

Excavation and Trenching

Excavation and Trenching Hazards:

- Cave In
- Hazardous Atmosphere
- Falling Loads
- Hazards from mobile equipment

Safe work Practices:

- Know where underground utilities are located before digging.
- Keep excavated soil and other materials at least 2 feet from edges.
- Keep heavy equipment away from edges.
- Identify any equipment or activities that could affect stability.
- Test for atmospheric hazards such as low oxygen, hazardous fumes, and toxic gases when workers are more than 4 feet deep.
- Inspect trenches at the start of each shift, following a rainstorm or other water intrusion and after any occurrence that could have changed conditions in the trench.
- Do not work under suspended or raised loads and materials.
- Ensure that personnel wear high-visibility or other suitable clothing when exposed to vehicular traffic.

Under the Excavation standards, tasks performed by the competent person include classifying soil, inspecting protective systems, designing structural ramps, monitoring water removal equipment and conducting site inspections. A competent person is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to workers, and who is authorized to take prompt corrective measures to eliminate them.

If the trench or excavation is 5 feet deep or greater, than a protective system is required. Any excavation or trench that is 20 feet deep or more require a protective system be designed by a registered professional engineer and/ or approved by a registered professional engineer.

Protective Systems include:

- Sloping involves angling the walls of the excavation.
- Shoring requires installing aluminum hydraulic or other supports to prevent soil movement and cave ins.
- Shielding protects workers by using trench boxes or ready-made protective systems to prevent soil cave-ins. (Soil needs to be back filled up to the wall to prevent shifting or collapse of the trench box.)

Atmospheric testing is required before workers enter an excavation greater than 4 feet in depth where an oxygen deficiency or a hazardous atmosphere is present or could reasonably be expected. If there are any hazardous conditions present, the employer must ensure that adequate precautions are taken to prevent employee exposure to those conditions.

OSHA requires employers to provide ladders, steps, ramps, or other safe means of egress for workers working in trench excavations 4 feet or deeper and must be located so as not to require workers to travel more than 25 feet to the exit.