SHORING INSTALLATION
JOB METHOD STATEMENT

PROJECT	Pxxx	VENDOR	RIYE ENGINEERING SDN BHD
OWNER	Ssss	VENDOR REF	V200-846-10
MAIN CON/ PROJECT MANAGEMENT	Oooo	ITP REVISION	REV.0
PROJECT CODE		ISSUED DATE	3/6/25
REVIEWED BY	Ssss DATE	PREPARED BY	RIYE Abdulla DATE: 3June25
APPROVED BY	Oooo DATE	APPROVED BY	RIYE KSG DATE: 3June25

SPECIFICATION AND SCOPE OF WORKS

1. GENERAL REQUIREMENTS

1.1. The work covered by this section includes the furnishing of all labours and equipments for the excavation and installation of shielding/ shoring system the as specified within the Contract Documents.

1.2. The purpose of this specification is to detail the furnishing of tools, equipment, labor and supervision, and installation techniques necessary to install SafeXTrench system as temporary shielding/ shoring system for excavation protection as required by the contracts.

1.3. This work consists of furnishing all necessary, supervision, labor, tools, and equipment to perform all work necessary to install the shielding/ shoring at project **Sssssss**. **The Contractor RIYE Engineering Sdn Bhd** shall install the wall shoring for soil retaining purpose as detailed on the drawings.

1.4. The appointed Competent or Designated Person (Excavation) to supervise, inspect, assess, authorize stop-work when unsafe conditions arise and maintain records of excavation activities covering the following scopes.

- **Excavation Training Records**
  All workers involved in excavation and shoring shall be trained in excavation safety and shoring installation. Valid training records shall be kept on site.

- **HIRARC Preparation**
  A project-specific HIRARC shall be prepared before work starts to identify and control hazards such as trench collapse, lifting activities, plant movement, and water ingress.

- **Excavation Permit**
  A valid Excavation Permit shall be obtained prior to excavation and reviewed daily or whenever site conditions change.

- **Excavation Inspection**
  Excavations and shoring systems shall be inspected daily, after heavy rain or ground disturbance, and when soil conditions change. Inspection records shall be maintained.

- **Machinery and Lifting Equipment Inspection**
  Excavators, lifting chains, slings, and accessories shall be inspected before use, certified, and within safe working load. Defective equipment shall not be used.

- **Incident Reporting and Management**
  All incidents, near misses, and unsafe conditions shall be reported immediately, investigated, and corrective actions implemented.

- **Stop Work Authority**
  Any worker or competent person has the authority to stop work if unsafe conditions are observed.

- **Excavator Operator Competency**
  Excavator operators shall be trained and certified, briefed on lifting limits, exclusion zones, and shoring installation procedures, and shall maintain a safe distance from trench edges.

- **Pre-Task / Toolbox Talk**
  Daily pre-task briefings shall be conducted to explain the scope of work, hazards, control measures, and emergency procedures. Attendance shall be recorded.

- **Record Maintain and Safe Keeping**
  Maintain and safely keep all excavation-related records, including permits, inspections, HIRARC, training, incident reports, and toolbox talk records by min. 5 years.

2. INCLUSION

The following is the services and items to be supplied and carry out under this contract.

2.1. Scope of Works

2.1.1. Temporary excavation shielding/ shoring

- Trench of 3xxm length x 3.0m deep.
- Quantities: xxx sets.
- Pit of 3xxm length x 3.0m deep.

2.1.2. Fall Protection Barricade

- Barricade Length 3xxm

2.1.3. Ingress & Egress

- Ladder Length 3xxm, Quantities xxx nos.

2.1.4. SafeXTrench series

- XpressJack
- FlexShield
- DeepShore
- RapidShield One-Pass
- Power Strut
- CombiShore
- TrenchBox
- X-Tie

2.1.5. Trench stability control & monitoring

- Visual check or
- Instrumentation recording & monitor
  - soil movement - Inclinometer
  - ground settlement - settlement marker

2.1.6. Confined Space Setup & Rescue Tripod

- Sets xx nos

2.2. Construction Duration

2.2.1. Construction duration: estimated 1 months.

2.2.2. Manpower team

- 1 team consist of XXX operator, XXX workers & XXX machines.
- 1 team Installation estimated install XXX panel sets/ days.

