

Company Name: \_\_\_\_\_ Dept: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_\_

#038

## TRENCHING & EXCAVATING

### Minimum Safety Requirements:

- Before opening an excavation, these actions must be taken:
  - ❑ Identify subsurface installations prior to opening an excavation and ensure they are marked.
  - ❑ Notify all regional notification centers and all subsurface installations owners who are not members of the notification centers, two working days before starting work.
  - ❑ Receive positive response from all known owners/operators of subsurface installations.
  - ❑ Meet with owners/operators of high priority (pipelines, electrical lines > 60,000 volts, etc.) subsurface installations that are located within 10 feet of the proposed excavation.
  - ❑ Qualified persons (meet training and competency requirements) perform subsurface installation locating activities.
  - ❑ All exposed employees trained in excavator notification/excavation activities.
  - ❑ **Obtain permit from OSHA if workers are required to enter an excavation that is 5 feet deep or deeper.**
- While excavating, the exact locations of underground utilities must be determined by safe and acceptable means.
- Excavators must immediately notify the subsurface installation owner/operator of any damage discovered during or caused by excavating activities. If the damage or escaping material endangers life or property, immediately notify 911.
- While the excavation is open, the underground utilities must be protected, supported, or removed as necessary.

Meeting Conducted By:

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Meeting Attended By:

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Notes & Suggestions

Document Filing Reference

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#131

## TRENCHING AND EXCAVATING

Excavations and trenches need not be deep or large to create a life-threatening hazard. Soil is heavy, and failures take place with little or no notice. You can be trapped before there is time to react. So it is important that every excavation be prepared correctly, allowing you to complete your job safely and efficiently. Remember that every trench is different. Soil type, moisture content, depth, configuration, proximity to existing structures, and location of spoil piles all work together to make every excavation unique.

- Follow the recommendations of your Competent Person carefully. Their job is to ensure that the excavation is adequately protected so you can complete your task safely.
- ALL trenches and excavations over 5 feet in depth must be protected from cave-ins unless they are made entirely of stable rock. Protection can be provided by adequately sloping back the sides of the cut or by benching the excavation. Trenches can also be reinforced by installing shoring or using trench boxes. If shoring or boxes are used be sure the top of the box extends at least 18 inches above the hole. And remember, if the hole is deeper than 6 feet, fall protection should be installed around the perimeter to protect those working on the surface.
- Spoil piles must stay at least 2 feet back from the edge of the hole. This is measured from the point where the slough of the pile ends. Placing the spoil any closer exerts excessive pressure on the walls of the excavation and thus increases the chance of a wall failure.
- Install ladders, so that no matter which way you travel in the trench, a ladder can be accessed within at least 25 feet.

Remember you are the one going into the hole, so check the methods being used to protect the excavation. Prior to climbing down the ladder, check the spoil pile location and equipment that is near the excavation. Do you feel comfortable with the excavation, its protection, and the nearby surroundings?

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#296

## Trenching Safety: Before Excavating...

**Obtain a permit:** Obtain a permit from the Division of Occupational Safety and Health (DOSH) if workers are required to enter an excavation that is 5 feet or deeper.

**Notify of excavation and locate hidden obstructions:** At least 2 working days before starting excavation, notify all Regional Notification Centers and any nonmember subsurface installation owners of the excavations. Only qualified persons shall locate subsurface installations. If excavation is within 10 ft. of a high priority subsurface installation, the owner and the excavator must meet onsite before excavation. All subsurface installations revealed shall be physically supported, protected or removed for employee safety.

**Beware of disturbed ground:** Trenches in disturbed soil may require additional sheeting and bracing, as will hard compact ground, if there is filled ground nearby. For example, a trench wall which is near another previously filled trench is unstable, although it might appear to be hard compact material.

**Daily Inspection:** Competent person must inspect the trench/protective systems daily before the start of work and throughout the day as conditions change. Competent person is defined as one who must demonstrate:

- ◆ knowledge of the provisions pertaining to excavations, trenches and earthwork
- ◆ knowledge of soil analysis as required in the provisions pertaining to excavations, trenches and earthwork
- ◆ knowledge of the use of protective systems
- ◆ authority to take prompt corrective action on the job as conditions warrant
- ◆ ability to recognize and test for hazardous atmospheres.

**What conditions influence the kind and amount of shoring you need?** 1. If the trench is five feet deep or more it must be shored or sloped. If there is a possibility of soil movement, even shallower trenches have to be shored. If you have doubt about it, shore/slope the trench. 2. The less stable the soil, the more liquid the soil, the more you need to protect yourself against cave-in. 3. Hardpacked soil can become soupy/unstable after a rain. Trenches which are safety sloped or shored in dry weather can become deathtraps when it is wet. Thawing soil can also become unstable quickly. 4. Don't park heavy equipment next to a trench. Nearby structures—such as buildings, curbs, trees and utility poles—exert stress on trench shoring. 5. If you are digging a trench near a roadway or where other operations create vibration, make certain the shoring/sloping design reflects these conditions.

**Other Considerations:** Every trench is a possible trap for hazardous atmospheres. When in doubt, test and ventilate.

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Notes & Suggestions

Filling Instructions: Copies of this "Tailgate Talk" should be filed in employer's safety training records and cross-referenced in each employee safety-training file. This is intended as a guide only- all rights reserved.

