

Draft 0.2

This is a draft update to CPPSIS4041 Set out site and building works:
<https://training.gov.au/Training/Details/PPSIS4041>.

Code changed to CPPSSI4041.

Changed PCs to active voice.

Feedback back was received adding points to the Performance Evidence.

Some of this has been added into PCs.

Element 1: PCs 1.2, 1.4 and 1.5

Element 2: PCs 2.7 and 2.9

Element 3: PC3.3

Range of Conditions added to Knowledge Evidence.

GNSS removed as it does not have the required accuracy for building and construction setout.

Unit of Competency

CPPSI4041 Set out site and building works

Modification history

Release	Comments
1	Replaces superseded non-equivalent CPPSIS4029A Collect and set out basic surveying data. This version first released with CPP Property Services Training Package Version 3.
	Replaces superseded equivalent CPPSIS4041 Set out site and building works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 involves using horizontal and vertical control techniques to set out marks and lines to define the position and level of design points on site. It also covers 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 will 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, regulations and legislation 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, regulatory, or certification requirements apply to this unit of competency at the time of publication.

Prerequisite Unit

None

Unit Sector

Surveying and Spatial Information Services

Elements and Performance Criteria

1. Prepare for set-out tasks.	<ol style="list-style-type: none">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.
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	1.5 Comply with legislative and enterprise safe work requirements for undertaking the project.
2. Use control techniques for set-out.	<p>2.1 Locate horizontal and vertical control points throughout work area and set out coordinates according to plans and specifications.</p> <p>2.2 Set out and check design points to ensure correct tolerances according to specifications.</p> <p>2.3 Use control points and check accuracy according to plans and specifications.</p> <p>2.4 Use surveying pegs to mark set-out features' position and/or offset on site.</p> <p>2.5 Establish vertical control point by placing a Height Mark on site to be used by the contractor according to plans and specifications.</p> <p>2.6 Use independent field checking procedures to confirm positions of marks placed meet industry-accepted tolerances for accuracy.</p> <p>2.7 Reduce measured surveying data and are conduct calculations according to industry-accepted standards and enterprise requirements.</p> <p>2.8 Calculate offset mark locations in relation to design structures and points using computer-based software.</p>
3. Finalise set-out tasks.	<p>3.1 Check and validate accuracy of measurements for size, plan position and reduced level of set-out, according to plans and specifications.</p> <p>3.2 Identify, address and report discrepancies between specifications and actual activities according to enterprise requirements.</p> <p>3.3 Complete field notes, set out report and sketch to industry standards and enterprise requirements.</p> <p>3.4 Store and file data in accordance with enterprise and legislative requirements.</p>

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

The Companion Volume Implementation Guide for the CPP Property Services Training Package is available at <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 for two different projects using a Total Station selected from:

- boundary setout
- building setout
- road setout
- pipeline setout
- earthworks setout
- construction setout.

Each setout survey must have a minimum of 6 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 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 a software application that includes surveying calculations
- job specifications, maps and plans
- enterprise policies and procedures relating to:
 - work health and safety
 - setting up and using surveying equipment
 - spatial data collection.

Links

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