

Part 503 - Safety

Subpart B – Public Safety at Structure Sites

UT503.12 Recommended Safety Measures

- A. Agricultural waste storage and handling facilities. Engineering plans shall follow the industry standard for addressing safety issues associated with agricultural waste storage and handling facilities. This standard is maintained by the American Society of Agricultural and Biological Engineers as ASABE EP 470, “Manure Storage Safety,” Jan 1992 (as revised). Engineering Plans shall address:
- (1) Measures to prevent the migration of hazardous gases.
 - (2) Physical deterrence to prevent unsafe access into confined spaces such as tanks and ponds.
 - (3) High visibility and ergonomic features such as warning signs, fences, covers, locks, railings, and guards.
 - (4) Applications of corrosion-resistant materials to ensure longevity in structural supports.
 - (5) Specific and meaningful safety requirements in the operation and maintenance plan.
- B. Confined Spaces. The NRCS provides technical assistance on structures that are classified as “confined spaces” by the Department of Labor-Occupational Safety and Health Administration (OSHA). OSHA regulations contain specific requirements that must be met before a person enters a confined space. Catch basins, manholes, sump stations, waste storage tanks, cisterns, and well pits are considered confined spaces. Decomposed organic materials in these structures can produce hazardous gases that are toxic, explosive, and oxygen displacing. Dry structures, or those with only clean water, can also accumulate hazardous or asphyxiating gases. Hazardous conditions can develop quickly and may even occur during construction.
- (1) NRCS employees shall not enter a confined space for construction inspection or other purpose without proper preparation in accordance with OSHA regulations. Proper preparation for safe entry and emergency extraction may include, but is not limited to:
 - (i) Partner supervision.
 - (ii) Life lines – 100 feet of ½ inch nylon rope of 5,400 lbs breaking strength.
 - (iii) Block and tackle.
 - (iv) Safety belts with lanyard.
 - (v) Emergency escape unit with 5 minute oxygen packs.
 - (vi) Non-explosive type lantern (6 volt).
 - (vii) Combustible gas/oxygen detector. A portable combustible gas and oxygen detector is recommended.
 - (viii) US Coast Guard approved life jacket or belt in water filled areas.
 - (2) Engineering plans for confined spaces shall include fencing, covers, locking devices, warning signs, and/or other high visibility measures to prevent unauthorized entry. Planned measures shall be installed prior to technical certification of the practice.
 - (3) The design of sump/pump stations, waste storage tanks, and cisterns shall include special provisions, such as guide rail assemblies or lift chains, to remove pumps for maintenance and eliminate the need for human entry.
 - (4) Manufactured tanks or reinforced concrete pipe sections (manholes) are often used as frost-free well pits for pressure tanks and electrical controls. These structures shall not be planned or designed below the seasonal high water table. Engineering plans shall include a ladder and a secure access cover that is bolted, locked, or otherwise secured by weight (>100 lbs) into a notched groove. A confined space warning sign shall be posted if preservation of the sign is possible or practical.

- (5) If the well pit is not specifically designed for vehicle loads, perimeter fence or other traffic barriers shall be included in the engineering plan.
- (6) NRCS employees shall not enter a confined space for construction inspection or any other purpose without proper authorization. All requests for authorization to enter confined spaces shall be submitted to the state conservation engineer.