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## BCCPO3001C

### Unit Descriptor

## Conduct backhoe/loader operations

This unit specifies the competency required to conduct civil construction backhoe/loader operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the backhoe/loader for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

#### 2 Conduct machine pre-operational checks

Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements

Machine controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |                                    |   |
|---|------------------------------------|---|
| 3 | Operate backhoe/loader             | 3.1 Site hazards associated with backhoe/loader operations are identified and safe operating techniques are used to minimise risk   |
|   |                                    | 3.2 Operating techniques for backhoe/loader are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |                                    | 3.3 Machine is operated to work instructions in accordance with company operating procedures  |
| 4 | Lift, carry and place materials    | 4.1 Communication practices associated with transportation and lifting of materials are conducted in accordance with work site specific practices, procedures and confirmed between parties   |
|   |                                    | 4.2 Slings and lifting gear are selected and attached in accordance with safe working load requirements identified in State or Territory OH&S legislation                                     |
|   |                                    | 4.3 Weight of load is established   |
|   |                                    | 4.4 Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications   |
|   |                                    | 4.5 Load is shifted safely and effectively in accordance with industry safety standards and manufacturers' specifications   |
|   |                                    | 4.6 Load is moved in accordance with conventional hand and audible signals that meet State or Territory OH&S legislation or work site specific practices and procedures                       |
| 5 | Select, remove and fit attachments | 5.1 Attachment is selected for the task   |
|   |                                    | 5.2 Attachment is removed and fitted according to manufacturers' manual and site requirements   |
|   |                                    | 5.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual  |
|   |                                    | 5.4 Attachment is used in accordance with manufacturers' recommendations and design limits  |
|   |                                    | 5.5 Removed attachments are cleaned and stored in designated location   |

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- |   |  |   |
|---|--|---|
| 6 | Relocate the backhoe/loader            | 6.1 Backhoe/loader is moved safely between work sites, observing relevant codes and traffic management requirements   |
|   |  | 6.2 Backhoe/loader is prepared for relocation in accordance with the manufacturers' specification   |
| 7 | Carry out machine operator maintenance | <p>Machine is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements</p> <p>Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements</p> <p>Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements</p> <p>Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements</p> |
| 8 | Clean up                               | <p>8.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan</p> <p>8.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices</p>  |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A backhoe/loader is a self-propelled wheeled machine with a main structural support designed to carry both a front-mounted bucket loading mechanism and a rear-mounted backhoe
- Backhoe/loader tasks are to include mixing materials, stripping/spreading topsoils and materials, trench excavation, backfilling, lifting and carrying materials, loading dump trucks, wagons, hoppers, chutes and cutting/boxing
- Backhoe/loader tasks may include scrub clearing, ripping, compacting, cutting, batters and benches, rock breaking, demolition and any activities associated with the attachments listed
- Backhoe/loader attachments may include but not be limited to extending devices, tilt bucket, buckets, compaction wheel, ripper, plate compactor, rock breaker, auger, broom, mower/slasher, forklift, 4 in 1 bucket and free/rock grab
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public

<b>Safety (OH&amp;S) (continued)</b>	<ul style="list-style-type: none"><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul>
<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, timber, blended materials, organic materials, typical construction site materials/waste and bituminous mixes</li><li>• Rock types may include metamorphic, igneous and sedimentary</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools and maintenance equipment relevant to the particular machine and may include lifting equipment</li></ul>

**Communications**

- Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task
- On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS), diagrams or sketches and graphics
- Safe work procedures related to the operation of backhoe/loaders on construction sites
- Regulatory/legislative requirements pertaining to backhoe/loader operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards



## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of backhoe/loader operations are to be performed in a minimum of two different soil types and are to include the mandatory tasks of:
  - mixing materials
  - stripping/spreading topsoils and materials
  - trench excavation
  - backfilling
  - lifting and carrying materials
  - loading dump trucks, wagons, hoppers, chutes
  - cutting/boxing
- The application of emergency procedures
- The fitting and removal of at least one attachment
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Backhoe/loader types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Techniques for calculating safe working loads
  - Backhoe/loader techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational backhoe/loader with appropriate tools and equipment, including lifting equipment
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the backhoe/loader equipment
  - specifications and work instructions

