



**Australian Government**

# **CPPSIS5051A Apply land and planning law to surveying**

**Release 1**

# **CPPSIS5051A Apply land and planning law to surveying**

## **Modification History**

Unit revised and not equivalent to CPPSIS5021A Apply land and planning law to surveying  
Element structure, performance criteria, and critical aspects reviewed to reflect workplace requirements  
Skills and knowledge requirements and the range statement updated

## **Unit Descriptor**

This unit of competency specifies the outcomes required to assist surveyors to mark out urban structures and to identify urban lots and the improvements thereon. It requires the ability to determine land and planning law, collect and write specifications for appropriate documentation, and compile a plan to an approving authority suitable to accompany a development application. Functions would be carried out within organisational guidelines.

## **Application of the Unit**

This unit of competency supports the application of self-management, technical writing and communication (verbal and written) skills, the understanding of technology, and interpreting legal requirements. The skills and knowledge acquired upon completion of this unit would apply to the needs of employees in supporting positions for town planning, surveying and mapping.

## **Licensing/Regulatory Information**

Legislative and regulatory requirements may impact on this unit. Incorporate these requirements according to local, state, territory and federal legislation and regulations.

## **Pre-Requisites**

Nil

## **Employability Skills Information**

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

- |   |                                                                                    |     |                                                                                                                                                                                               |
|---|------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Determine azimuth for identification and re-mark surveys.                          | 1.1 | Accurate research and action are undertaken in priority order to obtain required <b><i>information</i></b> .                                                                                  |
|   |                                                                                    | 1.2 | Survey marks are located as indicated on the <b><i>survey plan</i></b> .                                                                                                                      |
|   |                                                                                    | 1.3 | Position of a parcel of land corners is established from survey marks found.                                                                                                                  |
|   |                                                                                    | 1.4 | A right on boundary or parallel <b><i>azimuth</i></b> is established.                                                                                                                         |
|   |                                                                                    | 1.5 | <b><i>Monumented and non-monumented occupations</i></b> are used to establish an azimuth parallel to a street boundary.                                                                       |
|   |                                                                                    | 1.6 | An assumed azimuth is adopted to enable completion of the field survey, and subsequent calculations and adjustments to swing onto the azimuth are made.                                       |
|   |                                                                                    | 1.7 | An azimuth derived from marks at opposite extremities of the survey is calculated.                                                                                                            |
|   |                                                                                    | 1.8 | Relationship between alignment marks, kerb lines, kerb as laid and occupations is interpreted when an azimuth is fixed using alignment marks, occupations and kerbs shown in alignment plans. |
| 2 | Undertake a mark-out survey and fix front and rear corners, angles and line marks. | 2.1 | An azimuth is established by direct or indirect means and the front corners of an allotment are fixed.                                                                                        |
|   |                                                                                    | 2.2 | A side fix is established for the allotment using occupations, monuments or reference marks.                                                                                                  |
|   |                                                                                    | 2.3 | <b><i>Direct methods</i></b> are used to establish the positions of the rear corners.                                                                                                         |

