

Draft 0.2

This is a draft update to CPPSIS4040 Collect spatial data using terrestrial technologies:

<https://training.gov.au/Training/Details/CPPSIS4040>.

Code changed to CPPSSI4040 and changed title to Collect spatial data using a Total Station as it is the only terrestrial technology mentioned.

Changed PCs to active voice.

PCs 1.4 and 1.5 have information added from Foundation Skills

PCs 2.2, has information added from Foundation Skills and Performance Evidence

PCs 2.4 and 2.5 have information added from Performance Evidence

PC 3.1 has information added from Performance Evidence

Changed 'person' to 'candidate' in PE.

Range of Conditions added to Knowledge Evidence.

Unit of Competency

CPPSI4040 Collect spatial data using a Total Station

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1	Replaces superseded non-equivalent CPPSIS4029A Collect and set out basic surveying data.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	Replaces superseded equivalent CPPSIS4040 Collect spatial data using terrestrial technologies

Application

This unit specifies the skills and knowledge required to collect spatial data using a Total Station. It involves identifying control marks, equipment set-up and operation as well as data validation, correction and adjustments using industry-accepted methods to achieve required accuracy range.

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 spatial data collection.	<ul style="list-style-type: none">1.1 Review project specifications, information and control marks and plan surveying tasks in consultation with appropriate persons.1.2 Check site conditions to identify factors that could impact on operation of equipment.1.3 Identify optimum equipment positions to improve accuracy and precision of measurements.1.4 Comply with legislative and enterprise requirements for workplace safety..
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2. Operate Total Station	2.1 Set up and check equipment according to manufacturer specifications. 2.2 Interpret equipment software menus and configurations and collect required spatial data and related attributes. 2.3 Measure identified survey components and reduce data according to job specifications. 2.4 Perform surveying calculations relating to height, distances, angles, bearings and coordinates 2.5 Measure and calculate basic spatial data based on control marks with known coordinates heights. 2.6 Validate and record legible measurements and computations according to job specifications and data collection plan.
3. Finalise spatial data collection.	3.1 Check and validate accuracy of spatial data by applying industry-accepted standards and procedures. 3.2 Take additional measurements where require and make adjustments to data to correct errors. 3.3 Download data and complete project documentation according to enterprise requirements. 3.4 Store and file data in accordance with enterprise 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 CPPSIS4040 Collect spatial data using terrestrial technologies

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 CPPSSI4040 Collect spatial data using a Total Station

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Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by collecting spatial data using a Total Station for two different tasks selected from:

- min 5 Leg 3D traverse
- resection to min 4 control points
- spot level and detail survey over min 500m² area.
- pick up building outline using reflectorless radiations.

Knowledge Evidence

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

- methods for setting up, levelling and adjusting equipment
- types and function and accuracies of Total Station used in surveying
- methods for calculating spatial data and verifying its accuracy
- mathematical concepts relating to algebra, trigonometry and geometry and their use in calculating basic spatial measurements
- methods for downloading data collected using terrestrial technologies

formats and documentation used for recording spatial data collected using Total Station.

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
- job specifications and plans
- enterprise policies and procedures relating to:
 - work health and safety
 - recording and storing spatial data.

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