TRENCH SAFETY – TOP VIOLATIONS: How to Avoid

ROSS CARDA – UNITED RENTALS TRENCH SAFETY

STATISTICS

- Between 2011 and 2016 there were130 fatalities in trenches/excavations
- 49% in 2015 & 2016

1.Fatalities by age:

36% 29 years old or less
26% 30-40 years old
38% 40 years old and above

2.Depth of trench:

72% less than 9' deep
19% 10-14' deep
6% 15-19' deep

3.Protective System Used:

76% nothing
12% Sloping/Benching
8% Shielding
4% Shoring

OSHA FINES

Type:	Previous:	New:
Willful or Repeated	$126,749	$132,598
Serious	$12,675	$13,260
Other than Serious	$12,675	$13,260
Failure to Abate (per day)	$12,675	$13,260

Top 5 Trenching Violations

#1 – Employees in an excavation must be protected from cave-ins by an adequate protective system

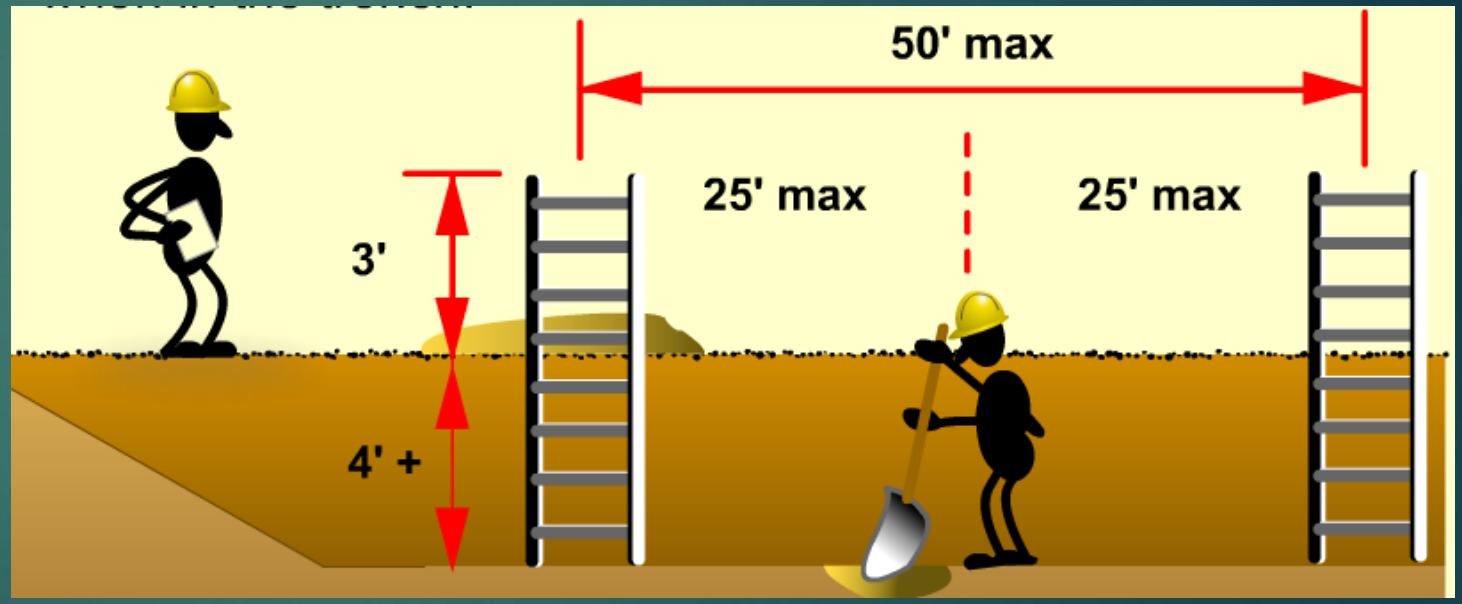
-UNLESS-

-The excavation is made entirely in stable rock

-The excavation is less than 5 feet (1.52 m) in depth and examination of the ground by a competent person provides no indication of a potential cave-in.

