

PRODUCT: 3M MANHOLE BOX
REFERENCE: TDS03-PAGE 1

shorehire.

Shore Hire Pty. Ltd.
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TECHNICAL DATA

Description

Shore hire 3M-50 Manhole Boxes combine key qualities of our trench box range, with additional features to accommodate adjoining service trenches for a typical manhole and other uniform four sided excavations. Shore Hire Manhole Boxes can be delivered to the site in knocked down form and assembled in a short time to suit the customers needs.

Manhole boxes may be installed in either a pre dug trench in stable ground, or by a progressive dig and push method in non-cohesive soils.

The Shore 3M-50 Manhole Box is designed to safely and effectively support trenches up to any depth, provided that the working load limit of 50kPa is not exceeded.

Manhole Box Guidelines

1. Manhole boxes should only be used in the configurations shown by competent persons following Shore Hire's installation guidelines.
2. Manhole boxes are not normally suitable for usage where ground movement is an issue and therefore situations where live carriageways or adjacent existing buildings/structures are a factor. Advice from a qualified civil engineer or similar is recommended.
3. Similarly manhole boxes used in very weak ground (especially very soft clays, loose sand/fill and peats) where significant ground water is present, should be assessed by a suitable qualified person prior to installation.
4. Flying or elevating of the box above the base of the excavation is not recommended.
5. Steel manhole box systems are heavy and great care must be taken in selecting a suitable excavator for handling, installing and extracting these systems. If stacking panels on site, timber packers must be used to separate the panels.
6. Manhole boxes should not be left in-situ for extended periods within cohesive or very weak soils as earth pressures/adhesion on the panel surfaces may increase significantly with time requiring additional extraction forces to release the panels.
7. Always use Shore Hire specified extraction chains to release an in-situ manhole box from the ground prior to any attempt to lift the manhole box out of the trench. Always use Shore Hire specified lifting chains when lifting and handling the boxes or components.
8. Prior to every lifting operation, all lifting points must be carefully inspected by a competent person for evidence of damage.
9. Always enter the box with appropriate approved ladder systems within the box and never from an unsupported edge.
10. During lift or extracting operations, ensure personnel are well clear of the equipment.
11. At the end of the manhole box, the ground should always be battered back to a safe angle or end shoring must be used.

Features

- Trench sheets or steel plates can be used to close off ends
- Base panels have a cutting edge to improve installation
- Top extension units can be connected to increase trench depth
- Able to add top extensions using pinned connectors
- Enables rapid construction of manholes, chambers and interceptors
- Foam filled
- Knife edge
- All steel construction
- Certified to Australian Standard AS 4744.1-2000 Steel Shoring and Trench Lining - Design

Shore 3M-50 Manhole Box Specifications

Specification	Base	Top
Length	3000mm	3000mm
Height	2500mm	1500mm
Minimum Width Internal	1600mm	1600mm
Maximum Width Internal	4000mm	4000mm
Clearance Between Struts	2750mm	2750mm
Clearance Beneath Bottom Strut	1500mm	N/A
Weight with 1000mm Strut	2472kg	1762kg
Panel Weight	1188kg	803kg
Panel Thickness	75mm	75mm
Working Load Limit	50kPa	50kPa
Strut Weight	21.6kg/m	21.6kg/m