**... End ...**



**BCCPO3002B****Conduct dozer operations****Unit Descriptor**

This unit specifies the competency required to conduct civil construction dozer operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the dozer for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**2 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Dozer controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |    |  |   |
|----|--|---|
| 3  | Operate dozer                          | <p>3.1 Site hazards associated with dozer operations are identified and safe operating techniques are used to minimise risk</p> <p>3.2 Operating techniques for dozer are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances</p> <p>3.3 Dozer is operated to work instructions in accordance with company operating procedures</p>   |
| a. | Select, remove and fit attachments     | <p>4.1 Attachment is selected for the task</p> <p>4.2 Attachment is removed and fitted according to manufacturers' manual and site requirements</p> <p>4.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual</p> <p>4.4 Attachment is used in accordance with manufacturers' recommendations and design limits</p> <p>4.5 Removed attachments are cleaned and stored in designated location</p>  |
| 4  | Relocate the dozer                     | <p>5.1 Dozer is moved safely between work sites, observing relevant codes and traffic management requirements</p> <p>5.2 Dozer is prepared for relocation in accordance with the manufacturers' specifications</p>  |
| 5  | Carry out machine operator maintenance | <p>6.1 Dozer is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements</p> <p>6.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements</p> <p>6.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements</p> <p>6.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements</p> |
| 6  | Clean up                               | <p>7.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan</p> <p>7.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices</p>  |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A dozer is a self-propelled tracked or wheeled purpose designed machine with a blade mounted at the front end
- Dozers are to include tracked and may include wheeled
- Dozer tasks are to include stripping/spreading topsoil and materials, cut and fill, battering, stockpiling, bulk excavation, cutting drains, benching and backfilling
- Dozer tasks may include land clearing, track rolling, ripping, push loading, scrapers, towing equipment, working in tandem, winching, boxing, mixing materials and constructing fire breaks
- Attachments may include but not be limited to stick rakes, root rakes, push blade, angle blade, bull blade, power angle tilt blade, rippers, winch, tree pusher, cable plough, stump plough, power control unit and cable drum

- |                                   |  |
|-----------------------------------|--|
| <b>Unit scope (continued)</b>     | <ul style="list-style-type: none"><li>• Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities</li></ul>  |
| <b>Safety (OH&amp;S)</b>          | <ul style="list-style-type: none"><li>• OH&amp;S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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</li><li>• Personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices</li><li>• Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public</li><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul> |
| <b>Environmental Requirements</b> | <ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>  |



<b>Quality Requirements</b>	<ul style="list-style-type: none"> <li>Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li> </ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"> <li>State/Regulatory Authorities may include Federal, State and Local Authorities</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, timber, blended materials, organic materials, typical construction site materials/waste and bituminous mixes</li> <li>Rock types may include metamorphic, igneous and sedimentary</li> </ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"> <li>Tools and equipment are to include hand tools and maintenance equipment relevant to the particular dozer</li> </ul>
<b>Communications</b>	<ul style="list-style-type: none"> <li>Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li> <li>On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li> </ul>
<b>Information</b>	<ul style="list-style-type: none"> <li>Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches</li> <li>Safe work procedures related to the operation of dozers on construction sites</li> <li>Regulatory/legislative requirements pertaining to dozer operations and the environment</li> <li>Manufacturers' specifications and instructions</li> <li>Organisation work specifications and requirements.</li> <li>Instructions issued by authorised organisational or external personnel</li> <li>Relevant Australian Standards</li> </ul>

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of dozer operations are to be performed in a minimum of two different soil types and are to include the mandatory tasks of:
  - stripping/spreading topsoil and materials
  - cut and fill
  - battering
  - stockpiling
  - bulk excavation
  - cutting drains
  - benching and backfilling
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Dozer types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Dozer techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational tracked dozer with appropriate attachment(s)
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the dozer equipment
  - specifications and work instructions