Top 5 Trenching Violations

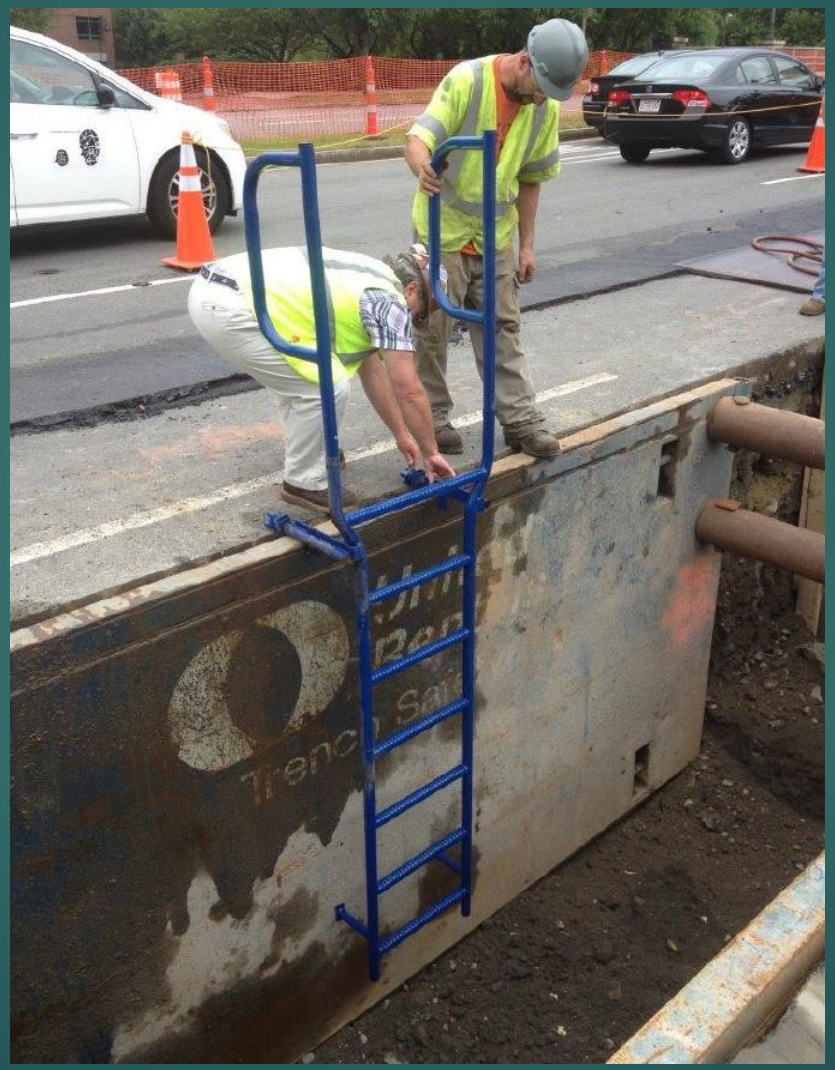
#2 - stairway, ladder, ramp, or other safe means of egress to be located in trench excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for employees to reach this device.



OTHER REQUIREMENTS FOR LADDERS

- Face the ladder when climbing
- Maintain three points of contact
- Ladder must be secured while climbing
- Ladder must remain in trench box if employees are in the box
- Step ladders can never be used for access and egress from the trench

