Modification history

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

| AHCARBXX3XX | Use cranes to access and dismantle trees |
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| Application | This unit of competency describes the skills and knowledge required to use cranes to access and dismantle trees in close proximity to assets and in difficult or hazardous circumstances.The unit applies to individuals who work in arboriculture 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 problemsThe arboriculture industry requires that all tree work with a crane is undertaken according to current industry standards, including Minimum Industry Standard MIS307 Crane Use in Tree Work, MIS303 Tree Dismantling, and other relevant Minimum Industry StandardsLegislation, regulations and by-laws relating to the treatment and removal of trees, and the use of cranes apply in some States and Territories. |
| Prerequisite Unit | CPCCDO3011A Perform dogging and CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry |
| Unit Sector | Arboriculture (ARB) |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Plan for the use of cranes for tree access and dismantling | 1.1 Identify requirements for crane assisted tree work1.2 Determine the requirements for crane access1.3 Inspect site to identify site conditions, features and hazards which may affect crane setup and operation1.4 Determine crane type and size and develop plan for crane assisted tree work1.5 Communicate requirements to crane operator to confirm plan 1.6 Confirm availability of emergency procedures, rescue personnel and equipment |
| 2. Prepare to conduct crane work | 2.1 Determine access to site and gain approval from stakeholders2.2 Confirm site preparations and notification of local residents and authorities according to dismantling plan2.3 Liaise with crane operator and crane crew to confirm setup and working area2.4 Undertake a site-specific Job Safety Analysis (JSA) and record and implement control measures according to workplace safety procedures2.5 Appoint spotter to ensure clearances for service wire and work area obstructions during crane operations2.6 Liaise with crane operator to determine load limit at working radius |
| 3. Prepare arborist equipment ready for dismantling operations  | 3.1 Inspect trees to determine planned tree access and dismantling strategy3.2 Discuss strategy with crane operator and crew to confirm site, environment and crane working limitations3.3 Determine lowering and processing zones and communicate to work team3.4 Carry out pre-operational and safety checks on arboriculture tools and equipment required for dismantling3.5 Select, check and use personal protective equipment |
| 4. Access trees to conduct work | 4.1 Select and use safe access methods to conduct crane dismantling work4.2 Use climbing techniques to access trees to conduct crane work4.3 Use crane to access trees using an approved crane access method according to industry codes, procedures and legislative and regulatory requirements4.4 Communicate with crane operator and observer using agreed communication methods 4.5 Use climbing techniques to access work positions and perform dismantling operations |
| 5. Prepare for crane dismantling and attach crane to tree sections | 5.1 Maintain communication with crane operator and work team during operations using agreed communication methods5.2 Use hand and whistle signals to communicate with crane operator according to industry standards5.3 Select and apply crane lifting methods and sequence according to dismantling strategy and safety procedures5.4 Determine weight of each tree section and communicate to crane operator 5.5 Attach crane with lifting gear to each tree section according to load limits, centre of gravity and planned lifting operation 5.6 Communicate pre-tension requirements to crane operator |
| 6. Use crane to dismantle tree | 6.1 Perform cuts to remove tree sections according to desired lifting operation 6.2 Control and monitor tree section removal and direct crane operator throughout lifting operations6.3 Communicate with crane operator regarding lifting operation and adjust dismantling strategy 6.4 Apply arborist rigging and felling techniques when crane support is not required6.5 Adjust work pace and methods to match processing capacity of ground crew and environmental conditions6.6 Perform final dismantling and lifting operations for tree removal work according to specifications |
| 7. Complete tree dismantling procedures | 7.1 Confirm completion of tree dismantling work with crane operator according to workplace procedures7.2 Clean, check and store tools and equipment according to workplace procedures 7.3 Record completion of tree removal and report to stakeholders according to workplace procedures |

| Foundation SkillsThis 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. |
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| Skill | Description |
|  | * All are explicit
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| Unit Mapping Information |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| AHCARBXX3XX Use cranes to access and dismantle trees | Not Applicable | New Unit | No equivalent unit |

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| 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 AHCARBXX3XX Use cranes to access and dismantle trees |
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| 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 fully dismantled at least one tree of a minimum 15 metres in height and with a canopy spread of 10 metres or greater using a crane. The tree must be in close proximity to structures or other assets. The individual must take charge of the process from planning to completion, including the safe guarding of assets.There must also be evidence that in dismantling the tree, the individual has:* controlled the process from start to finish
* devised a plan, communicated the plan to work team and crane operator and executed the plan
* selected and implemented appropriate rigging strategy and sequence for crane work
* planned and dismantled the tree without damage to the assets
* selected appropriate tree components and attached rigging to crane correctly
* performed accurate cuts appropriate to safe crane lifting operations
* maintained constant communication with work team and crane operator
* completed the work safely.

