



Australian Government

CPCPDR4012 Design and size stormwater drainage systems

Release: 3

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Modification History

- Release 3 This version first released with CPC Construction, Plumbing and Services Training Package Release 6.5.
Amended Performance Evidence.
- Release 2 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.1.
Element 2 title corrected. Performance Evidence formatted for clarity.
- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
Supersedes and is equivalent to CPCPDR4012B Design and size stormwater drainage systems. Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to design, size and document the layout of surface and sub-soil stormwater drainage systems up to legal points of discharge to a residential dwelling (Class 1a), a commercial Class 6 building, and a unit complex comprising at least eight (Class 1a) dwellings.

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

Pre-requisite Unit

Nil.

Unit Sector

Plumbing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- | | |
|-------------------|---|
| 1 Identify system | 1.1 Access, read and determine design requirements from plans, specifications, relevant manufacturers |
|-------------------|---|

- requirements. requirements, Australian Standards and jurisdictional requirements.
- 1.2 Identify and apply workplace policies and procedures, work health and safety (WHS) and environmental requirements.
 - 1.3 Identify stormwater catchment and flow requirements.
 - 1.4 Select stormwater pipe size to conform to regulatory authorities and main or street kerb, including discharge flow and levels to verify grades and cover.
 - 1.5 Determine stormwater requirements for retention pit, silt and flotation arrestor pit, rainwater tank and stormwater overflow discharge locations to suit job requirements.
- 2 Design system layout.
- 2.1 Develop and size system layout in accordance with manufacturer's requirements, Australian standards and jurisdictional requirements.
 - 2.2 Use the proposed design to identify and specify optimal materials required.
 - 2.3 Produce final system layout plans to relevant drawing design standards.

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 CPCPDR4012B Design and size stormwater drainage systems.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCPDR4012 Design and size stormwater drainage systems

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Performance Evidence

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

- designing, sizing and documenting the layout details of a surface and sub-soil stormwater drainage system for:
 - a residential design that comprises a dwelling (Class 1a),
 - a commercial Class 6 building, and
 - a unit complex comprising at least eight (Class 1a) dwellings.

The candidate must:

- include drainage to the legal point of discharge to the external stormwater drainage network
- complete the work according to development plans, specifications, Australian standards, workplace procedures and client specifications.

Knowledge Evidence

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

- the process of planning, sizing and documenting the layout of stormwater and sub-soil drainage systems
- catchment, rainfall intensity and run-off calculations
- characteristics and application of different pipe systems, including their fittings

- non-gravitational stormwater systems
- onsite stormwater management
- design concepts and performance measures for stormwater and sub-soil drainage systems
- principles of water flow and stormwater and sub-soil drainage
- contour, reduced and invert levels
- drawing instruments and sketching techniques, including the use of conventional symbols
- use of computers for documentation
- computer-aided design (CAD) software
- how to access relevant information, including codes and standards
- tools, materials and equipment used to design, size and document the layout of surface and sub-soil stormwater drainage systems up to legal points of discharge
- work health and safety (WHS) requirements to design, size and document the layout of surface and sub-soil stormwater drainage systems up to legal points of discharge.

Assessment Conditions

Assessors must satisfy the requirements for assessors listed 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

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