

COMPETENT PERSON: TRENCH & EXCAVATION

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Competent Person: Trench & Excavation



- **Review competent person responsibilities.**
- **Understand dangers of working in soils.**
- **Gain an understanding of the severity of excavations.**
- **Review different protective systems available.**

What is a Competent Person



- **One who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous or dangerous to employees and has authorization to take prompt corrective measures to eliminate the hazards.**



1926.651-General Requirements



•WHO'S JOB IS IT?



Not My Job

SURFACE ENCUMBRANCES



POWER LINES



Maintain 10-foot clearance from power lines up to 50,000 volts and add 4 inches more for each additional 10,000 volts!



LOCATING UTILITIES



Locating Utilities Continued



Support of Utilities



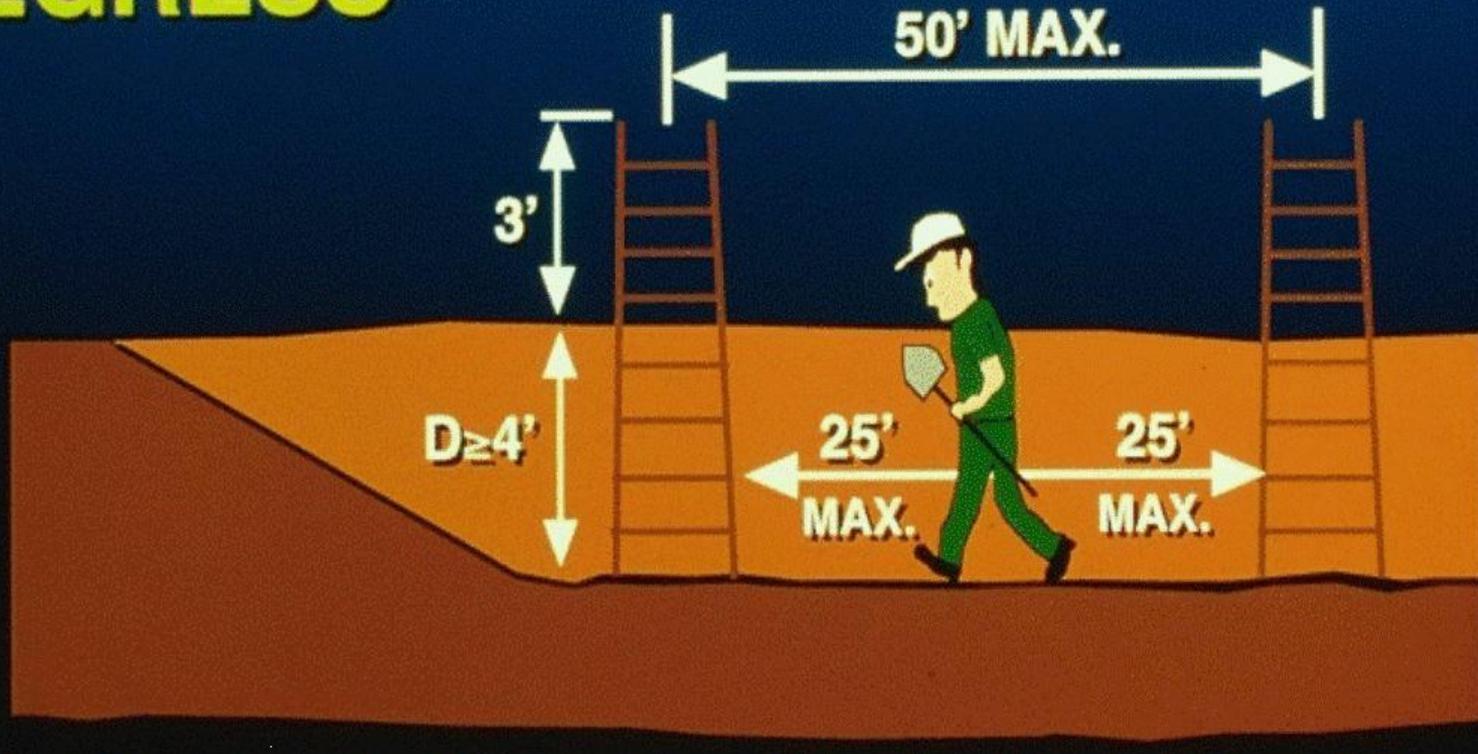
Access and Egress



Access and Egress



