



Australian Government

CPPSSI4041 Set out site and building works

Release: 1

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Modification History

Release 1 This version first released with CPP Property Services Training Package Release 12.0.

This unit supersedes and is equivalent to CPPSIS4041 Set out site and building works.

Application

This unit specifies the skills and knowledge required to set out spatial data for building or site works using surveying methods and equipment. It includes using horizontal and vertical control techniques to set out marks and lines to define the position and level of design points on site. The unit also includes interpreting plans and specifications in order to conduct measurements and calculations to establish building elements of the correct size, in the correct plan position and at the correct reduced level.

This unit is suitable for entry-level technicians who use a broad range of cognitive, technical and communication skills to select and apply a range of methods, tools, materials and information to complete routine and non-routine activities and provide and transmit solutions to a variety of predictable and sometimes unpredictable problems.

Surveying and spatial information skills are applied in a range of industry contexts, including town planning, civil construction, mining, engineering, health, agriculture and defence.

All work must be carried out to comply with workplace procedures, in accordance with relevant state/territory regulations that govern surveying work, as well as work health and safety (WHS) legislation and regulations that apply to the workplace.

Cadastral surveying must be undertaken under the supervision of a registered surveyor. Users must check with the relevant regulatory state/territory authority before delivery.

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

Pre-requisite Unit

Nil.

Unit Sector

Surveying and Spatial Information Services

Elements and Performance Criteria

Elements describe the essential outcomes.

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

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| 1 Prepare for set-out tasks. | 1.1 Access and interpret relevant plans and specifications to identify set-out requirements. |
| | 1.2 Check plans, maps, specifications and control marks to determine set-out activities required and plan work in consultation with appropriate persons. |
| | 1.3 Select and prepare equipment according to set-out requirements, and manufacturer instructions. |
| | 1.4 Export spatial data file in format for upload into field total station. |
| | 1.5 Comply with legislative and organisational safe work requirements for undertaking the project. |
| 2 Use control techniques for set-out. | 2.1 Locate horizontal and vertical control points throughout work area and set out coordinates according to plans and specifications. |
| | 2.2 Set out and check design points to ensure correct tolerances according to specifications. |
| | 2.3 Use control points and check accuracy according to plans and specifications. |
| | 2.4 Use surveying pegs to mark set-out features' positions and/or offset on site. |
| | 2.5 Establish vertical control point by placing a height mark on site to be used by the contractor according to plans and specifications. |
| | 2.6 Use independent field checking procedures to confirm positions of marks placed meet industry-accepted tolerances for accuracy. |
| | 2.7 Reduce measured surveying data and conduct calculations according to industry-accepted standards and organisational requirements. |
| | 2.8 Calculate offset mark locations in relation to design structures and points using computer-based software. |

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| 3 Finalise set-out tasks. | 3.1 Check and validate accuracy of measurements for size, plan position and reduced level of set-out, according to plans and specifications. |
| | 3.2 Identify, address and report discrepancies between specifications and actual activities according to organisational requirements. |
| | 3.3 Complete field notes, set-out report and sketch to industry standards and organisational requirements. |
| | 3.4 Store and file data in accordance with organisational and legislative 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 CPPSIS4041 Set out site and building works.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPSSI4041 Set out site and building works

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Performance Evidence

To demonstrate competency a candidate must meet the elements and performance criteria of this unit by setting out spatial data for site or building works using a total station for two different projects selected from:

- boundary set-out
- building set-out
- road set-out
- pipeline set-out
- earthworks set-out
- construction set-out.

Each set-out survey must have a minimum of six marks calculated, placed and checked.

Knowledge Evidence

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

- mathematical concepts relating to algebra, trigonometry and geometry and their use in calculating spatial measurements
- drawing conventions and representations in construction plans
- methods for:
 - calculating surveying data and verifying its accuracy using primary and secondary control
 - calculating height, distances, angles and coordinates
 - establishing a control network that meets specified tolerances
 - setting up, levelling and adjusting equipment used to set out spatial data
 - recording spatial data relating to set-out
- reference and coordinate systems for surveying data, including Australian Height Datum and Map Grid of Australia
- types of pegs and markers used during set-out
- instrument-based methods for:

- optimal placement of pegs and markers on the site
- horizontal and vertical control techniques.

Assessment Conditions

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

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting where these skills and knowledge would be performed.

Candidates must have access to:

- total station
- scientific programmable calculator or software application that includes surveying calculations
- job specifications, maps and plans
- organisational policies and procedures relating to:
 - work health and safety (WHS)
 - setting up and using surveying equipment
 - spatial data collection.

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