



Australian Government

NWPIRR012 Construct open earthen channels or drains

Release: 1

NWPIRR012 Construct open earthen channels or drains

Modification History

Release	Comments
1	This unit was released in NWP Water Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to NWP251B Construct open earthen channels or drains. • Unit code updated • Content and formatting updated to comply with the new standards • All PC transitioned from passive to active voice • PC 1.5 revised

Application

This unit of competency describes the skills required to plan and prepare for the construction of open channels or drains and to complete construction operations and subsequent site restoration.

This unit applies to those working as field and operational staff involved in the construction of earthen channels and drains for stormwater or irrigation systems or the remodelling or reconstruction of unserviceable systems.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to, particularly those related to WHS and manufacturers' guidelines.

Those undertaking this unit would work under direct supervision, while performing routine tasks and ensuring minimal damage to the environment, in a familiar context.

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

Competency Field

Irrigation

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Plan and prepare for construction work	1.1 Determine work requirements from design plans, specifications, instructions and work orders. 1.2 Check site and identify hazards. 1.3 Make appropriate drainage and diversion arrangements without damage to environment. 1.4 Check equipment and open-cut excavation methods to ensure that safety requirements of task and site are met. 1.5 Select suitable soil material.
2. Construct channels or drains	2.1 Construct earthen channels, drains and batters to planned width, depth and gradient. 2.2 Compact soil, apply additives and take earth samples. 2.3 Check construction works to ensure that specifications are met.
3. Restore work site and equipment	3.1 Check, maintain and store equipment, tools and materials. 3.2 Restore work site and add environmental improvements or controls to complete work, according to plans.

Foundation Skills

The foundation skills demands of this unit have been mapped for alignment with the Australian Core Skills Framework (ACSF). The following tables outline the performance levels indicated for successful attainment of the unit.

ACSF levels indicative of performance:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Learning NA					Reading					Writing					Oral communication					Numeracy				

Performance variables:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Support					Context					Text complexity					Task complexity				

Further information on ACSF and the foundation skills underpinning this unit can be found in the Foundation Skills Guide on the GSA website.

Unit Mapping Information

This unit supersedes and is equivalent to NWP251B Construct open earthen channels and drains.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Assessment Requirements for NWPIRR012 Construct open earthen channels or drains

Modification History

Release	Comments
1	These Assessment Requirements were released in NWP Water Training Package release 1.0 and meet the Standards for Training Packages. • Assessment Requirements created drawing upon specified assessment information from superseded unit

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- identifying and responding to operational problems
- producing reports and logs
- using safety and personal protective equipment
- using tools and machinery
- interpreting plans, charts and instructions
- applying procedures and standards
- applying channel, drain and batter construction techniques
- identifying soil types, mechanics and compaction rates
- selecting and operating appropriate compaction plant, including tamping foot and smooth drum roller
- operating communication systems
- performing work related calculations
- constructing open earthen channels and drains
- planning work and preparing work site according to given specifications and instructions
- cutting channels to specification
- compacting soil
- taking soil samples
- checking that work meets specifications
- cleaning and storing equipment
- restoring work site

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- channel and drain system design basics
- channel and drain system layout
- environmental aspects of construction
- channel, drain and batter construction processes
- measures to reduce channel deterioration, infestation of weeds, pests and seepage
- relevant utilities and service providers
- safe use of lasers
- use of automatic levels
- basic levelling techniques
- profiles and boning rods
- survey principles
- soil types, mechanics and compaction rates
- capabilities of plant used for construction, including equipment operation, capacity and limitations
- communication systems
- work related calculations
- hazardous materials handling
- landscape and ground structure of work area
- risk factors and potential hazards of construction processes
- effects of weather and conditions on construction site or plant
- control systems

Assessment Conditions

Competency should be assessed in an actual workplace or in a simulated environment, with access to equipment and infrastructure appropriate to the outcome. Competency should be demonstrated over time to ensure the candidate is assessed across a variety of situations.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>