

Modification history

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

AHCTRF301	Construct turf playing surfaces
Application	<p>This unit of competency describes the skills and knowledge required to construct the soil profile for the establishment of high-performance sports and recreational turf for new or complete renovation projects in sporting, commercial and public recreational spaces.</p> <p>The unit applies to individuals who work under broad direction 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>No occupational licensing, legislative or certification requirements are known to apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	Turf (TRF)

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 for construction activities	1.1 Read and interpret plans and specifications to determine scope of turf construction project 1.2 Collect representative soil samples from site for testing according to workplace procedures and industry standards 1.3 Test soil samples and interpret and record results according to workplace procedures and industry standards 1.4 Locate services and impediments to construction on site and report discrepancies from construction plan according to workplace procedures 1.5 Assess the surrounding area relative to construction site and identify potential impact on construction activities 1.6 Identify work health, safety and environmental hazards, assess risks and implement controls according to workplace health, safety and environmental procedures 1.7 Document a working plan for the construction according to workplace procedures and industry standards
2. Survey and peg out levels for construction site	2.1 Survey construction site and establish and record existing levels and temporary benchmarks according to turf construction and working plans 2.2 Mark out construction site with new levels and contours according to construction plans and specifications
3. Prepare for construction work	3.1 Read and interpret plans and specifications to determine measurements relevant to materials and quantities 3.2 Identify materials required for the turf construction soil profile from construction specifications 3.3 Compute an estimate of materials and costs required for the project and submit for approval according to workplace approvals process 3.4 Develop a construction logistics program for the construction 3.5 Prepare a schedule of works and obtain approvals according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Set out site for construction	4.1 Reconcile and verify planned boundaries and features of construction works are within actual site constraints 4.2 Verify finishing levels for site, drainage and irrigation are within nominated construction plan specifications 4.3 Transfer measurements for the construction area using markers and account for variances from construction plan
5. Excavate the construction site	5.1 Select, use and maintain safety and personal protective equipment according to workplace health and safety procedures 5.2 Excavate the site within the marked boundaries and stockpile excess soil according to working plan 5.3 Grade and consolidate the sub base to levels specified in the construction plan
6. Install irrigation and drainage system	6.1 Excavate trenches in sub surface to receive irrigation and drainage components according to construction plan 6.2 Install irrigation system components according to construction plan 6.3 Install drainage system according to construction plan 6.4 Return disturbed subsurface to levels specified in the construction plan
7. Install soil profile	7.1 Install and consolidate soil profile layers according to construction plans and specifications 7.2 Ensure the interface between profile layers is uniform and unbroken according to construction specifications 7.3 Ensure soil profile is level and consolidated within specifications ready for planting
8. Complete soil profile construction works	8.1 Clean, maintain and store tools, equipment and machinery according to workplace procedures 8.2 Collect and store unused materials and dispose of waste according to workplace and environmental procedures 8.3 Record and report work outcomes according to workplace procedures

Foundation Skills	
<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>	
Skill	Description
Reading	<ul style="list-style-type: none"> Reads and interprets plans, specifications, and other documentation and consolidates information into working plans
Writing	<ul style="list-style-type: none"> Prepares working plans, drawings and simple procedures for implementing a turf playing surface construction project
Numeracy	<ul style="list-style-type: none"> Makes calculations appropriate for measuring and marking out construction site, estimating materials for construction works and testing soil samples
Navigate the world of work	<ul style="list-style-type: none"> Takes responsibility for following policies, procedures and industry standards
Get the work done	<ul style="list-style-type: none"> Takes responsibility for planning, sequencing and prioritising construction tasks for efficiency and effective outcomes Addresses problems and applies problem solving processes to establish a solution

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
AHCTRF301 Construct turf playing surfaces	AHCTRF301 Construct turf playing surfaces	Minor changes to Performance Criteria for clarity Updated	Equivalent unit

