

PART 1: GENERAL

1.01 General Requirements

- A. This standard is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. The responsibility of the engineer is to apply the principles of this section and the ones that follow such that the University may achieve a level of quality and consistency in the plumbing design of their facilities. Deviations from these guidelines must be submitted to SHSU for approval.
- B. Indicate required service clearances on drawings with dashed lines. Design shall provide for service and maintenance access to all equipment. Service area shall comply with codes and manufacturer's recommendations and shall be reasonably planned for human access.
- C. Building utilities are required to be metered including but not limited to domestic water and gas. Locate metering equipment inside a mechanical room. Meter runs shall be constructed in accordance with SHSU details. Provide isolation valves to accommodate meter service. Install bypass on water meters. For buildings with mixed occupancy (E&G and non-E&G), provide sub-metering to property allocate utility costs between organizations. Coordinate sub-metering requirements with the University.
- D. For hot water systems that require sub metering individual systems shall be isolated from each other.
- E. Include a 0-100 psi pressure gauge on the domestic water header. Also include an electronic pressure sensor and transmitter in accordance with SHSU details on the header, suitable for connection to Owner's BAS system.
- F. Avoid 2-1/2", 3-1/2 and 5 inch pipe diameters.
- G. Do not locate plumbing piping or equipment in transformer vaults, elevator hoist-ways, elevator equipment rooms, electrical rooms, or telecommunications rooms.
- H. Verify location, available capacity and connection of new building services to existing campus utilities (domestic water, sanitary sewer, natural gas, etc.) with the University.
- I. Provide sufficient unions, flanges, and isolation valves to permit removal of equipment.
- J. Provide dielectric unions or dielectric nipples with a non-dielectric union to join dissimilar piping materials.
- K. Slope plumbing systems to permit drainage. Provide drain valves at lower points and manual air vents at high points such that the every portion of the system can be properly vented and drained.
- L. Conceal piping within building walls, above ceilings or in furred chases. Use exposed piping only in mechanical rooms unless directed otherwise.

- M. Provide one-piece (preferred) or split hinge stainless steel escutcheons for piping entering floors, walls, and ceilings in exposed spaces.
- N. Coordinate plumbing system design requirements with overall project design objectives
- O. For equipment providing critical services provide N+1 redundancy.
- P. In all Residence Life Buildings provide a clean-out for each lavatory and /or kitchen drain above flood plane located in wall above counter. Cleanout plug flush with wall so a mirror or access cover can be mounted. Where there are back to back drains only 1 cleanout is required.
- Q. For sanitary piping clean outs must be provided at each change of direction and located at a suitable place for ease of maintenance and clean up.

1.03 Plumbing Systems Selection:

A. Plumbing

1. Floor drain traps installed in inaccessible areas shall be brought to the attention of the Owner for consideration of priming at that time.
2. There shall be one 12" x12" floor sink per air handler for fin water (condensate from cooling coils), and one 12"x12" floor sink per pump battery to facilitate multiple condensate lines, and to eliminate trip hazard of condensate lines routed over floors.
3. With SHSU Plant Operations approval, Domestic water softening may be required at sites with high domestic water loads such as residence halls, animal research, and rec. sports. Laboratory water softening shall be considered on a case by case basis. Water shall be tested for hardness and softening system shall be selected to reduce hardness to acceptable level and sized for building demand. All water softner equipment must be located in mechanical room

1.05 Plumbing System Warranties

- A. All plumbing systems, components and controls shall be provided with a minimum 12 month warranty that shall initiate upon substantial completion of building. Specific plumbing components may have longer warranty periods. Warranty shall be unconditional and include material, labor and response within 24 hours of notification.

END OF STANDARD