**... End ...**

**BCCPO3003B****Unit Descriptor****Conduct excavator operations**

This unit specifies the competency required to conduct civil construction excavator operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the excavator for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**2 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Excavator controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |                                    |   |
|---|------------------------------------|---|
| 3 | Operate excavator                  | 3.1 Site hazards associated with excavator operations are identified and safe operating techniques are used to minimise risk  |
|   |                                    | 3.2 Operating techniques for excavator are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances    |
|   |                                    | 3.3 Excavator is operated to work instructions in accordance with company operating procedures  |
| 4 | Lift, carry and place materials    | 4.1 Communication practices associated with transportation and lifting of materials are conducted in accordance with work site specific practices, procedures and confirmed between parties |
|   |                                    | 4.2 Weight of load is established   |
|   |                                    | 4.3 Slings and lifting gear are selected, attached and used in accordance with safe working load requirements as identified in State or Territory OH&S legislation                          |
|   |                                    | 4.4 Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications   |
|   |                                    | 4.5 Load is shifted safely and effectively in accordance with industry safety standards and manufacturers' specifications   |
|   |                                    | 4.6 Load is moved in accordance with conventional hand and audible signals that meet State or Territory OH&S legislation on work site specific practices and procedures                     |
| 5 | Select, remove and fit attachments | 5.1 Attachment is selected for the task   |
|   |                                    | 5.2 Attachment is removed and fitted according to manufacturers' manual and site requirements   |
|   |                                    | 5.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual  |
|   |                                    | 5.4 Attachment is used in accordance with manufacturers recommendations and design limits   |
|   |                                    | 5.5 Removed attachments are cleaned and stored in designated location   |
| 6 | Relocate the excavator             | 6.1 Excavator is moved safely between work sites, observing relevant codes and traffic management requirements  |
|   |                                    | 6.2 Excavator is prepared for relocation in accordance with the manufacturers' specifications   |

- |   |  |   |
|---|--|---|
| 7 | Carry out machine operator maintenance | <p>7.1 Machine is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements</p> <p>7.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements</p> <p>7.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements</p> <p>7.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements</p> |
| 8 | Clean up                               | <p>8.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan</p> <p>8.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices</p>  |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- An excavator is a self-propelled crawler or wheeled machine with an upper structure capable of a minimum of 360 degree rotation which excavates, elevates, swings and discharges material by the action of a bucket fitted to the boom and arm or telescoping boom, without moving the chassis or undercarriage during any part of the working cycle of the machine
- Excavators in this unit are to include tracked and may include wheeled
- Excavator tasks are to include loading, bulk excavation, backfilling, trench excavation, stockpiling, battering and benching
- Excavator tasks may include compacting materials, demolition, rock breaking, removal of trees and ripping, lifting materials, cutting/boxing, laying pipes, cut and fill, mixing materials, stripping/spreading topsoil and materials

**Unit scope (continued)**

- Attachments may include ripper/tyne, auger, tilt bucket, rock breaker, buckets, lifting device, vibrating compaction plate and compaction wheel
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

**Safety (OH&S)**

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

**Environmental Requirements**

- Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management



<b>Quality Requirements</b>	<ul style="list-style-type: none"> <li>Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li> </ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"> <li>State/Regulatory Authorities may include Federal, State and Local Authorities</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, timber, blended materials, organic materials, typical construction site materials/waste and bituminous mixes</li> <li>Rock types may include metamorphic, igneous and sedimentary</li> </ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"> <li>Tools and equipment are to include hand tools and maintenance equipment relevant to the particular machine and may include lifting equipment</li> </ul>
<b>Communications</b>	<ul style="list-style-type: none"> <li>Communications are to include but not limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li> <li>On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li> </ul>
<b>Information</b>	<ul style="list-style-type: none"> <li>Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches</li> <li>Safe work procedures related to the operation of excavators on construction sites</li> <li>Regulatory/legislative requirements pertaining to excavator operations and the environment</li> <li>Manufacturers' specifications and instructions</li> <li>Organisation work specifications and requirements.</li> <li>Instructions issued by authorised organisational or external personnel</li> <li>Relevant Australian Standards</li> </ul>

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of excavator operations are to be performed in a minimum of two different soil types and are to include the mandatory tasks of loading, bulk excavation, backfilling, trench excavation, stockpiling, battering and benching
- The application of emergency procedures
- The fitting and removal of at least two attachments
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Excavator types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Techniques for calculating safe working loads
  - Excavator and attachment operating techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply

- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
- Assessment may be in conjunction with assessment of other units of competency, including those listed above
- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational excavator with appropriate attachment(s) and lifting equipment
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the excavator equipment
  - specifications and work instructions.

