

**Draft 0.2**

This is a draft update to CPPSIS6036 Monitor engineering structures:  
<https://training.gov.au/Training/Details/PPSIS6036>.

Code changed to CPPSSI6036.

Changed PCs to active voice.

PCs edited for clarity. Some reworded.

PC 3.2 removed

PC 4.1 removed

Changed 'person' to 'candidate' in PE for consistency.

Range of Conditions added to Knowledge Evidence.

## Unit of Competency

### CPPSI6036 Monitor engineering structures

#### Modification history

Release	Comments
1	<del>Replaces superseded equivalent CPPSI6036A Monitor complex engineering surveying structures.</del> <del>This version first released with CPP Property Services Training Package Version 3.</del>
	Replaces superseded equivalent CPPSI6036 Monitor engineering structures

#### Application

This unit specifies the skills and knowledge required to monitor engineering structures using surveying methods. The unit covers analysing project specifications and design information to identify components to be measured and monitored, and planning monitoring activities. The unit also covers implementing project management mechanisms, including risk management, and reviewing work outcomes against specifications. It covers setting up and using surveying equipment to measure, record and reduce surveying data using spatial coordinate and reference systems. The unit includes validating the accuracy of data and identifying and resolving discrepancies and non-conformities between specifications and activities.

This unit is suitable for surveyors operating at this level who will use broad theoretical and technical knowledge to analyse information as well as interpret and transmit solutions to unpredictable and sometimes complex surveying/spatial information problems. The unit supports those who work in a technical management role in a surveying team.

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 Licensing, legislative, regulatory or certification requirements apply to this unit in some states where mining surveying must be undertaken under the supervision of a registered surveyor. Relevant state and territory regulatory authorities should be consulted to confirm those requirements.

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 to monitor engineering structure.	1.1 Interpret project specifications and engineering design information to identify components to be measured, and accuracy and precision tolerances to be applied in consultation with appropriate persons.
--	--

	<p>1.2 Identify site hazards and risks and implement measures to control according to legal and statutory requirements for working safely.</p> <p>1.3 Identify any special equipment and resource requirements according to project specifications and operating environment.</p> <p>1.4 Select and check data collection equipment is functioning correctly.</p> <p>1.5 Designate organisation of project resources, equipment, materials and transport to appropriate persons.</p>
2. Develop project plan to monitor engineering structure.	<p>2.1 Document project deliverables, principal work activities, resources required and any constraints according to project specifications.</p> <p>2.2 Document hazards and risks and methods to control in project plan.</p> <p>2.3 Specify validation processes to verify integrity of required spatial data in project plan.</p> <p>2.4 Allocate work responsibilities and implement supervisory processes, checks and measures.</p>
3. Implement monitoring tasks.	<p>3.1 Control hazards and manage risks associated with monitoring activities to comply with legal and statutory requirements.</p> <p>3.2 Apply industry-accepted standards for using surveying equipment and performing surveying measurements and computations.</p> <p>3.3 Reduce measured spatial data to project spatial reference system for comparison with design.</p> <p>3.4 Validate, record and process measurements according to industry-accepted standards.</p> <p>3.5 Identify and resolve non-conformities between engineering structure and project specifications and manage contingencies according to enterprise requirements.</p>
4. Finalise and report monitoring results.	<p>4.1 Compile monitoring results and review against project specifications.</p> <p>4.2 Report findings to appropriate persons according to enterprise requirements.</p> <p>4.3 Complete documentation and store spatial data according to enterprise 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 CPPSIS6036 Monitor engineering structures

### 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 CPPSSI6036 Monitor engineering structures

### Modification history

Release	Comments
1	<del>Replaces superseded equivalent CPPSIS6036A Monitor complex engineering surveying structures. This version first released with CPP Property Services Training Package Version 3.</del>
	Replaces superseded equivalent CPPSIS6036 Monitor engineering structures

### Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by monitoring engineering structures for two projects.

For each project, the candidate must conduct measurements and calculations to meet engineering specifications using three of the following pieces of equipment:

- current meter
- global navigation satellite system (GNSS)
- level
- tape
- theodolite
- Total Station.

### Knowledge Evidence

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

- reference and coordinate systems for surveying data, including Australian Height Datum and Map Grid of Australia
- project zone design
- graphical and technical information in engineering plans
- accuracy and precision requirements and tolerances for engineering structures
- data formatting, processing and reduction techniques
- industry-accepted standards and methods for validating data to identify errors and discrepancies
- legislative, statutory and industry standards relating to monitoring engineering structures
- health and safety relating to survey activities and work on construction sites
- processes to establish and use high-level survey control
- use and application of network and traverse adjustments
- methods for calculating surveying data and verifying its accuracy using spatial reference systems
- methods for connecting equipment to coordinate systems
- methods for setting up, levelling and calibrating surveying equipment
- methods for identifying and reporting non-conformities.

### Assessment Conditions

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

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to:

- equipment for monitoring engineering structures
- survey specifications, including relevant engineering plans and drawings.

### 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>