There must also be evidence that the individual has:* identified requirement for crane assisted tree dismantling work
* identified and prepared compliance requirements
* determined the site access and inspected site for safety hazards for crane setup
* communicated requirements to crane operator for crane selection and setup
* confirmed the availability of emergency procedures rescue personnel and equipment
* determined access to site and gained approvals
* confirmed site preparations and notifications to stakeholders
* confirmed working area and setup with crane operator and crew
* undertaken a site specific job safety analysis (JSA) and recorded and implemented control measures
* appointed a spotter to ensure crane clearances from overhead services and obstructions
* inspected tree and planned tree access and dismantling strategy
* discussed and confirmed dismantling strategy with crane operator and crew for site environment and working limitations
* determine lowering and processing zones and communicated to work team
* carried out pre-operational and safety checks on arborist tools and equipment
* selected checked and used personal protective equipment
* selected and used safe access methods for crane dismantling work
* used safe climbing techniques to access tree and safe working positions throughout dismantling operations
* used crane to access tree and reach working positions according to industry codes and procedures and legislative and regulatory requirements
* used agreed communication methods to communicate with crane operator and work team throughout tree dismantling operations
* determined weight of tree section and communicated to crane operator
* attached tree section to crane with lifting gear according to load limits, centre of gravity and lifting operations
* communicated pre-tension requirements to crane operator
* controlled and monitored tree section removal and directed crane operator throughout operation
* adjusted dismantling strategy following communication with crane operator
* applied arborist rigging and felling techniques where crane support was not required
* adjusted work pace and methods to match ground crew processing operations
* performed final dismantling operations to specification
* confirmed completion of dismantling work with crane operator
* cleaned checked and stored tools and equipment according to workplace procedures
* recorded completion of works and reported to stakeholders.

All tree dismantling work with a crane is required to be performed according to current industry standards, including Minimum Industry Standard MIS307 Crane Use in Tree Work, MIS303 Tree Dismantling, and other relevant Minimum Industry Standards. |

| Knowledge Evidence |
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| 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:* requirements for crane access and safe operation and limitations when deciding on dismantling operations with cranes, including:
* sizes and weight of cranes for purpose
* types and methods for stabilizing and impact on surfaces
* surface structures, including: fill, storm water pipes, retention tanks, driveways
* soil and ground stability and slope
* clearances from buildings and structures
* no-go zones above and near electrical conductors
* clearances from other trees and potential root zone damage
* distance of reach to weight
* regulatory requirements for use of cranes on sites, including:
* local government roadside permits
* energy authority permits
* current industry standards,, including: Minimum Industry Standard MIS307 Crane Use in Tree Work, MIS303 Tree Dismantling, and other relevant Minimum Industry Standards
* selection criteria for using cranes for arboriculture work
* arborist requirements for crane setup, including:
* crane footprint and setup area
* working area
* working radius
* largest estimated lift
* order of dismantle
* assessing workplace health, safety, site, environmental and traffic control measures, including:
* completing JSAs for site-specific risks
* purpose of first aid and rescue personnel, equipment and procedures
* pre-operational and safety checks, on ropes, harnesses, tools and equipment
* personal protective equipment used when climbing
* work planning procedures and collaboration when working with crane operator, including:
* preparing a dismantling strategy
* tree access procedures and resources
* arborist climbing equipment and techniques to access and work in trees
* purpose, function, selection, tying, dressing, setting and finishing of arborist knots used for climbing techniques
* safety when climbing trees, including:
* safe working limits ropes and equipment
* defects in ropes, tools and equipment
* controlled descent operations
* controlled removal of access equipment
* forces applied to anchor points during access and work positioning using MRT and SRT
* forces applied at primary anchor points and at redirects
* hazards to avoid when working within the tree canopy near cranes, including:
* spatial awareness for crane and cabling components
* power line, no-go zones, safe approach distances and vegetation clearances
* tree structural defects
* animals or insects
* deciding on low risk access routes
* access methods using cranes, including:
* local state or territory legislation and regulations for crane
* attaching to the crane hook
* safety
* communications strategies between ground crews, crane operators or crane crew, including:
* hand and whistle signals
* UHF or Bluetooth communications
* crane industry standards for communication
* attaching trees components and loads to crane hooks, including:
* crane attachment slings
* chains and cables
* dead-eye slings
* estimating load and balance of tree components
* controlling tree sections during crane lift, including:
* controlling balance
* methods for controlling branches, leaders and trunk
* dismantle techniques for branches and trunk sections, including:
* cut and drop method
* directional felling
* arborist rigging techniques
* records and reporting procedures for crane supported tree dismantling operations.
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| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:* physical conditions:
* a crane and a tree to be dismantled as stipulated in the performance evidence
* resources, equipment and materials:
* rigging equipment
* personal protective equipment (PPE)
* first aid and emergency kit
* traffic management equipment including signs, bollards, stop slow bat, signage – work zone
* crane slings and rigging equipment
* pruning and cutting, tools and equipment
* specifications:
* workplace procedures and instructions for dismantling trees with cranes
* legislation, regulations, codes of practice and standards relating to crane use and dismantling of trees
* current industry standards for tree dismantling work including Minimum Industry Standard MIS307 Crane Use in Tree Work, MIS303 Tree Dismantling, and other relevant Minimum Industry Standards
* documentation for planning, obtaining permits and reporting tree dismantling work with cranes
* relationships:
* work team and crane operator.

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
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