**Specific resource  
requirements for this unit**

**... End ...**

**BCCPO3004B****Conduct wheeled front end loader operations****Unit Descriptor**

This unit specifies the competency required to conduct civil construction front end loader operations. It includes the minimum criteria for competency assessment

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the front end loader for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**2 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Front end loader controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |   |  |
|---|---|--|
| 3 | Operate front end loader                        | <ul style="list-style-type: none"><li>a. Site hazards associated with front end loader operations are identified and safe operating techniques are used to minimise risk</li><li>b. Operating techniques for front end loader are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances</li><li>c. Front end loader is operated to work instructions in accordance company operating procedures</li></ul>  |
| 4 | Attach, secure, lift, carry and place materials | <ul style="list-style-type: none"><li>4.1 Communication practices associated with transportation and lifting of materials are conducted in accordance with site specific practices, procedures and continued between parties</li><li>4.2 Weight of load is established</li><li>4.3 Slings and lifting gear are selected, attached and used in accordance with safe working load requirements identified in State or Territory OH&amp;S legislation</li><li>4.4 Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications</li><li>4.5 Load is shifted safely and effectively in accordance with industry safety standards and manufacturers' specifications</li><li>4.6 Load is moved in accordance with conventional hand and audible signals that meet State or Territory OH&amp;S legislation or work site specific practices and procedures</li></ul> |
| 5 | Select, remove and fit attachments              | <ul style="list-style-type: none"><li>5.1 Attachment is selected for the task</li><li>5.2 Attachment is removed and fitted according to manufacturers' manual and site requirements</li><li>5.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual</li><li>5.4 Attachment is used in accordance with manufacturers' recommendations and design limits</li><li>5.5 Removed attachments are cleaned and stored in designated location</li></ul>  |
| 6 | Relocate the front end loader                   | <ul style="list-style-type: none"><li>6.1 Front end loader is moved safely between work sites, observing relevant codes and traffic management requirements</li><li>6.2 Front end loader is prepared for relocation in accordance with the manufacturers' specifications</li></ul>   |

- |   |  |  |
|---|--|--|
| 7 | Carry out machine operator maintenance | 7.1 Front end loader is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements   |
|   |  | 7.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements                       |
|   |  | 7.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements                   |
|   |  | 7.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements                            |
| 8 | Clean up                               | 8.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan                                  |
|   |  | 8.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A front end loader is a self-propelled wheeled machine with an integral front-mounted bucket-supporting structure and linkage with integral quick coupler. It loads or excavates through forward motion of the machine, and lifts, transports and discharges material
- Front end loader tasks are to include mixing materials, stripping/spreading topsoil and materials, loading, cutting/boxing, backfilling, lifting and carrying materials
- Attachments are to include a bucket (general purpose or multi purpose) and may include rippers/scarifiers
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

**Safety (OH&S)**

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

**Environmental Requirements**

- Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management

**Quality Requirements**

- Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction

**Statutory/Regulatory Authorities**

- State/Regulatory Authorities may include Federal, State and Local Authorities



<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials, organic materials, typical construction materials/waste and bituminous mixes</li><li>• Rock types may include metamorphic, igneous and sedimentary</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools, lifting and maintenance equipment relevant to the integrated tool carrier</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>
<b>Information</b>	<ul style="list-style-type: none"><li>• Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches</li><li>• Safe work procedures related to the operation of front end loaders on construction sites</li><li>• Regulatory/legislative requirements pertaining to front end loader operations and the environment</li><li>• Manufacturers' specifications and instructions</li><li>• Organisation work specifications and requirements.</li><li>• Instructions issued by authorised organisational or external personnel</li><li>• Relevant Australian Standards</li></ul>

