Modification history

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 4.0.
Release 1	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 1.0.

AHCARB502	Identify, select and specify trees
Application	This unit of competency describes the skills and knowledge required to identify, select and specify a range of trees in a range of urban and regional applications for local government and legal contexts. It requires the documentation of specification of trees and their respective growing environment in residential, commercial, public open spaces and amenity areas. The unit applies to individuals who analyse information and exercise judgement to complete a range of advanced skilled activities and demonstrate deep knowledge in a specific technical area. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems. Legislation, regulations and by-laws relating to the treatment and removal of trees apply nationally and in some states, territories and jurisdictions.
Prerequisite Unit	Nil
Unit Sector	Arboriculture (ARB)

Elements	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 for site	1.1 Develop tree selection brief in consultation with client 1.2 Undertake site inspection to identify site conditions and constraints according to client brief 1.3 Identify tree selection limitations according to legislative, regulatory, and Australian Standards 1.4 Determine functional life expectancy of site and planting 1.5 Assess tree characteristics suitable for the site according to client brief 1.6 Assess and confirm the suitability of trees as a valid option for site
2. Identify and select trees	2.1 Determine dimensions of site for planting according to client brief 2.2 Estimate available root zone profile of site for planting 2.3 Assess and verify root zone profile is proportional to proposed tree size according to client brief 2.4 Assess environmental and hydrological conditions and consider impact on tree selection 2.5 Test and assess root zone profile physical and chemical properties to assist tree selection 2.6 Recommend soil/media amendments for planting site according to test result outcomes 2.7 Identify and evaluate performance of trees common in local region for suitability of selection 2.8 Use reference materials to identify and select trees with characteristics conforming to site conditions, selection criteria and client brief 2.9 Compile and update a database of tree selections and characteristics

Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
3. Specify trees	3.1 Investigate availability, type and size of tree stock for selected trees 3.2 Select size and type of tree stock according to tree production characteristics and Australian quality standards for tree stock 3.3 Verify tree selection against selection criteria, size and quantities with client 3.4 Document specifications for selected trees according to industry and Australian standards
4. Verify quality of tree and materials on delivery	4.1 Inspect selected plants on site for quality and quantities according to specifications 4.2 Inspect delivered materials for root zone profile for quality and quantity according to specifications 4.3 Record quality check results according to workplace procedures
5. Correlate and present a report	5.1 Produce a report of the identification, selection and specification process and incorporate correlated records 5.2 Present client or organisation with report

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB502 Identify, select and specify trees	AHCARB502 Identify, select and specify trees	Redesigned unit. Changes made to Elements and performance criteria for clarity	No equivalent unit

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72

TITLE	**Assessment requirements for AHCARB502 Identify, select and specify trees**

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has :
- consulted with client and developed a tree selection brief
- identified site conditions and constraints from site inspection according to client brief
- identified limitations for tree selection from legislative, regulatory and Australian Standards
- determined functional life expectancy of site and plantings
- assessed tree characteristics suitable for site and client brief
- assessed and determined the suitability of trees for site
- determined the size of planting site
- assessed the root zone profile for the tree planting site including:
    - estimated the available root zone profile
    - verified the root zone profile is proportionate for proposed tree dimensions
    - assessed the hydrological and environmental conditions on tree selection
- tested root zone profiles for chemical and physical characteristics to aid tree selection for at least 5 distinct root zone profiles including:
    - tested 3 natural soils, 1 soil mix and 1 growing media
    - density
    - organic content
    - nutrient status
    - pH
    - electrical conductivity (EC)
    - infiltration rate and drainage
    - moisture holding capacity
- recommended soil/media amendments from test results
- evaluated performance of trees common to a local region for suitability for planting site
- used reference materials to identify and select at least twenty (20) trees for a specified site including:
    - geographical location on the site
    - taxonomic characteristics
    - edaphic and environmental preferences
    - limitations of the tree for the site
    - rationale for tree selection
- compiled and updated a data base for at least one hundred (100) tree species, from the taxonomic groups of angiosperms (dicotyledons and woody monocotyledons) and gymnosperms with the following details:
    - botanical and common name
    - general size characteristics
    - canopy characteristics
    - distinguishing features
    - general cultural requirements
- investigated the availability of potential tree stock for selections
- selected and verified trees, tree stock size and quantities against selection criteria and client brief
- documented specifications for tree selections according to industry and Australian standards
- inspected selected plants on site for quality and quantities according to specifications
- inspected delivered root zone profile materials on site for quality according to specifications
- recorded quality checks on delivered plants and products
- produced a report of the identification, selection and specification process and incorporated the correlated records
- presented client or organisation with report.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- consulting with clients and use and purpose of client brief
- legislative and regulatory requirements regarding tree selection including:
    - environmental and ecological implications
    - declared and other weed restrictions
    - hazardous tree species
- assessing site characteristics for tree selection including:
    - functional life expectancy of tree and site
    - tree functionality for specified locations
    - appropriateness of tree selection characteristics for site aspect and dimensions
- effect of site constraints on the tree selection process including:
    - verge width
    - aerial power and telecommunications lines
    - potential to impede visual references (roads and driveways, signage, traffic lights)
    - potential to impede traffic flow and structures (footpaths, roadways, building, infrastructure)
- research techniques from reference materials including the use of:
    - plant taxonomic keys
    - electronic data
    - plant guides
- broad botanical concepts of tree selection for the following:
    - ethnobotany
    - tree morphology
    - tree physiology
    - taxonomy and nomenclature
    - environmental conditions for the functional characteristics of the tree
- basic calculations for estimating planting area and root zone profile
- root zone profile and its characteristics as a determinant for tree selection including:
    - type of root zone profile (natural soil, soil mix or growing media)
    - size and volume of root zone profile and proportion to the size of tree
    - site hydrology
    - specifying soils and growing media including standards to apply
- testing and evaluating soils, soil mixes and growing media for physical and chemical properties and suitability for growing trees
    - identifying soils and soil types
    - testing for pH, electrical conductivity (EC), nutrients
    - testing for wettability, moisture holding capacity, drainage, organic matter
    - amendments to improve soil, soil mix and growth media
    - growing media and
    - soil selection and suitability for purpose
- tree selection methodology using quality criteria of suitability for purpose
    - evaluation of trees common to a region
    - documenting and rationale for tree selection
    - selection of trees based on form and function
    - selection of trees for ecological and environmental purposes
    - recommendations of trees
    - matching species and cultivars appropriately to the selection criteria
    - transplanting issues for mature trees
- documenting tree specifications including:
    - quality standards for tree stock
    - tree stock selection, type and size of plant, container, or root ball
    - tree stock selection and growing media quality and specifications
- quality control and quality assurance including:
    - checking procedures for deliveries of plants and growing materials with the specifications
    - how to monitor quality and apply quality controls
    - tree structural quality

Knowledge Evidence

- - recording quality checks on delivered plants and products
- design and construction of plant databases including:
  - field design for taxonomy and nomenclature
  - field design for characteristics of tree
  - entry of tree data
- reports and reporting procedures for identification, selection and specification process.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
  - access to a worksite requiring tree planting or environment that accurately represents workplace conditions
- resources, equipment and materials:
  - computer with word processing software, and data base software
  - internet connection
  - digital image capture device
  - soil testing equipment
  - loupe
  - reference materials including, field guides, print and digital taxonomic keys
  - trees
  - soils, soil mixes and growing media
- specifications:
  - workplace safety policies and procedures
  - client brief and instruction for safety audit objectives
  - access and use of industry standards AS2303, AS2223 and AS3743
- relationships:
  - client.

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	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72