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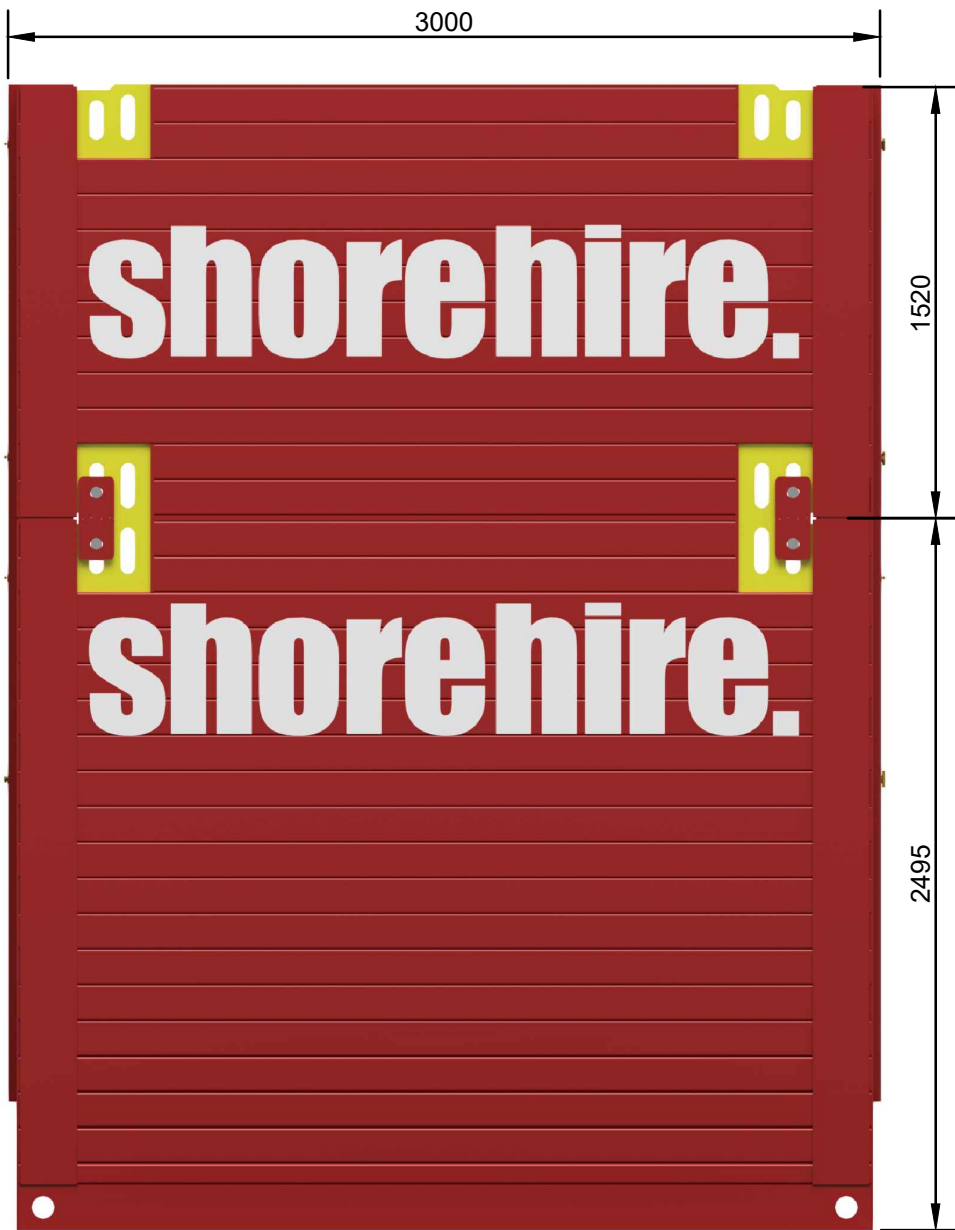
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