



**Australian Government**

# **AHCARB512 Generate tree plans using computer-aided design software**

**Release: 1**

# AHCARB512 Generate tree plans using computer-aided design software

## 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 generate tree plans using computer-aided design software.

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.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

## 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. Confirm project and drawing requirements      | 1.1 Confirm project requirements for computer-aided design (CAD) drawings<br>1.2 Identify drawing requirements, purpose and scope and confirm with client |
| 2. Create drawing                                | 2.1 Prepare CAD desktop layout and user interface according to                                                                                            |

| Elements                                             | Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>     | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| template files to meet standard drawing requirements | software instructions and working environment<br>2.2 Determine layering strategy for plan components<br>2.3 Identify and select CAD libraries containing blocks, symbols and components according to software application<br>2.4 Select text and dimensioning styles according to workplace style guide<br>2.5 Select line types and weights to provide visual differentiation of plan elements<br>2.6 Select hatch and infill patterns and styles according to planned components, elements and purpose<br>2.7 Set up title blocks for planned drawings and sizes<br>2.8 Set up reference schedules according to project outcomes |
| 3. Create 2D drawings                                | 3.1 Use CAD software and functions to produce two-dimensional (2D) drawings according to industry drawing standards<br>3.2 Scan documents and save as digital files compatible for importing into 2D CAD programs<br>3.3 Import digital drawing components from software applications into 2D CAD drawings                                                                                                                                                                                                                                                                                                                         |
| 4. Edit, measure and inspect drawing components      | 4.1 Review, edit and remove incongruous elements in drawings<br>4.2 Record explanatory notes in drawings according to project purpose<br>4.3 Identify and apply dimensions and scale to drawings<br>4.4 Identify and apply tree symbols appropriate for purpose<br>4.5 Plot tree symbols with precision on drawing according to drawing scale and dimensions<br>4.6 Perform calculations to determine tree protection zones (TPZ), structural root zone (SRZ) and encroachments, and plot on drawing according to project purpose<br>4.7 Check accuracy and quality of drawing and amend drawings where below standard             |
| 5. Print CAD drawings                                | 5.1 Input page setup parameters to suit printing and project requirements<br>5.2 Input printer setup parameters for quality and quantity of pages<br>5.3 Print drawings according to printer instructions, workplace 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>                                                                                                                                                                                                                                        |
|                                                   | environmental procedures                                                                                                                                                                                                                                                                                                                      |
| 6. Save and back up files                         | 6.1 Create file directories for drawing project on storage media according to workplace file management procedures<br>6.2 Identify and create file names according to workplace style guide, software instructions and project naming convention<br>6.3 Save drawing files to file directories according to software and workplace procedures |
| 7. Export files to CAD program or document reader | 7.1 Select and open drawing files to be exported and save in file format specified by external drawing software application<br>7.2 Select and open drawing files to be exported and save in file format specified by external document reader software                                                                                        |

## 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                                                                                                                                                                                   |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Writing           | <ul style="list-style-type: none"> <li>Document plan annotations according to plan requirements using terminology and style appropriate for arboriculture plans and drawings</li> </ul>       |
| Numeracy          | <ul style="list-style-type: none"> <li>Identify and interpret embedded mathematical information from site plans and information, and transition into two-dimensional (2D) drawings</li> </ul> |
| Get the work done | <ul style="list-style-type: none"> <li>Use the main features and functions of computer-aided design software and digital tools to generate 2D drawings</li> </ul>                             |

## Unit Mapping Information

| Code and title current version | Code and title previous version | Comments             | Equivalence status |
|--------------------------------|---------------------------------|----------------------|--------------------|
| AHCARB512                      | AHCARB507                       | Performance criteria | Equivalent         |

|                                                          |                                                          |                                                                         |  |
|----------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------|--|
| Generate tree plans using computer-aided design software | Generate tree plans using computer-aided design software | clarified<br>Foundation skills added<br>Assessment requirements updated |  |
|----------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------|--|

## Links

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