



Australian Government

Department of Education, Employment and Workplace Relations

RIICRC310A Construct and maintain roads

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the construction and maintenance of roads in the civil construction industry. It includes preparing for road construction and maintenance, constructing roads, and maintaining roads. 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. Prepare for road construction and maintenance	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Identify and apply relevant drawings and job specifications to all work activities 1.3. Receive, interpret and clarify shift changeover details 1.4. Locate ancillary services and mark services out before work commences 1.5. Select tools and equipment to carry out tasks consistent with the requirements of the job, check for serviceability and rectify or report any faults 1.6. Obtain and confirm safety requirements from the site safety plan and organisational policies and procedures, and apply to the allotted task 1.7. Conduct equipment pre-start checks to ensure equipment is ready for operation 1.8. Identify environmental protection requirements from the project environmental management plan, and confirm and apply to the allotted task 1.9. Communicate with other personnel using approved communication methods
2. Construct roads	2.1. Conform to specified road construction characteristics and location 2.2. Peg road detailing direction and shape 2.3. Prepare road sub-base so that road material can be applied to meet planned road characteristics 2.4. Construct road surface to achieve required traction, manoeuvrability and stable haul surface for all vehicles and personnel 2.5. Erect and construct road signage and safety barriers to avoid damage to equipment, avoid injury to personnel, protect surrounding vegetated areas and delineated roadways 2.6. Construct drains and water crossing points to aid the removal of run-off, avoid accumulation of excessive water, and

	minimise road and environmental damage
3. Maintain roads	3.1. Assess road conditions regularly for compliance with road design characteristics 3.2. Maintain condition of roads in relation to volume of traffic and future requirements 3.3. Identify, repair and/or report damage to road to appropriate authorities 3.4. Maintain effective drainage for the removal of excess water and ensure safe operating surface 3.5. Monitor, redesign and remake areas subject to excessive wear and tear to meet design characteristics 3.6. Maintain the road surface utilising approved dust suppressants

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 construct and maintain roads:

- apply dumping techniques
- apply diagnostic techniques
- apply driving techniques
- apply hazardous goods handling techniques
- interpret plans, reports, maps, specifications
- apply lifting techniques (manual, cranes and loads)
- report defects
- apply safe work practices
- work in a team
- use communications equipment
- use hand and power tools
- organise work activities

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 construct and maintain roads:

- construction pegging
- drainage construction methods
- dumping procedures
- emergency procedures
- environmental and heritage procedures
- equipment processes, technical capability and limitations
- equipment safety requirements
- geological and technical data
- hauling procedures
- hazardous goods procedures and consequences of spills
- isolation procedures
- material placement procedures
- mine operational system
- night and day working procedures
- OHS procedures

- open cut procedures
- operational procedures and checks
- road construction methods/road rules
- shutdown procedures
- site procedures
- site safety requirements
- start-up procedures
- towing procedures

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 constructing and maintaining roads • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of road construction and maintenance • working with others to undertake and complete the construction and maintenance of roads in a way that meets all of the required outcomes • consistent timely completion of road construction and maintenance that safely, effectively and efficiently meets the required outcomes
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 construction and maintenance of roads
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 in accordance with state or territory legislation and regulations, organisational safety policies and procedures, and project safety plan, including 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 • safe operating procedures including recognising and preventing hazards associated with high voltage power lines, uneven/unstable terrain, trees, overhead service lines, bridges, surrounding buildings, obstructions, structures, facilities, dangerous materials, recently filled trenches, other machines, personnel, traffic control, working at heights, working in proximity to others, worksite visitors and the public • safe parking practices including ensuring access ways are clear, equipment/machinery is away from overhangs and refuelling sites, safe distances are kept from excavations, and areas secured from unauthorised access or movement • recognising hazards and risks including abandoned equipment, adjoining pit walls, adverse weather conditions (electrical storms, floods, fires), chemicals, contaminants,

	equipment, fences, holes, materials, over-hanging rocks, personnel, pot holes, unsafe ground, unstable faces, vehicles • emergency procedures related to equipment operation including emergency shutdown and stopping, extinguishing equipment fires, organisational First Aid requirements and evacuation
Environmental issues may include:	• culturally-sensitive sites and artefacts • drainage • dust • emissions • flora and fauna • hazardous chemicals • heritage legislation • noise • runoff • spills • water quality
Road characteristics may include:	• berms • bunds • camber • curves • drainage • drainage • gradient • surface material • width
Road signage may include:	• danger warnings • safety warnings • speed
Drains may include:	• berm • flora coverage (grasses, small bushes) • netting • ponding • straw baling • t pieces
Traffic may include variations in:	• frequency • loadings • types of vehicles

Unit Sector(s)

Road and Pavements Construction and Maintenance (General)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.