



EXCAVATION & TRENCH

Competent Person Safety Certification

Typically provided as a 1-day course, course is designed as an introduction for new employees and as a safety refresher for more experienced employees who regularly excavate around water, wastewater and re-use systems. It is also beneficial for employees who set signposts, dig irrigation trenches, maintain storm swales and/or plant new trees. It is designed to be a comprehensive introduction to (or re-emphasis of) the hazards of excavating, "competent person" skills, safe work practices and proper procedure when digging, and identifies and addresses common excavating hazards, detailing protective measures and safe work practices for all phases of excavation. In some states, course qualifies for CEU or PDH hours.

Classroom Summary:

Work Zone Set-Up: This portion promotes the use of temporary traffic control and work zone barriers such as barricades, caution tape, hurricane fencing etc, and the marking of objects and other internal hazards.

Underground Utility Location: Reviews state laws and internal agency procedures along with troubleshooting techniques and the use of additional measures helpful in locating and avoiding underground utility damage (pot-holing, use of vac-trucks, ground penetrating radar and other soft dig techniques).

Hazard Analysis: Use of a "Daily Excavating Checklist" to conduct a thorough work zone hazard analysis helps identify incidental hazards, deficiencies, improper crew activities, and other safety issues prior to commencing with excavation or digging.

Mobile Equipment Hazards: This section covers required operator training, internal work zone equipment traffic control, safe mounting, seatbelts, no-rider rules and prohibited uses, imperative operator, helper/spotter & pedestrian safety rules, rigging, and trailering.

Cave-In Prevention: Identifies the acceptable methods of preventing cave-in, including sloping, shoring, shielding and the use of trench boxes. Other cave-in prevention and open trench rules are discussed.

Protecting Exposed Utilities: Details issues and methods related to supporting various underground utilities after they are exposed, including the "call for re-locates" to identify unknown objects discovered during excavating. Also reviews "safe to underground utility" backfilling protocols and protection for recently covered areas.

Unattended Work Zones: This segment promotes careful diligence when preparing a site that will be left unattended for short (or longer) durations, including the use of hurricane fencing, barricades, steel sheeting and other tools and supplies.

Excavation Emergencies: While avoiding emergencies is the goal, in the event of a cave-in, it is important for workers to know the steps to take in attempting a rescue. This segment also discusses hazard analysis, identification of any secondary cave-in potential and other vital "do's and don'ts."

Virtual Exercises: In conclusion, students are tested by reviewing a collection of slides in a "what's wrong with this scenario" format, which helps summarize the important concepts discussed throughout the course.

Workshop Activities:

- Participants are challenged individually and as subgroups (or tables) to identify and solve safety issues based on prior experience and/or newly acquired knowledge.
- Real-life accidents are reviewed discussing causes and contributing factors and the relative proactive accident prevention measures.
- Work zone inspection skills are tested while viewing actual water utility location photos and videos.

Virtual exercises may include:

- Work zone setup (barricades, caution tape, hurricane fencing, marking internal hazards)
- Work zone hazard analysis using the *Daily Excavating Checklist*
- Trench shoring and cave-in prevention (sloping, shoring, use of trench boxes or a combination)
- Mobile equipment rules
- Underground utility location and protection (location, ground penetrating radar, supporting, backfilling)

