

Unit of Competency CPCPIG3021

Set out, install and commission irrigation systems

Application

This unit specifies the skills and knowledge required to set out, install and commission irrigation systems.

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Prerequisite Unit

CPCPCM2043 Carry out WHS requirements

Elements and Performance Criteria

1. Prepare for work.	<ul style="list-style-type: none">1.1 Obtain plans and specifications.1.2 Adhere to work health and safety (WHS) and environmental requirements associated with setting out, installing and commissioning irrigation systems throughout work.1.3 Identify and adhere to quality assurance requirements according to workplace requirements.1.4 Plan and sequence tasks in conjunction with others involved in or affected by the work and statutory and regulatory authorities' requirements.1.5 Select and check tools and equipment, including personal protective equipment (PPE), for setting out, installing and commissioning irrigation systems for serviceability.1.6 Prepare work area to support efficient setting out, installation and commissioning of irrigation systems.
2. Identify installation requirements.	<ul style="list-style-type: none">2.1 Identify irrigation system requirements from plans, specifications and relevant information.2.2 Locate and identify underground services.2.3 Check flow rate and water pressure for compliance with plans and specifications.2.4 Select piping and system components to comply with standards, plans and specifications.2.5 Identify, order and collect materials and equipment according to workplace procedures.2.6 Check materials and equipment for compliance with standards, docket and order form, and for acceptable condition.
3. Install and commission irrigation system.	<ul style="list-style-type: none">3.1 Set out irrigation pipes according to plans, specifications and site requirements.3.2 Excavate pipe trenches according to plans and specifications.3.3 Install pipe system according to plans, specifications, site requirements, manufacturer recommendations and standards, and sustainability principles and concepts.3.4 Flush pipelines of air and foreign matter to installation standard.3.5 Install backflow prevention device according to standards.3.6 Install and adjust water emitters to produce required spray pattern.

	3.7 Install, operate and adjust control valves to achieve specified flow rate. 3.8 Test and adjust installation to comply with standards and authorities' requirements. 3.9 Backfill trenches according to plans and specifications and reinstate ground surface.
4. Clean up.	4.1 Clear work area and dispose of reused or recycled materials according to legislation, regulations, codes of practice and job specification. 4.2 Clean, check, maintain and store tools and equipment according to manufacturer recommendations and workplace procedures. 4.3 Complete documentation according to workplace requirements.

Foundation skills

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

Unit Mapping Information

Supersedes and is equivalent to CPCPIG3021A Set out, install and commission irrigation systems

Assessment Requirements for CPCPIG3021 Set out, install and commission irrigation systems

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria for this unit by:

- determining the system requirements, setting out, installing and commissioning an irrigation system sourced from an isolating valve to supply four water emitters of varying type and requiring a solenoid valve to comply with given plans and specifications.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- characteristics and application of different pipes and fittings, including fixing and joining techniques and methods
- job safety analysis (JSA) and safe work method statements (SWMS)
- process of setting out, installing and commissioning irrigation systems
- processes for accessing information and for calculating material requirements
- properties of water, including pressure and flow rates
- protection of drinking water supplies
- relevant statutory and authority requirements related to installing and commissioning irrigation systems
- SI system of measurement
- standards applicable to the installation
- various types of irrigation systems, including types of materials and components used
- workplace and equipment safety requirements.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Links

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>