

Domain	PLUMBING	Unit ID: 469
Title:	Plan, install and remove trench support as part of plumbing operations	
Level: 4		Credits: 4

Purpose

This unit standard specifies the competencies required to plan, install and remove trench support to prevent the collapse of trench walls and provide safety to personnel working in the trench. It includes planning and preparing for work, installing trench shoring, removing trench shoring and cleaning up the work area.

This unit standard is intended for those who work as plumbers.

Special Notes

1. Entry information:
 - Prerequisite
 - 434 - *Apply safety rules and regulations in plumbing operations or demonstrated equivalent knowledge and skills.*
2. Assessment evidence may be collected from a real workplace or simulated real workplace or an appropriate simulated realistic environment in which plumbing operations are carried out.
3. Tools and equipment include, but are not limited to shoring systems, levelling equipment, hand and power tools, measuring equipment, shovels, picks and may include scaffolding, elevated work platforms, slings and chains.
4. Materials include but are not limited to closed timber sheeting, soldier sets, segmental and trench shields.
5. Shoring securing mechanisms may include but are not limited to footings, needles, anchors, sole plates, struts and brackets.
6. Excavations to be shored are to include but not be limited to trenches and may include well and pits.
7. Trench shoring systems may include but not limited to: fixed and/or adjustable trench boxes, drag boxes, hydraulic vertical shoring, closed timber shoring, aluminium shoring shields, power brace, lite box aluminium panels, slide rails.
8. Trench support is to include trenches of at least 1.5 metres in depth and may include trenches less than 1.5 metres deep.
9. Safe operating procedures are to include but not be limited to the conduct of operational risk assessment and treatments associated with power cables (including overhead service trays, cables and conduits), lighting, earth leakage boxes, trip hazards, working with dangerous materials, working in

confined spaces, surrounding structures, restricted access barriers, traffic control, working at heights, working in proximity to other, worksite visitors and the public.

10. Performance of all elements in this unit standard must comply with all relevant workplace requirements and/or manufacturers' specifications.
11. Regulations and legislation relevant to this unit standard include the following:
 - Labour Act, No. 6, 1992
 - Occupational Health and Safety Regulations No. 18, 1997and all subsequent amendments.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Range

Planning and preparation include but is not limited to workplace inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements.

Performance Criteria

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details developed and applied.
- 1.2 Safety requirements are followed in accordance with safety plans and policies.
- 1.3 Signage and barricade requirements are identified and implemented in line with safety and workplace procedures.
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults rectified or reported prior to commencement.
- 1.5 Material quantity requirements are calculated in accordance with plans and/or specifications.
- 1.6 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located, ready for use.

- 1.7 Environmental protection requirements are identified and applied in line with environmental plans and regulatory obligations.

Element 2: Install trench shoring

Range

Trench shoring methods include but are not limited to trench shoring systems used for cohesive soil, such as clay, trench shoring methods used for non-cohesive soil such as sand and gravel.

Performance criteria

- 2.1 Plant operator is communicated with to ensure excavation of trenches comply with site plan, line and depth in line with workplace procedures.
- 2.2 Shoring method is determined and prepared.
- 2.3 Positioning of shoring is set out to specifications.
- 2.4 Shoring is positioned or erected within the trench in line with workplace procedures.
- 2.5 Shoring is secured in position and checked to ensure structural conformity with regulations.
- 2.6 Excavation is cleaned out by hand to job requirements.
- 2.7 Ladders are provided for access and egress in line with safety requirements.

Element 3: Remove trench shoring

Performance criteria

- 3.1 Jacking mechanisms are released and ladders removed in line with workplace procedures.
- 3.2 Shoring is checked and prepared for lifting from the trench in line with workplace procedures.
- 3.3 Shoring is removed from trench and stored on site in line with workplace requirements.

Element 4: Clean up the work area

Performance criteria

- 4.1 Work area is cleared and materials disposed of, reused or recycled in line with workplace requirements.
- 4.2 Plant, tools and equipment are cleaned, checked maintained and stored in line with manufacturers' recommendations and workplace procedures.
- 4.3 Documentation is completed in line with workplace procedures.

Registration Data

Subfield:	General Construction
Date first registered:	15 November 2007
Date this version registered:	15 November 2007
Anticipated review:	2010
Body responsible for review:	Namibia Training Authority