



Australian Government

Department of Education, Employment and Workplace Relations

NWP252B Construct and install irrigation delivery and stormwater drainage assets

Revision Number: 2

NWP252B Construct and install irrigation delivery and stormwater drainage assets

Modification History

NWP252B Release 2: Layout adjusted. No changes to content.

NWP252B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to construct irrigation delivery or stormwater drainage assets on site and to install both constructed assets and prefabricated components.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field staff with specific responsibility for ensuring that the construction and installation of irrigation or stormwater drainage assets is completed in a safe and timely manner.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where <i>bold italicised</i> text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.
---	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for work.	1.1 Determine work requirements from specifications and instructions. 1.2 Select, fit and use personal protective equipment. 1.3 Perform site check to identify hazards and prevent damage to other utilities according to legislative and organisational requirements. 1.4 Provide appropriate drainage and diversion from work site without damage to environment. 1.5 Check equipment and excavation methods to meet safety requirements of task and site.
2 Construct and install drains, channels, pipes and associated fittings.	2.1 Provide bedding and foundations according to structure type, location and specification. 2.2 Select, lay and install join pipes and fittings according to manufacturer and organisational requirements. 2.3 Select, place and join prefabricated components according to manufacturer and organisational requirements. 2.4 Check installed pipes, fittings and prefabricated components to ensure that test specifications are met. 2.5 Construct cast in situ components according to specifications and organisational requirements.
3 Finalise work.	3.1 Check constructions and installations to ensure that specifications are met. 3.2 Check, maintain and store equipment, tools and materials according to manufacturer guidelines and organisational procedures. 3.3 Backfill, compact and restore work site to meet environmental and organisational requirements. 3.4 Maintain workplace records as required.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- identify and respond to operational problems
- produce reports and logs
- use safety and personal protective equipment
- use tools and machinery
- interpret plans, charts and instructions
- perform work-related calculations
- apply procedures and standards
- communicate with employees and customers
- work effectively as part of a team
- use communication equipment
- use literacy skills in regard to verbal and written communication in the workplace
- give and receive instructions

Required knowledge:

- system hydraulics basics
- system layout
- environmental aspects of construction
- construction processes
- relevant utilities and service providers
- communication systems
- hazardous materials handling
- landscape and ground structure of work area
- risk factors and potential hazards of construction processes
- equipment operation, capacity and limitations
- effects of weather and conditions on construction site or plant
- control systems
- pre-cast components
- pipes and fittings

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The candidate should demonstrate the ability to construct and install irrigation delivery or stormwater drainage assets by:

- planning work and preparing work site according to given specifications and instructions
- constructing assets according to specifications
- installing assets according to specifications
- checking that work meets specifications
- cleaning and storing equipment
- restoring work site
- completing documentation

Context of and specific resources for assessment

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards and government regulations

Where applicable, physical resources should include equipment modified for people with disabilities.

Access must be provided to appropriate learning and assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice
- a decision of competence only taken at the point when the assessor has complete confidence in the person's competence over time and in various contexts
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence
- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency

demonstrated over a period of time

- assessment can be through simulated project-based activity and must include evidence relating to each of the elements in this unit

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge. Questioning will be undertaken in a manner appropriate to the skill levels of the operator and cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording, if used in the performance criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work requirements may include:

- extent and scope of work
- work site boundaries
- utilities location
- risk assessment and prevention measures
- signage
- traffic control

Legislative and organisational requirements may include:

- relevant federal and state or territory legislation and regulations
- codes of practice, associated standards and guidance material
- documented organisational policies, manuals and induction programs
- relevant community planning and development agreements, such as land care agreements

Equipment used may include:

- hand and power tools
- on- and off-road vehicles
- lifting and winching equipment
- mechanical excavation equipment
- compressors
- pneumatic spaders and attachments
- motorised cutting equipment
- chemical spraying apparatus
- small marine craft
- trenching systems
- portable pumps
- communication equipment
- breathing apparatus
- gas detection equipment
- rescue equipment
- appropriate personal protective equipment

Structures may include:

- drop structures
- regulators
- erosion barriers
- head walls
- concrete channels

Pipes may include:

- vitrified clay
- polyvinyl chloride (PVC)
- polyethylene
- reinforced concrete

Fittings may include:

- jointing systems for pipe types and prefabricated sections, e.g. gibault and tension bands
- tension bands
- solvent cement joints
- compression rings
- bolted flanges
- malleable jointing materials
- electrofusion
- butt welding

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.