



Australian Government

AHCARB509 Develop an arboricultural impact assessment report

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to decide on the appropriateness for retaining trees and to assess, plan and monitor the protection of trees on construction and development sites where trees subject to retention are exposed to potential damage.

The unit applies to individuals who work in arboriculture and 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 in some states and territories.

Pre-requisite Unit

Nil

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Undertake assessment of trees affecting site	1.1 Identify and research impact of legislation and Australian Standards of trees on site 1.2 Determine requirements of statutory authorities for trees on development site 1.3 Determine local government planning laws, tree protection and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	preservation regulations for site 1.4 Assess or survey trees on adjacent site and determine legal status and suitability for retention 1.5 Conduct a site assessment and identify conditions that impact tree protection program 1.6 Identify hazards, activities and circumstances that have potential to harm trees and assess the level of risk 1.7 Locate and confirm trees plotted on survey plan 1.8 Plot trees not represented onto survey plan
2. Compile preliminary tree assessment data	2.1 Collect available relevant plans and documentation 2.2 Identify and record affected trees with botanical and common name on development and adjoining site 2.3 Record tree dimensions according to statutory requirements 2.4 Determine age class and estimate life expectancy 2.5 Determine tree health in relation to tree physiology and pathology 2.6 Determine condition of tree structure in relation to tree anatomy 2.7 Assess heritage and cultural value of trees 2.8 Assess habitat, ecology and environmental impact of trees on site 2.9 Assess impact of location to existing and past site structures 2.10 Determine the retention value 2.11 Compile all tree assessment data required for report
3. Document preliminary arboricultural report	3.1 Record all trees and groups of trees suitable for retention 3.2 Determine indicative tree protection zone (TPZ) and structural root zone (SRZ) for each tree 3.3 Plot tree identifiers and indicative TPZ on survey plan 3.4 Document preliminary arboricultural report
4. Assess impact of proposed development on trees	4.1 Interpret existing plans, working drawings, terms and symbols 4.2 Interpret development and design language 4.3 Assess potential mechanical and chemical impact of development on trees and determine controls 4.4 Determine impact of proposed development on trees

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.5 Provide preliminary feedback to client on potential areas of improvement
5. Contribute to design development	5.1 Liaise with client on design of development to minimise impact on trees 5.2 Assess constructability of design to ensure impacts on trees are minimised 5.3 Liaise with design team to develop tree sensitive design and construction methods
6. Determine indicative and actual TPZ	6.1 Assess development requirements for site access and logistics 6.2 Review indicative TPZ 6.3 Determine extent of encroachment into indicative TPZ 6.4 Determine impact of works on SRZ 6.5 Determine extent of actual SRZ 6.6 Determine actual TPZ for trees to be retained 6.7 Define and record the actual TPZ
7. Establish site conditions to retain tree viability to major encroachment	7.1 Determine level of encroachment into TPZ following design development 7.2 Assess impact of major encroachment on tree 7.3 Consider implications of major encroachment on health, physiology and structural integrity of tree 7.4 Assess impact on soil characteristics and volume of past, existing and future structures on tree 7.5 Consider site conditions and design factors to minimise impact of encroachment on tree 7.6 Establish site conditions and design factors required to retain viability of tree 7.7 Determine additional remedial measures to protect tree viability
8. Develop protection measures and advise client	8.1 Investigate tree protection devices and techniques to mitigate development activities 8.2 Specify protection devices, techniques and systems to minimise impact of development 8.3 Specify construction operations to minimise impact on trees

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	8.4 Produce working drawings for installation and construction of tree protection systems 8.5 Provide advice on tree removal and tree pruning program to client
9. Document the relevant reports	9.1 Prepare draft arboricultural impact assessment report 9.2 Document tree protection recommendations and drawings 9.3 Prepare and document tree management and monitoring guidelines and strategies for addressing potential problems 9.4 Consolidate reports, plans and guidelines into final arboricultural impact assessment report and present to client according to workplace procedures

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
Reading	Interpret legislative documents, industry standards, plans and specifications to identify critical information and concepts for use in tree assessment reports
Writing	Create complex documents and reports demonstrating control over different writing styles and purposes
Numeracy	- Accurately interpret numeric data from plans, specifications and site measurements - Perform calculation for measuring and estimating tree dimensions and the extent of TPZ and SRZ

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB509	AHCARB504	Prerequisite unit removed	Equivalent

Develop an arboricultural impact assessment report	Develop an arboricultural impact assessment report	Element added Elements and performance criteria clarified Foundation skills added Assessment requirements updated	
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Links

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

Assessment Requirements for AHCARB509 Develop an arboricultural impact assessment report

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Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

