



Australian Government

Department of Education, Employment and Workplace Relations

RTF4003A Plan a plant establishment program

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This competency standard covers the process of developing a plant establishment program and a relevant site plan and specifications. Developing a plant establishment program will require consideration of client needs, site factors, growing requirements of plant species and cultivars, resources and equipment for planting and maintenance, and may also include preparation of plans, specifications, quotations and associated documents.

Planning is likely to be undertaken without supervision, with only general guidance on progress sought by managers. Responsibility for and limited organisation of the work of others involved in the plant establishment program may be required. Developing a plant establishment program requires a broad range of horticultural skills, and involves the application of underpinning knowledge with depth in some areas such as plant selection and planting techniques.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Carry out preliminary planning activities for the plant establishment program	1.1 Client preferences and requirements for the plant establishment program are understood and confirmed. 1.2 The plant establishment site is assessed for legal attributes, biophysical factors, services and historical modifications. 1.3 Research is conducted into plant species and cultivars, and local by-laws and restrictions that may affect the plant establishment program. 1.4 Environmental implications of the planned programs are identified and if necessary, reported to relevant personnel for further research. 1.5 A concept plan that reflects client preferences and requirements, takes into account site factors and any identified environmental requirements, is developed and presented to the client for discussion and approval.
2 Determine requirements of the plant establishment program	2.1 Plant species and cultivars that are appropriate to the site and consistent with the agreed concept plan are identified, and the required quantity calculated, costed, and availability confirmed with suppliers. 2.2 Plant establishment procedures are selected consistent with the agreed concept plan, and according to the characteristics of available plant materials, the resources and equipment available, and the environmental factors affecting the success of the plant establishment program. 2.3 Post-planting care is provided for according to client requirements, enterprise standards and site capabilities. 2.4 Resources, tools, equipment and machinery required for planting and post-planting care are identified, costed, and availability confirmed with suppliers, contractors and appropriate personnel.

- 2.5 **OHS hazards** associated with the plant establishment program are identified, risks assessed and **controls** developed according to enterprise guidelines, costed and documented in the plan.
 - 2.6 **Staged implementation** and development are outlined, where appropriate, with access for future works provided for according to client, enterprise and site requirements.
 - 2.7 Timelines for preparations, planting and post-planting care are determined taking into account the needs of the plant species and cultivars, site conditions, and any other planning requirements.
- 3 Prepare and document the plant establishment program and specifications
 - 3.1 Detailed plan, specifications and quotation are prepared based on the requirements of the plant establishment program, and presented to appropriate personnel and the client for acceptance.
 - 3.2 Scaled site plan is produced which can be readily interpreted and understood by on-site personnel according to enterprise standards.
 - 3.3 Detailed on-site procedures and schedules required for the planting of the site and post-planting care of plants are developed and documented.

Required Skills and Knowledge

Not applicable.

Evidence Guide

What evidence is required to demonstrate competence for this standard as a whole?

Competence in developing a plant establishment program requires evidence that a person can assess site factors, select suitable plant species and cultivars, determine resources and equipment for planting and post-planting care, and prepare plant establishment plans, specifications and associated documents.

The skills and knowledge required to develop a plant establishment program must be **transferable** to a different work environment. For example, this could include different plant species and types, programs, environments, planting techniques and clients.

What specific knowledge is needed to achieve the performance criteria?

Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:

- identification, propagation and establishment techniques of specific plant species and cultivars

- the advantages and disadvantages of a range of plant establishment procedures

- maintenance requirements and practices for specific plant species and cultivars, prior to and after initial establishment

- processes and techniques for preparing, costing and documenting plans for and scheduling plant establishment activities.

What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to:

communicate and negotiate orally and in writing with staff, clients, contractors and consultants

research and evaluate information

record all relevant information

comply with legislative requirements

document plans, specifications and work procedures, and write reports for the understanding of staff, clients and contractors

calculate the cost and spatial and logistical requirements of components of the plant establishment program.

What processes should be applied to this competency standard?

There are a number of processes that are learnt throughout work and life, which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the **key competencies**, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

1. How can **communication of ideas and information** (3) be applied?

Results of the analysis of the site, environmental requirements, and plant species and cultivar selection should be communicated with the client orally and in writing. There is likely to be negotiation between the developer of the plant establishment program and the client to achieve objectives.

2. How can **information be collected, analysed and organised** (3)?

Some information will need to be researched and/or obtained from test results. Information addressing the specific requirements of the plant establishment program should be analysed and outcomes discussed with the client and other members of the work team. Information about the plant establishment program should be organised and presented as a site plan, documented plans, written work procedures, and timeline chart and schedules for plant establishment activities.

3. How are **activities planned and organised** (3)?

The planning process should proceed in an orderly and efficient manner. Timely and appropriate information needs to be available for decision-making. The plan for the plant establishment program should reflect the activities required to implement the program.

4. How can **team work** (3) be applied?

Planning plant establishment activities may involve working with other members of a team to achieve the desired outcomes.

5. How can the use of **mathematical ideas and techniques** (3) be applied?

Mathematical concepts will be required to measure quantities, distances, depth and calculate areas, resources, costs, ratios, scales, planting and application rates.

6. How can **problem-solving skills (3)** be applied?

Problems relating to the requirements of the client, vagaries of the planting site, availability of resources and equipment, costs and environmental issues may arise during planning of the plant establishment program.

7. How can the **use of technology (3)** be applied?

Technology will be required to record, store and communicate ideas and information. It will also be used to research relevant information, obtain and analyse data from site evaluation tests, and to produce the plant establishment program.

