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

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.

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?
- **Benching** - a method of protecting employees from cave-ins by excavating the sides of a excavation to form one or a series of horizontal levels or steps, usually will vertical or near vertical surfaces between levels.
- **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?