



Australian Government

Department of Education, Employment and Workplace Relations

DEFCA307B Assist in the preparation, construction and maintenance of roads and tracks

Release: 1

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Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit covers the competency required to assist in the preparation, construction and maintenance of minor roads and tracks to provide access to work sites, camps and other installations.

The minor roads and tracks will normally be of a temporary nature and can be expected to carry only a moderate amount of vehicular traffic without major upgrading, construction and maintenance work to bring it up to a permanent standard. Roads and tracks will normally be constructed in **field conditions**. The individual will usually work as part of a team under supervision, but may undertake some autonomous tasks.

Note: This unit is based on FPIFGM195A Construct and maintain roads and tracks from the Forest Products Training Package.

Application of the Unit

Application of the Unit

The application of this unit in the workplace - the environments, complexities and situations involved - will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

This text will be useful for the purposes of job descriptions, recruitment advice or job analysis; where possible, it will not be too job specific to allow other industries to import it into other Training Packages, where feasible.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite Unit/s	BSBCMN311A Maintain workplace safety BCG1006A Use small plant and equipment BCG1004A Carry out measurements and calculations BCG1011A Handle construction materials and safely dispose of waste BCG1005A Use hand and power tools FPIFGM2208A Fall trees manually (basic)
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Employability Skills Information

Employability Skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the Required Skills and Knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for construction	1.1 Appropriate personal protective equipment is selected and worn in accordance with OH&S requirements 1.2 Tools and equipment required for the job are selected, checked for serviceability and any faults are reported to the supervisor 1.3 The road/track line is laid out and cleared of vegetation and obstructions in accordance with standard procedures and job instructions
2. Construct road/track sub-base	2.1 Soil is removed manually or with the assistance of plant support to establish a base of suitable width, slope and stability 2.2 Soil and waste removal is coordinated with plant operators and dumped or stored in accordance with standard procedures 2.3 Soil is compacted or stabilised chemically or mechanically with the assistance of plant support 2.4 Provision for drainage and crossing points is progressively made in accordance with standard procedures
3. Construct road/track surface and drainage	3.1 Road/track base and other surface materials such as pierced steel plank (PSP) and locally won expedient materials are transferred, spread, compacted and laid/fixed to meet the planned road/track design in accordance with standard procedures 3.2 Drains are provided and water run-off is established
4. Construct crossings	4.1 Road/track surface is cut and prepared at crossing point using appropriate compaction 4.2 Culverts are installed as required in accordance with the predicted volume of water 4.3 Pipes or cords are placed and correctly backfilled and compacted
5. Maintain road/track and refurbish work site	5.1 Condition of road/track is monitored in relation to volume of traffic, loads and expected future requirements 5.2 Damage likely to lead to safety or environmental issues is identified and repaired or immediately reported to supervisor 5.3 Normal wear and tear damage repair is planned and carried out with minimal disruption to other activities

5.4 Ineffective drainage is identified and modified as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required Skills

- interpret job instructions and plans, maps and overlays
- use power tools, hand tools, small plant and other engineering equipment
- measure relative to the construction process
- utilise expedient and improvised construction methods and materials
- follow instructions/directives and report information
- encourage other team members
- use a variety of verbal and non-verbal communication techniques including language style, active listening
- read and interpret job instructions, procedures manuals, job guides, field engineering pamphlets, technical specifications and manufacturer's specifications

Required Knowledge

- workplace and equipment safety requirements
- capabilities of small plant and equipment
- materials handling and storage
- expedient and improvised construction methods
- techniques for supporting others
- composition of teams and roles and responsibilities of team members
- verbal and non-verbal communication techniques including language style, active listening
- basic numeracy required to determine linear measurement, and number and placement of pegs

Evidence Guide

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessment must confirm the ability to assist in the preparation, construction and maintenance of a number of lengths of road/track using a combination of locally won and pre-fabricated materials such as PSP. The road/track construction must include the installation of drainage and crossings.

Assessment must also confirm the ability to:

- assist in the construction of a road/track in accordance with job instructions and technical specifications
- use tools, plant and equipment
- construct drainage and crossings
- carry out road maintenance tasks
- interactively communicate and work in a team.

Consistency in performance

Competency should be demonstrated over a time frame that allows for the preparation, construction and maintenance of roads and tracks under a range of field conditions.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed by observing the individual assisting in the construction of various types of roads and tracks using a range of materials in accordance with standard procedures.

Specific resources for assessment

Access to:

- road and track construction materials relevant to the task
- hand tools, power tools, plant and other equipment appropriate to the construction process
- suitable site/work/training areas for the construction of roads and tracks.

Range Statement

RANGE STATEMENT

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Field conditions may include	A range of terrain, soil and vegetation Under all weather conditions By day or night and under illumination
Personal protective equipment may include	Boots Safety glasses/goggles Ear plugs/muffs Dust masks/respirators Gloves Hard hat Cap High visibility vest
OH&S requirements may include	Workplace environment and safety Use of protective clothing and equipment Manual handling of materials
Tools and equipment used in construction may include	Hand and power tools Small plant equipment supplemented, when required and available, by medium/heavy road construction plant and operators Fabricated and pre-fabricated materials for surfaces and culverts Equipment and non-equipment bridging
Laying out of road/track line may include	Line of sight Pegs Marking/blazing trees String
Clearance of road line may include	Felling trees Pulling stumps Shifting rocks
Standard procedures and instructions refer to	Written and verbal orders and instructions, job instructions Standing orders, routine orders, procedures manuals, job guides, field engineering pamphlets and other publications Technical specifications and manufacturer's specifications

RANGE STATEMENT

Road/track base and surface materials may include

Crushed rock
Sand
Other materials typically used for road/track construction
Expedient surfacing materials won locally
Pierced steel plank (PSP)
Pierced aluminium plank (PAP)
Trackway
Cords and pipes
Sandbags
Pre-fabricated culveting

Road/track base design requirements include

Length
Width
Depth
Camber

Unit Sector(s)

Not applicable.

Corequisite Unit/s

Co-requisite Unit/s

Nil