



**Australian Government**

# **Assessment Requirements for CPPSIS5057**

## **Conduct precision surveys**

**Release: 1**

# Assessment Requirements for CPPSIS5057 Conduct precision surveys

## Modification History

Release 1.

Replaces superseded equivalent CPPSIS5057A Carry out a precision survey.

This version first released with CPP Property Services Training Package Version 3.

## Performance Evidence

A person demonstrating competency in this unit must satisfy the requirements of the elements, performance criteria, foundation skills and range of conditions of this unit. The person must also conduct two different precision surveys.

While conducting the above precision surveys, the person must:

- analyse standards, specifications and information in plans and drawings to determine surveying and precision requirements
- apply precision surveying techniques, measurements and error analysis to achieve specified accuracies and precision tolerances
- carry out precise levelling run, using two of the following pieces of specialised equipment and attachments:
  - global navigation satellite system (GNSS)
  - gyro-theodolite
  - optical and digital level
  - optical reading instruments
  - total station (reflectorless)
  - total station (theodolite function)
- carry out precise setting out using one of the following instruments and attachments:
  - auto collimation and laser eyepieces
  - total stations
  - zenith and nadir auto plumb instruments
- carry out precise setting out using one of the following remote measuring systems:
  - precise intersection techniques
  - robotic instruments
  - terrestrial photogrammetry
- use industry-accepted survey methods to detect and monitor deflection and deformation of structures
- communicate clearly with others to clarify and report project information
- comply with organisational and legal requirements for:
  - completing records and documentation

- recording, storing and filing data
- using, checking and storing surveying equipment
- working safely and using personal protective equipment (PPE)
- plan and implement risk management and contingency strategies.

## Knowledge Evidence

A person demonstrating competency in this unit must demonstrate knowledge of:

- accuracy standards and field procedures for high-precision horizontal and vertical control surveys
- basic application of electromagnetic measuring principles and techniques
- common terms used in precision surveying calculations
- data reduction techniques
- basic concepts of algebra, geometry and trigonometry
- industry-accepted methods for error analysis
- legislative, statutory and industry requirements and standards relating to work tasks
- methods for computing three-dimensional (3-D) coordinates and coordinate changes by intersection
- organisational policies and procedures relating to:
  - health and safety relating to survey activities
  - reporting and documentation
  - using specialised surveying equipment, attachments and instruments
- standard plan design and presentation conventions
- surveying methods used to detect horizontal and vertical movement of structures.

## Assessment Conditions

The following must be present and available to learners during assessment activities:

- equipment:
  - PPE
  - specialised surveying equipment, attachments and instruments selected from those listed in the performance evidence
  - remote measuring system selected from those listed in the performance evidence
- specifications:
  - survey specifications, including relevant plans and drawings
  - organisational policies, procedures and documentation relating to work health and safety
- relationships with team members and supervisor:
  - working in a team.

Timeframe:

- as specified by project requirements.

## Assessor requirements

As a minimum, assessors must satisfy the assessor requirements in the Standards for Registered Training Organisations (RTOs) current at the time of assessment.

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>