Ladders



Top 5 Trenching Violations

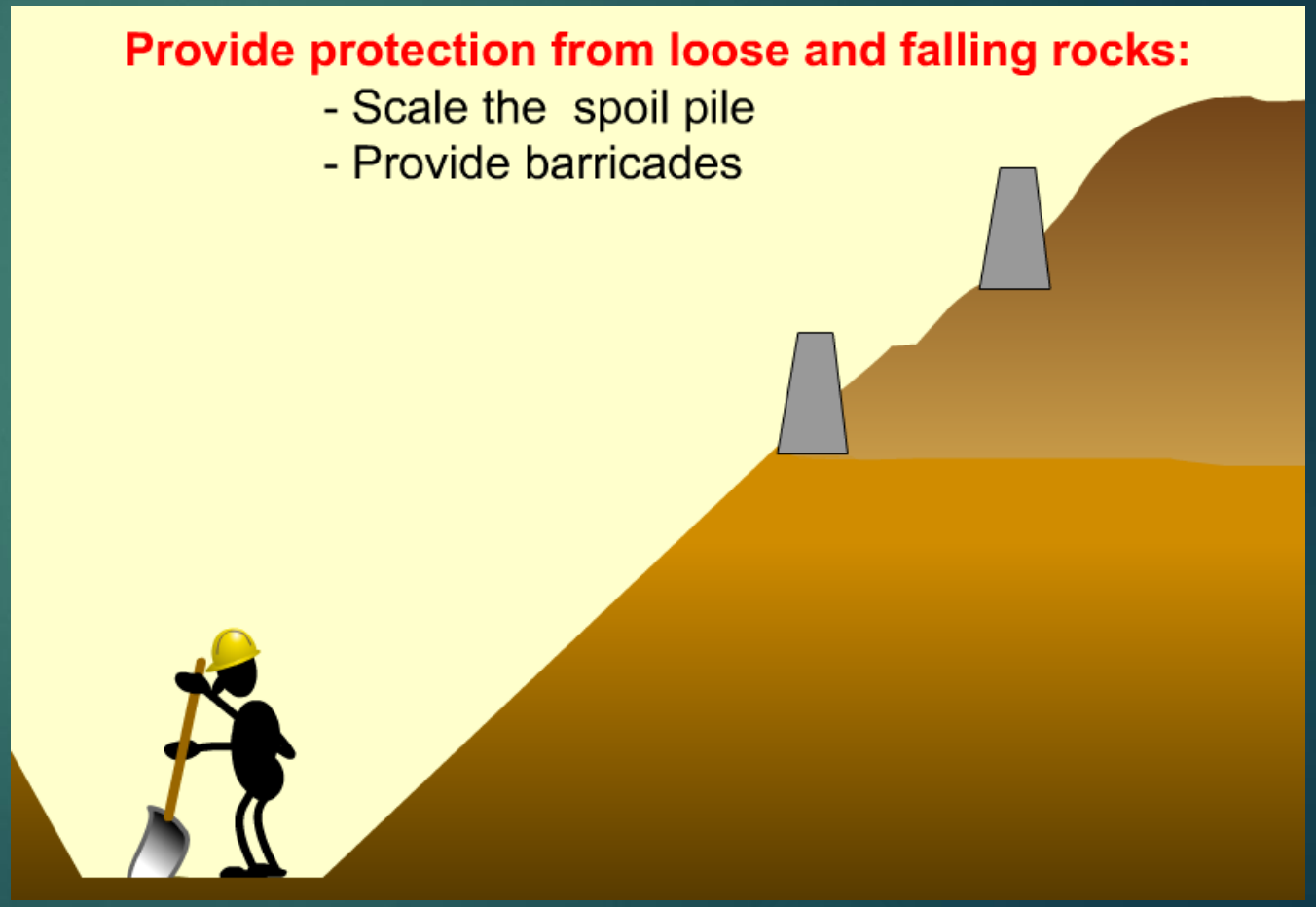
#3 - daily inspections of excavations, the adjacent areas, and protective systems be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions.

- Completed at the start of work and as needed throughout the shift i.e. after a rainstorm

Top 5 Trenching Violations

#4 - employees are to be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations.