		Performance Evidence and Knowledge Evidence	
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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
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TITLE	Assessment requirements for AHCTRF301 Construct turf playing surfaces
Performance Evidence	
<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 demonstrated the ability complete a sports turf construction project from concept to completion of a minimum of 100 square meters ensuring they have:</p> <ul style="list-style-type: none"> • developed an working plan and drawings to scale, including; <ul style="list-style-type: none"> • selected root zone materials • determined construction method according to industry standards • assessed the site layout • obtained, read and interpreted site and construction plans and specifications • selected the drainage system • estimated materials and costs for the project • planned the construction of a turf profile including: <ul style="list-style-type: none"> • conducted and interpreted soil tests • identified hazards and assessed the risks and implemented controls • used surveying equipment and techniques to accurately set out the site • constructed the turf profile according to plans and specifications including: <ul style="list-style-type: none"> • excavated to planned levels • installed sub-base to specification • installed drainage system to specification • installed and consolidated soil profile to specified grade and levels • complied with local environmental requirement • scheduled and organised construction work tasks according to workplace procedures and construction project • identified, hazards and risks and implemented control measure for personal and site specific safety requirements • operated, cleaned, maintained and stored mechanical excavation and load shifting equipment according to workplace operating and safety procedures. 	
Knowledge Evidence	
<p>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:</p> <ul style="list-style-type: none"> • interpretation of plans and specifications for the scope of construction: <ul style="list-style-type: none"> • location of site • implication of impediments and services on construction activities including: irrigation pipes, overhead and underground power, drainage, telecommunications, gas, root system of trees • dimensions of construction for determining bill of materials • principles of sports turf soil profile construction, methods and resources including: <ul style="list-style-type: none"> • range of construction methods for specific applications (e.g. golf and bowling greens, cricket wickets, sports fields, race tracks, lawn tennis) • Australian and international standards for sports turf construction • United States Golf Association (USGA) greens construction profiles • Californian method • local construction methods • natural construction • push up greens • sand over clay • working with a perched water table • drainage installation methods and materials including: <ul style="list-style-type: none"> • pipes • drainage materials • root zone layer and uniformity in depth of horizons 	

Knowledge Evidence

- materials, tools, equipment and machinery available to the enterprise for construction of soil profiles, including:
 - soil amendments
 - base construction materials
 - turf growing media and quality
 - machinery and equipment and their safe operation
 - excavating to known levels including the cut and fill quantities
 - working to a consistent level and grade from sub-base to final level
 - methods and testing the compaction of sub base
- practical understanding of surveying principles and techniques including
 - using survey equipment to establish benchmarks and levels on a construction site
 - interpreting and constructing basic contour drawings
 - transferring and pegging out contours to a construction site
- soil testing techniques and the application of results to the construction process including:
 - texture (particle size)
 - pH
 - soluble salts
 - infiltration rates
 - water testing
- site constraints and impact on constructing turf surface including
 - aspect
 - site history
 - tree and other vegetation
 - location of services
 - water quality and reclaimed sources of water
- workplace health and safety hazards, risks and control measures when constructing new turf including:
 - site safety
 - personal safety
 - safe use and operation of tools, equipment and machinery
- planning and scheduling construction works to ensure a logical, timely and effective process
- laying out a construction area from plans and drawings
 - measuring techniques
 - finding and marking levels
 - types of markers including paint, pegs, stringlines, flags
- calculations relevant to costing and estimating a turf construction project including:
 - excavation of volumes e.g. cut and fill
 - volumes and qualities of materials
 - labour time and costs
- environmental practices and procedures relevant to turf construction sites
 - implications associated with construction and excavation activity
 - waste disposal procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a sports turf facility or an environment that accurately represents workplace conditions of a minimum of 100 square meters
- resources, equipment and materials:
 - personal protective equipment and other site safety equipment
 - surveying equipment
 - mechanical excavation and load shifting equipment
 - soil testing equipment for pH, soluble salts, texture and infiltration rates
- specifications:
 - workplace procedures for turf area construction, safety and environment
 - sports turf area construction plans, project drawings and specifications

Assessment Conditions	
<ul style="list-style-type: none">• instructions for turf area construction <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72