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of front end loader operations are to be performed in a minimum of two different soil types and are to include the mandatory tasks of mixing materials, stripping/spreading topsoil and materials, loading, cutting/boxing, backfilling, lifting and carrying materials (as per the Range Statement)
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Front end loader types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Techniques for calculating safe working loads
  - Front end loader and attachment operating techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational front end loader with lifting equipment
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the front end loader equipment
  - specifications and work instructions

**... End ...**

**BCCPO3005B****Conduct tracked front end loader operations****Unit Descriptor**

This unit specifies the competency required to conduct civil construction front end loader operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the front end loader for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**2 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Front end loader controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |   |   |
|---|---|---|
| 3 | Operate front end loader                        | 3.1 Site hazards associated with front end loader operations are identified and safe operating techniques are used to minimise risk   |
|   |   | 3.2 Operating techniques for front end loader are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |   | 3.3 Front end loader is operated to work instructions in accordance company operating procedures  |
| 4 | Attach, secure, lift, carry and place materials | 4.2 Communication practices associated with transportation and lifting of materials are conducted in accordance with site specific practices, procedures and continued between parties          |
|   |   | 4.3 Weight of load is established   |
|   |   | 4.4 Slings and lifting gear are selected, attached and used in accordance with safe working load requirements identified in State or Territory OH&S legislation                                 |
|   |   | 4.5 Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications   |
|   |   | 4.6 Load is shifted safely and effectively in accordance with industry safety standards and manufacturers' specifications   |
|   |   | 4.7 Load is moved in accordance with conventional hand and audible signals that meet State or Territory OH&S legislation or work site specific practices and procedures                         |
| 5 | Relocate the front end loader                   | 5.1 Front end loader is moved safely between work sites, observing relevant codes and traffic management requirements   |
|   |   | 5.2 Front end loader is prepared for relocation in accordance with the manufacturers' specifications  |

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- |   |  |  |
|---|--|--|
| 6 | Carry out machine operator maintenance | <ul style="list-style-type: none"><li>6.1 Front end loader is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements</li><li>6.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements</li><li>6.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements</li><li>6.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements</li></ul> |
| 7 | Clean up                               | <ul style="list-style-type: none"><li>7.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan</li><li>7.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices</li></ul>   |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A tracked front end loader is a self-propelled tracked machine with an integral front-mounted bucket-supporting structure and linkage, which loads or excavates through forward motion of the machine, and lifts, transports and discharges material
- Tracked front end loader tasks are to include mixing materials, stripping/spreading topsoil and materials, loading, cutting/boxing, backfilling, lifting and carrying materials
- Tracked front end loader tasks may include scrub clearing and ripping
- Attachments are to include a bucket (general purpose or multi purpose) rippers/scarifiers and claw
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public



<b>Safety (OH&amp;S) (continued)</b>	<ul style="list-style-type: none"><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul>
<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials, organic materials, typical construction materials/waste and bituminous mixes</li><li>• Rock types may include metamorphic, igneous and sedimentary</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools, lifting and maintenance equipment relevant to the particular tracked loader</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of tracked front end loaders on construction sites
- Regulatory/legislative requirements pertaining to tracked front end loader operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

**Evidence Guide**

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of front end loader operations are to be performed in a minimum of two different soil types and are to include the mandatory tasks of mixing materials, stripping/spreading topsoil and materials, loading, cutting/boxing, backfilling, lifting and carrying materials
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

- Relationship to other units**
- Pre-requisite units are:  
  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role
- Specific knowledge required to achieve the performance criteria**
- A knowledge of
    - Tracked front end loader types, characteristics, technical capabilities and limitations
    - Basic principles of soil technology for civil works
    - Site and equipment safety requirements
    - Techniques for calculating safe working loads
    - Front end loader and attachment operating techniques related to essential tasks
    - Processes for interpreting drawings and sketches
    - Operational, maintenance and basic diagnostic procedures
    - Site isolation and traffic control responsibilities and authorities
    - Materials Safety Data Sheets and materials handling methods
    - Project quality requirements
    - Civil construction terminology
    - Methods of changing machine attachments
    - Safe operating techniques in all terrain
    - Basic earthworks calculations
    - Civil construction activity sequences of road construction, earthworks and drainage
    - Levelling techniques
    - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational tracked front end loader with lifting equipment
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the front end loader equipment
  - specifications and work instructions.

