



Australian Government

Department of Education, Employment and Workplace Relations

RIICTB203A Produce drawings and sketches

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the production of drawings and sketches in the civil construction industry. It includes collating information for drawings, creating simple sketches, orthographic drawings and sectional views, and developing specifications. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:

- Civil construction

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

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

ELEMENT	PERFORMANCE CRITERIA
1. Collate information for drawings	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Obtain and confirm safety requirements from the site safety plan and organisational policies and procedures, and apply to the allotted task 1.3. Identify and adhere to quality requirements of the organisational operations 1.4. Select tools and equipment to carry out tasks consistent with the requirements of the job, check for serviceability and rectify or report any faults 1.5. Select drawing type from a range of drawings to suit job requirements 1.6. Identify key features, site dimensions and orientation, structures, services and features for inclusion in drawings
2. Create simple sketches, orthographic drawings and sectional views	2.1. Select drawing medium to suit job requirements 2.2. Prepare simple two dimensional drawings and sketches using standard drawing conventions 2.3. Prepare simple three dimensional drawings and sketches using standard drawing conventions 2.4. Prepare sectional details of simple structural elements and elevations using standard drawing conventions 2.5. Include common symbols and abbreviations using correct format and conventions 2.6. Prepare title panels to enable verification that drawing used is the latest version
3. Develop specifications	3.1. Identify purpose of specifications as they relate to bridge drawings 3.2. Identify elements as suitable for use in specifications 3.3. Draft specification for a bridge project using correct format and conventions

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following, as required to produce drawings and sketches:

- apply legislative, organisation and site requirements and procedures for producing drawings and sketches
- organise work activities
- select and use relevant tools and equipment safely
- identify and report on hazards related to the worksite and work activity
- communicate effectively to receive and clarify work instructions

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following, as required to produce drawings and sketches:

- site and equipment safety requirements
- timber bridge durability treatment procedures and techniques
- scaffolding
- preservatives and protective coatings
- termite barriers
- waterproofing
- timber deterioration
- bridge foundations
- bridge heritage
- equipment types, characteristics, technical capabilities and limitations
- processes for the calculation of material requirements
- operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- materials safety data sheets and materials handling methods
- quality assurance systems and standards
- JSAs/safe work method statements

Evidence Guide

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

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for producing drawings and sketches • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of drawings and sketches • working with others to undertake and complete the production of drawings and sketches that meets all of the required outcomes • consistent timely completion of drawing and sketches that safely, effectively and efficiently meets the required outcomes • production of at least two sketches, one orthographic drawing and one sectional view drawing, one elevation, plan and end view for a minimum of three projects in compliance with standard drawing conventions
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • The assessment environment should not

	disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Where applicable, physical resources should include equipment modified for people with disabilities. Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistent achievement of required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete the production of drawings and sketches
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

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, if used in the performance criteria, is detailed below. 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) may also be included.

Relevant compliance documentation may include:	• legislative, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Safety requirements may include:	• OHS requirements are to be in accordance with state or territory legislation and regulations and may include protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances • personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices
Drawings may include:	• sketches • orthographic drawings and sectional view drawings • site plans • bridge plans • cross sectional plans/elevations • plan views • perspective views • isometric views • longitudinal plans • structural detail and specification providing illustrations and dimensions and project plans • specifications • illustrations • dimensions • notes

Key features may include:	• shape of site • proposed structure(s) • roads • easements • existing structures • services • dimensions • types of structure • shape of structure • type of construction • layout • service requirements • location of plant and machinery • vertical and horizontal measurements
Orientation may include:	• relationship to the north compass point • location of roads • relationship to neighbouring properties
Services may include:	• drainage • sewerage • gas • telephone and cable • water • electricity
Drawing medium may include:	• pencil • pen and ink • computer aided drafting • graph paper • cartridge paper • tracing paper
Specifications may include:	• details relating to materials and quality of work • quality assurance • nominated sub-contractors • provision of site access/facilities • details relating to performance including standards of work, tolerances, material types, characteristics, treatments and finishes

Unit Sector(s)

Timber Bridge Construction and Maintenance

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.