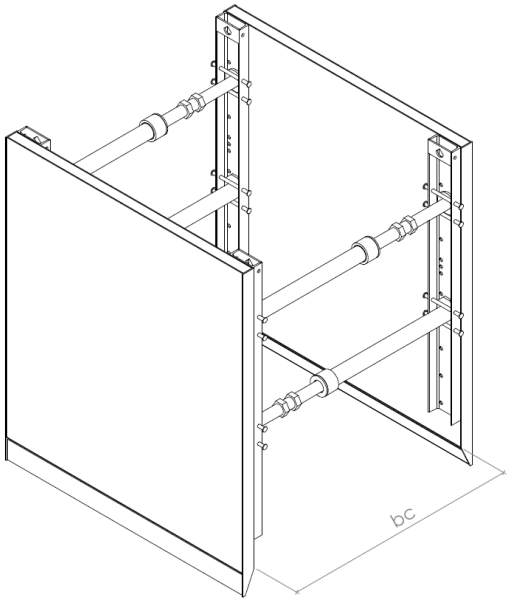
2.2.3. Working hour

- Daily from 0800 - 1900.

2.3. Installation Tools & Equipment

Equipment/Tool	Purpose
Excavator/ Backhoe 5, 12, 20, 30 ton	*Excavation and panel handling/ lifting*
Mobile Crane / Lifting Device	*Lifting and placing panels*
Submersible Pumps	*Dewatering during or after excavation*
Steel Panel (FlexShield, Flex Shore)	*Shoring System*
Lifting chain sling Xm - 4 leg x XX tons	*Secure lifting the panels*
Lifting swivel point - X tons	*Allow rotation of panel*
Hand Tools (spanner, hammer, pry bar)	*Dismantling struts and accessories*
Shovels / Rakes	*Backfill levelling and compaction*
Wheelbarrow	*Soil/Sand transport*
Safety Barricade & Warning Tape	*Ensure site safety*

2.4. Methodology

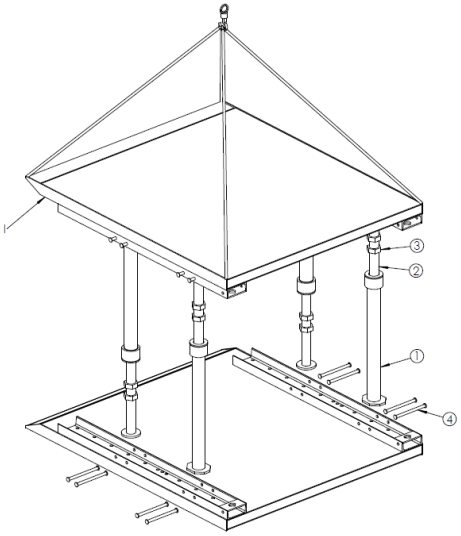


Preparation on Ground

Step 1: Site Preparation

- Survey and mark the excavation boundary clearly.
- Install safety signage and barricades around the working zone.
- Identify underground utilities before any drilling or excavation.

