

- C. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls. unless otherwise indicated on drawings.
- D. Install piping to maintain headroom, conserve space, and not interfere with use of space.
- E. Group piping whenever practical at common elevations.
- F. Final routing of all piping shall allow for expansion and contraction without stressing pipe, joints, or connected equipment. Vent piping roof penetrations shall be made using flashing collars which are designed to allow for expansion and contraction (Stoneman or equal). Where expansion of vent stack or stack vent exceeds flashing manufacturer's recommendations, provide suitable offset or approved expansion device to accommodate expansion. Provide expansion joints and/or loops or approved expansion fittings as required in all runs of domestic water and DMV lines to avoid sharing of branch lines at structural members or otherwise overstressing joints. Expansion shall be based on manufacturer's data for an 80 degree Fahrenheit temperature rise, and the individual length of pipe. Submit any specific concerns to Engineer for evaluation. Submit shop drawings of expansion loops and offsets when requested.
- G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.
- H. Provide access panels where valves and fittings are not exposed. Panels shall be provided in locations approved by the Architect and shall meet fire ratings of walls or ceilings. Adjust location of valves/piping when requested.
- I. Install all piping in lavatory cabinets and vanities as tight to the rear of the cabinet or vanity as possible to provide full utilization of the cabinet or vanity for storage.
- J. Install all piping so as not to interfere with any electric lighting outlets, duct work, other piping, or equipment. Do not install piping in front of any door or window and avoid interference with any such openings. Do not install any piping over any motors, transformers, electric panels, or other electrical equipment.
- K. Establish elevations of buried piping outside the building to ensure not less than 1.5 ft. of cover at all locations @ 1/4" per foot grade.
- L. Install vent piping penetrating roofed areas to maintain integrity of roof assembly. Flash all vents passing through roof.
- M. ALL FIRE RATED ASSEMBLY PIPING PENETRATIONS MUST BE MADE IN ACCORDANCE WITH THE FIRE RATED ASSEMBLY'S UL LISTING, AND APPROVED BY AUTHORITY HAVING JURISDICTION.
- N. Provide and install permanent metal tags identifying all valves and equipment.