

## Modification history

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

AHCGRI402	Construct vertical gardens and green facades
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to construct designed vertical gardens and green facades, to comply with regulatory authorities' building regulations, standards and codes, and meet design plans and specifications.</p> <p>The unit applies to individuals who build or install vertical gardens and green facades on new or existing residential or commercial buildings in consultation with architects, engineers and other building and/or landscape and horticultural professionals.</p> <p>This unit of competency is suitable for individuals using their own judgment to deal with predictable and unpredictable problems and to decide on solutions to a range of complex problems during the building or installation process.</p> <p>Vertical garden and green facade installation or construction must meet all regulatory requirements of national, state, territory and local government authorities and building regulations, standards and codes.</p> <p>Licensing, legislative or certification requirements may apply to this unit in some jurisdictions depending on the location of the work and/or plant and equipment used. Users are advised to check with the relevant regulatory authorities.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Green Infrastructure (GRI)

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. Plan and prepare	1.1 Interpret vertical garden and green facade design plans and specifications, check permits and identify and resolve any discrepancies with designer and/or associated specialists if applicable 1.2 Complete job safety and environmental analysis (JSEA), identify potential hazards and apply control measures 1.3 Determine job priorities, and sequence job tasks in consultation with others on site 1.4 Calculate material and component quantities and check material availability with suppliers 1.5 Schedule delivery and discuss site access and method of locating material onsite with appropriate persons 1.6 Select plant, equipment and tools, check for serviceability and rectify and report any faults, and confirm required operator certifications, if applicable 1.7 Select, correctly fit and use personal protective equipment (PPE) 1.8 Check delivered materials and components for conformity, and report any discrepancies or damage to appropriate person

<b>Elements</b>	<b>Performance Criteria</b>
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Construct vertical garden	2.1 Set out and mark position, levels and fixing points appropriate for the selected vertical garden configuration 2.2 Confirm waterproofing installation to the specified area by specialist waterproofer using approved materials and methods has been inspected and certified 2.3 Install irrigation and drip tray system, and check for leaks 2.4 Install lighting and/or air flow equipment according to specifications 2.5 Fix vertical garden panels according to manufacturers' specifications 2.6 Install and finish growing media to the specified levels 2.7 Plant specified vegetation to meet design patterns according to designer and/or supplier establishment information
3. Construct green facade	3.1 Assemble and fix facade framework in compliance with building codes and standards, and without damage to existing structure 3.2 Install garden bed or containers to design specifications 3.3 Install, fix and test irrigation and drainage systems 3.4 Select and install growing media to specified depth, consolidate and finish height 3.5 Plant or install specified plants following designer and/or supplier establishment information 3.6 Install sensor equipment according to design and manufacturer specifications, if required
4. Complete roof garden construction	4.1 Clear the work area by disposing of, reusing or recycling materials 4.2 Clean tools and equipment and check for serviceability and report damage or defects to appropriate person 4.3 Store tools and equipment according to workplace and environmental requirements

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<b>Foundation Skills</b>	
<i>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.</i>	
<b>Skill</b>	<b>Description</b>
Reading	<ul style="list-style-type: none"> <li>Access and extract information from plans, specifications and regulatory information</li> </ul>
Oral communication	<ul style="list-style-type: none"> <li>Use clear language and industry terminology to determine and confirm construction requirements with suppliers and designers</li> <li>Give and receive instructions to work effectively with others and ensure safe work practices</li> <li>Use correct industry terminology to report damaged or defective tools and equipment</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Use measurements and formulas to calculate material quantities</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
AHCGRI402 Construct vertical gardens and green facades	Not applicable	The unit has been created to address an emerging skill or task required by industry	Newly created

<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72">https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72</a>
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<b>TITLE</b>	<b>Assessment requirements for AHCGRI402 Construct roof gardens, vertical gardens and green facades</b>
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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 safely constructed:

- one vertical garden with a minimum of 4 square metres, and
- one green facade with a minimum of 4 square metres.

In completing the above, there must also be evidence that the individual has:

- sequenced the building and installation process to efficiently and effectively complete the project with minimum disruption to residents and/or the community
- complied with design plans and specifications, relevant building codes and standards, and regulatory requirements
- installed systems and components to manufacturers' specifications and without damage.

**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:

- green infrastructure 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 and materials handling and storage
- types of vertical garden construction:
  - hydroponic system
  - substrate based system
- techniques for fixing facade and vertical garden components
- components of vertical garden and green facade construction
- risks associated with construction of vertical gardens and green facades
- planting methods that comply with the growing requirements of individual plant species and cultivars
- initial establishment needs of plants used in vertical gardens and green facades
- professional practice requirements in construction of vertical gardens and green facades, including:
  - limitations and boundaries
  - roles and responsibilities of building professionals and authorities
- national, state, territory and local authority regulations, policies and procedures and permits relevant to vertical garden and green facade construction
- national building regulations, standards and codes relevant to vertical garden and green facade construction
- current and relevant work health and safety and environmental requirements relevant to vertical garden and green facade construction
- plant, equipment, hand and power tools, and operator certification requirements for operation, for construction of vertical garden and green facade.

**Assessment Conditions**

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

- physical conditions:
  - skills must be demonstrated in a green infrastructure workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
  - plant, equipment and power tools relevant for vertical garden and green facade construction
  - proprietary or custom vertical garden and green facade systems
  - personal protective equipment

<b>Assessment Conditions</b>	
<ul style="list-style-type: none"><li>• specifications:<ul style="list-style-type: none"><li>• specific organisational policies, procedures and processes including work health and safety and environmental documentation relevant to vertical garden and green facade construction</li><li>• building regulations, standards and codes</li></ul></li><li>• relationships:<ul style="list-style-type: none"><li>• client or team members, designer or associated specialists to confirm construction requirements.</li></ul></li></ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, framework and/or standards.</p>	

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