Step 2: Assembly the Panel

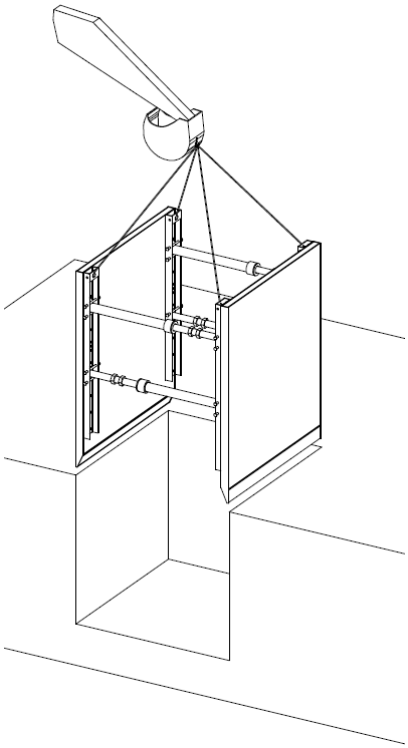


- Place the base panel on firm, level ground with the profile facing upwards.
- Install the XSpindle into the panel profiles and secure it using Ø20 mm pins, ensuring all pins are properly locked with clips.
- Adjust the shoring system to the required trench width by installing the appropriate XSpindle, as specified.
- After all spindles are installed, connect the next panel to the designated lifting and transport points at the top. Lower the panel from top and align it with the XSpindle of the panel below. Secure the connection using pins and clips.

- Extend the XSpindle to achieve the required trench width. Care shall be taken to ensure that the bottom strut is extended approximately 30–50 mm more than the upper strut, in order to achieve the correct positioning and alignment of the shoring panels.
- The shoring system shall be narrower at the top and slightly wider at the bottom to ensure proper seating and stability against soil pressure.
- Installation of the top panel shall be carried out in the same manner as previously described.

Step 3: Install Panel

Option A: Place and Adjust Method



- Excavate gradually to the required depth, subject to acceptable trench wall stability conditions.

- The shoring panel shall be installed into a fully pre-excavated trench using the *place and adjust* method.

- This method is permitted only when all of the following conditions are met:

  - ➡ The soil is temporarily stable
  - ➡ The excavation is beyond the structural influence zone of nearby buildings or permanent structures.
  - ➡ The excavation is beyond traffic surcharge zones and away from existing underground services at risk
  - ➡ Minor ground settlements are acceptable

- Soil shall be considered temporarily stable when no significant collapse or instability occurs during the period between the commencement of excavation and the installation of the shoring system.

- For trench depths exceeding the height of a single base panel, and where the *place and adjust* method is adopted, the base and top panels shall be pre-assembled outside the trench and installed as one complete unit.

- The base and top panels shall be connected using box connectors and pins, and all connections shall be secured with retaining clips.

- Lifting chains shall be attached to the designated lifting eyes provided in the panel profiles, at a minimum of four lifting points.

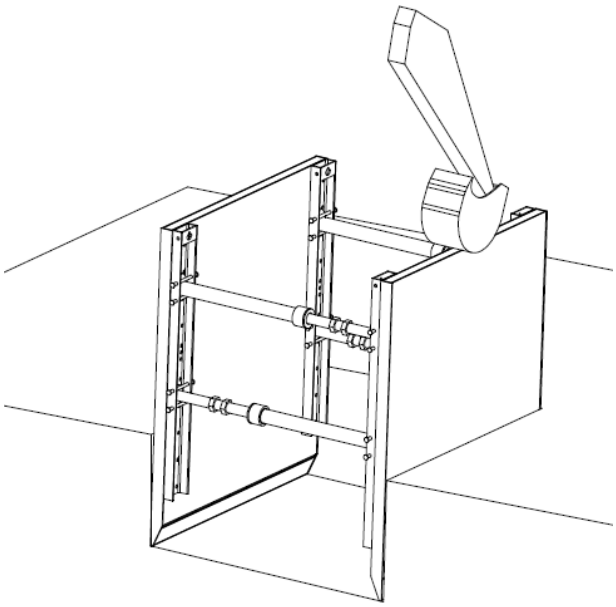
- The fully assembled panel unit shall be lowered into the fully pre-excavated trench using suitable lifting equipment and approved lifting accessories.

- The excavation length shall be limited to the panel length at all times. Excavation depth shall not exceed the panel height.

- Any voids between the shoring panels and the soil shall be backfilled and properly compacted immediately to ensure stability.

