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## Toolbox Talk – Trenching and Excavation Safety

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**Date** \_\_\_\_\_ **Company Name** \_\_\_\_\_  
**Supervisor** \_\_\_\_\_ **Job Name** \_\_\_\_\_

As a contractor, your company likely performs work that involves trenching and excavation. These tasks are extremely dangerous, and without proper precautions they can prove to be deadly. In fact, according to OSHA, two workers are killed every month in trench collapses. Go over this Toolbox Talk with your employees to ensure their safety in all trenching and excavation tasks.

### Guidelines for Discussion:

First, let's go over some basic definitions. An excavation is a cavity in the earth's surface, intentionally formed via earth removal. A trench is a specific kind of excavation. Trenches are narrow excavations that extend below the surface of the ground. In general, the depth of a trench is greater than the width.

Trenching and excavation are dangerous tasks because they pose the risk of cave-ins. Workers involved in trenching and excavation also risk falls, falling loads, hazardous atmospheres, and vehicle collisions. For these reasons, your company must take extra precautions to only work in protected trenches.

### Trench Safety Measures

Trenches with a depth of five feet or more require a protective system unless the excavation is made entirely of stable rock.

Trenches with a depth of twenty feet or more require a protective system that is designed or approved by a registered professional engineer.

If a trench is less than five feet deep, a specialist (known as a **competent person**) may determine that a protective system is not required. A **competent person** is a trained individual who is capable of identifying existing and predictable hazards within a work site. A competent person is also authorized to make changes that correct and eliminate any found hazards.

According to OSHA guidelines, a competent person must inspect any and all trenches at the beginning of every workday, and whenever the condition of the trench changes. A competent person must grant approval before any employees enter or perform work involving a trench.

OSHA standards also require safe access (including ladders, steps, ramps, or other means of exit) for employees working in trench excavations that are four feet or deeper. These means of access must be located within twenty-five feet of all workers.

### General Trenching and Excavation Rules

- Keep heavy equipment away from the edges of the trench. Also, keep excavated soil (spoils) and other materials at least 2 feet from trench edges. This is crucial to preventing cave-ins.
- Be aware of the space surrounding the trench, and any objects or environmental fixtures that could affect trench stability.
- Know where underground utilities are located before digging.
- Test for atmospheric hazards (such as low oxygen and toxic gases) when the trench is deeper than four feet.
- Inspect trenches at the start of each shift, and after a rainstorm, water intrusion, or other occurrence that could change the trench condition.
- Do not work under suspended or raised loads.

All workers should wear high visibility clothing when exposed to vehicular traffic, as well as any mandatory PPE.

**Protective Systems:**

**Benching** is a protective system that involves excavating the sides of the trench to form horizontal levels, usually with vertical or near- vertical surfaces between levels. Benching results in a step-like appearance along the sides of a trench.

**Sloping** is a protective system that cuts back the trench wall at an angle inclined away from the excavation.

**Shoring** is a protective system that requires the installation of supports (typically aluminum hydraulic) to prevent soil movement and cave-ins.

**Shielding** is a protective system that uses trench boxes or other types of supports to prevent soil movement and cave-ins.

To determine the appropriate protective system for a trench, one must consider the soil classification, trench depth, climate, surcharge loads, and other operations in the vicinity.

**Additional Discussion Notes:**

After the discussion, indicate the competent person(s) that can inspect and approve trenches at the start of every shift.

**Safety Recommendations**

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**Job Specific Topics**

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**Attendees**

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