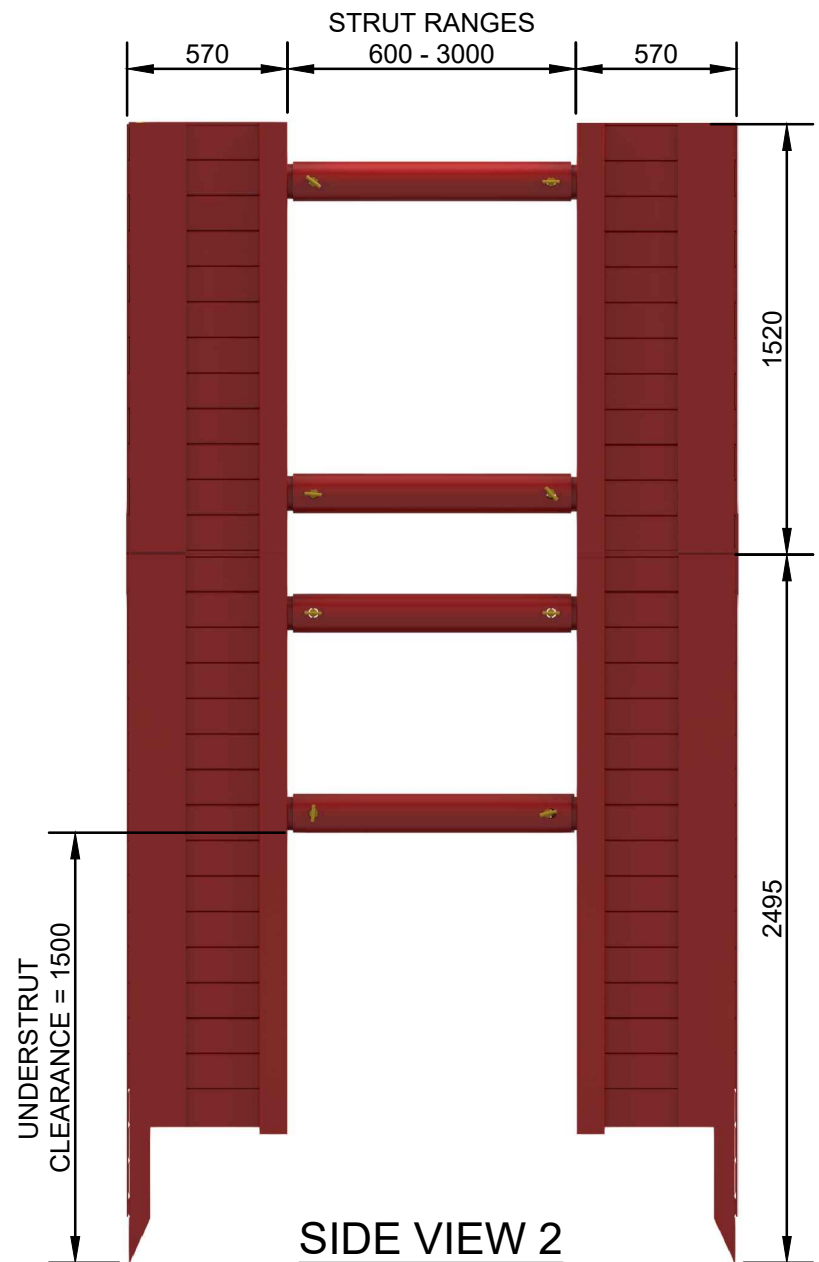
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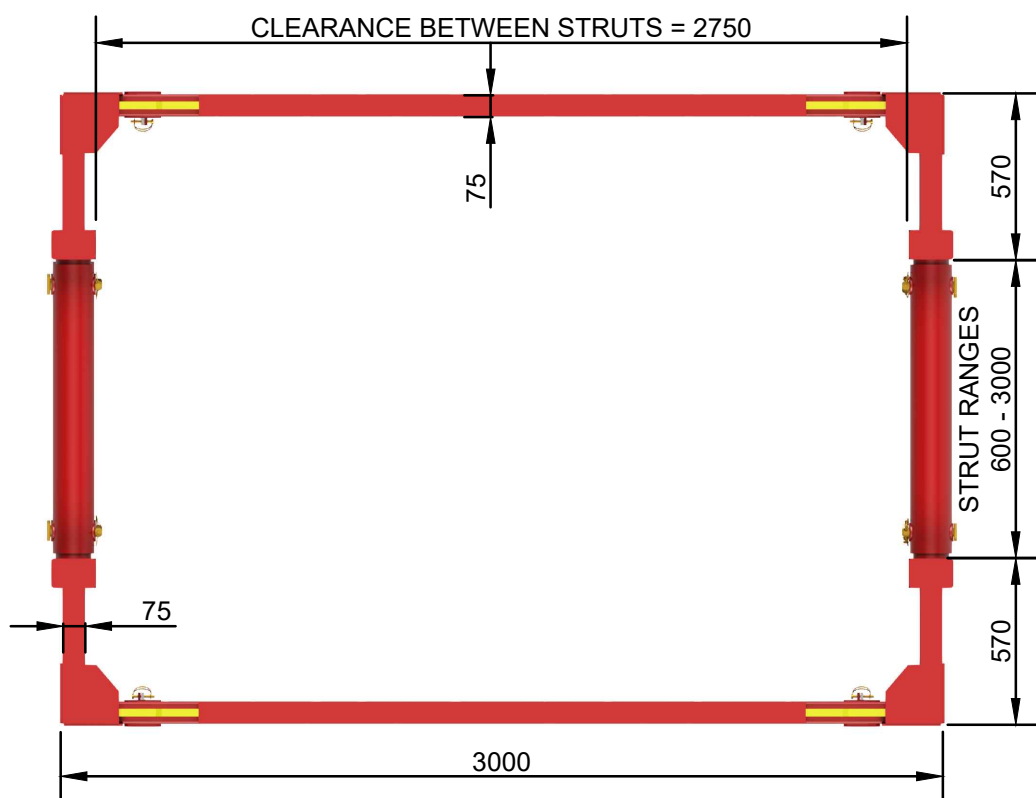
Trench Box Dimension Details



