



Australian Government

AHCIRG415 Interpret and apply irrigation designs

Release: 1

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Modification History

Release Number	TP Version	Comments
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to interpret the irrigation design for an installation site.

It applies to individuals who analyse information and exercise judgement to complete a range of skilled activities and demonstrate deep knowledge in a specific technical area. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems. All work is carried out to comply with workplace procedures.

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

Pre-requisite Unit

Nil.

Unit Sector

Irrigation (IRG)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Identify the key features on an irrigation design	1.1 Identify and apply commonly used symbols and abbreviations on plans 1.2 Identify and apply common irrigation terms used on plans 1.3 Identify key features of irrigation plans, elevations and sections 1.4 Identify scale, elevations and sections from drawings
2. Define the placement and function of the irrigation system	2.1 Interpret the plans, drawings and specifications for an irrigation design 2.2 Identify the proposed purpose and capacity of the irrigation

Element	Performance criteria
	system 2.3 Position the designed system in relation to the landscape of the site 2.4 Identify environmental impacts of the irrigation system, and its installation 2.5 Prepare 'as constructed' drawings
3. Mark out structures	3.1 Mark the boundaries of the site 3.2 Identify existing irrigation infrastructure on the site 3.3 Identify electricity and communications infrastructure on the site plan, mark out and develop safety procedures 3.4 Mark out remnant vegetation to be retained 3.5 Identify and peg out proposed pipelines 3.6 Identify and peg out proposed irrigation structures
4. Estimate earth moving requirements for construction	4.1 Interpret earthworks drawings and take levels 4.2 Estimate the amount of earth to be relocated or removed from the site 4.3 Confirm the sequence of earthworks and communicate to relevant staff 4.4 List and quantify materials required for irrigation structures 4.5 Verify construction requirements with designer
5. Select pumps and system components	5.1 Interpret design specifications for water volume, pressure and delivery pattern required 5.2 Select pumping system 5.3 Select irrigation system components 5.4 Verify component selection with designer
6. Mark out locations of all components	6.1 Define the sequence of operations for installation 6.2 Identify the delivery and storage area for components 6.3 Identify the placement of all components
7. Develop instructions for staff	7.1 Include environmental hazards and strategies in instructions 7.2 Document the sequence of activities and work duties 7.3 Discuss work health and safety hazards and risk controls with staff 7.4 Provide a construction schedule to staff

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

This unit is equivalent to AHCIRG415A Interpret and apply irrigation designs.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCIRG415 Interpret and apply irrigation designs

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Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence that they can:

- read contour maps and interpret elevations and distances
- mark out procedures
- interpret technical drawings and site plans
- calculate pressures, flows, velocities and friction losses
- determine efficiency of the system with varying system components

Knowledge Evidence

The candidate must demonstrate knowledge of:

- principles and practices of irrigation design interpretation
- erosion control and design principles
- how to interpret plans and general and technical specifications
- hydraulic calculations
- levels and levelling
- principles of native topsoil conservation and protection
- pumps and pumping system components
- relevant work health and safety and environmental requirements
- selection of water pumping and distribution components delivery based on specifications and requirements

Assessment Conditions

Assessors must satisfy current standards for RTOs.

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