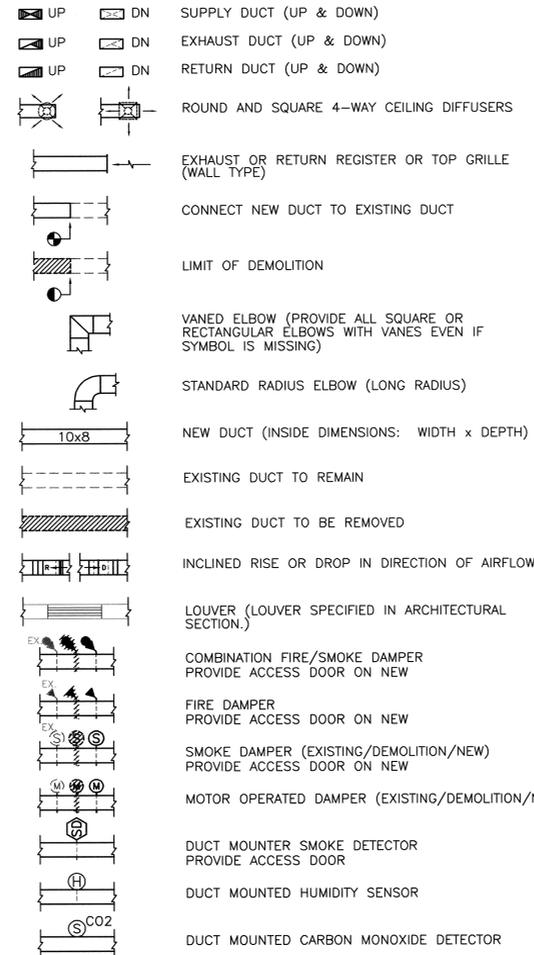


three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
one quarter inch = one foot  
three eighths inch = one foot  
one eighth inch = one foot

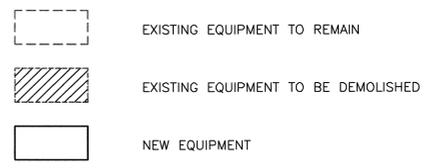
ABBREVIATIONS

Table of abbreviations including AF (After Filter), AFBI (Air Foil Backward Inclined), AFV (Air Flow Valve), AFMD (Air Flow Measuring Device), AHU (Air Handling Unit), APD (Air Pressure Drop), BMS (Building Management System), CAP (Capacity), CAV (Constant Air Volume), CFM (Cubic Feet Per Minute), CV (Constant Volume), CONN (Connection), COR (Contracting Officer's Representative), CPVC (Chlorinated Polyvinyl Chloride), Db (Dry-Bulb Temperature), DCP (Digital Control Panel), DIA (Diameter), DISC (Disconnect), EAT (Entering Air Temperature), ECC (Engineering Control Center), EF (Exhaust Fan), ENT (Entering), ESP (External Static Pressure), EWT (Entering Water Temperature), EX. (Existing), EXH. (Exhaust), EXT. (External), F (Fahrenheit), F&T (Float and Thermostatic), FPF (Fins Per Foot), FT (Feet), FT WG (Feet Water Gauge), GPM (Gallons Per Minute), H (Humidifier), HAC (Housekeeping Aid Closet), HEPA (High-Efficiency Particulate Arresting), HP (Hot Water Coil), HWC (Heating Hot Water Return), HWR (Heating Hot Water Supply), HZ (Hertz), IBC (International Building Council), IN (Inches), IN HG (Inches of Mercury), IN WC (Inch Water Column), IN WG (Inch Water Gauge), LAT (Leaving Air Temperature), LBS/HR (Pounds Per Hour), LPR (Low Pressure Return (Steam Condensate)), LPS (Low Pressure Steam), LTCP (Local Temperature Control Panel), LWT (Leaving Water Temperature), MANUF (Manufacturer), MAX (Maximum), MBH (1000 BTUH), MERV (Minimum Efficiency Reporting Value), MIN (Minimum), mm (Millimeter), MTD (Mounted), NC (Normally Closed), NO (Normally Open), PD (Pressure Drop), PF (Pre-Filter), PH (Phase), PSIG (Pounds Per Square Inch - Gage), RPM (Revolutions Per Minute), SENS (Sensible), SMACNA (Sheet Metal and Air Conditioning National Association), SP (Static Pressure), STM (Steam), STS (Steam to Steam Humidifier), SW (Switch), TYP (Typical), V (Volts), VAV (Variable Air Volume), VEL (Velocity), VFD (Variable Frequency Drive), VSMC (Variable Speed Motor Controller), Wb (Wet-Bulb (Temperature)), WG (Water Gauge).