SIDE VIEW 1



SIDE VIEW 2

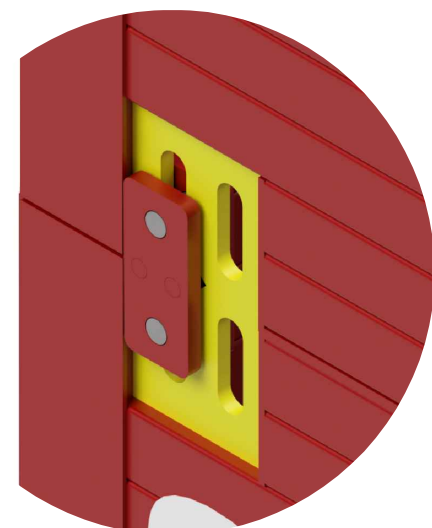


PLAN VIEW

PIN AND CLIP



PANEL CONNECTOR - INTERNAL BOX VIEW



PANEL CONNECTOR - EXTERNAL BOX VIEW

TECHNICAL DATA

Shore 141 Struts

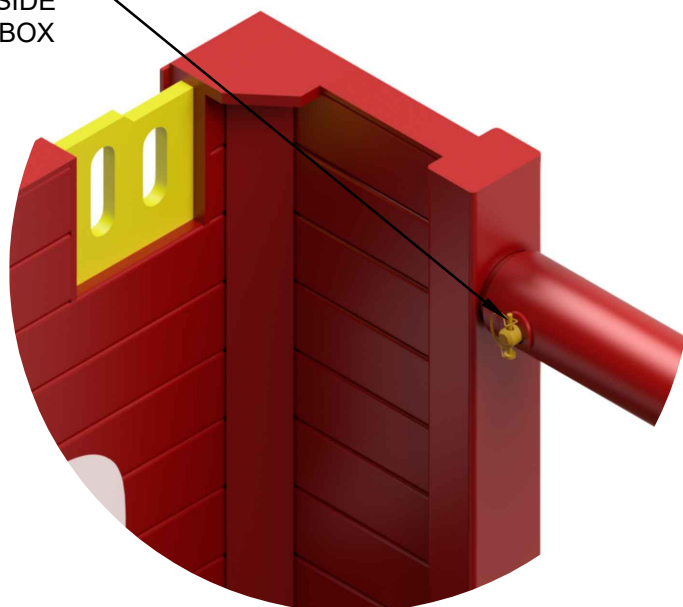
The Shore 141 strut is a purpose built light weight pipe strut to suit the Shore 3m Trench Boxes and the 3m Manhole Box. The strut is offered in increments of 250mm from 600mm up to 4000mm. The Shore 141 struts are connected to the side wall of the trench box spigots with connecting pins and locking clips, making assembly and dismantling quick and easy. No bolts and nuts or tools are required and there are no threads to get damaged.

All steel pipe lengths to be grade C350LO Steel to AS 1163 U.N.O.

SHORE 141 IN 3M-50 MANHOLE BOX		
SHORE 141 STRUT LENGTH (mm)	3M-50 INTERNAL WIDTH (mm)	3M-50 EXTERNAL WIDTH (mm)
600	1600	1750
750	1750	1900
1000	2000	2150
1250	2250	2400
1500	2500	2650
1750	2750	2900
2000	3000	3150
2250	3250	3400
2500	3500	3650
2750	3750	3900
3000	4000	4150

STRUT WEIGHT	
SHORE 141 STRUT LENGTH (mm)	WEIGHT (kg)
600	13
750	16.2
1000	21.6
1250	27
1500	32.4
1750	37.9
2000	43.3
2250	48.7
2500	54.1
2750	59.5
3000	64.9

