Trenching & Safety

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Outline

- NLCSA – A little bit about us
- Trenching & Excavation definitions
- Some Legislative requirements
- Trenching hazards & controls
- Emergency Preparedness

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A Brief Overview

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An Overview of NLCSA

- Who are we?
- Who do we serve?
- What we do?

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NEWFOUNDLAND & LABRADOR CONSTRUCTION SAFETY ASSOCIATION

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>> Trenching & Excavation

Definitions

What's the difference?

An Excavation is " A cut, cavity, trench, or depression in the earth's surface resulting from rock or soil removal."

OHS Regulations, section 404

What's the difference?

A Trench is "… an excavation less than 3.7m (12ft) wide at the bottom, more than 1.2m (4ft) deep, and of any length.

OHS Regulations, section 376 (g)

Did you know?

- According to North America statistics, most trench collapses are short duration jobs between 4’-15’ deep

- All workplace parties have a responsibility in recognizing potential hazards

>> Trenching & Excavation

Legislative Requirements

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Legislative Requirements

- There are various references throughout the OHS Regulations
- Some key references include:
  - Section 405 - Entrapment Danger
  - Section 406 - Pre-excavation Requirements
  - Section 407 - Excavation or Access
  - Section 408 - Removal of Material
  - Section 409 - Faces & Slopes
  - Section 410 - Excavation Safety

>> Hazards & Controls

The Basics

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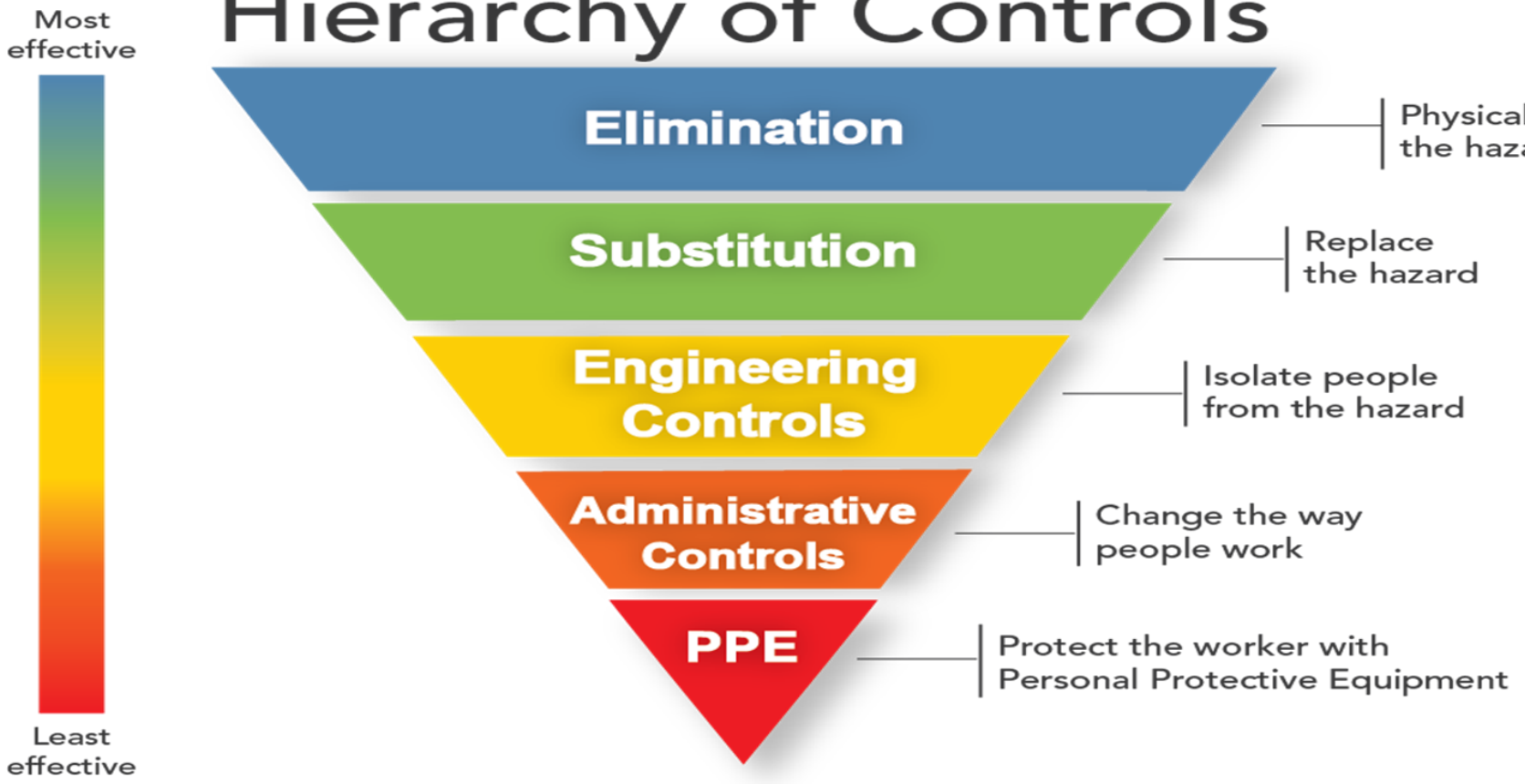
What's a Hazard?

