567—49.21(455B) Hydropneumatic (pressure) tanks.

49.21(1) *Sizing.* The pressure tank shall have an effective water volume large enough to require the well pump to operate at least one minute between low-pressure activation and high-pressure shut off while no water is being used by the system. The minimum allowable pressure at the pressure tank shall be 30 psi.

49.21(2) *Constant pressure pump.* Constant pressure/variable speed pumps shall operate at a minimum pressure of 30 psi. Pressure tank size shall be according to manufacturer's recommendation.

49.21(3) *Pressure relief valve.* The tank shall have a pressure relief valve of a size based on the pump capacity if the pump is capable of developing pressure greater than the working pressure of any component of the system. The pressure relief valve shall be located prior to any shut-off valve on the distribution system side of the tank.

49.21(4) *Pressure gauge.* The pressure tank shall have a pressure gauge capable of reading at least 100 psi.

49.21(5) *Tank appurtenances.* If a non-bladder tank is used, it shall be equipped with a means of adding or venting air from the tank to maintain the proper air-water ratio.

49.21(6) *Tank location.* Buried pressure tanks shall not be permitted after July 1, 2009. If pressure tanks are not located in a residence or other heated structure, they should be housed in the following manner:

a. Buried vault (frost pit). The vault and vault opening shall be sized to allow ease of access for the installation and maintenance of necessary equipment. The vault shall be as watertight as possible. The outside of the vault should be completely tiled at the base and either drain to daylight or to a sump pit that is equipped with a sump pump. The trench should be backfilled with pea gravel to one foot above the tile. All wiring in the vault shall be in watertight conduit. No buried vault shall be allowed within a 100-year flood plain. Buried vaults are not recommended because of the hazard associated with confined space entry.

b. Aboveground structure. The structure and access opening shall be sized to allow the installation and maintenance of necessary equipment with a minimum of inconvenience. The structure shall be of an all-seasons design. It shall be insulated and heated to prevent freezing of the tank. If a poured concrete floor is provided, the top of the floor shall be at least four inches above the surrounding ground and be sloped to a drain or to the door to facilitate drainage of the room. It is recommended that the structure be located no closer than ten feet from the well. If the structure is located over the well, it must have a hinged roof or removable hatch over the well or have other provisions for pulling the well pump.