



Section 226600

Chemical Waste Systems for

Laboratory

DESIGN GUIDE

1 General

1.1 Maintenance Materials

- A. For piping systems that require special tools, review tooling requirements with CWU Mechanical Plumbing Manager to determine if CWU has tools for repairs in their stock. If not, specialty tools will be required to be provided with the contract.

2 Materials

2.1 Chemical Resistant Sanitary Sewer and Vent Piping Buried Beyond and Within 5 feet of Building

- A. Polypropylene Piping,
 - 1. Fittings: Polypropylene, socket fusion
 - 2. Joints: heat fusion weld with molded resistance wire and sockets

2.2 Chemical Resistant Sanitary Sewer and Vent Piping, Above Grade (Except Return Air Plenums)

- A. Polypropylene Piping
 - 1. Fittings: Polypropylene mechanical joint



2. Joints: Mechanical grooved end joint with coupling, stainless steel outer band, and plated bolts, nuts & washers

2.3 Chemical Resistant Sanitary Sewer Piping, Above Grade, Return Air Plenum Rated

- A. PVDF Pipe
 1. Fittings: PVDF, factory grooved
 2. Joints: stainless steel compression coupling with corrosion resistant inner/outer sleeves
 3. Plenum rated-Flame Retarded: Flame spread-5, smoke developed-35

3 Execution

3.1 Lab Waste and Vent

- A. Laboratories with fume hoods and science labs with chemical usage shall be equipped with a chemical waste drainage system.
- B. The lab waste system shall be piped separately to point of connection with campus sewer outside the building.
- C. Slope for drainage at $\frac{1}{4}$ inch per foot (2%) for pipes 3" and lower, pipes 4" and above may be slowed at $\frac{1}{8}$ inch per foot (1%) with approval from the AHJ.
- D. Provide chemical neutralization in accessible vault area prior to connection to the campus sewer system. Vault shall preferably be located on the exterior to the building. Vault shall have a depressed sump that is equipped with leak detection that alarms to the BAS. The Sump shall be sized for drop in pump for Owner to remove liquid from vault (after testing of water quality).
- E. The vault manhole/hatch shall be sufficiently sized to remove components from the vault and shall be insulated to prevent condensation from developing on underside of lid. Drains from hatch/manhole shall terminate to storm drain system.



- F. Provide monitoring well in piping system in vault for monitor of PH before and after neutralization prior to termination into the campus sewer system.

4 Appendix

4.1 Reserved for future.