- materials or equipment kept at least 2 feet from the edge of excavations
- Or, use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations



Top 5 Trenching Violations

#5 - if the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, then the exposed employees are to be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

NEW METHODS & TECHNOLOGY

Trench Boxes

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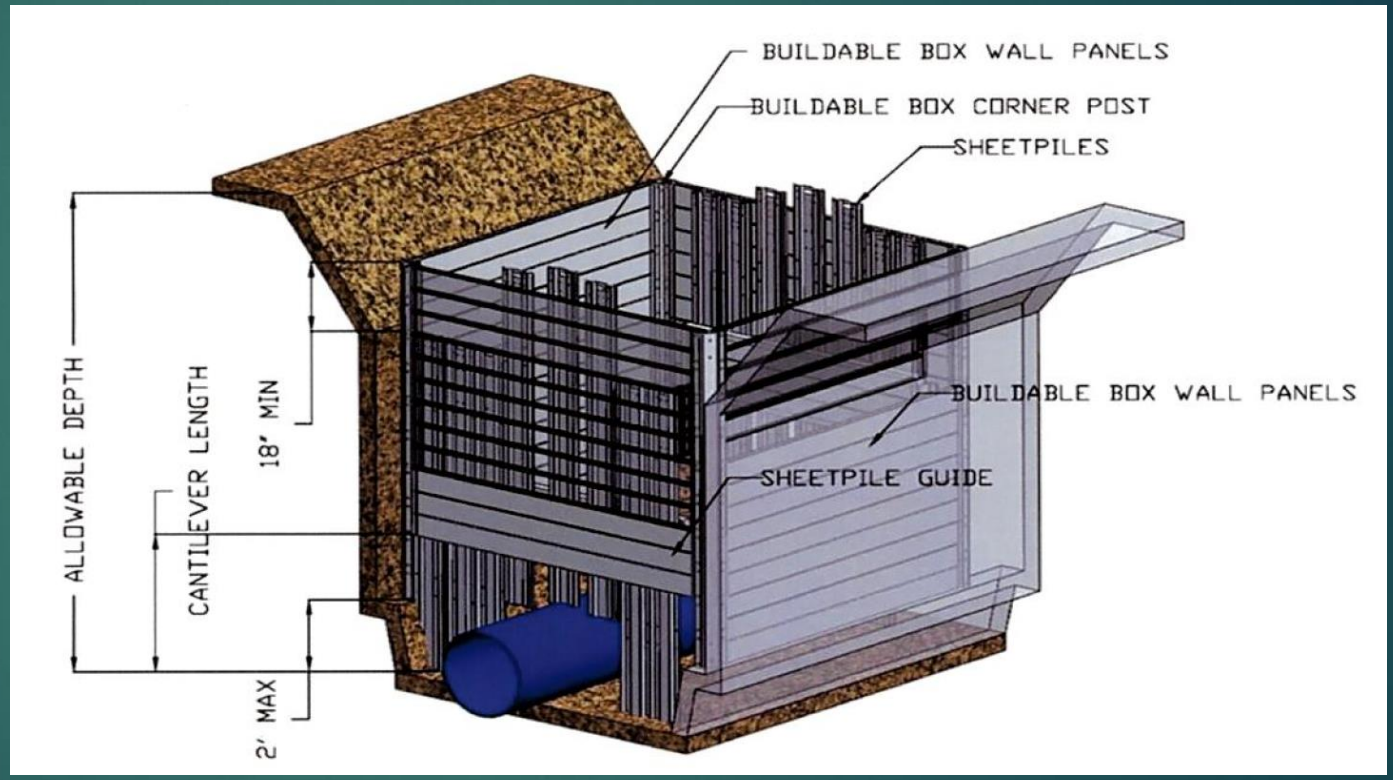
Modular Aluminum Trench Boxes or MAPS

NEW METHODS & TECHNOLOGY

- Aluminum Sheeting Guides



NEW METHODS & TECHNOLOGY

Manhole Boxes

NEW METHODS & TECHNOLOGY

- Vertical Hydraulic Shoring
- Waler system
- Shoring Shield
- Manhole Bracing

NEW METHODS & TECHNOLOGY

- Beam and Plate

NEW METHODS & TECHNOLOGY

- Sheeting

NEW METHODS & TECHNOLOGY

- Megabrace

NEW METHODS & TECHNOLOGY

- Slide Rail

NEW METHODS & TECHNOLOGY

- G3