Option B: Cut and lower method

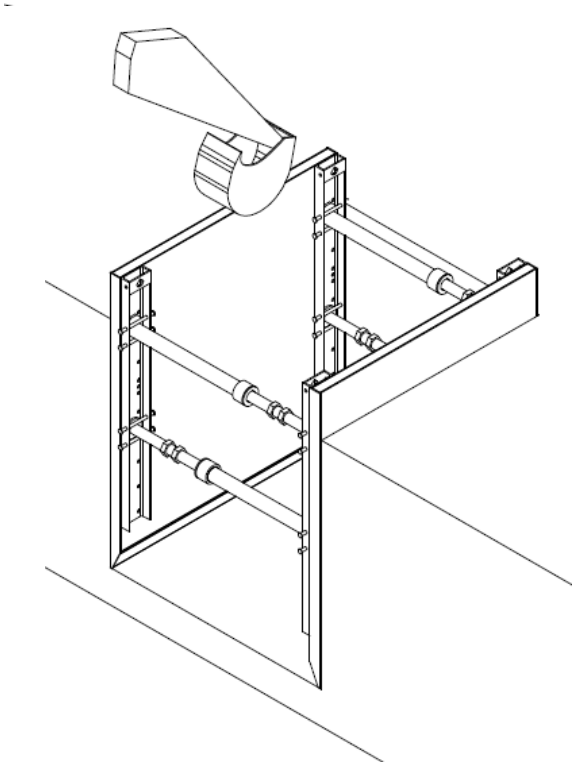
In unstable/soft soils, the shoring has to be installed by alternately pushing in and lowering.



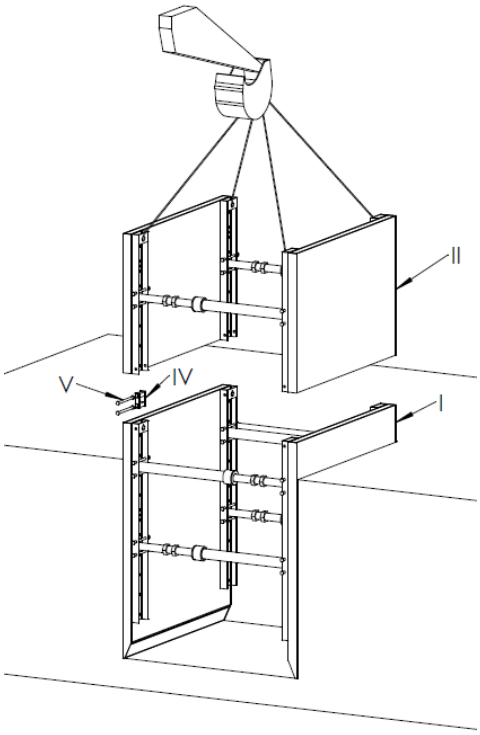
Installation of Base Panels

- Pre-excavation shall be limited to a maximum depth of 1.25 m and not exceeding one shoring section length. Pre-excavation depth shall always comply with the soil conditions and applicable safety regulations.
- Attach lifting chains to the four designated lifting eyes on the panel profile. Lower the base panel, pre-adjusted to the required trench width, into the pre-excavated trench. Align the panel correctly and push it into position.
- Any voids between the shoring panel and the soil shall be backfilled and compacted immediately.
- Shoring panels shall be pushed in only and shall not be hammered or battered. For safety reasons, strut Xspindle shall not be pushed/pulled. During this stage, entry into the trench is strictly prohibited.

Excavate a further approximately 0.5 m, then alternately push the shoring panels as excavation progresses.



- Smaller incremental pushing steps are recommended to maintain shoring stability. Pushing on any one side shall not exceed 0.5 m per stage, and the swivelling angle of the spindles shall be limited to ±5°.
- This procedure shall be repeated progressively until the required trench depth is achieved.

