



Australian Government

AHCIRG509 Develop an irrigation and drainage management plan

Release: 1

AHCIRG509 Develop an irrigation and drainage management plan

Modification History

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

Application

This unit of competency describes the skills and knowledge required to compile information and develop an irrigation and drainage management plan.

The unit applies to individuals who apply specialised skills and knowledge to the development of an irrigation and drainage management plan, and take personal responsibility and exercise autonomy in undertaking complex work. They analyse and synthesise information and analyse, design and communicate solutions to sometimes complex problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Irrigation (IRG)

Elements and Performance Criteria

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. Compile property background information	1.1 Identify ownership details 1.2 Compile irrigation history 1.3 Identify locality and property details 1.4 Identify agreements and easements with surrounding properties 1.5 Develop property maps to illustrate locality and property

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	boundaries
2. Compile information on infrastructure and topography	2.1 Define significant topographical and infrastructure features 2.2 Identify opportunities and strengths of the property 2.3 Identify limitations and weaknesses of the property 2.4 Identify local planning issues that may affect the irrigation and drainage management plan 2.5 Develop a map overlay to illustrate topography and infrastructure
3. Compile information on natural resources	3.1 Gather soil survey information 3.2 Identify strategies to minimise and reduce soil erosion, and physical and chemical soil deterioration 3.3 Identify water source availability and quality 3.4 Identify ground water depth and salinity issues 3.5 Define climatic characteristics 3.6 Develop a map overlay to illustrate natural resource features
4. Compile information on workplace cropping and planting	4.1 Define the suitability of soils and water quality for crops and plants 4.2 Identify any special irrigation requirements of crops and plants 4.3 Develop monthly and annual water budgets for each crop and plant program 4.4 Identify current yields and compare with benchmark crop yields 4.5 Establish targets with consideration for any factors which could limit optimum production 4.6 Define intended crop rotations 4.7 Develop a map overlay to illustrate crop and plant detail
5. Compile information on existing irrigation and drainage system where used	5.1 Evaluate current system performance 5.2 Compare current system performance to benchmark performance parameters 5.3 Develop scheduling procedures 5.4 Define drainage management performance including environmental authority compliance issues 5.5 Identify areas for improvement in system management and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	structure 5.6 Develop a map overlay to illustrate irrigation system layout
6. Develop an irrigation and drainage management plan with specifications for new or up-graded irrigation and drainage system	6.1 Summarise performance requirements for distribution, treatment and drainage systems 6.2 List new or replacement components 6.3 Develop a development timetable 6.4 Define proposed scheduling system 6.5 Define performance monitoring procedures and workplace health and safety requirements 6.6 Define drainage management processes 6.7 Develop a map overlay to illustrate proposed irrigation and drainage development 6.8 Document irrigation and drainage management plan

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.

Skill	Description
Reading	Identify and interpret information regarding requirements for irrigation and drainage management plan
Numeracy	Interpret statistical data and measurements
Navigate the world of work	Identify and describe own workplace requirements, including safety requirements, associated with own role and area of responsibility
Technology	Use for researching, collecting and collating data

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCIRG509 Develop an irrigation and drainage management plan	AHCIRG504 Develop an irrigation and drainage management plan	Performance criteria clarified Foundation skills added Assessment requirements updated	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCIRG509 Develop an irrigation and drainage management plan

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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 developed an irrigation and drainage management plan on at least one occasion and has:

- compiled and analysed complex information
- used a range of irrigation and information management software
- interpreted statistical data and measurements
- developed plans and reports
- developed and implemented relevant workplace health and safety and environmental procedures
- identified adverse environmental impacts of irrigation system activities and recommended appropriate remedial action.

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:

- workplace policies and procedures relevant to irrigation and drainage management planning
- measuring and monitoring procedures
- readily available water
- water table and salinity
- soil, plant and water relationships
- computerised irrigation systems
- methods and techniques of irrigation
- environmental impacts of irrigation systems using water from any ground or underground source
- irrigation system options.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computer and irrigation and information management software
- specifications:
 - workplace policies and procedures relevant to irrigation and drainage management planning
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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