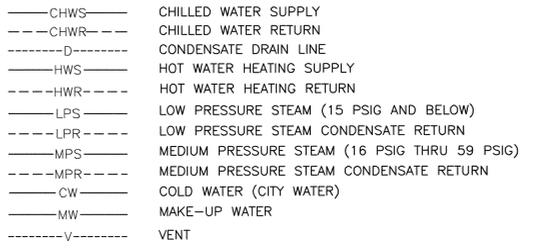
DUCTWORK SYMBOLS



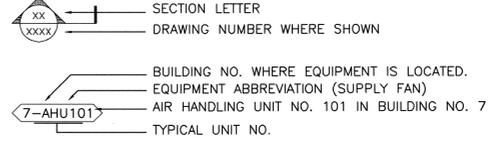
EQUIPMENT SYMBOLS



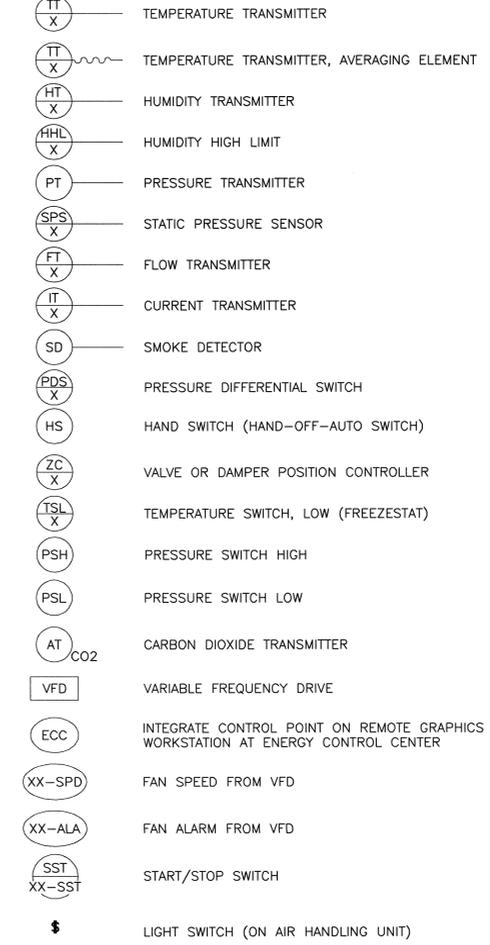
PIPING SYMBOLS



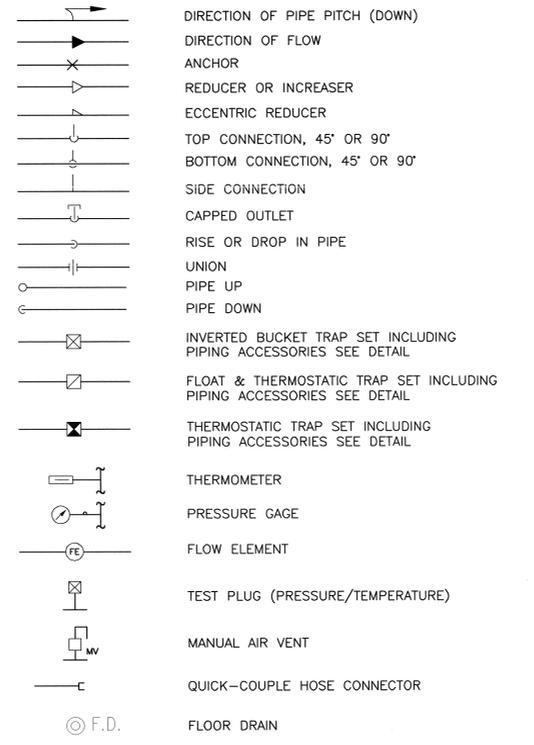
DRAWING SYMBOLS



CONTROLS SYMBOLS



GENERAL PIPING SYMBOLS

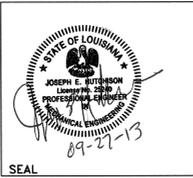


GENERAL NOTES

- 1. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE HARD SUSPENDED OR LAY-IN CEILING.
- 2. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS.
- 3. ACCESS PANELS IN HARD SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
- 4. FOR TYPICAL STEAM AND WATER PIPING CONNECTIONS TO EQUIPMENT, SEE STANDARD EQUIPMENT DETAILS.
- 5. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
- 6. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTERFLOW BETWEEN WATER AND AIR.
- 7. WALL TYPE EXHAUST REGISTERS NOTED AS "BR" ON DRAWINGS ARE TO BE INSTALLED WITH BOTTOM ELEVATION OF REGISTER AT 7" ABOVE FINISHED FLOOR.
- 8. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
- 9. SEISMIC PROVISIONS REQUIRED - SEE SPECIFICATIONS.
- 10. ALL PRESSURES LISTED ARE GAGE PRESSURE UNLESS OTHERWISE NOTED.
- 11. PROVIDE CURVED RADIUS ELBOW AT FIRST SUPPLY AND RETURN FITTING FOR ALL HVAC UNITS.
- 12. PROVIDE TURNING VANES IN ALL 90 DEGREE RECTANGULAR ELBOWS FOR SUPPLY/RETURN/EXHAUST DUCT SYSTEMS.
- 13. ANY OFFSETS REQUIRED IN DUCT SYSTEMS SHALL BE INSTALLED PER SMACNA STANDARDS.
- 14. SHARP ANGLED TRANSITIONS OR OFFSETS WILL NOT BE ALLOWED UNLESS APPROVED BY THE CONTRACTING OFFICER'S REPRESENTATIVE IN ADVANCE OF INSTALLATION.