- |   |                                              |     |                                                                                                                                                  |
|---|----------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                              | 2.4 | <b>Traverse</b> and calculations from the street azimuth and side fix are made to set out rear corners by indirect means.                        |
|   |                                              | 2.5 | Need to use line marks on long or obstructed boundaries is identified.                                                                           |
|   |                                              | 2.6 | A suitable checking procedure to validate positioning of all marks placed is undertaken.                                                         |
| 3 | Meet local government building requirements. | 3.1 | Re-mark surveys and local government siting requirements for the issue of a building certificate are met.                                        |
|   |                                              | 3.2 | Relevant survey regulations relating to supervision of surveys, field procedures and survey searching are adhered to.                            |
|   |                                              | 3.3 | Relevant survey regulations relating to accuracy of <b>cadastral surveys</b> , field procedures and survey searching are adhered to.             |
|   |                                              | 3.4 | Field notes are prepared according to <b>OHS</b> and <b>legislative requirements</b> , and <b>organisational guidelines</b> .                    |
|   |                                              | 3.5 | Pertinent <b>legal and statutory</b> standards are considered and adhered to.                                                                    |
| 4 | Calculate an identification survey.          | 4.1 | Position of improvements in relation to the boundaries is calculated using indirect methods (radiations), direct methods or a coordinate system. |
|   |                                              | 4.2 | Position of improvements in relation to the boundaries or set out buildings is calculated using a coordinate system.                             |
| 5 | Prepare a draft survey report.               | 5.1 | A draft survey report is prepared in a clear and concise manner to minimise the need for follow-up action.                                       |
|   |                                              | 5.2 | A sketch is prepared to accompany a survey report according to organisational guidelines.                                                        |
|   |                                              | 5.3 | A draft survey report and accompanying sketch is prepared for a re-mark survey.                                                                  |
|   |                                              | 5.4 | <b>Physical constraints</b> and environmental impacts of the                                                                                     |

development are incorporated into the report.

## Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

### Required skills

- communication skills to:
  - consult effectively with clients and colleagues
  - impart knowledge and ideas through graphic, oral, written and visual means
- computer skills to:
  - complete business documentation
  - conduct web-based searches
- initiative and enterprise skills to:
  - apply road alignment design and associated computations with accuracy and precision
  - translate requirements into design
- literacy skills to:
  - assess and use workplace information
  - read and write key performance reports, including technical reports
  - research and evaluate in order to source surveying and spatial information services (SSIS) educational information
- numeracy skills to:
  - accurately record and collate
  - analyse errors
  - conduct image analysis
  - estimate costs
  - perform mental calculations
  - interpret and analyse statistics
  - undertake complex computations
- organisational skills to plan and prioritise activities to meet contractual requirements
- spatial skills to:
  - exercise precision and accuracy in relation to survey techniques
  - archive and retrieve spatial data
  - manage and manipulate spatial data
  - manage files

**Required knowledge**

- data formats
- OHS guidelines
- organisational policies and guidelines
- planning and control processes
- possible community issues and repercussions with regard to building permits
- safe work practices
- surveying computation skills
- surveying reference systems
- surveying data capture and data set out methodologies
- understanding of errors, accuracy and precision relating to surveying data

## Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Overview of assessment</b>                                                                       | This unit of competency could be assessed on its own or in combination with other units relevant to the job function, for example CPPSIS5044A Develop a subdivision survey design for local government approval.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b> | <p>A person who demonstrates competency in this unit must be able to provide evidence of:</p> <ul style="list-style-type: none"><li>• applying mark-out survey processes</li><li>• meeting local government building requirements</li><li>• matching objectives with resources</li><li>• preparing a draft survey report</li><li>• recording non-conformity aspects and outcomes</li><li>• knowledge of surveying as it applies to planning law.</li></ul>                                                                                                                                                                                                                       |
| <b>Specific resources for assessment</b>                                                            | <p>Resource implications for assessment include access to:</p> <ul style="list-style-type: none"><li>• assessment instruments, including personal planner and assessment record book</li><li>• assignment instructions, work plans and schedules, policy documents and duty statements</li><li>• registered training provider of assessment services</li><li>• relevant guidelines, regulations and codes of practice</li><li>• suitable venue and equipment.</li></ul> <p>Access must be provided to appropriate learning and assessment support when required.</p> <p>Where applicable, physical resources should include equipment modified for people with disabilities.</p> |
| <b>Context of assessment</b>                                                                        | Holistic: based on the performance criteria, evidence guide, range statement, and required skills and knowledge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Method of assessment</b>                                                                         | <p>Demonstrated over a period of time and observed by the assessor (or assessment team working together to conduct the assessment).</p> <p>Demonstrated competency in a range of situations, that may include customer/workplace interruptions and involvement in related activities normally experienced in the workplace.</p> <p>Obtained by observing activities in the field and reviewing induction information. If this is not practicable, observation in realistic simulated environments may be substituted.</p>                                                                                                                                                        |

**Guidance information for assessment**

Assessment requires that the clients' objectives and industry expectations are met. If the clients' objectives are narrowly defined or not representative of industry needs, it may be necessary to refer to portfolio case studies of a variety of SIS requirements to assess competency.

