



Australian Government

FPIFGM4203C Design plantations

Release 1

FPIFGM4203C Design plantations

Modification History

Version	Comments
Version 1.1	Released with FPI11 Training Package Version 2. Addition of item in required knowledge section. Equivalent to FPIFGM4203B Design plantations.
Version 1	First released with FPI11 Training Package Version 1.

Unit Descriptor

Unit descriptor This unit describes the outcomes required to design a plantation or monoculture. The unit also applies to an area that is to be used for multiple uses, such as farm forestry.

Application of the Unit

Application of the unit The unit involves designing plantations in a variety of work settings, including:

- forest environments
- farms
- agriculture
- workshops
- domestic
- nurseries
- local councils

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

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication.

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. Prepare plantation design	1.1. Applicable occupational health and safety (OHS), environmental, legislative and organisational requirements relevant to plantation design are identified and followed 1.2. Site environmental protection measures are identified and adhered to in line with relevant legislation and regulations 1.3. Relevant plans are reviewed and analysed to assess impacts on plantation planning 1.4. Consultative processes are used to obtain input into the design in line with site requirements 1.5. Plantation requirements and location are identified from organisational maps, plans and strategies in line with site procedures and environmental requirements 1.6. Measurable performance indicators, specifications and targets are developed and documented in line with organisational procedures
2. Design components of plantation	2.1. Necessary surveys are specified and tolerances determined in line with organisational procedures and environmental requirements 2.2. Site preparation techniques are identified in line with site parameters and organisational procedures 2.3. Design components are identified and approvals obtained in line with organisational plans, policies and parameters of site, and environmental requirements 2.4. Design plan and performance indicators are clearly communicated to appropriate personnel
3. Review plantation design	3.1. Plantation data and documentation are analysed against plans and adjacent plantations in line with organisational procedures 3.2. Recommendations are prepared and design improvements implemented in line with organisational procedures and environmental requirements 3.3. Plantation design processes are recorded and reported to the appropriate personnel

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills sufficient to use appropriate consultative, communication and interpersonal techniques with colleagues and others
- Literacy skills sufficient to analyse qualitative and quantitative information and data; prepare a range of reports, documentation and submissions where precise meaning is required; present written and oral information to a wide range of individuals and groups; 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 assess and modify plans to achieve specified outcomes; identify problems and equipment faults; demonstrate appropriate response procedures; demonstrate effective time and project management

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 designing plantations
- Environmental protection requirements, including the safe disposal of waste material, the safe use and storage of chemicals, the minimisation of environmental impact, carbon emissions and noise, and the cleaning of plant, tools and equipment
- Organisational and site standards, requirements, policies and procedures for designing plantations
- Environmental risks and hazards
- Recycling and re-use guidelines
- Using energy effectively and efficiently
- Using material effectively and efficiently
- Interpretation of aerial photography
- Common diseases, pests and nutritional deficiencies
- Relevant species characteristics and selection information
- 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 design a plantation, based on specific organisational plans and objectives

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 designing plantations
- following organisational policies and procedures relevant to designing plantations
- designing a plantation using consultative processes with colleagues and stakeholders to obtain inputs, and ensure efficient use of resources
- reviewing plantation design against determined performance indicators, specifications and targets
- developing recommendations for design improvements based on results of analysis and review of design and feedback received

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
 - specifications and work instructions

EVIDENCE GUIDE

Method of assessment

- 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. Bold 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 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
- legislation
- organisational policies and procedures
- workplace practices

Environmental requirements
may include:**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

RANGE STATEMENT

Organisational requirements may include:

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

Plantation design

will be in line with organisational marketing plan and local environmental imperatives

Environmental protection measures 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 and obstacles
- contingencies for modifying operations during wet or other adverse weather conditions
- hygiene of the area
- relevant commonwealth, state or territory, and local legislation and regulations

Relevant plans may include:

- tending plans
- harvesting plans
- organisational marketing and strategic plans
- plans or regulations relating to chemical use and environmental requirements

Consultative processes may include:

- face-to-face meetings
- telephone
- facsimile

RANGE STATEMENT

- written and email communication

may be with:

- clients
- technical operators
- marketing groups
- operations supervisor
- colleagues
- relevant groups or bodies, such as environmental bodies
- local, state or territory, and federal government bodies and agencies
- internal policy groups
- labour force

Plantation requirements may include:

- appropriate species
- provenance
- distribution and hardiness of trees to be sown or planted to suit the area to be planted

Components may include:

- roads
- fences
- drainage channels
- forest area boundaries

Approvals may include:

- environmental bodies
- local, state or territory, and federal government bodies and agencies
- long-term budget approvals

Appropriate personnel may include:

- contractors
- technical experts
- management
- colleagues
- clients
- relevant groups

Records and reports may include:

- difficulties or issues faced during design processes
- recommendations for future work
- results
- costs
- data analysis

and may be:

- manual

RANGE STATEMENT

- a computer-based system
- other appropriate organisational communication system

Unit Sector(s)

Not Applicable

Competency field

Competency field Forest Growing and Management