- 15. INSTALL ALL DUCT MOUNTED DEVICES (DAMPERS, ACCESS DOORS, ETC) AND PIPING SPECIALTIES IN EASILY ACCESSIBLE LOCATIONS. ADVISE THE CONTRACTING OFFICER'S REPRESENTATIVE IN ADVANCE OF INSTALLATION IF ACCESS WILL BE HINDERED SO AN ALTERNATE LOCATION MAY BE SELECTED.
- 16. ALL DUCT TAKE-OFFS SHALL BE INSTALLED AS SHOWN BY DETAILS ON THE DRAWINGS WITH A MANUAL BALANCE DAMPER AT EVERY TAKE-OFF. WHERE DUCT RUN-OUT SIZE IS NOT SHOWN PROVIDE DUCT SAME SIZE AS GRILLE NECK SIZE.
- 17. ALL ROTATING MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATION. PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS BETWEEN DUCTWORK AND ISOLATED MECHANICAL EQUIPMENT.
- 18. EXISTING DUCTWORK THAT PENETRATES FIRE OR SMOKE RATED WALL, FLOOR OR ROOF ASSEMBLIES IS NOT BEING UPGRADED FOR RATING OF EXISTING ASSEMBLIES. NEW DUCTWORK THAT PENETRATES RATED ASSEMBLIES (NEW OR EXISTING) SHALL BE PROVIDED WITH THE APPROPRIATE DAMPER FOR THAT RATING.
- 19. MECHANICAL CONTRACTOR SHALL CONFIRM FINAL DIMENSIONS OF UNIT ARE COORDINATED WITH EXISTING SYSTEMS AND CONCRETE PADS.
- 20. ANY EXISTING SYSTEMS THAT REQUIRE MODIFICATION FOR UNIT INSTALLATION SHALL BE COORDINATED WITH THE CONTRACTING OFFICER'S REPRESENTATIVE.

Table with columns for REVISION NO. and REVISION DESCRIPTION.

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HSH PROJECT # 12013

Table with columns for Recommended Approvals (1-10) and Drawing Title (MECHANICAL LEGEND AND NOTES).

Table with columns for Project Title (DESIGN BUILDING 7 AIR HANDLER UPGRADE - PROJECT A: 7-AHU107 & 7-AHU108), Date (SEPT. 27, 2013), Project Number (502-12-201), Drawing No. (M001), and other project details.

Veterans Affairs logo and text.