PLUMBING WATER PIPE

DESIGN GUIDELINES

1. General
    a. Material Type
        - Water piping for Labs and Offices shall be Type L copper with lead free solder joints and wrought copper fittings.
        - Press fittings allowed in piping less than or equal to 2". Press fittings not allowed in concealed locations; for example, above dry wall ceilings, in chases or in walls.
        - Provide brass valves in plumbing water piping.
    b. Design
        - Pipe shall be sized to meet the design.
        - Valves shall be located at each branch take off for each bathroom group or other group of plumbing fixtures.
        - Valves shall be located at each lab takeoff.
        - Valves shall be located at each lab bench drop. The valves shall be located in the aisles and not above the benches.
        - Access panels to be installed wherever valves are concealed in walls or drywall ceilings. Access panels shall be minimum 18x18, with mud frame and painted to match surrounding wall/ceiling. Metal panels with locking mechanism.
        - Provide unions at all equipment.
        - Dielectric unions preferred to be Victaulic Dielectric Waterway or equal. Install in accessible locations or above accessible ceilings.
        - Design for isolation valves to facilitate future renovations.
        - Hot water piping distribution system shall be designed to meet latest energy code for maximum allowable hot water delivery timing to each fixture.
    c. Demolition
        - Demolish and/or remove any piping not in use back to nearest active main and install valve and cap.
        - Do not abandon piping.
        - Demo to nearest coupling. Do not leave couplings on walls.
    d. Clearances
        - Pipe shall be designed such that there is adequate clearance to remove or repair.
        - Valves shall be located for *ease of access to allow for* periodic maintenance shut down.

- Drawings shall indicate and illustrate clearances required and coordinate with other trades.
- Route pipe tight to structure or as high as possible.

2. Related Sections
    a. Plumbing lab piping
    b. Mechanical identification
    c. Cleaning of piping systems

EQUIPMENT and PRODUCT REQUIREMENTS

1. Pipe:
    a. Approved Manufacturers: (in order of preference)
        - Cerro
        - Mueller
    b. Construction to comply with ASTM B-88 Standards and NSF 61.
2. Valves:
    a. Approved Manufacturers: (in order of preference)
        - Nibco
        - Apollo
    b. Construction to comply with ASTM and NSF 61 and 372 standards.
    c. 3-piece valves are prohibited.
    d. Domestic water ball valves to include stainless steel ball and stem.
3. Insulation
    a. Hot and cold water shall be insulated with fiberglass insulation.
    b. Thickness shall meet the latest adopted energy code but not less than ½" thick.
        - Insulation shall have PVC jacketing where exposed to traffic and in Mechanical Rooms below 10' AFF.

END OF SECTION