Are there other competency standards that could be assessed with this one?

This competency standard **could** be assessed on its own or in combination with other competencies relevant to the job function.

There is essential information about **assessing this competency standard for consistent performance** and **where and how it may be assessed**, in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to the **Assessment Guidelines**. Further advice may also be sought from the relevant **sector booklet**.

Range Statement

Range of Variables

The Range of Variables explains the contexts within which the performance and knowledge requirements of this standard may be assessed. The scope of variables chosen in particular training and assessment requirements may depend on the work situations available

Who may be referred to as a **client**?

Clients may include enterprise management or a private individual, company, community group, government agency, or a combination of these entities.

What **preferences and requirements** may clients have?

These may include the purpose or intended use of the planting, plant species and cultivars, plant characteristics, growth habits and cultural requirements, maintenance services for post-planting care, budget limitations, timelines for plant establishment activities, and a production plan.

What plant establishment **sites** may be relevant to this standard?

Sites may include large-scale or broadacre woodlots, revegetation areas, parks and gardens, landscaped areas, recreational reserves, sports turf or recreational turf surfaces, and commercial nursery, floriculture and production horticulture sites.

What **biophysical factors** may affect the site to be planted?

Biophysical factors may include the aspect of the site, rainfall, humidity, wind and sunlight intensity, soil types, nutrients and deficiencies, slope, natural and artificial watercourses, outcrops and the presence of indigenous or otherwise native vegetation, exotic plant (weeds) and animal (feral) species.

What **services** on the site may need to be located?

Services may include water supply, gas, power (electricity), telecommunications, irrigation, stormwater and drainage.

What **historical modifications** may influence the program for plant establishment?

Historical modifications may include human intervention such as clearance, earthworks, commercial grazing and cultivation practices, fire management, buildings and structures, natural events such as wildfire, flooding and drought, and the effects of modifications at environmentally linked sites.

What resources may be used for research ?	Knowledge of plant species and cultivars, their uses, performance characteristics and growing requirements may be gained through consultation with team members, senior managers, own knowledge, specific industry, technical and research literature, supplier specifications, catalogues, enterprise sales figures and production records, local historical performance data, and industry best practice guidelines.
What plant species and cultivars may be relevant to this standard?	Plant species and cultivars may include exotic, native, endemic, evergreen, deciduous, conifer and palm trees and shrubs, turf, grasses, ground cover plants, bedding displays and aquatic plants.
What local by-laws and restrictions may affect the plant establishment program?	These may include prohibited plant species, restricted plant species, land use restrictions, processes and requirements for site development and work activities.
What environmental implications may be associated with the establishment of planted areas?	The establishment of planted areas may have beneficial environmental impacts where actively growing young trees and shrubs help to fix carbon dioxide from the atmosphere, lower the watertable and associated likelihood of seepage and salinisation in linked catchment areas, and reduce water, nutrient and chemical flow into the external environment including natural waterways. Detrimental environmental impacts may arise where establishment activities produce excess noise, dust or water run-off, or the implementation of post-planting care activities such as fertilisation, irrigation and pest control apply inappropriate levels of chemical, nutrients and water, resulting in escape to the external environment. Where new sites are cultivated for the establishment of planted areas, the interruption of native corridors and degradation of the ecosystem edge may compromise existing native ecosystems.
What plant establishment procedures may apply to this standard?	Plant establishment procedures may include soil testing and treatments; preparation of

	soil surfaces for planting; installation of irrigation and/or drainage systems; planting methods such as hand or machine-assisted sowing, direct seeding, tube planting, hand or machine assisted planting of seedlings, planting of divisions, transplanting, laying, rolling, chaffing and sprigging; fencing of stock and pest animals; the chemical, cultural or biological control of weeds and feral animals; protection of plants by staking, tying and guarding; the trellising or training of plants; and the retention of site debris.
What aspects of post-planting care are required when establishing a planted area?	Post-planting care may include watering, fertilisation, controlling pests and diseases, weeding, rolling, mowing, renovating, mulching, pruning, protecting, staking, trellising, and monitoring plant health.
What resources may be required to implement a plant establishment program?	Materials may include growth media testing consumables, growth media ameliorants, fertilisers, materials for trellising, training and protecting plants, and weed, pest and disease control chemicals and materials. Human resources may include paid and volunteer labour, contractors, suppliers and consultants.
What tools, equipment and machinery may be required?	Tools, equipment and machinery may include growth media testing equipment; hand tools; trailed, 3-point linkage and motorised machinery for excavation, growth media treatment, planting and post-planting care operations; and irrigation and drainage systems and components.
What OHS hazards may be associated with the establishment of planted areas?	Hazards may include disturbance or interruption of services, solar radiation, dust, noise, soil-, water- and air-borne micro-organisms, chemicals and hazardous substances, sharp hand tools and equipment, manual handling, moving vehicles, machinery and machinery parts, uneven surfaces, and flying objects.
What controls may be introduced to minimise the risk of OHS hazards ?	Controls should be introduced according to enterprise OHS policies and procedures and may include identifying hazards; assessing

and reporting risks; cleaning, maintaining and storing tools, equipment and machinery; appropriate use of personal protective equipment including sun protection; safe operation of tools, equipment and machinery; safe handling, use and storage of chemicals and hazardous substances; correct manual handling; appropriate use of safety equipment such as signage and protective barriers; basic first aid available on site; personal hygiene, and reporting problems to supervisors.

What specifications for **staged implementation** may apply to this standard?

These may include gradual establishment of planted areas, planting during different times, and provision of access for future works.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

Unit Sector(s)

Not applicable.