TRENCH ACCESS AND EGRESS



Exposure to Vehicular Traffic



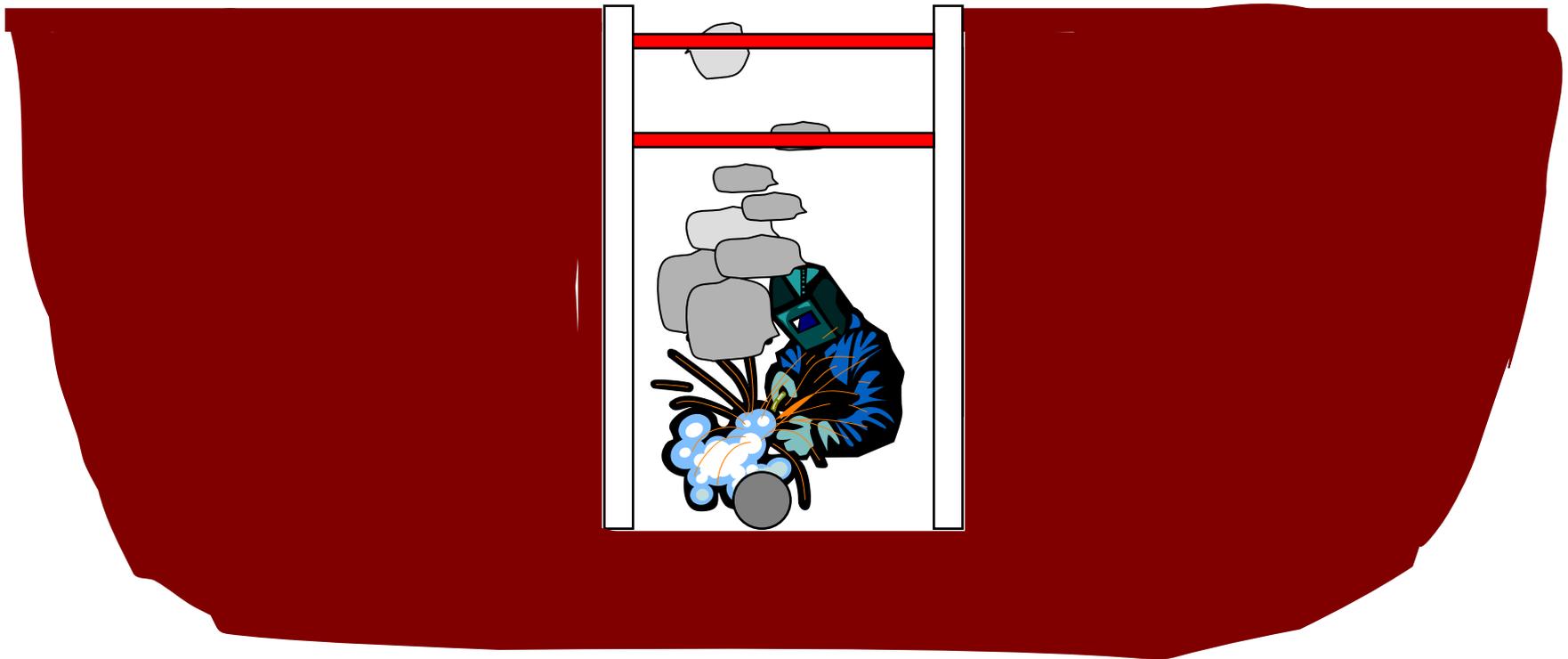
WARNING SYSTEM FOR MOBILE EQUIPMENT



LACK OF WARNING SYSTEM



HAZARDOUS ATMOSPHERES



HAZARDOUS ATMOSPHERES



WORKING IN WET CONDITIONS



WORKING IN WET CONDITIONS



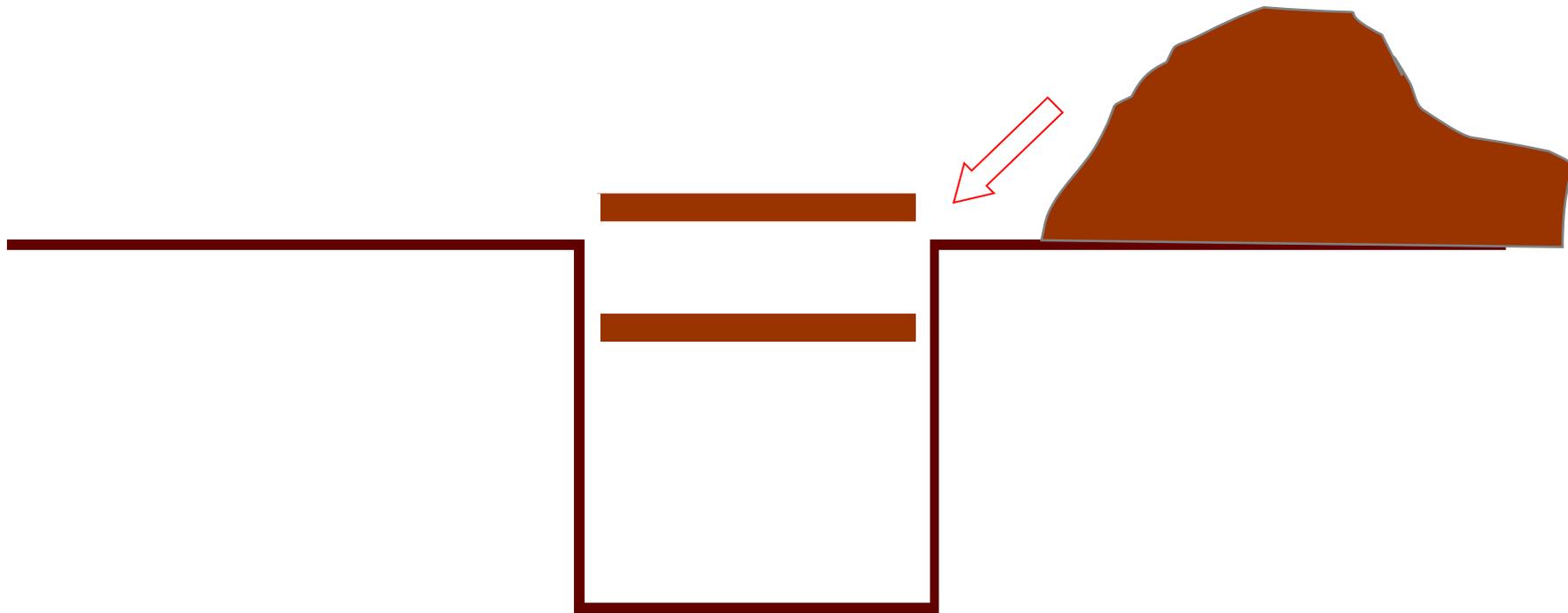
STABILITY OF ADJACENT STRUCTURES



SPOIL PILE PLACEMENT



Protection from loose rock or soil



DAILY INSPECTIONS

There must be daily inspections of:

- **Excavations**
- **Adjacent Areas**
- **Protective Systems**



DAMAGED EQUIPMENT



FALL PROTECTION

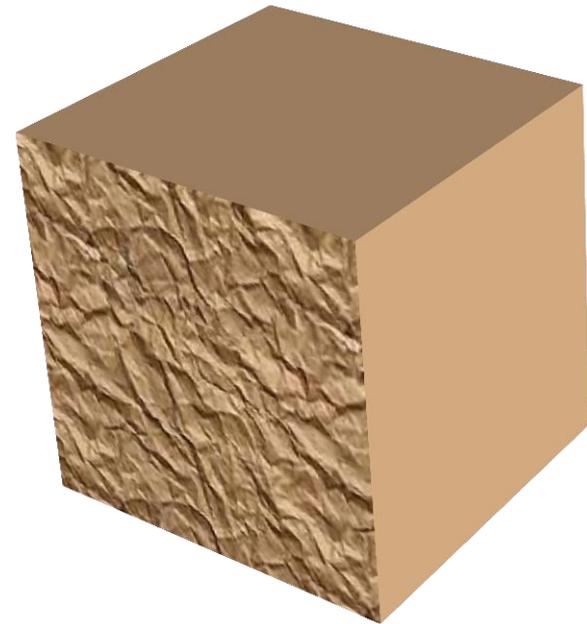


EXPOSURE TO FALLING LOADS



Dangers of Soil

- **One cubic foot of soil (12"x12"x12") weighs between 90 and 140 lbs.**
- **One cubic yard of soil (36"x36"x36") weighs as much as a small pick-up truck.**



Dangers of Soil



THE ANSWER PROTECTIVE SYSTEMS



PROTECTIVE SYSTEM REQUIREMENT



The law requires that protective systems are used when:

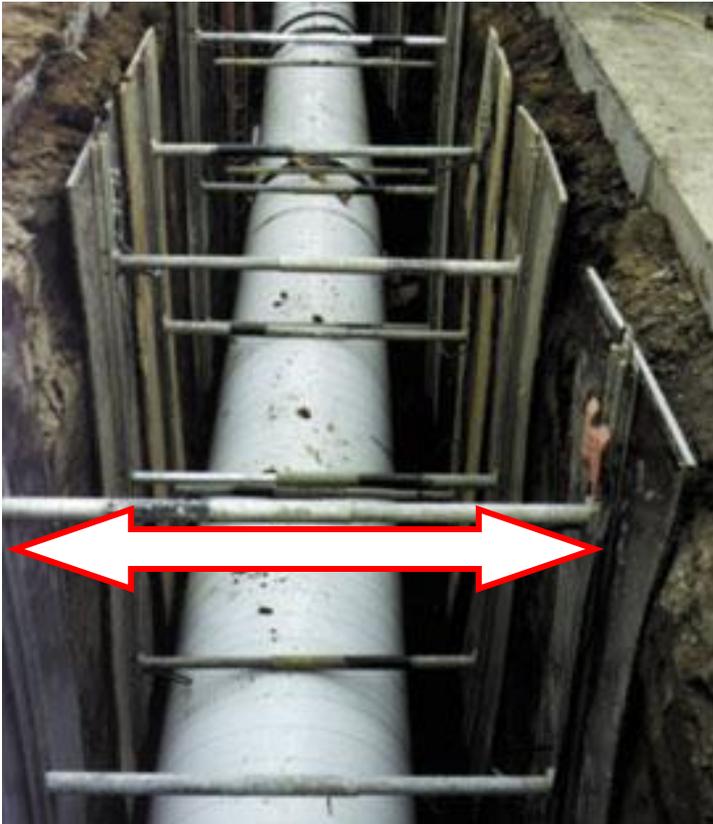
- An excavation is five feet or deeper.
- Or less than 5 feet if the excavation is unsafe.



SLOPING



SHORE: HYDRAULIC VERTICAL SHORING



- **Hydraulic Vertical Shoring is a type of preventative system.**
- **It supports the trench walls by pressurizing outward.**
- **The pressure exerted on the walls of the trench would thus prevent cave ins from occurring.**

Vertical Shores



JOB APPLICATION



JOB APPLICATIONS



SHIELDING

A structure that is able to withstand the forces imposed upon it by a cave in and thereby protect employees with the structure.



