



UNC CHARLOTTE

Environmental Health and Safety

February 2017

OVERVIEW OF FACT SHEET

The purpose of this fact sheet is to inform the campus community about the hazards and safety controls associated with excavations.

According to the Occupational Safety and Health Administration (OSHA), "two workers are killed every month in trench collapses."

What is an excavation?

An excavation is any man-made cut, cavity, trench, or depression in an earth surface formed by earth removal.



What is a trench?

A trench is a narrow underground excavation that is deeper than it is wide, and is no wider than 15 feet.



If you have any questions, please contact the [Environmental Health and Safety Office](#) at 704-687-1111.

Excavation & Trenching

What are the dangers of excavation and trenching?

- Cave-ins and excavation collapses pose the greatest risk to employees in excavations, which lead to worker fatalities. Additional hazards include hazardous atmospheres, falling loads, and falls.

How to protect yourself?

- **DO NOT ENTER** an excavated area unless you are authorized and have received proper training. Trenches that are 5 feet deep or greater shall have a protective system, unless the excavation is made solely in stable rock.
- Use protective systems that are designed by or based on data approved by a registered professional engineer for trenches that are 20 feet deep or greater.

What are protective systems?

- **Sloping** – a method of protecting employees from cave-ins by cutting back the excavation wall at an angle that is inclined away from the excavation.
- **Shoring** – requires the use or installation of an aluminum hydraulic system or other type of support to prevent the movement of soil and cave-ins.
- **Shielding** – also known as a trench box, protects workers to prevent soil movement and cave-ins.

What is a competent person?

- The OSHA standard requires that excavations be inspected by a competent person daily and as conditions change. This should be done prior to worker entry ensuring the elimination of any excavation hazard.
- A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that may be hazardous, unsanitary, or dangerous to employees.
- The competent person is authorized to take immediate and prompt corrective action to eliminate or control these hazards and conditions.

Excavation and Trenching Rules

- Locate underground utilities.
- Test for hazardous fumes, toxic gases, and low oxygen when greater than 4 feet deep.
- An inspection must be completed at the start of each shift, after rainfall, and change in conditions.
- Never enter a trench that has water in it.
- Never work under raised loads.
- Use ladders to enter and exit all trenches greater than 4 feet.
- Ladders must be located to allow no more than 25 feet of lateral travel.
- Keep all heavy equipment away from trench edges.
- Keep excavated soil and loads at least 2 feet from trench edges.

GROUP DISCUSSION TOPICS

- How can an excavation be dangerous?
- Has anyone received excavation and trenching training? If not, should the excavation or trench be entered?
- If there is an emergency in an excavation area, who should be contacted?
- What types of projects would require an excavation?