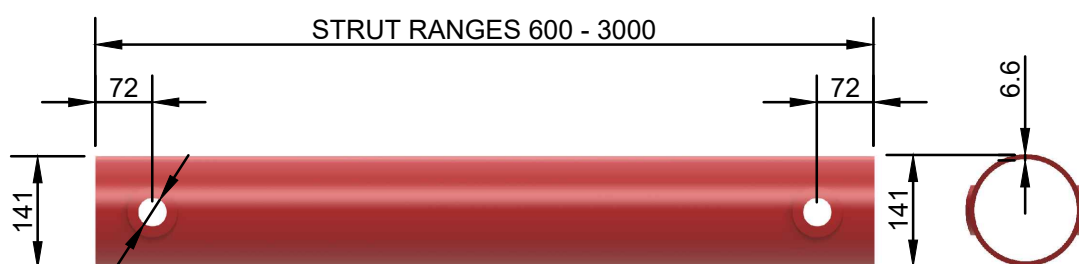
PIN AND CLIP FACING THE INSIDE OF THE BOX



STRUT PIN AND CLIP CONNECTION INSIDE OF BOX

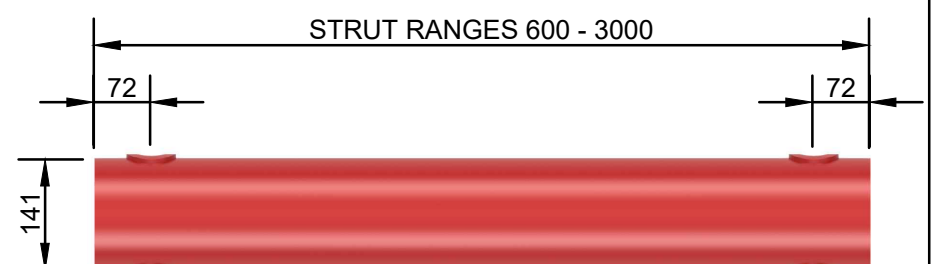


STRUT PIN AND CLIP CONNECTION OUTSIDE OF BOX



SIDE VIEW

END VIEW



TOP VIEW

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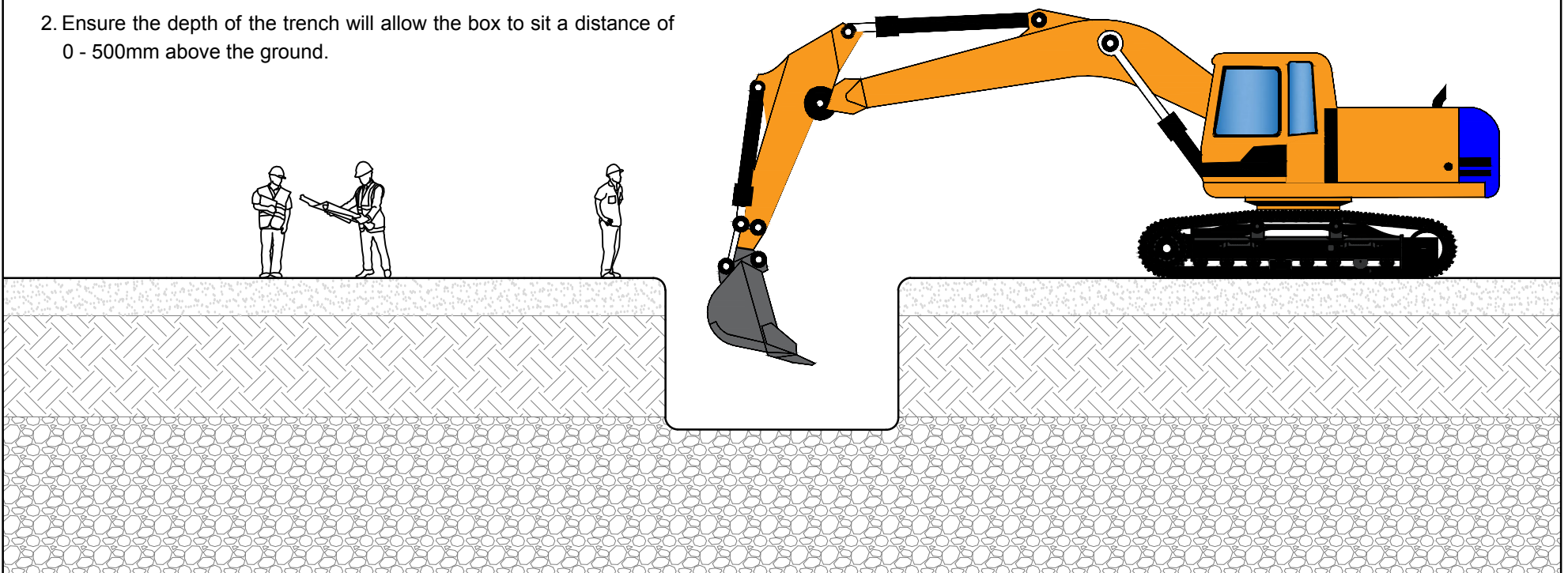
TECHNICAL DATA

Installation of Manhole Boxes

Installation in Cohesive Stable Ground:

Step 1A;

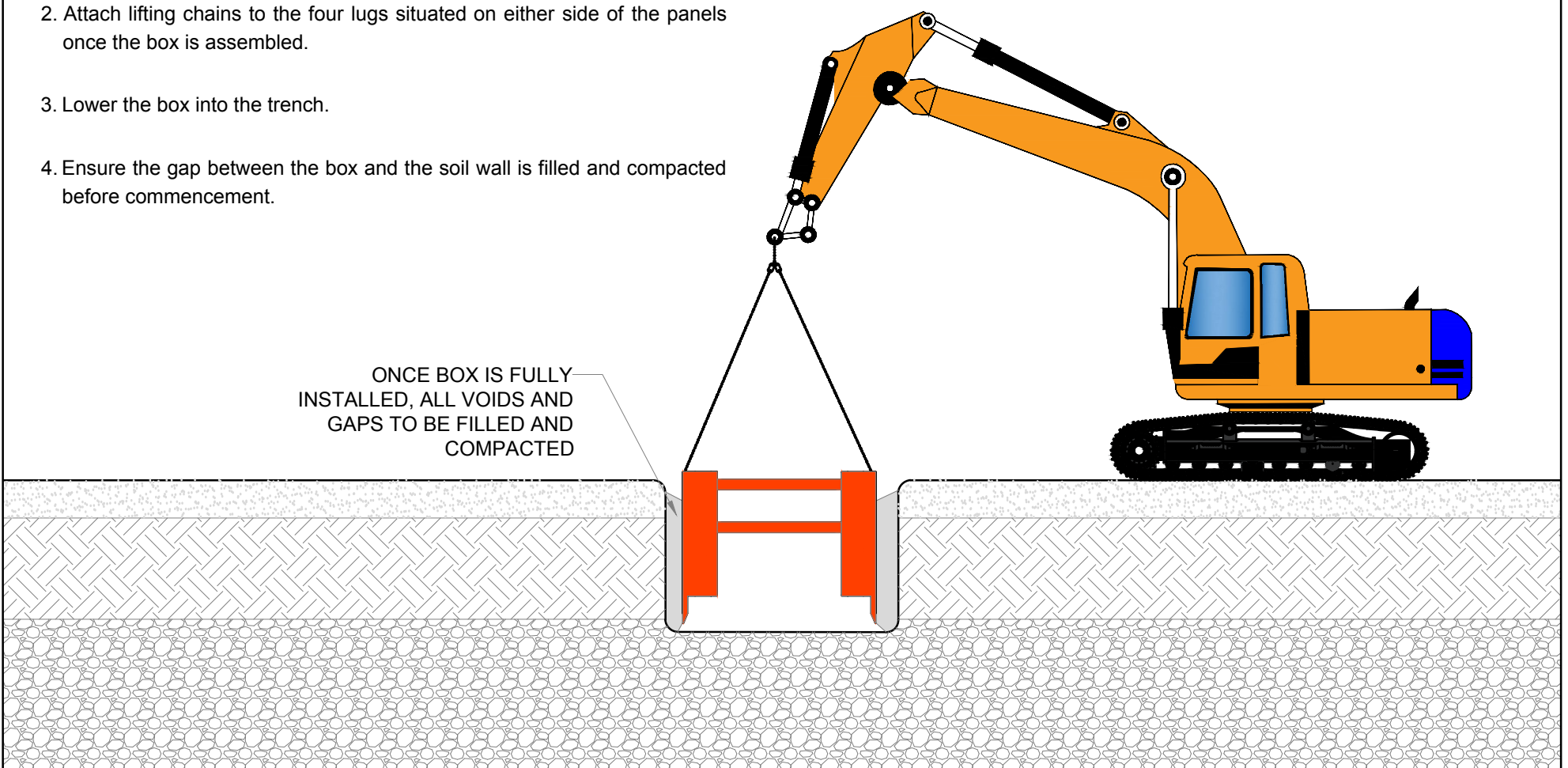
1. Excavate trench width and breadth slightly larger than the manhole box.
2. Ensure the depth of the trench will allow the box to sit a distance of 0 - 500mm above the ground.



