

**Modification history**

Release	Comments
Release 3	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 4.0.
Release 2	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 2.0.
Release 1	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 1.0.

AHCARB305	Dismantle trees
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to dismantle trees in confined spaces and in difficult or hazardous circumstances using specialised range of methods, tools, equipment and materials requiring the application of extensive arboriculture knowledge</p> <p>The unit applies to individuals who work under broad supervision and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.</p> <p>Legislation, regulations and by-laws relating to the treatment and removal of trees apply nationally and in some states, territories and jurisdictions.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Arboriculture (ARB)

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. Conduct site assessment for tree work	1.1 Determine access to site and confirm approval for works to commence according to regulatory requirements 1.2 Confirm site preparations, including notification of stakeholders according to permits 1.3 Determine location of above-and-below-ground services and make safe according to workplace safety procedures 1.4 Identify work health, safety and environmental hazards, assess risks and implement controls according to workplace safety procedures 1.5 Protect property and vegetation assets in the work zone from potential damage 1.6 Inspect tree and identify structural defects 1.7 Inspect and assess tree dimensions and verify selected removal methods and planned risk controls
2. Prepare for tree removal	2.1 Determine a dismantling strategy providing safety zones for load, tools and equipment 2.2 Communicate and review dismantling strategy with work crew and adjust according to feedback 2.3 Confirm availability of first aid resources, rescue personnel and equipment and safety procedures 2.4 Select and prepare tools, equipment and machinery and conduct pre-operation and safety checks 2.5 Select, ensure serviceable and use personal protective equipment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Design and prepare rigging system	3.1 Determine load limit of rigging system components 3.2 Select appropriate anchor and attachment points 3.3 Assess mass and dimension of tree load components relative to available working space 3.4 Estimate load and balance of tree load components for safe handling 3.5 Assess and select rigging system components to comply with breaking strength safety factor for estimated tree load 3.6 Design rigging system to allow for load, impact of force and structural integrity of tree 3.7 Communicate rigging system design with work team to ensure safety in operations 3.8 Inspect rigging system components for defects and repair, replace or remove from service damaged components according workplace safety procedures 3.9 Assemble and configure rigging equipment into selected rigging system and install at anchor point
4. Implement dismantling of trees using aerial rigging techniques	4.1 Coordinate and sequence work with work team during operations using communication methods agreed with work team for site environment 4.2 Access tree canopy safely according to dismantling strategy and workplace safety procedures 4.3 Assess mass and balance of tree sections ensuring safe working limits of equipment 4.4 Plan each cut and install rigging equipment according to rigging system design and manufacturer instructions 4.5 Check rigging assembly is correctly installed and safe to use prior to performing cut 4.6 Perform cut to dismantle branches and trunk sections from a safe position using industry standard cutting techniques 4.6 Monitor and adjust rigging system design for changes in tree canopy conditions 4.5 Monitor the safe removal of load from tree to drop zone 4.7 Fell the trunk of dismantled tree safely into drop zone according to industry standards
5. Complete tree removal activities	5.1 Clean, check, maintain and store tools and equipment according to workplace procedures 5.2 Maintain records according to workplace procedures 5.3 Report completion of tree removal to stakeholder

### 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
AHCARB305 Dismantle trees	AHCARB305 Dismantle trees and AHCARB310 Perform aerial rigging	Combined aerial rigging with this unit	Equivalent unit

<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72</a>
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TITLE	Assessment requirements for AHCARB305 Dismantle trees
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has completely dismantled <b>2 trees</b> of a minimum of <b>X dimensions</b> safely in a confined space, including:</p> <ul style="list-style-type: none"> <li>• confirmed access to site, confirmed approvals and conducted notifications with key stakeholders and authorities</li> <li>• determined and made safe above-and-below-ground services and assets</li> <li>• identified health, safety and environmental hazard and risks and implemented controls for the site including: <ul style="list-style-type: none"> <li>• conducted and prepared a job safety analysis (JSA) or safe work method statement (SWMS)</li> <li>• prepared and used personnel protection equipment</li> <li>• protected site and environmental assets</li> <li>• controlled traffic including erected signage, barriers, warning devices</li> </ul> </li> <li>• assessed size, characteristics and defects of tree and determined dismantling strategy</li> <li>• coordinated and sequenced work team activities using communication methods agreed for site</li> <li>• confirmed access to safety procedures, equipment, resources and personnel</li> <li>• selected, prepared, checked and used tools and equipment for rigging and dismantling work including: <ul style="list-style-type: none"> <li>• estimated and ensured mass and balance of load did not exceed the safe working limit of equipment</li> </ul> </li> <li>• installed rigging equipment to industry standards including recognised, tied and applied the following knots: <ul style="list-style-type: none"> <li>• alpine butterfly knot</li> <li>• bowline on the bight</li> <li>• clove hitch + two half hitches</li> <li>• cows hitch</li> <li>• half hitch pre knot</li> <li>• marline pre knot</li> <li>• marline spike hitch</li> <li>• riggers knot + two half hitches</li> <li>• rolling hitch</li> <li>• running bowline</li> <li>• sheet bend</li> <li>• slippery sheet bend</li> <li>• timber hitch</li> <li>• zeppelin bend</li> </ul> </li> <li>• used <b>at least one</b> of the following methods to safely access the tree according to dismantling method and strategy: <ul style="list-style-type: none"> <li>• climbing technique</li> <li>• elevated work platform (EWP)</li> </ul> </li> <li>• dismantled trees using rigging techniques to ensure no damage to assets <b>using all of the following methods:</b> <ul style="list-style-type: none"> <li>• cut and drop into designated drop zone</li> <li>• cut and lower using rigging and devices</li> <li>• cut and hold</li> <li>• lifting, balancing and moving tree parts</li> <li>• <b>negative rigging techniques for leaders and vertical timber</b></li> </ul> </li> <li>• used directional felling techniques to safely fell limbs and trunk into designated drop zones</li> <li>• cleaned, inspected, maintained and stored tools and equipment according to workplace procedures</li> <li>• maintained records and reports of tree dismantling work according to workplace procedures.</li> </ul>	

