

# What To Do Before the Job

**Establish a safety and health program** to include systematic policies, procedures and practices to protect employees from, and allow them to recognize, job-related safety and health hazards.

**Develop safety checklists** and take into account traffic, nearness of structures and Their conditions, soil conditions and types, surface and ground water, the water table, overhead and underground utilities and weather.

**Determine the estimated location of utility installations** - sewer, telephone, fuel, electric, water lines, etc. - And call The Tennessee One-Call System at (800) 351-1111 at least three, but not more than 10, working days before digging begins.

**Obtain and read the TOSHA standards** on Trenching and Excavation (29 CFR 1926 Subpart P).

**Provide warning vests** or other suitable garments, marked with or made of reflectorized or high-visibility material, to employees who are exposed to public vehicular traffic.

**Train employees** who will operate equipment on how to be fully alert to hazards. Also, train all employees on the hazards of working in a trench or excavation and how to protect themselves from the hazards.

**Always have a competent person** on site to evaluate the working conditions, including the condition and type of soil and to ensure employees are protected from cave-in hazards.

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# Trenching & Excavation

Special Emphasis Program



## Tennessee OSHA's Special Emphasis Program on Trenching & Excavation

Because trenching and excavation collapse is deadly and often involves multiple victims, Tennessee OSHA has established a special emphasis program to focus attention and resources on these hazards. It is impossible to predict when an excavation or trench will collapse. The sudden collapse of the walls makes escape almost impossible. The only way to prevent collapse is to slope or shore the walls or install a trench shield and follow the TOSHA trenching and excavation standards contained in 29 CFR 1926 Subpart P.

Under this special emphasis program, all TOSHA compliance and consultative services personnel will be on the lookout for trenching or excavation work sites. Personal observation, reports of imminent danger, fatality/catastrophe reports, safety and health agency referrals, employee complaints, and media reports are also used to locate trenching and excavation work. Each occurrence is handled with an appropriate intervention by TOSHA.



## Hazards on the Excavation Site

Excavation workers are exposed to many hazards, but the chief hazard is cave-in. TOSHA requires that all employees exposed to potential cave-ins be protected by sloping or benching the sides of the excavation, shoring the sides of the excavation, or placing a shield between the sides and the work area.

In addition to cave-in hazards, workers must also be protected from adjacent utility lines, exposure to vehicular traffic, falling loads, hazardous atmospheres, and fall hazards. Utility lines such as gas, electrical, sewer, and water must be located and supported prior to placing employees in an excavation. Employees working in, or near, roadways must wear high visibility vests. Workers are not to work beneath suspended loads, and walkways crossing excavations must be equipped with guardrails. Precautions, including atmospheric testing and emergency rescue procedures and equipment, must be taken when workers enter excavations that contain, or may contain a hazardous atmosphere.

No worker is allowed to work in an excavation where water is accumulating. Trenches and excavations where water is flowing from the sides are extremely hazardous. Safe access and egress must be maintained at all times when workers are in a trench or excavation deeper than four feet. Generally, safe access and egress is accomplished by providing ladders that each employee can access with no more than 25 feet of horizontal travel in the trench.

## Brief Summary

These requirements must be met when workers occupy a trench that is five feet deep or greater:

1. The sides of the trench must be protected from "cave-in" by one of the following:
  - a. Sloping (at the appropriate angle for the soil type).
  - b. Shoring (normally with metal and hydraulic approved equipment) or
  - c. Inserting a trench shield or box.
2. Excavated dirt must not be within two feet of the trench.
3. Water in the bottom of the trench makes it unstable, so employees shall not occupy the trench unless water is being pumped out.
4. Employees in the trench must wear hard hats.
5. Safe means of exit (within 25 feet of travel) must be provided in excavations deeper than four feet.
6. A "competent person" must be present.

This person must do the following:

- a. Know the requirements of the trenching standards (29 CFR 1926 Subpart P) including how to identify soil types (A, B, C) and stable rock.

- b. Have the authority to stop and/or make necessary changes in the operation to make it safe.