Oral questioning or written assessment and hypothetical situations (scenarios) may be used to assess underpinning knowledge (in assessment situations where the candidate is offered a preference between oral questioning or written assessment, questions are to be identical).

Supplementary evidence may be obtained from relevant authenticated correspondence from existing supervisors, team leaders or specialist training staff.

All practical demonstration must adhere to the safety and environmental regulations relevant to each State or Territory.

Where assessment is for the purpose of recognition (recognition of current competencies [RCC] or recognition of prior learning [RPL]), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time.

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge.

Assessment processes will be appropriate to the language and literacy levels of the candidate and any cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

**Range Statement**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

***Information*** may include:

- boundary dimensions
- design information:
  - digital
  - hard copy plans
  - maps

- written instructions
- instruction
- land title
- topographic features.

- Survey plan** may include:
- alteration of the following:
    - existing services
    - existing utility services
    - typical utility service allocations
  - design engineering criteria requirements for the following:
    - crossfalls
    - cul de sacs
    - cycleways
    - gradients
    - intersections
    - kerb returns
    - road widths
    - theory notes
  - design methods using contours information
  - detail assessment of an approved set of examinations
  - engineering design requirements for the following:
    - lot drainage
    - road pavement drainage
    - location of utility services within the footpath area and to proposed lots
  - preparation of :
    - information to be shown
    - plan types
    - preliminary design plans
  - provision for alteration of existing services for the following:
    - easement requirements
    - public reserve requirements
  - sediment control
  - typical utility service allocations
  - provision for sewerage
  - typical drafting standards for plans.
- Azimuth** refers to:
- a direction expressed as a horizontal angle, usually in degrees and measured clockwise from a reference datum, which determines if the azimuth is a true magnetic or relative.
- Monumented and non-monumented occupations** mean:
- monumented: instruments on reference marks (RMs) or permanent marks (PMs)
  - non-monumented: no instruments on RMs or PMs.

- Direct methods** may include:
- offset
  - parallelograms.
- Traverse** refers to:
- a method of surveying in which lengths and directions of lines between points on the earth are obtained by or from field measurements and are used in determining positions of the points.
- Cadastral survey** refers to:
- a survey of the boundaries of land parcels.
- OHS** may include:
- Australian standards
  - development of site safety plans
  - identification of potential hazards
  - inspection of work sites
  - training staff in OHS requirements
  - use of equipment and signage.
- Legislative requirements** may include:
- Australian standards
  - award and enterprise agreements
  - certification requirements
  - codes of practice
  - national industry standards
  - quality assurance requirements
  - set back requirements.
- Organisational guidelines** may include:
- appropriate timelines
  - code of ethics
  - company policy
  - final product formats
  - formal design parameters
  - legislation relevant to the work or service function
  - manuals
  - OHS policy and procedures
  - personnel practices and guidelines outlining teamwork, work roles, responsibilities and delegations
  - requirements for data processing.
- Legal and statutory** may include:
- aspects of cadastral law
  - common law and old system title
  - community title
  - crown land, alienation and native title
  - local government requirements
  - national standards
  - state statutes and regulations
  - subdivisions and deposited plans (including roads)
  - Torrens title system (indefeasibility and the need for registration), including:

- caveat dealing
  - covenant dealing
  - easement dealing
  - lease dealing
  - mortgage dealing.
- Physical constraints*** may include:
- drainage, including:
    - lot drainage
    - road pavement drainage
    - easements
    - public reserve requirements
    - sediment control
    - sewerage control.

## **Unit Sector(s)**

Surveying and spatial information services

## **Custom Content Section**

Not applicable.