- It is a condition, practice or behaviour that has the potential to cause injury, illness or property damage

- Employers have responsibilities to ensure hazards are recognized, evaluated, & appropriate controls are implemented.

Hierarchy of Controls



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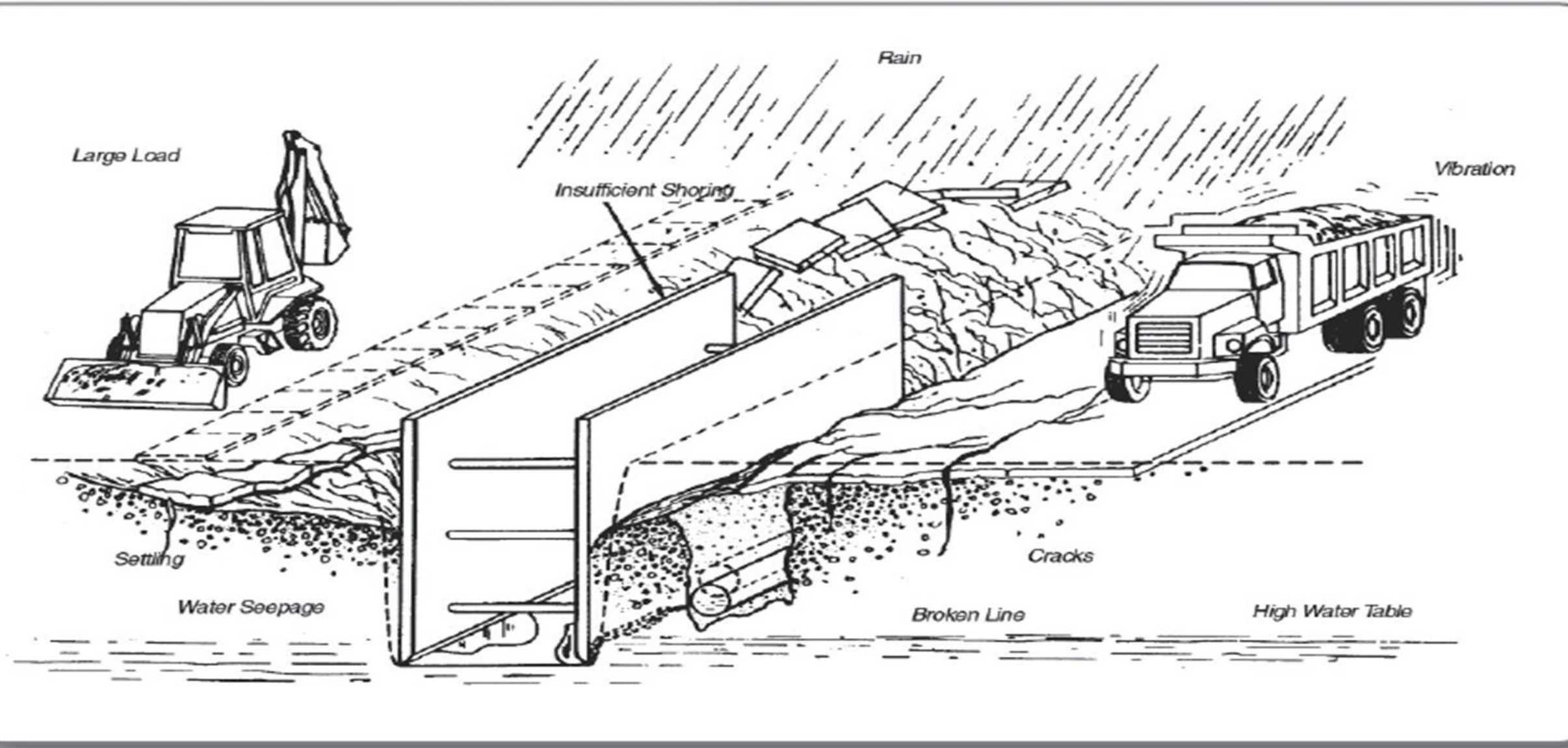
What are some common trenching hazards?