Step 1B;

1. Assemble the manhole box on ground level outside the trench.
2. Attach lifting chains to the four lugs situated on either side of the panels once the box is assembled.
3. Lower the box into the trench.
4. Ensure the gap between the box and the soil wall is filled and compacted before commencement.

ONCE BOX IS FULLY
INSTALLED, ALL VOIDS AND
GAPS TO BE FILLED AND
COMPACTED



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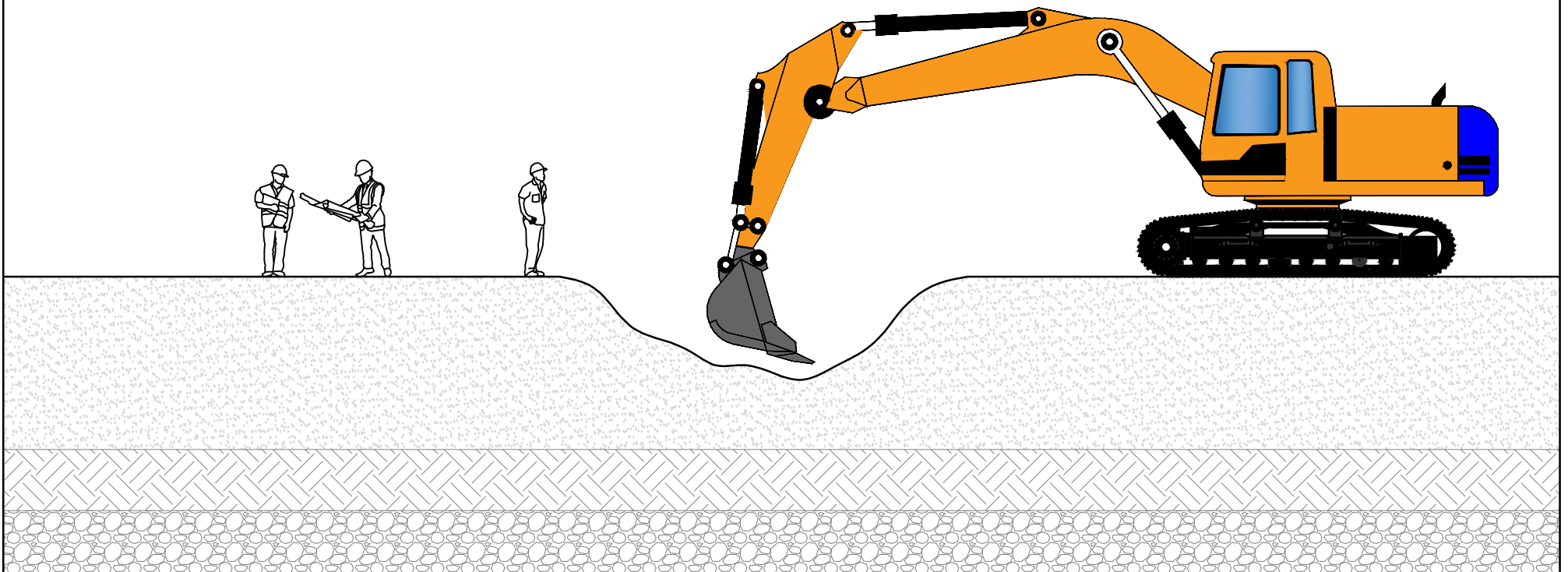
TECHNICAL DATA

Installation of Manhole Boxes

Installation in Non-Cohesive Unstable Ground: (Dig and Push Method)