... **End** ...

## BCCPO3006B

### Unit Descriptor

## Conduct grader operations

This unit specifies the competency required to conduct civil construction grader operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the grader for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

#### 2 Conduct machine pre-operational checks

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Grader controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |  |     |   |
|---|--|-----|---|
| 3 | Operate grader                         | 3.1 | Site hazards associated with grader operations are identified and safe operating techniques are used to minimise risk   |
|   |  | 3.2 | Operating techniques for grader are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |  | 3.3 | Grader is operated to work instructions in accordance with company operating procedures   |
| 4 | Select, remove and fit attachments     | 4.1 | Attachment is selected for the task   |
|   |  | 4.2 | Attachment is removed and fitted according to manufacturers' manual and site requirements   |
|   |  | 4.3 | Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual  |
|   |  | 4.4 | Attachment is used in accordance with manufacturers' recommendations and design limits  |
|   |  | 4.5 | Removed attachments are cleaned and stored in designated location   |
| 5 | Relocate the grader                    | 5.1 | Grader is moved safely between work sites, observing relevant codes and traffic management requirements   |
|   |  | 5.2 | Grader is prepared for relocation in accordance with the manufacturers' specifications  |
| 6 | Carry out machine operator maintenance | 6.1 | Grader is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements  |
|   |  | 6.2 | Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements  |
|   |  | 6.3 | Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements  |
|   |  | 6.4 | Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements   |
| 7 | Clean up                               | 7.1 | Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan   |
|   |  | 7.2 | Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices                              |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A grader is a self-propelled articulating or rigid framed wheeled machine, designed to cut, move and place construction materials using a centrally mounted blade and may include forward and/or rear mounted rippers/scarifiers. The blade and attachment controls of a grader are normally hydraulic; however, they may be mechanical.
- Grader tasks are to include cutting and maintaining drains, forming/upgrading/maintaining roads, mixing/spreading materials, scarifying and ripping, cutting and trimming of batters and trimming of road sub-grades and pavements
- Grader tasks may include stripping/spreading topsoil and materials, cutting/boxing, cut and fill
- Attachments are to include tynes/scarifiers and may include dozer blade, machine guidance system, laser levelling equipment, ripper, slash
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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

- Safety (OH&S) continued**
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
  - Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
  - Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
  - Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation
- Environmental Requirements**
- Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management
- Quality Requirements**
- Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction
- Statutory/Regulatory Authorities**
- State/Regulatory Authorities may include Federal, State and Local Authorities
- Materials**
- Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials, organic materials, typical construction materials/waste and bituminous mixes
  - Rock types may include metamorphic, igneous and sedimentary
- Tools and equipment**
- Tools and equipment are to include hand tools and maintenance equipment relevant to the particular grader



**Communications**

- Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task
- On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of graders on construction sites
- Regulatory/legislative requirements pertaining to grader operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### **Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of grader operations are to be performed in a minimum of two different soil types and are to include the mandatory tasks of cutting and maintaining drains, forming/upgrading/maintaining roads, mixing/spreading materials, scarifying and ripping, cutting and trimming of batters and trimming of road sub-grades and pavements
- The application of emergency procedures
- The fitting and removal of at least one attachment
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### **Relationship to other units**

- Pre-requisite units are:  
  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**What specific knowledge is required to achieve the performance criteria?**

- A knowledge of
  - Grader types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Grader operating techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational grader with appropriate attachment(s)
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the grader equipment
  - specifications and work instructions

