



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **FPIFGM3209B Construct and maintain forest roads and tracks**

**Release: 1**

## **FPIFGM3209B Construct and maintain forest roads and tracks**

### **Modification History**

Not Applicable

### **Unit Descriptor**

#### **Unit descriptor**

This unit describes the outcomes required to plan, construct and maintain roads and tracks in a forest environment. The unit includes monitoring road or track conditions and coordinating maintenance work

Compliance with licensing, legislative, regulatory or certification requirements may be required in various jurisdictions

This unit replaces FPIFGM3209A Construct and maintain forest roads and tracks

### **Application of the Unit**

#### **Application of the unit**

The unit involves constructing and maintaining forest roads and tracks in a forest environment setting

The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority

### **Licensing/Regulatory Information**

Refer to Unit Descriptor

### **Pre-Requisites**

Not Applicable

## Employability Skills Information

**Employability skills**      This unit contains employability skills

## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan road or track	<p>1.1. Applicable <i>occupational health and safety</i> (OHS), <i>environmental</i>, <i>legislative</i> and <i>organisational requirements</i> relevant to constructing and maintaining forest roads and tracks are identified and followed</p> <p>1.2. <i>Topography</i> details are obtained and assessed in relation to <i>environmental management considerations</i></p> <p>1.3. <i>Construction requirements</i> are identified and checked with <i>appropriate personnel</i></p> <p>1.4. Track and road entry points are located to planned construction requirements and provide vehicle and equipment access, turning and loading space</p> <p>1.5. Road line is <i>established</i> and <i>obstacles</i> are removed in line with plans, site procedures and environmental requirements</p> <p>1.6. <i>Extraction</i> methods and <i>resources</i> are identified and obtained in line with site procedures</p> <p>1.7. Forest road or track construction and maintenance plan is prepared in line with site procedures and environmental requirements</p> <p>1.8. <i>Communication</i> with others is established and maintained in line with OHS requirements</p>
2. Construct road or track	<p>2.1. Soil is <i>removed</i> to establish base of suitable width, slope and stability in line with OHS and environmental requirements and site procedures</p> <p>2.2. <i>Water crossing points</i> and drains are established and provided in line with environmental requirements and site procedures</p> <p>2.3. Intersection points are prepared to provide suitable entry and exit levels and control water flow</p> <p>2.4. Pipes or cords are placed and correctly backfilled and compacted in line with predicted water volume and site procedures</p> <p>2.5. Road or track <i>base and surface material</i> is transferred, spread and compacted to meet planned road or track design</p> <p>2.6. <i>Equipment</i> is stabilised, controlled and manoeuvred to compact and stabilise adjacent soil during construction</p> <p>2.7. Road or track surface is cut and prepared suitable for</p>

**ELEMENT****PERFORMANCE CRITERIA**

	support, effects of tree or log movement, manoeuvring and traction of equipment
3. Maintain road or track	<p>3.1. Condition of road or track is monitored in relation to volume of traffic and expected future requirements in line with OHS and environmental requirements</p> <p>3.2. Specific damage likely to lead to safety or environmental issues is identified and repaired or reported immediately</p> <p>3.3. Maintenance is planned and carried out with minimal disruption to other work activities</p> <p>3.4. Areas of consistent damage are redesigned and remade with assistance from appropriate personnel</p> <p>3.5. Road or track construction and maintenance processes are <i>recorded and reported</i> to appropriate personnel</p>

**Required Skills and Knowledge****REQUIRED SKILLS AND KNOWLEDGE**

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

**Required skills**

- Technical skills sufficient to use and maintain relevant tools, machinery and equipment; identify and extract logs and other obstacles; use extraction methods
- Communication skills sufficient to use appropriate communication and interpersonal techniques with colleagues and others
- Literacy skills sufficient to record and report workplace information; maintain documentation
- Numeracy skills sufficient to measure, estimate and calculate time required to complete a task
- Problem solving skills sufficient to identify problems and equipment faults; demonstrate appropriate response procedures

**Required knowledge**

- Applicable commonwealth, state or territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for constructing and maintaining forest roads and tracks
- Environmental protection requirements, including the safe disposal of waste material, the cleaning of plant, tools and equipment, and the minimisation of environmental impact, carbon emissions and noise