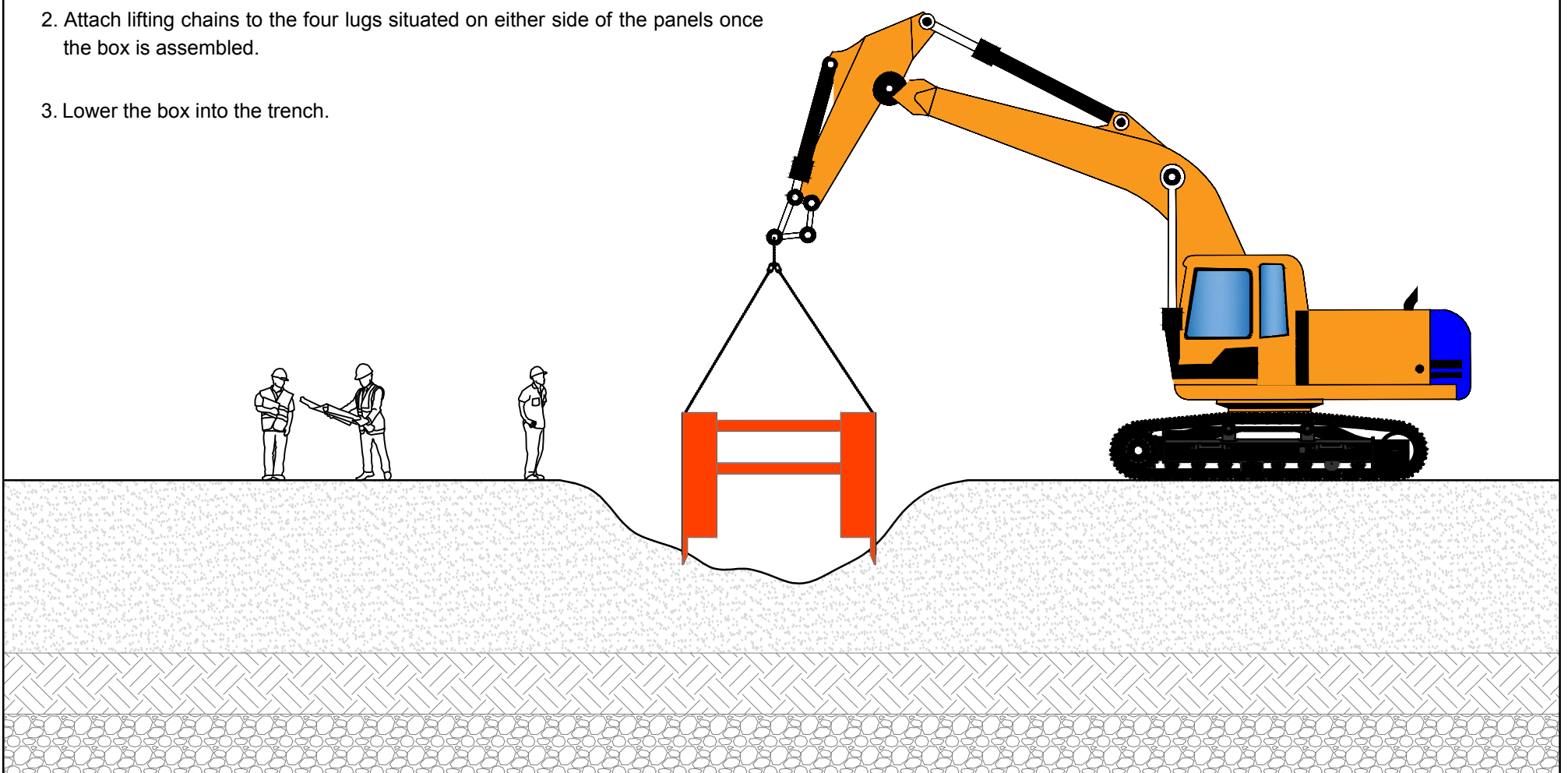
Step 2A;

1. Excavate to a maximum depth of 1.25m or no larger than the depth of one trench panel.



Step 2B;

1. Assemble the manhole box on ground level outside the trench.
2. Attach lifting chains to the four lugs situated on either side of the panels once the box is assembled.
3. Lower the box into the trench.



