

Six Steps for Grave Site Safety

By Shannon DeCamp

Grave preparation and closure is physical work and can be hazardous. Foremost are the dangers posed by digging and working in and around excavations. Fortunately, taking basic precautions can prevent injuries and accidents and save lives.

Graves are really excavations. When working in or around graves, personnel risk exposure to hazardous atmospheres, equipment hazards, falling loads, monument collapse and cave-ins.

Potentially hazardous atmospheres that could present when digging graves include carbon dioxide, carbon monoxide and methane from decayed matter. Before any employee enters the grave, a competent person must test the atmosphere of any excavation deeper than four feet or any time a hazardous atmosphere could be reasonably expected. Continuous monitoring is required if conditions can change during entry. When a hazardous atmosphere is present in a confined space, personal protective equipment is required, as well as standby lifesaving equipment, engineering controls (e.g., ventilation) and respiratory protection. All at-risk workers should be trained in rescue procedures.

Operators must have training on the use and maintenance of their excavating equipment and must inspect equipment before each use. Swinging loads may catch a worker between the bucket and the machinery; everyone must be aware of the swing radius of the digging equipment. Workers may trip on an uneven grade and be hit or run over by equipment. Don't rely only

on back-up alarms – the equipment operator must be aware of everyone's position around the work area. Employees may not work under raised loads and must stand away from equipment that is being loaded or unloaded.

While a worker is in an excavation, others should not work around the edge of the grave opening. Hard hats should be worn. Keep materials and equipment at least two feet from the edge, or use retaining devices. Workers should spend the minimum time possible in the excavation. Another risk when digging in a cemetery is monument collapse.

Cave-ins are the most common cause of worker fatalities in excavations. A person buried under only a few feet of soil can experience enough pressure to prevent their lungs from expanding and suffocation can take place in as little as three minutes. A protective system must be used for all excavations deeper than five feet. The protective system used depends on many factors, including soil classification, water content of soil, changes due to weather and climate, depth of cut, and other operations in the vicinity.

Trenches four feet or more in depth must be provided with a safe means of entry and exit. Ladders must be secured and extend a minimum of 36 inches above ground level.

Most incidents can be prevented by following common-sense measures. Pre-plan any work before digging. Assess the soil and weather conditions and determine the need for a protective system and consider nearby structures and other factors

Protective Systems

OSHA regulations discuss three different types of protective systems.

- Shielding, commonly called trench boxes.
- Shoring, braces that hold up the walls of an excavation.
- Sloping, cutting back the trench walls at such an angle that there is little chance for collapse.

Remember, shoring and shielding only protect workers when they stay within the confines of the systems. In an established cemetery with intermittent open grave sites, the surrounding vaults serve to create a trench (box) almost as though you were excavating in solid rock. In this situation, a protective system is only required when there are not nearby adjacent vaults.

that could affect safety on the job. Only trained personnel should operate equipment and equipment should be inspected prior to each use. Conduct hazard assessment on a routine basis and establish safe work procedures for each task. Always use the proper tools and any required PPE.

About the Author:



Shannon DeCamp (shannon_decamp@tencon.net) is client services manager for TechneTrain, Inc., where she researches OSHA safety regulations and initiatives in order to help businesses stay in compliance. TechneTrain Inc., in Milford, Ohio, specializes in making complex training concepts simple enough for any audience and develops products to help businesses conduct safety training. Go to www.technetrain.net to learn more about how TechneTrain, Inc. can help your business.