



Australian Government

Department of Education, Employment and Workplace Relations

RIICBS208A Conduct road maintenance operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the conduct of road maintenance operations in the civil construction industry. It includes planning and preparing, setting up road maintenance unit, repairing damaged surfaces, carrying out operator maintenance, and cleaning up. 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 assistant 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

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	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, obtain and implement signage requirements from the project traffic management plan 1.4. Select plant, 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. Identify environmental protection requirements from the project environmental management plan, and confirm and apply to the allotted task
2. Set up road maintenance unit	2.1. Prepare for road maintenance operations 2.2. Carry out pre-operational checks for road maintenance unit 2.3. Check operating components of the truck for serviceability 2.4. Check tank for prevention of contamination 2.5. Fill tank with the required materials to perform repair operations 2.6. Determine standard mix of emulsion and/or type of asphalt ready for application
3. Repair damaged surfaces	3.1. Carry out start-up, park and shutdown procedures 3.2. Position truck forward of the damaged areas to be repaired 3.3. Clean area to be repaired free of dust and debris 3.4. Select equipment as appropriate to the defective area requiring repair 3.5. Prepare defective area for resurfacing or filling 3.6. Complete resurfacing or filling of the damaged area 3.7. Finish repaired surface ready for use

	<p>3.8. Measure, calculate and <i>record</i> material quantities and additives for each site</p> <p>3.9. Conduct, control and monitor repairing operations to ensure that materials are placed to specification</p>
4. Carry out operator maintenance	<p>4.1. Conduct fault finding inspections in accordance with manufacturer's specifications and organisational requirements</p> <p>4.2. Maintain equipment and the asphalt storage hopper in good working order</p> <p>4.3. Carry out routine operational servicing and lubrication tasks to manufacturer's and organisational requirements</p> <p>4.4. Maintain equipment condition reports and records</p>
5. Clean up	<p>5.1. Clear work area and dispose of or recycle materials in accordance with project environmental management plan</p> <p>5.2. Clean, check, maintain and store plant, tools and equipment</p>

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 conduct road maintenance operations:

- apply legislative, organisation and site requirements and procedures for conducting road maintenance operations
- 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 conduct road maintenance operations:

- site and equipment safety requirements
- bitumen/asphalt repair procedures
- bituminous materials and their characteristics
- pavement defects
- bituminous surfacing operations
- processes for heating bitumen
- equipment types, characteristics, technical capabilities and limitations
- operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- processes for the calculation of material requirements, application rates and travel speed
- materials safety data sheets and materials handling methods
- project quality requirements
- civil construction terminology
- 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	<p>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:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for conducting road maintenance operations • implementation of requirements, procedures and techniques for the safe, effective and efficient conduct of road maintenance operations • working with others to undertake and complete the conduct of road maintenance operations that meets all of the required outcomes • consistent timely completion of road maintenance operations that safely, effectively and efficiently meets the required outcomes • completion of road maintenance operations for a minimum of 50m² of road surface defects by loading and mixing the specified materials, applying all of the road maintenance unit equipment and repairing the damaged areas to specification • completion of all records of repair work undertaken and materials used for each site
Context of and specific resources for assessment	<ul style="list-style-type: none"> • 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

	<p>infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances.</p> <ul style="list-style-type: none"> • 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.
<p>Method of assessment</p>	<p>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:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • working with others to undertake and complete the conduct of road maintenance operations
<p>Guidance information for assessment</p>	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>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.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • 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
<p>Safety requirements may include:</p>	<ul style="list-style-type: none"> • 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 parking practices including ensuring access ways are clear, equipment/machinery is away from overhangs and refuelling sites, safe distance are kept from excavations, and areas secured from unauthorised access or movement • safe operating procedures including recognising and preventing hazards associated with uneven/unstable terrain, trees, pits, poles, trip hazards, dirt mounds, overhead service lines, bridges, surrounding buildings, obstructions, structures, facilities, dangerous materials, recently filled trenches, other machines, personnel, traffic control, working in proximity to others, worksite visitors and the public • recognising hazards and risks including uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials • emergency procedures related to equipment

	operation including emergency shutdown and stopping, extinguishing equipment fires, organisational First Aid requirements and evacuation
Signage may include:	<ul style="list-style-type: none"> • escort vehicle • highway traffic signs • site safety signage • temporary signage for the benefit of motorists and pedestrians • traffic conditions signage
Traffic conditions may include:	<ul style="list-style-type: none"> • congested urban environments • low traffic rural areas • off-road un-trafficked areas • buildings • parking sites • pedestrian areas
Tools and equipment may include:	<ul style="list-style-type: none"> • road maintenance unit (truck) and all of its attachments • hoses • watering cans • hand lances • rakes • shovels • vibrating plates • jack hammers • brooms
Environmental protection requirements may include:	<ul style="list-style-type: none"> • organisational/project environmental management plan • waste management • water quality protection • noise • vibration • dust and clean-up management
Road maintenance operations may include:	<ul style="list-style-type: none"> • loading and unloading materials • cleaning damaged areas • digging out and replacing asphalt or bitumen surfaces • hand spreading asphalt • hand screeding • jack hammering • edge preparation ready for replacement surface • hand lancing emulsion

	<ul style="list-style-type: none"> • compacting with a vibrating plate • cleaning the truck sticking surfaces with distillate
Road maintenance unit refers to:	<ul style="list-style-type: none"> • a purpose built truck fitted with a hopper, conveyor belt, tank, spreader, tools and equipment for the repair of pavement defects, set up to carry bitumen emulsion, cutback bitumen, aggregate, cold mix, asphalt, granular pavement material, tools and equipment required to prepare, fill, level and compact pavement defects
Materials may include:	<ul style="list-style-type: none"> • bitumen emulsions • asphalts • aggregates • water • cleaning agents
Damaged areas may include:	<ul style="list-style-type: none"> • pot holes • uneven, stripped or worn small areas requiring resurfacing • sunken trenches • kerb and channel joints • cracks • other minor defects
Surface may include:	<ul style="list-style-type: none"> • spray sealed road • asphaltic concrete pavement
Record may include:	<ul style="list-style-type: none"> • necessary calculations for quantities, rates of application achieved • a repair record for each site

Unit Sector(s)

Bituminous Surfacing

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.