- There are various safety and health hazards associated with type of work.

- Common hazards include:
  - Being trapped or buried
  - Struck by falling objects, workers, etc.
  - Falling and slipping
  - Toxic, irritating or flammable gas

Factors that Cause a Trench Collapse



Control Measures to Protect Against Cave-ins

- Methods to protect against trench cave-ins include:
  1. Sloping
  2. Sheet Piling
  3. Trench Boxes
  4. Shoring

Sloping

- This requires space to ensure the trench walls will not collapse
- The angle of the slope depends on the soil type

Sheet Piling

- This involves sections of sheet materials such as steel.

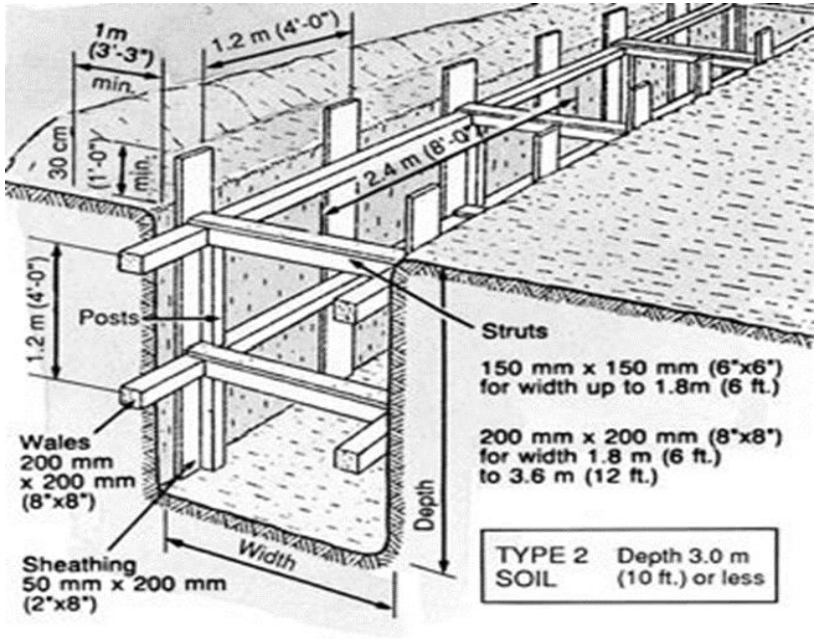
- There are interlocking edges that are driven into the ground to provide earth retention and excavation support.