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 on at least one occasion developed an arboricultural impact assessment report for a development site and has:

- identified and researched the impact and specific requirements of legislation, Australian Standards, and local government laws for trees on development site
- conducted site assessment and identified conditions that impact tree protection program
- identified work health and safety hazards, assessed risk and applied controls for site
- identified hazards and assessed the risks that harm trees
- located, confirmed and plotted all trees on survey plan
- collected plans and documentation
- identified and recorded tree by botanical and common name and included a record of:
 - tree height, crown spread and diameter-at-breast-height (DBH), diameter at ground level and statutory dimensions
 - age class and estimated life expectancy
 - tree health in relation to tree physiology and pathology
 - condition of tree structure in relation to tree anatomy
- assessed the following values for trees:
 - heritage and cultural
 - habitat, ecological and environmental
 - location of tree to existing and past site structures
- determined the tree retention value
- compiled tree assessment data for report
- recorded all trees suitable for retention
- determined and plotted indicative tree protection zone (TPZ), tree identifiers for each tree on survey plan
- documented preliminary arboricultural report

- interpreted plans, designs, working drawings, terms, symbols and language for development
- assessed and determined controls for mechanical and chemical damage affecting trees
- provided client with preliminary feedback for potential improvements
- liaised with client on design development and assessed impact of construction on trees
- liaised with design team to develop tree sensitive design and construction methods
- assessed development requirements for site access and logistics
- reviewed indicative tree protection zone and determined:
 - extent of encroachment into indicative TPZ
 - impact of works on structural root zone (SRZ)
- determined extent of SRZ
- determined and recorded level of encroachment and actual TPZ for trees to be retained
- assessed the following factors affecting tree viability for a major encroachment:
 - location and distribution of roots
 - potential loss of root mass
 - species tolerance to root loss
 - age, health, size, lean and stability of tree
- assessed impact of encroachment on health, physiology and structural integrity of tree
- assessed impact on soil characteristics and volume from past, existing or planned structures
- considered site and design factors to minimise impact of proposed encroachment
- rationalised all factors to decide on the viability of the tree
- determined remedial measures to protect the tree
- investigated, specified and produced installation and construction drawings for tree protection devices and systems to mitigate tree damage
- provided advice to client on tree removal and tree pruning program
- prepared a draft arboricultural impact assessment report
- developed a tree protection plan and drawings
- prepared, documented tree management and monitoring, including strategies to handle problems
- consolidated reports, plans and guidelines into final arboricultural impact assessment report in both:
 - digital format
 - print format
- presented report to client.

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:

- legislative and regulatory framework for trees on development sites, including:
 - role of Australian Standards AS2303, AS2223, AS3743, AS4970 and AS4373

- specific requirements of statutory authorities
- local government tree protection and preservation regulations
- construction drawings, plans and documentation, including:
 - types of drawings and plans
 - terms, symbols and language used in development
 - version control of drawings, including revision and issue dates
- working and communicating with clients and development design personnel
- conducting site assessment and conditions that impact tree protection programs, including:
 - development site safety and safe access procedures
 - plotting trees/tree identifiers onto survey plans
 - naming and recording tree by botanical and common name
 - methods for determining tree dimensions, height, crown spread and DBH
 - age class and estimated life expectancy
 - tree health in relation to tree physiology and pathology
 - assessing and determining the viability of a trees
 - soil volume and characteristics on development sites
- tree values and importance, including:
 - heritage and cultural values
 - habitat, ecological value
 - environmental values
 - methods of determining retention value
- the principles of TPZ, including:
 - methods of mechanical and chemical damage to trees on development sites
 - impact of proposed development on trees
 - SRZ
 - levels of tolerance to encroachment and potential loss of root mass
 - species tolerance to root loss
- type and structure of tree impact assessment reports, including:
 - purpose and structure of preliminary arboricultural report
 - purpose and structure of arboricultural assessment report
 - use and interpretation of development plans and documentation
 - drawing techniques for illustration in reports and plans, including digital images
 - tree protection plans and drawings
 - purpose and structure of tree management and monitoring guidelines
 - presenting reports in digital or paper-based formats
- tree protection devices, methods and systems, including:
 - designs and their purpose
 - tree response to tree protection systems
 - installation and construction methods for tree protection.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a development worksite with existing trees, or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computer with word processing and drawing software
 - digital image capture device
 - personal protective equipment
 - basic diagnostic tools, including sounding hammer, trowel, probe, cordless drill
 - basic soil testing equipment
 - trees
- specifications:
 - client brief and instruction for safety audit objectives
 - industry standards AS2303, AS2223, AS3743, AS4970 and AS4373
- relationships:
 - client.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. In particular, assessors must 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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