Document Filing Reference

## Trenching & Excavating

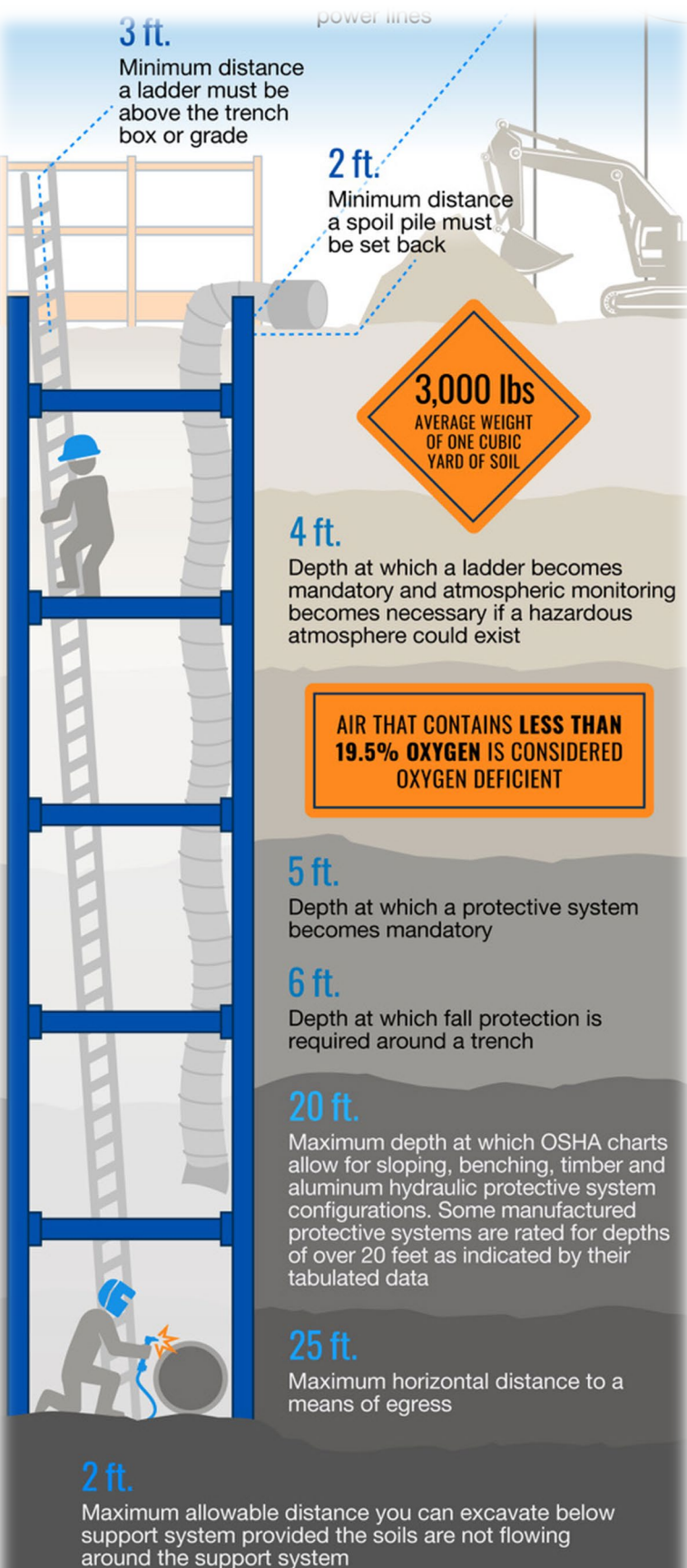
Cal/OSHA has cited a Riverside construction company \$66,000 for serious workplace safety violations that resulted in the death of a worker when a 17-foot-deep trench he was in collapsed.

Cal/OSHA determined that Empire Equipment Services, Inc. did not properly classify the soil and failed to correctly slope the excavation. On May 9, two Empire Equipment Services workers were installing sewer pipes at a Lake Forest residential construction site when a 30-foot-wide section of the trench's sidewall sloughed and collapsed. Only one of the workers was able to escape.

Cal/OSHA's investigation found that the company failed to ensure the site was inspected by someone who was deemed competent by the employer and familiar with trench hazards, soil classification and the appropriate safety requirements.

The soil at the worksite was unstable, requiring an adequate protective system. "Because working in excavations is so dangerous, a competent person must conduct thorough visual and manual tests to properly classify the soil and adequately protect employees from cave-ins," said Cal/OSHA Chief Juliann Sum. "Failing to carry out these requirements can be fatal."

Cal/OSHA issued citations to Empire Equipment Services Inc. for two serious accident-related violations and one general violation with \$66,000 in proposed penalties. One of the serious violations is classified as repeat. In August 2017, Cal/OSHA had cited the employer \$24,670 for serious safety violations after conducting an inspection at another site in Lake Forest. During that inspection, Cal/OSHA found that the employer had exposed its workers to serious hazards while working in a trench deeper than five feet without properly sloping or installing any adequate protective systems.





Company: \_\_\_\_\_

# SAFETY TRAINING SESSION RECORD

SUBJECT: \_\_\_\_\_

Location: \_\_\_\_\_

Date of Session: \_\_\_\_\_ Time Started: \_\_\_\_\_ Time Ended: \_\_\_\_\_

Trainer's Name and Signature: \_\_\_\_\_

*Those present at training - PLEASE WRITE LEGIBLY IN PRINT:*

<u>PRINT NAME</u>	<u>SIGNATURE</u>	<u>JOB TITLE</u>
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