Modification history

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| Release | Comments |
| Release 1 | This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0. |

| AHCGRIXX2 | Construct roof gardens, vertical gardens and green facades |
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| Application | This unit of competency describes the skills and knowledge required to construct designed green infrastructure including roof gardens, vertical gardens and green facades to comply with building regulations, standards and codes and meet design plans and specifications.  The unit applies to individuals who build or install green infrastructures on new or existing residential or commercial buildings.  This unit of competency is suitable for individuals using their own judgment to deal with predictable and unpredictable problems and decide on solutions to a range of complex problems during the building or installation process.  Roof garden, vertical garden and green facade installation or construction must meet all the requirements of building regulations, standards and codes.  No licensing, legislative or certification requirements apply to this unit at the time of publication.  Completion of the general construction induction training program specified by the model Code of Practice for Construction Work (White Card) is required for any person who is to carry out construction work. |
| Prerequisite Unit | Nil |
| Unit Sector | Green Infrastructure (GRI) |

| 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 and prepare | 1.1 Read and interpret design plans and specifications, check permits and resolve any discrepancies with designer and/or associated specialists  1.2 Complete job safety and environmental analysis, identifying potential hazards and applying control measures  1.3 Determine job priorities and sequence job tasks in consultation with others on site  1.4 Calculate material and component quantities, check material availability with suppliers, schedule delivery and discuss site access and method of locating material onsite  1.5 Select plant, equipment and tools and check for serviceability and rectify and report any faults  1.6 Select, correctly fit and use personal protective equipment (PPE)  1.7 Check delivered materials and components for conformity and report any discrepancies or damage to appropriate person |
| 2. Construct roof garden | 2.1 Establish finished heights, levels and falls from datum  2.2 Ensure waterproofing installation to the specified area by specialist waterproofer using approved materials and methods has been inspected and certified  2.3 Set out and install drainage system and check for leaks  2.4 Install soil profile ensuring interface between profile layers is uniform and unbroken  2.5 Compact each soil profile layer to reflect the final contour  2.6 Set out and install irrigation system  2.7 Plant vegetation and follow designer and/or supplier establishment information  2.8 Clear the work area by disposing of, reusing or recycling materials and cleaning, checking for serviceability and storing tools and equipment following workplace and environmental requirements |
| 3. Construct vertical garden | 3.1 Set out and mark position, levels and fixing points appropriate for the selected vertical garden configuration  3.2 Ensure waterproofing installation to the specified area by specialist waterproofer using approved materials and methods, has been inspected and certified  3.3 Install irrigation and drip tray system and check for leaks  3.4 Install lighting and/or air flow equipment  3.5 Fix vertical garden panels following manufacturer’s specifications  3.6 Install and finish growing media to the specified levels  3.7 Plant specified vegetation to meet design patterns and following designer and/or supplier establishment information  3.8 Clear the work area by disposing of, reusing or recycling materials and cleaning, checking for serviceability and storing tools and equipment following workplace and environmental requirements. |
| 4. Construct green facade | 4.1 Assemble and fix facade framework without damage to existing structure and in compliance with building codes and standards  4.2 Install garden bed or containers to design specifications  4.3 Install, fix and test irrigation and drainage systems  4.4 Select and install growing media to specified depth, compaction and finish height  4.5 Plant specified plants following designer and/or supplier establishment information  4.6 Install sensor equipment and ensure connection with Building Information Management (BIM) system, if applicable  4.7 Clear the work area by disposing of, reusing or recycling materials and cleaning, checking for serviceability and storing tools and equipment following workplace and environmental requirements |

| 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. | |
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| Skill | Description |
| Oral communication | * Communicate effectively with suppliers and designers * Work effectively with others to ensure safe work practices |
| Numeracy | * Use measurements and formulas to calculate material quantities |
| Reading | * Access and extract information from plans, specifications and regulatory information |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| AHCGRIXX2 Build or install roof gardens, vertical gardens and green facades | Not applicable | New unit | No equivalent unit |

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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 |

| TITLE | Assessment requirements for AHCGRIXX2 Construct roof gardens, vertical gardens and green facades |
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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 constructed:   * one roof garden with a minimum area of 50 square metres * one vertical garden with a minimum of 20 square metres and * a green facade with a minimum of 20 square metres   and has:   * sequenced the building and installation process to efficiently and effectively complete the project with minimum disruption to residents and/or the public * complied with design plans and specifications and relevant building codes and standards * installed systems and components to manufacturer specification and without damage. | |

| 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:   * construction requirements for: * maintaining integrity of waterproofing materials * drainage systems * irrigation systems * storing and recycling water systems * lighting and/or air flow systems * site management: * materials handling and storage * types of vertical garden construction: * hydroponic system * substrate based system * techniques for fixing facade and vertical garden components * components and layers of roof garden construction: * roof deck * waterproofing * root barrier * protection mat * drainage layer * filter sheet * growing substrate or media * vegetation layer * planting methods that comply with the growing requirements of individual plant species and cultivars * initial establishment needs of plants * location government regulations, policies and procedures and permits * national building regulations, standards and codes * current and relevant work health and safety and environmental requirements * organisational policies and procedures * plant, equipment, hand and power tools for construction of green infrastructure * workplace safety: * hierarchy of control * job safety and environmental analysis (JSEA) * safety data sheets (SDS) * working at heights * personal protective equipment (PPE) * falling objects * manual handling * hazardous materials * worker and public safety * high-risk work * traffic management. |

| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:   * physical conditions: * skills must be demonstrated in workplace or an environment that accurately represents workplace conditions * resources, equipment and materials: * plant, equipment and power tools relevant for the project * proprietary or custom green infrastructure systems * PPE * specifications: * specific organisational policies, procedures and processes * work health and safety and environmental documentations * building regulations, standards and codes * relationships: * clients to discuss green infrastructure construction requirements * building professional to determine building structural integrity.   Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, framework and/or standards. |

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