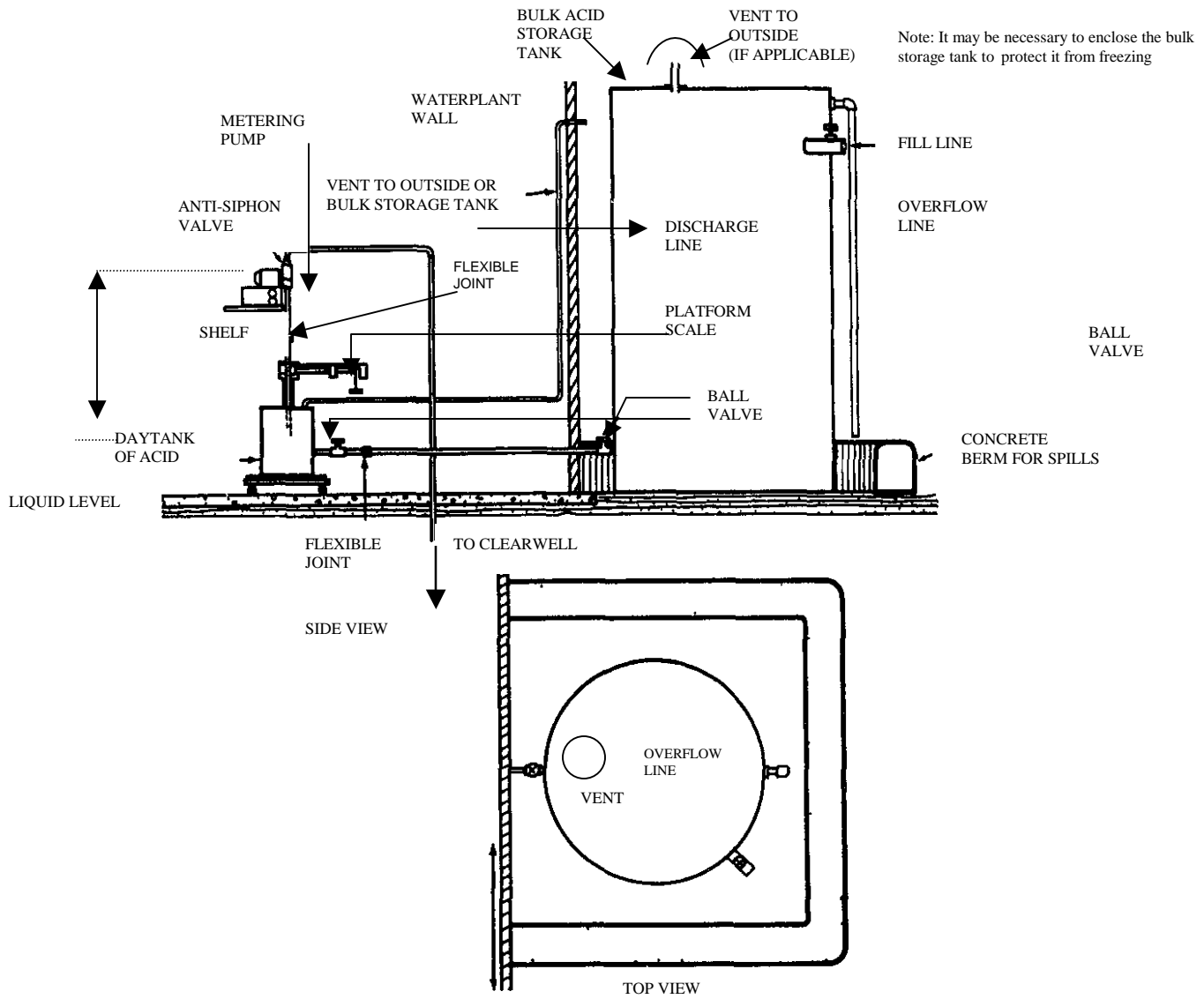


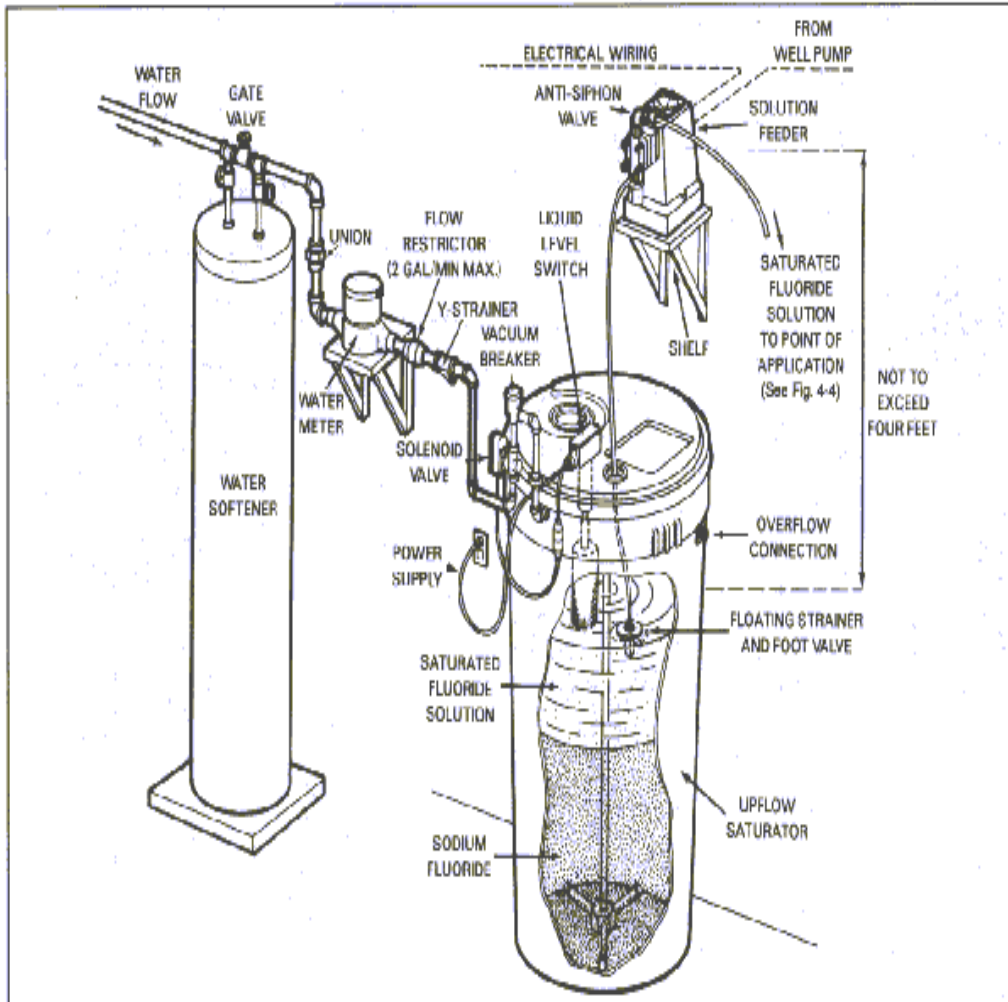
**FIGURE 4-8
FLUROSILICIC ACID INSTALLATION - BULK STORAGE**



The upflow saturator installation is very similar to the downflow saturator installation, with some exceptions. (See **Figure 4-9** below) If a liquid level switch is used, CDC recommends that there be a solenoid valve and a vacuum breaker be installed. The vacuum breaker must be between the solenoid valve and the water inlet. Also, CDC recommends that a flow restrictor with a maximum flow of 2 gallons per minute be installed to allow adequate contact time. (Note: Many states allow flow restrictors of up to 4gpm.) There must be a minimum water pressure in the inlet line of 20psi.

The recommendation for a different kind of metering pump plug, with sign, to prevent connecting the metering pump into a "hot" electrical outlet is especially important with an upflow saturator installation. This is because a solenoid valve requires the "hot" electrical connection, and, it thus becomes easy to make a mistake.

FIGURE 4-9
SODIUM FLUORIDE INSTALLATION — UPFLOW SATURATOR



4.5.4 SODIUM FLUOROSILICATE INSTALLATION (DRY FEEDERS)

Only the installation on the volumetric dry feeder will be discussed because it is the most typical one used. (See the **Figure 4-10 below.**) The gravimetric feeder installation would be, in essence, the same. When installing a dry feeder, placement should be so that the solution from the solution tank can fall directly into the chemical feed channel, if possible. If other considerations dictate that the feeder be placed some distance from the point of application the drain line should be as direct as possible, with adequate slope and sufficient size to preclude precipitation build-ups and subsequent stoppages.

Obviously, the dry feeder installation must be on a firm, level foundation if the scales are expected to perform satisfactorily. If there is a small hopper on the feeder, it must be readily accessible for filling and if an extension hopper is used, it should extend vertically upward to the filling area without angles that could trap material. For the water supply line to a volumetric feeder, there must be a section of flexible hose between the solution tank and the water pipe to permit free movement of the feeder and scale platform.

The water supply line to a dry feeder must be equipped with an air-gap or mechanical vacuum- breaker, or some other type of anti-siphon device. The air gap is the most positive protection against the dangers of a cross connection. If water pressure is too high to permit the use of an air gap, one of the other devices may be used, but in any case, the vacuum breaker must be placed between the point of entry to the solution tank and any restrictive device in the pipeline and must be installed in an elevated location.

FIGURE 4-10
VOLUMETRIC FEEDER INSTALLATION