Shielding



Shielding with Arch Spreaders



Slide Rail System Pit Configuration



Slide Rail System Linear Configuration



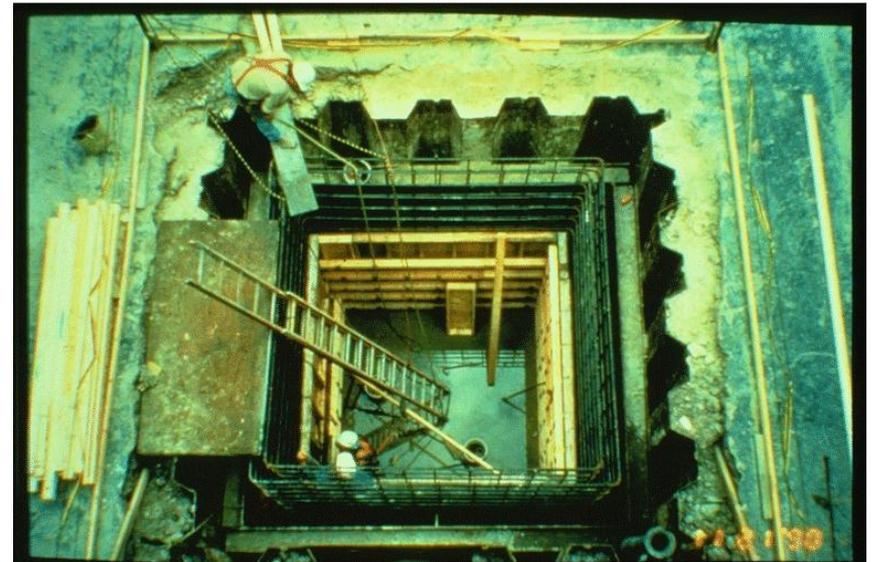
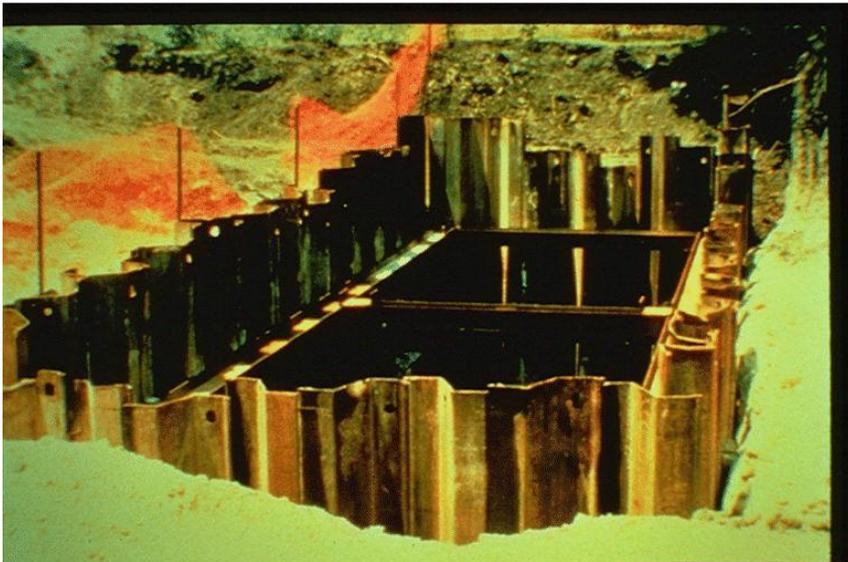
Beam and Plate Option



Beam and Plate Option



Sheeting Option



- **Every Excavation must have a Competent Person**
- **Understand the Hazards with working in and around trenches.**
- **Know the options for Protective Systems: Slope, Shore and Shield.**