

Title	Demonstrate knowledge of methods of upgrading sports turf root zones		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: demonstrate knowledge of root zone and management factors limiting sports turf growth; evaluate bypass drainage modification techniques for a selected sports turf area; evaluate complete root zone profile modification systems for sport turf areas; evaluate the success of upgrading sports turf root zone of a modified sports turf area; and describe turf reinforcing and turf replacement systems for sport turf areas.
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Classification	Sports Turf > Sports Turf Construction and Drainage
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Available grade	Achieved
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Guidance Information

None.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of root zone and management factors limiting sports turf growth.

Performance criteria

- 1.1 Identify physical characteristics limiting turf growth in accordance with results of analysis of the root zone of a sports turf area.

Range physical characteristics include – soil texture, structure, presence of stones, roots, earthworms, pans, water, horizons, fertility, aeration, temperature; evidence is required of five.
- 1.2 Describe extent and depth of limitations of turf growth caused by the physical characteristics.
- 1.3 Evaluate human and mechanical traffic in terms of the extent they limit turf growth on a sports turf area.

- 1.4 Identify the impacts of human and mechanical traffic on turf growth of a sports turf area.

Range turf cover, compaction.

Outcome 2

Evaluate bypass drainage modification techniques for a selected sports turf area.

Range at least five bypass modification techniques from – spiking, slicing, vertidrainage, hollow tine coring, boring, subsoiling, vibramoling, mole ploughing, slit drainage, pipe drainage, hydrojecting, gas injecting.

Performance criteria

- 2.1 Evaluate bypass drainage modification techniques in terms of their function and operation, including possible advantages and disadvantages.

- 2.2 Evaluate bypass drainage modification techniques in terms of their suitability for a selected sports turf area.

Range sports turf area features – traffic intensity, soil profile characteristics, frequency of ponding; suitability regarding – type of sport, weather conditions, player reaction, budget constraints.

Outcome 3

Evaluate complete root zone profile modification systems for sports turf areas.

Performance criteria

- 3.1 Evaluate major complete root zone profile modification systems in terms of their structure and function, and maintenance implications.

Range at least two root zone profile modifications from – full sand, sand carpet system, sand and soil mix system, soil system.

- 3.2 Evaluate complete root zone profile modification system characteristics in terms of their key root zone profile properties.

Range at least two root zone profile properties from – particle size distribution, hydraulic conductivity, water storage, porosity, profile depths, pipe spacings and size, root zone amendment, nutrient retention, budget.

Outcome 4

Evaluate the success of upgrading sports turf root zone of a modified sports turf area.

Performance criteria

- 4.1 Evaluate the success of upgrading sports turf root zone in terms of percolation and infiltration characteristics of a modified sports turf area.

Outcome 5

Describe turf reinforcing and turf replacement systems for sports turf areas.

Performance criteria

- 5.1 Describe turf reinforcing and turf replacement systems in terms of their function, operation, installation procedures, and cost.

Range at least two systems from – randomly-oriented mesh elements, fibrillated and crimped polymer strands, injected polypropylene strands, synthetic fibre and polypropylene grid, turf modules, turf slabs, portable cricket pitches, roll-out turf.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 December 2000	31 December 2019
Revision	2	12 January 2006	31 December 2019
Review	3	17 October 2008	31 December 2019
Review	4	25 January 2018	31 December 2023
Review	5	24 June 2021	N/A

Consent and Moderation Requirements (CMR) reference	0052
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.