## 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:

- anatomy, physiology, and taxonomy of tree species for a range of trees and the relevance to tree removal strategies
- weather conditions and impact on planning and dismantling procedures particularly the effect of wind direction and wind speed on dismantling operations
- site and tree hazards that might be encountered including:
  - identification and evaluation of structural defects in trees
  - above and below ground services and effect on tree removal procedures
- selection of tree removal methods for confined spaces
- methods for accessing trees for dismantling including:
  - climbing techniques and rope handling
  - elevated work platform (EWP) for tree removal
- handling and using ropes and equipment for rigging and dismantling trees including:
  - selecting, tying, dressing, setting and finishing arborist knots for rigging and dismantling trees
  - estimation of breaking strength, safety factor and cycles to failure
  - common problems and hazards with rigging and their potential consequences and solutions
- techniques for safely lowering and dropping tree branches and trunk sections to minimise risk to people and assets including:
  - cut and drop
  - cut and lower
  - cut and hold
- lowering devices and their use and operation for tree dismantling work including:
  - friction devices
  - methods for using them
  - impact of force, breaking strength, safety factors and cycles to failure
  - safe working limits on rigging and lowering equipment
- calculating and estimating tree dimensions and canopy load including:
  - density of tree sections
  - methods of estimating mass and balance of load
  - estimating space for dismantled tree components
  - tree structural limitations and defects and impact on rigging and dismantling operations
- methods of minimising environmental impact
- legislation, regulations and local government laws governing tree removal including:
  - permits and approvals
  - stakeholder notifications
- site safety controls including:
  - first aid and rescue personnel
  - equipment and procedures applicable to tree work
  - barriers and traffic control
  - signage and warning devices
- responsibility for protecting property and assets in work areas and methods to prevent damage
- developing a tree dismantling process including:
  - drop zones
  - lowering zones
  - locating tools and equipment
- communications and tree dismantling work including:
  - communicating with clients, residents and authorities
  - communicating with staff
  - coordinating and scheduling work teams
- safe communication strategies during tree removal work including the impact of:
  - noise
  - environmental conditions
  - communications resources
  - visibility

## Knowledge Evidence

- purpose and use of cutting techniques when dismantling trees including:
  - equipment requirements
  - cut and drop
  - cut and lower including tip lowering, butt lowering, horizontal lowering and lifting
  - accuracy of cut
  - cutting for directional fall
- tools, equipment and resources required for dismantling trees including:
  - safe use and operation
  - care and maintenance
  - cleaning and storing
- inspecting equipment for signs of equipment defects including:
  - repairing defective ropes and equipment
  - legal responsibility for maintaining equipment
  - tagging and reporting defective equipment
- rigging system components including:
  - ropes suitable for rigging
  - pulley types and operation
  - slings and their use
  - friction devices
  - lowering devices
  - tensioning devices
- workplace record keeping and reporting procedures.

## Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
  - access to 2 trees to be dismantled of x dimensions, representing an environment in close proximity to impediment requiring cut and drop and cut and lower methods of removal.
- resources, equipment and materials:
  - rigging equipment
  - single rope technique (SRT) climbing kit
  - static and dynamic rope kit
  - harness
  - lowering and friction devices
  - gaffs/spurs
  - high decibel whistle
  - personal protective equipment (PPE)
  - first aid and emergency kit
  - rescue kit
  - traffic management kit
  - signage – work zone
- specifications:
  - workplace procedures and instructions, related dismantling trees
  - legislation, regulations, codes of practice and standards relating to dismantling of trees
  - documentation for planning, obtaining permits and reporting tree dismantling work
- relationships:
  - client, work team and

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

In addition, the following specific assessor requirements apply to this unit:

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

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