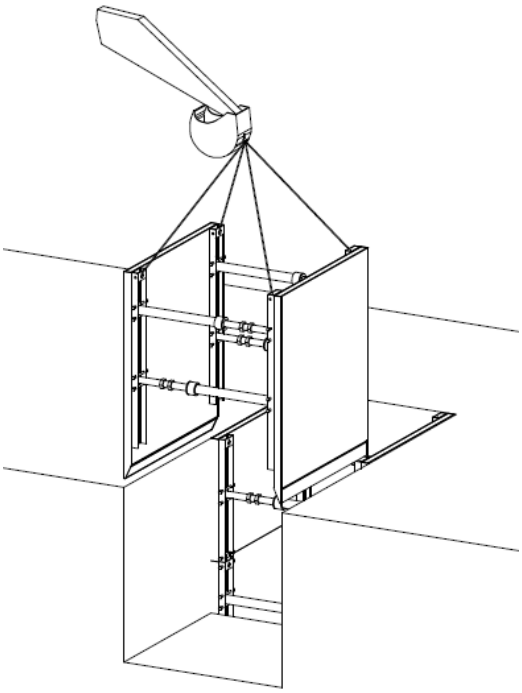


Installation of Top Panel

- Where the excavation depth exceeds the height of the base panel, top panels to be added. The top panels shall be pre-assembled to the required trench width and lifted using the four designated lifting eyes. The panels shall be aligned above the installed base panel and securely connected using panel connectors and Ø20 mm pins with clips.
- Subsequent installation shall be carried out by alternating excavation and controlled pushing of the shoring panels, in the same manner as previously described.
- The top edge of the shoring system shall extend at least 50 mm above the surrounding ground level to prevent soil or debris from

Installation of Further Shoring Sections

- Once the previously installed shoring section has reached the full design depth, installation of the next shoring section may commence.
- Subsequent shoring sections shall be installed in the same manner as previously described, following the approved installation sequence and safety requirements.
- Upon completion of shoring installation, pipe laying or utility



Step 4: Monitoring and Adjustment

- Conduct regular checks on shoring panel verticality and movement.
- Allowable movement tolerance:
  - ➡ Horizontal: Max 100mm
- Adjust brackets or struts if necessary to correct alignment or minimize movement.

- Install levels monitoring gauges/ rulers with monitoring in routing 2-3 days or when necessary.

Step 5: Water Control (If required)

- If groundwater seepage is encountered, install a sump pit.
- Deploy submersible pumps to dewater the excavation area.

Step 6: Extraction Instruction

- Upon completion of pipe laying works, panel extraction of the shoring system shall commence.
- Backfilling shall be carried out in layers not exceeding 0.5 m thickness, with each layer properly compacted. The shoring panels shall then be lifted incrementally in accordance with the backfilled height, followed by further soil compaction.
- Smaller lifting increments are recommended to maintain shoring stability. Lifting on any one side shall not exceed 0.5 m per stage, and the swiveling angle of the XSpindle shall be limited to ±4°.
- This procedure shall be repeated progressively until the shoring panels can be fully extracted from the trench in compliance with applicable safety regulations.
- Shoring panels shall be lifted only at the designated lifting points and lifting lugs. Lifting at the XSpindle is strictly prohibited.
- Personnel are strictly prohibited from entering the danger zone during both installation and panel extraction works.
- To prevent overstressing or damage to the shoring panels, one-sided lifting is not permitted. Lifting accessories shall be attached at a minimum of two lifting points on each panel at all times.

2.5. Access Road (Not Applicable)
Construction Equipment Access.

Site platform shall be accessible by excavator, backhoe & lorry. It must be totally accessible for contractors or machine before and during construction.

2.6. Safety HSE
Worker's / Staff PPE (Personal Protective Equipment)
Contractor to provide necessary PPE accordance to job scope requirements, inclusive of rest tent, drinking water, foods, transportation, lighting, tools storage, diesel as per safety requirement and practices.

- No entry under suspended loads.
- Daily inspection of shoring system.
- Supervision by competent/ designated person at all times.
- Emergency evacuation plan to be in place.

HSE MANAGEMENT

It is the installer responsibility to maintain a safe working environment and provide protection for any excavation on site. All relevant safety requirements are to comply with Malaysia Occupational Safety and Health Act 1994 OSHA (Act 524).

Security

Construction site security is under client’s duty.