



Australian Government

CPPSSI5061 Survey subsurface utility information

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 CPPSIS5061 Locate underground services in surveying practice.

Application

This unit specifies the skills and knowledge required to survey subsurface utility information (SUI) in surveying practice. It includes analysing utility plans from asset owners and using specialised locating equipment. The unit also includes applying surveying and computer-aided design (CAD) and drafting skills to define the corresponding surface location of subsurface utilities.

This unit is suitable for skilled surveying technicians who use a broad range of cognitive, technical and communication skills to select and apply methods and technologies to analyse information and provide solutions to sometimes complex surveying/spatial information 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.

Licensing, legislative or certification requirements apply to this unit in some states and territories. This unit may also require adherence to AS 5488 Classification of subsurface utility information. Relevant state and territory regulatory authorities should be consulted to confirm these and any additional requirements.

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 Plan for locating and surveying processes. | 1.1 Confirm project objectives, geographical location and timeframes with client. |
| | 1.2 Prepare information to submit a Dial Before You Dig (DBYD) enquiry to obtain utility plans from asset owners. |
| | 1.3 Review asset plans and gather site information to plan work and to identify hazards and assess risks associated with the activity according to WHS legislative and regulatory requirements. |
| | 1.4 Develop a safety plan to control hazards and risks following relevant legislative and regulatory requirements, Australian Standards and workplace policies and procedures. |
| | 1.5 Schedule work to meet asset owner and organisational requirements. |
| | 1.6 Select and check calibration of surveying equipment required for work activity according to manufacturer specifications. |
| 2 Carry out locating and surveying tasks. | 2.1 Apply relevant WHS legislation and regulations, and industry codes when locating and working near existing underground utilities. |
| | 2.2 Identify utility access points and use appropriate instruments and equipment to locate underground utilities. |
| | 2.3 Measure and mark required components according to relevant Australian Standards and project specifications. |
| | 2.4 Use surveying equipment to survey the identified positions of underground utilities and connect to spatial reference systems. |
| | 2.5 Perform surveying calculations and reduce measured spatial data to project reference system. |

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| | 2.6 | Validate and record measurements according to relevant Australian Standards, project specifications and organisational requirements. |
| 3 | Document results of locating and surveying field work. | |
| | 3.1 | Output and analyse data using surveying/computer-aided design (CAD) software to verify quality and accuracy to meet project and organisational requirements. |
| | 3.2 | Prepare report and notify appropriate persons of results according to organisational requirements. |
| | 3.3 | Complete documentation and archive spatial data according to organisational 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 CPPSIS5061 Locate underground services in surveying practice.

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 CPPSSI5061 Survey subsurface utility information

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Performance Evidence

To demonstrate competency a candidate must meet the elements and performance criteria of this unit by locating and surveying at least two subsurface utilities for each of two different projects. For each project, the candidate must use:

- one of the following pieces of locating equipment:
 - electromagnetic locating equipment
 - ground penetrating radar (GPR)
- one of the following pieces of surveying equipment:
 - global navigation satellite system (GNSS)
 - total station.

Knowledge Evidence

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

- types of underground assets/utilities
- the format, layout and content of service plans obtained from Dial Before You Dig (DBYD)
- methods used for locating underground utilities
- purpose and operation of equipment used for locating underground utilities
- relevant sections of AS 5488 Classification of subsurface utility information
- accuracy and precision requirements for locating underground services
- key features of reference systems for surveying data
- industry-accepted standards for the presentation of the surveyed results on plan and in reports.

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:

- surveying and locating equipment
- personal protective equipment (PPE)
- survey specifications, including relevant plans and drawings.

Links

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