



C3 Safety Training: 12 Month Module

Module 6: June – Excavation

Company Name: _____ Date: _____

C3 Project Name: _____

Fatalities occur each year on unsafe jobsites during excavation activities from:

1. Cave-ins
 2. Falls
 3. Falling Objects
 4. Hazardous Atmospheres
 5. Machinery/Vehicle Traffic
 6. Underground Utilities
- **Cave-ins** – most common cause of excavation fatalities. One cubic foot of dirt can weigh between 80 and 140 pounds. One cubic yard (3'x3'x3') could weigh between 2160 and 3780 pounds. Cave-ins happen very quickly – you will not have time to get out of the way.
 - Excavations over 5 feet in depth (or shallower in some circumstances) must be protected by shoring, shielding, or sloping/benching. A trained competent person must decide which system to use on each excavation and ensure that it is used correctly. Anyone entering an excavation must receive detailed training (NOT just this overview.)
 - A trained competent person must inspect excavations before each shift or whenever conditions (rain, etc.) change
 - Proper access (ladders, ramps, etc.) must be provided for all excavations.
 - DO NOT enter an excavation without training and authorization from a trained competent person.
 - Be alert for cracks, fissures, standing water, or other signs of danger when working in or around a trench or an excavation.
 - **Other hazards:**
 - **Falls** – Open excavations should be barricaded to prevent workers or pedestrians from falling into the excavation.
 - **Falling Objects** – Workers inside a trench are often injured or even killed by falling objects such as dirt or rock, pipe, tools, equipment, etc. Take proper care to prevent falling objects while workers are in the trench. This care includes keeping debris piles and materials away from the edge of the trench, not allowing anyone to walk or stand under suspended loads, and requiring workers in the trench to wear hardhats.
 - **Hazardous Atmospheres** – Some excavations could contain hazardous atmospheres, either naturally occurring or human caused. Examples include oxygen-deficient, flammable, or toxic atmospheres. These can occur due to naturally decaying materials in the soil (especially around swampy areas) or can be caused by human activities such as landfills, underground utilities, or exhaust fumes from nearby equipment or vehicles.
 - **Machinery/Vehicle Traffic** – Workers near excavations are often standing or walking in proximity to moving machinery or vehicles, and care should be taken to ensure that they



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- are protected from being struck by a vehicle or other equipment. Machinery or vehicles could also fall into the excavation, injuring both workers and operators or passengers.
- **Underground Utilities** – Electrical, gas, water, and other underground utilities can be extremely dangerous for people working in or around excavations. Always call the local utility companies or 1 call service to have utilities located PRIOR to digging or excavating.