

PROJECT:	
CLIENT/OWNER:	WEEK ENDING:

CREW NAMES:	CREW SIGNATURES:
SAFETY FACTORS ON CURRENT PROJECT:	
WEEKLY FOCUS ON IMPROVEMENT:	
FOREMAN:	SIGNATURE:

## Excavations

Excavation and trenching cave-ins result in more than 100 fatalities every year in the United States. Too often an improperly protected trench or excavation wall will collapse, trapping workers. These accidents can be eliminated if we follow proper excavation and trenching procedures. *OSHA Construction Standards* for Excavation can be found in *Sub-part P 1926.650-.652*.

» • An excavation is any mechanically-made cavity or depression in the earth's surface, from basements to highway embankments. A shoring system, sloping the ground away from the excavation, or some other equivalent means must be used to protect all employees exposed to danger from moving earth in all . In addition, *all trenches over 5 feet deep, no matter whether in hard and rocky, or soft and unstable soil, must be sloped, shored, sheeted, braced or otherwise supported*. Trenches less than 5 feet in depth must also be effectively protected when hazardous ground movement or risk of collapse may be expected.

» • Any surface encumbrances which may create a hazard to employees shall be removed or supported, as necessary, to safeguard employees. The presence of all underground installations such as sewer, telephone, fuel, electric, or water lines shall be determined prior to opening an excavation.

There are *three protective systems* that are used in excavations to minimize the risk of accidents. These three are:

1. *Shoring*
2. *Sloping/Benching*
3. *Trench Box/Shield*

Shoring is a structure such as a metal hydraulic, or timber bracing system that supports the sides of an excavation. A shoring system may include sheeting, bracing or jacks. Sloping is accomplished by cutting the banks of the excavation back to the angle of repose. At this angle the soil won't slide.

This angle varies, and depends on the soil type. A trench shield or box is a heavy metal box designed to be placed in a trench, and used on many water and sewer pipeline jobs; it prevents the sides of the trench from caving in.

- A *competent person must inspect the excavation and adjacent areas daily* for possible cave-ins, failure of protective systems, hazardous atmospheres, or any other condition which may present a hazard.
- *Excavations 4 feet deep* or more must have *sufficient means of exit* and these must be a *maximum distance of 25 feet* of lateral travel away from workers in the excavation.

• Always approach any task being performed in an excavation with maximum diligence and caution. Depending on the type of soil and conditions, a collapsed trench of only three and one-half feet in depth could potentially collapse your lungs causing suffocation and death before you could be pulled from the trench.

Always ensure your safety by following *OSHA Sub part P 1926.650* when working around any excavation. •