



Australian Government

Department of Education, Employment and Workplace Relations

FPIFGM4208B Plan a quarry

Release: 1

FPIFGM4208B Plan a quarry

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to locate, test and gain approval for a quarry (borrow pit) operation for the purpose of sourcing material for forest roads and track, construction and maintenance

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

This unit replaces FPIFGM4208A Plan a quarry

Application of the Unit

Application of the unit

The unit involves planning a quarry 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 for quarry operation	1.1. Applicable occupational health and safety (OHS), environmental, legislative and organisational requirements relevant to planning a quarry are identified and followed 1.2. Relevant parties are consulted regarding land tenure and plans are reviewed and analysed prior to locating the quarry 1.3. Proposed location for quarry is inspected and the quality and extent of quarry material visually assessed for suitability 1.4. End use of quarry material and annual envisaged total quantities are researched, sampled and tested for suitability 1.5. Site environmental protection measures are adhered to in line with relevant legislation and regulations 1.6. Operational staff and contractors are regularly communicated with during the planning process to ensure smooth operation and progress 1.7. Quarry management plan is prepared for approval in line with site procedures 1.8. Communication with others is established and maintained in line with OHS requirements
2. Implement quarry operation plan	2.1. Quantities required and methods of extracting material from the quarry are selected, based on research and organisational plan 2.2. Cost benefit analysis is conducted to assess viability and lifespan of the quarry 2.3. Licences or permits required for quarry development are obtained 2.4. People, materials and equipment for quarry development are coordinated and scheduled in line with organisational guidelines 2.5. Schedule for the site is organised in conjunction with adjacent work plans and road maintenance or construction plans 2.6. Processes are established to liaise with relevant parties during the quarry development process 2.7. Schedule for the quarry and other documentation are produced and completed in line with OHS guidelines

ELEMENT	PERFORMANCE CRITERIA
3. Monitor and review quarry planning	3.1.Environmental protection measures are checked to ensure compliance with relevant legislation and regulations 3.2.Planning activities are monitored and reviewed for potential improvements 3.3.Planning method is reviewed and diagnosed for potential improvements 3.4.Planning process and results are recorded and reported to 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

- Technical skills sufficient to coordinate and schedule resources, materials and equipment to meet planning requirements; plan a quarry
- Communication skills sufficient to use appropriate communication and interpersonal techniques with colleagues and others
- Literacy skills sufficient to prepare a quarry management plan; organise and obtain required licences or permits; record and report workplace information; maintain documentation
- Numeracy skills sufficient to conduct a cost benefit analysis
- Problem solving skills sufficient to identify problems; 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 planning a quarry
- Environmental protection requirements, including the minimisation of environmental impact and safe disposal of waste material
- Organisational and site standards, requirements, policies and procedures for planning a quarry
- Environmental risks and hazards
- Using energy effectively and efficiently
- Using material effectively and efficiently
- Quarry planning processes

REQUIRED SKILLS AND KNOWLEDGE

- Range of quarry operations
- 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 plan a quarry in line with organisational requirements

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 planning a quarry
- following organisational policies and procedures relevant to planning a quarry
- planning a quarry in line with regulations and organisational requirements
- coordinating personnel to follow planning, communications and scheduling for planning a quarry

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

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

EVIDENCE GUIDE

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

RANGE STATEMENT

may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- 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
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures
- ethical standards
- recording and reporting requirements

RANGE STATEMENT

- equipment use, maintenance and storage requirements
 - environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)
- Relevant parties** may include:
- individuals, groups or bodies involved with tenure
 - community or official organisational representatives
 - environmental agencies/authorities
 - neighbouring landholders
 - local authorities
 - relevant government departments and agencies/authorities
- Visual assessment** is to include:
- visual estimation of the quality and quantity of quarry material available for end use purposes
- End use** may include:
- road construction
 - road maintenance
 - track rehabilitation
 - snig tracks
 - landings
- Testing** is to include:
- laboratory testing of the material conducted by testing experts to gauge suitability
- 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
- 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

RANGE STATEMENT

Methods of extraction may include:	• control of tone of voice • with plant and equipment • using blasting methods
Viability and lifespan are to include:	an analysis of the quarry financial viability, based on: • cost-effectiveness • continued quality of the material • longevity of the quarry
Schedule is to include:	• development plan for the quarry site • point at which operations occur
Other documentation may include:	• maps • topography • plans • reports
Planning activities are to include:	• processes for planning, locating, establishing and operating the quarry
Diagnosis is to include:	• analysis of the planning process and development procedures to explore improvement potential
Records and reports may include:	producing detailed records and reports outlining the quarry planning process, including: • difficulties • costs • data analysis • efficiency and effectiveness • recommendations for future work • results 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