**REQUIRED SKILLS AND KNOWLEDGE**

- Organisational and site standards, requirements, policies and procedures for constructing and maintaining forest roads and tracks
- Environmental risks and hazards
- Using energy effectively and efficiently
- Logging and harvesting operations
- Log extraction methods
- Road transport equipment requirements and capabilities in forest operations
- Ground water behaviour
- Established communication channels and protocols
- Problem identification and resolution strategies, and common fault finding techniques
- Types of tools and equipment, and procedures for their safe use and maintenance
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace information

# Evidence Guide

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can safely and efficiently construct and maintain forest roads and tracks in line with set plans and budget

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

The evidence required to demonstrate competency in this unit must be relevant to, and satisfy, all of the requirements of the elements of this unit and include demonstration of:

- following applicable commonwealth, state or territory legislative and regulatory requirements and codes of practice relevant to constructing and maintaining forest roads and tracks
- following organisational policies and procedures relevant to constructing and maintaining forest roads and tracks
- constructing and maintaining forest roads and tracks in line with the work order and within prescribed organisational tolerances
- establishing water crossings and drains, including pipes, cords and culverts as required
- coordinating the maintenance of forest roads and tracks, including assessing damage and reporting hazards or areas requiring redesign

### Context of and specific resources for assessment

- Competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to follow relevant regulatory or Australian Standards requirements
- The following resources should be made available:
  - workplace location or simulated workplace
  - materials and equipment relevant to undertaking work applicable to this unit

## EVIDENCE GUIDE

### Method of assessment

- specifications and work instructions
- Assessment must satisfy the endorsed Assessment Guidelines of the FPI11 Training Package
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge
- Assessment must be by direct observation of tasks, with questioning on required knowledge and it must also reinforce the integration of employability skills
- Assessment methods must confirm the ability to access and correctly interpret and apply the required knowledge
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency
- The assessment environment should not disadvantage the candidate
- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

## 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. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and



## RANGE STATEMENT

regional contexts) may also be included.

### **OHS requirements:**

are to be in line with applicable commonwealth, state or territory legislation and regulations, and organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- safe forest practices, including required actions relating to forest fire
- manual handling including shifting, lifting and carrying

### **Environmental requirements** may include:

- legislation
- organisational policies and procedures
- workplace practices

### **Legislative requirements:**

are to be in line with applicable commonwealth, state or territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care

### **Organisational requirements** may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals

## RANGE STATEMENT

- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures
- ethical standards
- recording and reporting requirements
- equipment use, maintenance and storage requirements
- environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)

### Topography

is a map of the designated area showing terrain levels

### Environmental management considerations may include:

- ground growth
- canopy
- general forest lean
- wind speed and direction
- fallen trees
- density of trees
- ground slope
- soil and water protection
- ground hazards
- obstacles

### Construction requirements may include:

- data relating to road requirements and restrictions
- lifting equipment
- transport equipment
- maximum road loads
- likely weather conditions
- expected timeframes
- survey locations and requirements
- water courses
- location of log landings
- road entry points
- crossing or entry points for other roads and tracks
- budget

### Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers

## RANGE STATEMENT

- Established** may include:
- contractors
  - line-of-site
  - pegging and marking trees
  - clearing and removing trees and obstacles
- Obstacles** may include:
- stumps
  - unrecoverable trees
- Extraction** is to include:
- methods of removing log from the work site with mechanical equipment and cables, considering site conditions and specific log location
  - an order that minimises downtime and risk of snags, breakages and hang ups
- Resources** may include:
- equipment
  - personnel
  - budget
  - time
- Communication** may include:
- verbal and non-verbal language
  - constructive feedback
  - active listening
  - questioning to clarify and confirm understanding
  - use of positive, confident and cooperative language
  - use of language and concepts appropriate to individual social and cultural differences
  - control of tone of voice
- Removed** may include:
- removing, dumping and storing soil
  - considering environmental requirements and consequences in relation to removing, dumping and storing soil
- Water crossing points:**
- may be established where depth of drainage becomes excessive or natural water courses occur
  - may include use of a culvert or cording in line with volume of predicted crossing water
- Base and surface material** may include:
- crushed rock and sand over a range of sizes and materials typically used for road and track construction
- Equipment** may be wheeled or tracked and include:
- dozer
  - front end loader

## RANGE STATEMENT

- skidder or grader using bucket or blade attachments
- Records and reports** may include:
- landing and snig track design and development operations
  - extraction methods
  - hazards and incidents
  - equipment malfunctions
- and may be:
- manual
  - a computer-based system
  - other appropriate organisational communication system

## Unit Sector(s)

Not Applicable

## Competency field

**Competency field**                      Forest Growing and Management