



Australian Government

AHCARB502 Identify, select and specify trees

Release: 1

AHCARB502 Identify, select and specify trees

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to inspect, identify, select and specify a range of trees for suitability for an intended purpose.

The unit has a wide range of applications in urban and regional areas for local government and legal contexts in the specification of trees in residential, commercial, public open spaces and amenity areas. The unit applies to individuals who take personal responsibility and exercise autonomy in undertaking complex work, to analyse and synthesise information, and design and communicate solutions for complex problems. The role involves the self-directed application of knowledge with substantial depth in areas such as tree identification, tree selection criteria and tree functionality.

Licensing, legislative, regulatory, or certification requirements apply to this unit in some states and territories at the time of publication, and may differ according to jurisdiction. Specific determination should be sought through the relevant State or Territory. Works involving this unit of competency may be subject to local tree protection and preservation laws, and the relevant content of applicable current versions of Australian Standards such as AS 2303, AS 2223 and AS 3743.

Pre-requisite Unit

Nil.

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine the suitability of trees	1.1 Consult client, develop a brief and gain agreement

Element	Performance criteria
	1.2 Undertake site inspection according to the client brief 1.3 Determine legislative requirements, regulatory requirements and requirements of Australian Standards 1.4 Determine functional life expectancy of site and plantings 1.5 Determine tree function for the precise location within the plan 1.6 Confirm that species and cultivar selection is appropriate for the aspect and site dimensions 1.7 Research trees suitable for the intended purpose using multiple reference sources
2. Identify and select trees	2.1 Identify trees suitable for the intended purpose using multiple reference sources and use of taxonomic keys 2.2 Give consideration to tree morphology, physiology and ethnobotany in the identification of suitable trees 2.3 Estimate planting area dimensions for the tree species or cultivar 2.4 Confirm that soil volume is proportioned to the size of tree in consideration and assess soil for suitability as a growth medium 2.5 Consider environmental conditions including site hydrology for the functional characteristics of the tree and apply findings 2.6 Evaluate soils, soil mixes and growing media for density, organic content, nutrient status, and physical and chemical properties 2.7 Appraise a wide range of soils, soil mixes and growing media 2.8 Make recommendations for soil, soil mix and growth medium improvements by determining soil suitability for intended purpose 2.9 Evaluate trees from an extensive range of trees common in the region 2.10 Select trees in accordance with suitability for the intended purpose as quality criterion 2.11 Evaluate and document the rationale for tree selection 2.12 Recommend tree species or cultivars for replacement or new plantings 2.13 Document tree selections, selection criteria and notes on quality expectations as specifications
3. Specify trees	3.1 Incorporate determined criteria for size of stock selection into the specifications 3.2 Match species and cultivars appropriately to the determined selection criteria for species-specific characteristics 3.3 Evaluate selection criteria for mature trees against capability for transplanted trees 3.4 Assess final selections against the specified soil, site location and client brief and confirm the tree specification 3.5 Inspect selected plants on site for structural quality, root health

Element	Performance criteria
	and quantities according to the specifications 3.6 Inspect delivered materials, soils and growing media on site for quality assurance in accordance with the specifications 3.7 Record quality checks on delivered plants and products
4. Correlate and present a report	4.1 Compile tree selections into a database of tree specimens and characteristics based on tree taxonomy and nomenclature, and suitability characteristics 4.2 Produce a report of the identification, selection and specification process and incorporate the correlated records 4.3 Present the client or organisation with the report

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

This unit is not equivalent to AHCARB502A Identify, select and specify trees.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCARB502 Identify, select and specify trees

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Performance Evidence

The candidate must produce a report of the tree identification, selection and specification process that recommends tree species for a site and incorporates the tree selections into a database of tree specimens and characteristics. The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence for and demonstrate:

- consulting client, developing a brief and gaining agreement
- undertaking site inspection according to the client brief
- determine legislative requirements, regulatory requirements and requirements of Australian Standards including AS 2303, AS 2223 and AS 3743
- determining functional life expectancy of site and plantings
- determining tree function for the precise location within the plan
- confirming that species and cultivar selection is appropriate for the aspect and site dimensions
- researching trees suitable for the intended purpose using multiple reference sources
- identifying trees suitable for the intended purpose using multiple reference sources and use of taxonomic keys
- giving consideration to tree morphology, physiology and ethnobotany in the identification of suitable trees
- estimating planting area dimensions for the tree species or cultivar
- confirming that soil volume is proportioned to the size of tree in consideration and assess soil for suitability as a growth medium
- considering environmental conditions including site hydrology for the functional characteristics of the tree and apply findings
- evaluating soils, soil mixes and growing media for density, organic content, nutrient status, and physical and chemical properties
- appraising a wide range of soils, soil mixes and growing media
- making recommendations for soil, soil mix and growth medium improvements by determining soil suitability for intended purpose
- evaluating trees from an extensive range of trees common in the region