Trench Boxes

- Not intended to shore up or support trench walls
- Designed to protect workers from cave-in, must be signed and sealed by a P.Eng.
- Must be capable of withstanding the maximum load likely to be imposed.

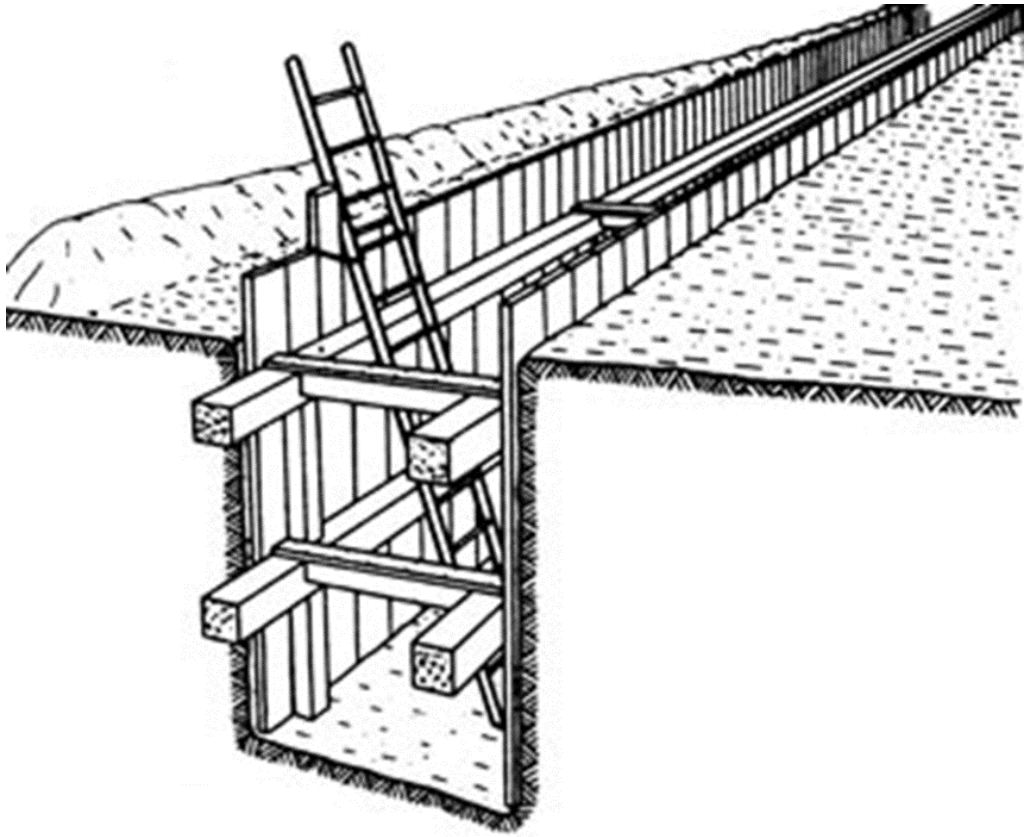
Shoring

- This supports trench walls to prevent movement of soil, underground utilities, roadways, and foundations
- There are two types:
  - Timber
  - Hydraulic



Trench Access & Egress

- Must have ladders provided at intervals to ensure works can enter and exit safely.



Other Hazards

- There are other considerations such as utilities, materials handling, heavy equipment, traffic, & confined spaces

- Environmental Concerns, including soil & waste management, air quality, waterways, spill response, & noise

>> Emergency Planning

A few details

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Emergency Preparedness

- Employers have responsibilities to prepare for emergency situations, including work at heights, confined spaces or risk of entrapment, etc.

Some Immediate Actions on Cave-in

- Sound the alarm & initiate your rescue plan
- Don’t get too close to the trench wall or enter an unprotected trench
- Protect the Area from Hazards & prevent further injury to the casualty

>> Any Questions?

Take some time to visit our website
www.nlcsa.com

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