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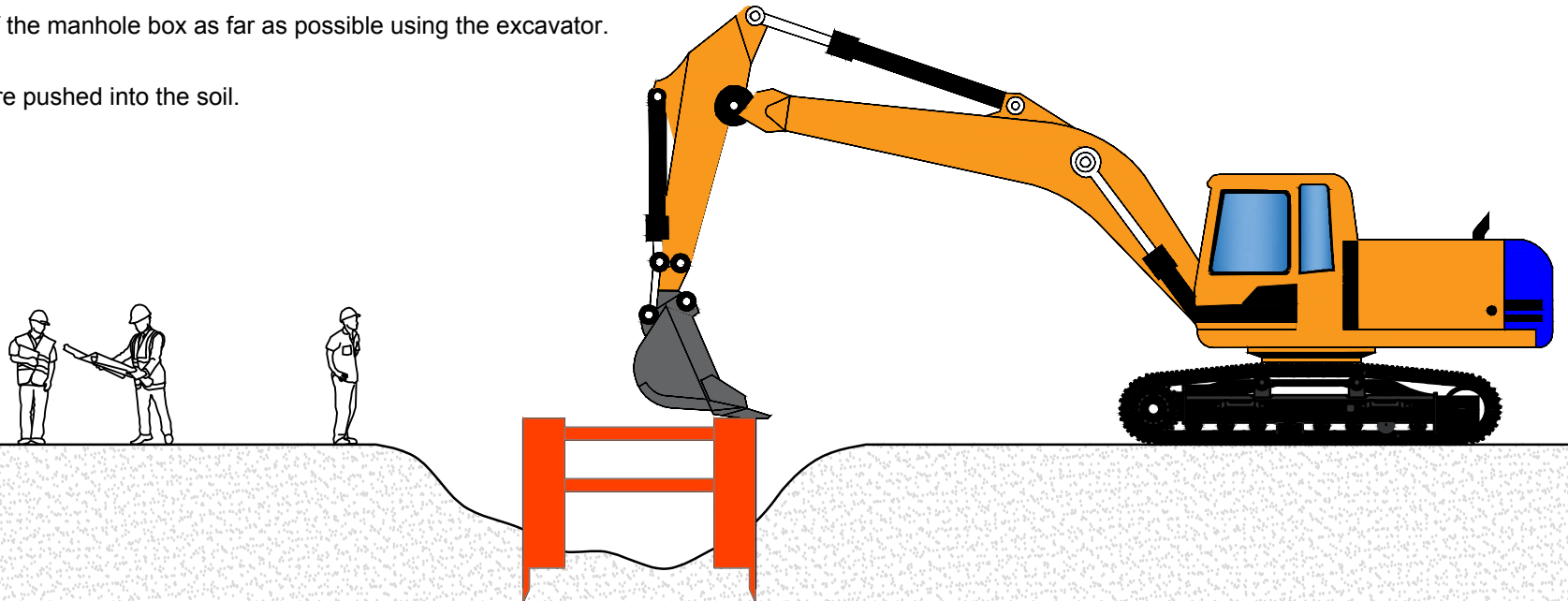
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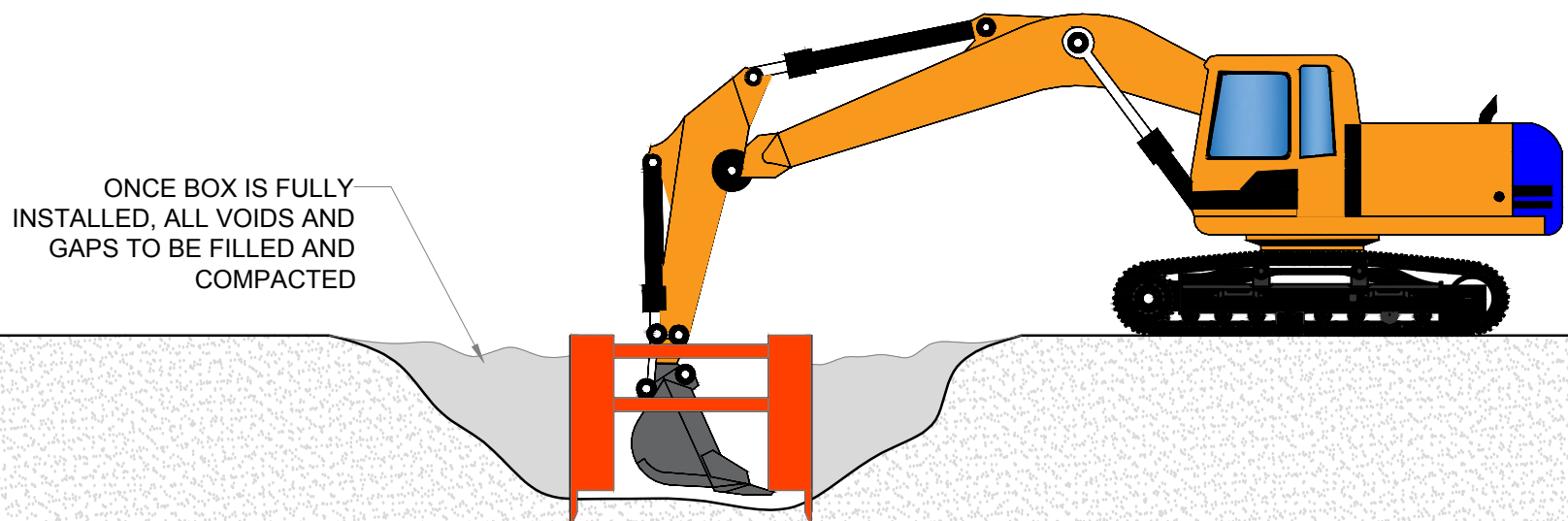
Step 2C;

1. Push down on top of the manhole box as far as possible using the excavator.
2. Ensure the panels are pushed into the soil.



Step 2D;

1. Excavate the soil inside of the manhole box a further 0.5m.



Step 2E;

1. Repeat the dig and push steps until desired trench depth has been achieved.
2. Ensure the top plate of the manhole box is at least 50mm above ground level.
3. Fill the space between the box and the soil wall and compact before commencement of works.