- selecting trees in accordance with suitability for the intended purpose as quality criterion
- evaluating and document the rationale for tree selection
- recommending tree species or cultivars for replacement or new plantings
- documenting tree selections, selection criteria and notes on quality expectations as specifications
- incorporating determined criteria for size of stock selection into the specifications
- matching species and cultivars appropriately to the determined selection criteria for species-specific characteristics
- evaluating selection criteria for mature trees against capability for transplanted trees
- assessing final selections against the specified soil, site location and client brief and confirm the tree specification
- inspecting selected plants on site for structural quality, root health and quantities according to the specifications
- inspecting delivered materials, soils and growing media on site for quality assurance in accordance with the specifications
- recording quality checks on delivered plants and products
- compiling tree selections into a database of tree specimens and characteristics based on tree taxonomy and nomenclature, and suitability characteristics
- producing a report of the identification, selection and specification process and incorporate the correlated records
- presenting the client or organisation with the report.

Knowledge Evidence

The candidate must demonstrate knowledge of:

- client consultation and client brief
- legislative requirements and regulatory requirements
- site inspections
- functional life expectancy of tree and site
- tree functionality for precise locations
- selection of tree species and cultivars
- appropriateness of species and cultivar selection for site aspect and dimensions
- how to research and use multiple sources of reference material
- concept of 'suitability for a purpose'
- trees suitable for an intended purpose
- methods of determining the suitability of a tree for a purpose
- tree identification using multiple reference sources
- tree identification using taxonomic keys
- ethnobotany, morphology, physiology, taxonomy and nomenclature
- tree species-specific characteristics
- environmental conditions for the functional characteristics of the tree
- estimation of planting area dimensions
- soil volume proportions to the size of tree

- site hydrology
- evaluation of soils, soil mixes and growing media for characteristics of density, organic content, nutrient status, and physical and chemical properties
- appraisal of a wide range of soils, soil mixes and growing media
- recommendations for soil, soil mix and growth medium improvements
- soil suitability for intended purpose
- methods of assessment of soil for suitability as a growth medium
- evaluation of trees from an extensive range of trees common in the region
- tree selection methodology using quality criteria of suitability for purpose
- evaluation and documentation of rationale for tree selection
- recommendations of tree species or cultivars for replacement or new plantings
- documentation of tree selections, selection criteria and notes on quality expectations as specifications
- incorporation of criteria for size of stock selection into specifications
- methods of matching species and cultivars appropriately to the determined selection criteria for species-specific characteristics
- selection criteria for mature trees against capability for transplanted trees
- assessment of final selections against the specified soil, site location and client brief and confirmation of the tree specification
- inspection methods for structural quality, root health and quantities of plants on site
- inspection of delivered materials, soils and growing media on site for quality assurance in accordance with the specifications
- methods of quality control and quality assurance
- how to monitor quality and apply quality controls
- tree structural quality
- recording quality checks on delivered plants and products
- methods of data capture
- database construction
- characteristics of taxonomy and nomenclature required for database use
- characteristics of tree 'suitability for a purpose' required for database use
- compilation of tree selections into a database of tree specimens and characteristics based on tree taxonomy and nomenclature, and suitability characteristics
- report production of the identification, selection and specification process.

Assessment Conditions

It is an industry requirement for competency in this unit that assessment includes construction of a database that must contain a minimum of eighty (80) tree species with general characteristics of suitability for the intended purpose and key identifying features, and an additional twenty (20) intensive tree profiles detailing attributes of the location, taxonomic characteristics, edaphic and environmental preferences and limitations of the tree. The database must include woody monocots and gymnosperms.

Assessment must be demonstrated consistently over time in a suitable range of contexts and have a productivity-based outcome. No single assessment event or report is sufficient to achieve competency in this unit.

Assessment may be conducted in a simulated or real work environment, however determination of competency requires the application of work practices under work conditions.

The mandatory equipment and materials used to gather evidence for assessment include:

- equipment:
 - computer
 - word processing software
 - internet connection
 - digital camera/phone camera
 - soil testing equipment
 - loupe
 - field guides
 - print and digital taxonomic keys
 - trees
 - soils, soil mixes and growing media
- materials:
 - tree profile and benefits form
 - tree selection and specification form
 - database of tree selections and suitability characteristics
 - report of the identification, selection and specification process

Assessors must satisfy current standards for RTOs in the assessment of arboriculture units of competency.

Assessment must be conducted only by persons who have:

- arboriculture vocational competencies at least to the level being assessed
- current arboriculture industry skills directly relevant to the unit of competency being assessed

Links

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