

# GENERAL SHORING AWARENESS

## SHORING DESIGN & EXCAVATION RISKS

The most common Trench Collapse reasons are...

- Failing to plan and consider risks appropriately
- Unexpected instability of the material being excavated
- Poorly executed or inappropriate temporary support solutions
- Weather and/or groundwater adversely affecting soil properties
- Poor understanding on site of potential earthworks failure mechanisms
- Surcharging and/or vibration around the edge of the excavation, often caused by plant



## SOIL CONDITIONS AND PROPERTIES

### GOOD GROUND

Self-supporting with no groundwater

- Firm or stiff clay
- Mudstone and shales

### REASONABLE GROUND

With easily controllable groundwater

- Soft clays
- Sands and gravels
- Firm silt
- Fill material/Made Ground
- Dewatered sands and gravels

### POOR GROUND

With or without high groundwater

- Soft/very soft saturated clays
- Saturated sands and gravels
- Alluvial muds
- Soft silts
- Peat/organic soils

## SITE CONSIDERATIONS - SHORING

Surcharge Loads ✓

Competency of Operator ✓

Stockpiling Considerations ✓

Plant Specifications ✓

Haulage Route Proximity ✓

Position of Plant ✓

Method of Shoring Installation ✓

Staged Installation of Shoring ✓

## DESIGN CONSIDERATIONS - SHORING

Ground Slope ✓

Site Conditions ✓

Water Courses ✓

Adjacent Structures ✓

Soil Properties ✓

Groundwater ✓

Rock Fractures ✓

Heavy Plant ✓

Length of Time ✓

Surcharge & Stockpiling ✓

Edge Protection ✓

Adjacent Services ✓

Excavation Geometry ✓

Weather Conditions ✓

Transport Methods ✓

Work Methods ✓



# GENERAL SHORING AWARENESS

## SHORING DESIGN BEST PRACTICE

### WHAT MAKES A GOOD & SAFE DESIGN?

- Simple and safe
- Fully coordinated
- Robust structure
- Clear basis of design
- Impact of ground conditions
- Site constraints
- Considering the realistic options available
- Dialogue with construction and permanent works design

**BE SAFE**

### WHAT MAKES A GOOD BRIEF?

- Name and Address of Site
- Details of relevant parties
- Purpose/Scope
- Geometry
- Duration
- Nature of Permanent Works
- Geotech report
- External Surcharges
- Access limitations
- Available Plant

**BE SHORE**

# GENERAL SHORING AWARENESS

## COMMON SHORING PRODUCTS



LIGHT- DUTY BOXES



HYDRAULIC BRACING

VERTISHORES



HEAVY - DUTY BOXES



Product AutoCAD blocks available on our [website](https://www.shorehire.com.au)



# SHORING DESIGN RESOURCES

## AUSTRALIAN STANDARDS FOR REFERENCE

**AS 4744** - Steel Shoring and trench lining

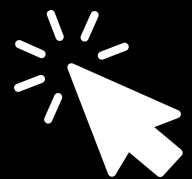
**AS 5047** - Hydraulic shoring and trench lining equipment

**AS 4678** - Earth Retaining Structures

**AS 3798** - Guidelines on Earthworks

## TECHNICAL GUIDANCE RESOURCES (CLICKABLE LINKS)

- [Excavation Work CoP - Safe Work Australia](#)
- [Shoring Technology Interest Group - STIG](#)
- [Construction Plant Hire Association - CPA – Good Practice Guide](#)
- [Construction Industry Research and Information Association - CIRIA](#)
- [Piling Handbook – 9th Edition](#)



Want to learn more? Get in touch by emailing [hello@shorehire.com.au](mailto:hello@shorehire.com.au)