**... End ...**

## BCCPO3007B

### Unit Descriptor

## Conduct scraper operations

This unit specifies the competency required to conduct civil construction scraper operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the scraper for a range of mandatory tasks and the conduct of operator maintenance.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

#### 2 Conduct machine pre-operational checks

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Scraper controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |                      |  |
|---|----------------------|--|
| 3 | Operate scraper      | <ul style="list-style-type: none"><li>3.1 Site hazards associated with scraper operations are identified and safe operating techniques are used to minimise risk</li><li>3.2 Operating techniques for scrapers are identified and applied to achieve optimum output in accordance with manufacturers' design specifications</li><li>3.3 Scraper is operated to work instructions in accordance with company operating procedures</li><li>3.4 Levelling, cutting, spreading, landfilling/landscaping is carried out to job specifications and tolerances</li><li>3.5 Material is loaded and transported to discharge point efficiently with minimum loss of load.</li><li>3.6 Material is discharged safely and efficiently</li></ul> |
| 4 | Couple machines      | <ul style="list-style-type: none"><li>4.1 During coupling, coordination with other scraper operator is established and maintained in accordance with job requirements</li><li>4.2 Coordination and cooperation with other machines and operators is maintained to ensure work is completed efficiently to job specifications</li><li>4.3 Assistance is provided with safe disengagement of puller/pusher when bowls are filled to capacity</li><li>4.4 Attachment is used in accordance with manufacturers' recommendations and design limits</li><li>4.5 Removed attachments are cleaned and stored in designated location</li></ul>  |
| 5 | Relocate the scraper | <ul style="list-style-type: none"><li>5.1 Scraper is moved safely between work sites, observing relevant codes and traffic management requirements</li><li>5.2 Scraper is prepared for relocation in accordance with the manufacturers' specifications</li></ul>   |

- |   |  |  |
|---|--|--|
| 6 | Carry out machine operator maintenance | <ul style="list-style-type: none"><li>6.1 Scraper is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements</li><li>6.2 Inspection and fault finding are conducted in accordance with manufactures' specifications and/or organisational requirements</li><li>6.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements</li><li>6.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements</li></ul> |
| 7 | Clean up                               | <ul style="list-style-type: none"><li>7.1 Work area is cleared and materials disposed of or recycled in accordance with State or Territory legislation</li><li>7.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices</li></ul>  |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- An elevating scraper is a self-propelled articulating wheeled machine with a prime mover and sliding floor bowl configuration. The bowl houses an elevator system designed to assist in loading and unloading the bowl. The elevator system is normally hydraulically driven from the main engine; however, the elevator system may be driven by a separate power source
- An open bowl scraper is a self propelled articulating wheeled machine with a prime mover and sliding floor bowl configuration and it may be of a standard open bowl, tandem powered or push-pull configuration. The standard open bowl scraper normally requires the assistance of a push dozer when loading. Standard open bowl and tandem powered scrapers may be fitted with an auger attachment in the bowl, to provide self-loading capability
- Scraper tasks are to include the stripping of materials to specified depth, the cutting and filling of materials to line and level, stockpiling and spreading. (Where push pull scrapers are used, tasks are to include coupling, operating in tandem and disengagement)
- Scraper tasks may include stripping/spreading topsoil, granular materials, cutting drains, cutting battens, cutting/boxing, backfilling and rough grading
- Scraper attachments may include an auger, machine guidance system and laser levelling equipment
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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



<b>Safety (OH&amp;S) continued</b>	<ul style="list-style-type: none"><li>• Personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices</li><li>• Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public</li><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul>
<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials and organic materials</li><li>• Rock types may include metamorphic, igneous and sedimentary</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools and maintenance equipment relevant to the particular scraper</li></ul>

**Communications**

- Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task
- On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of scrapers on construction sites
- Regulatory/legislative requirements pertaining to scraper operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance site safety plan with OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of scraper operations are to be performed in a minimum of two different soil types and are to include the mandatory tasks of stripping of materials to specified depth, the cutting and filling of materials to line and level, stockpiling and spreading. Where push pull scrapers are used, tasks are to include coupling, operating in tandem and disengagement
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:

BCCCM1001C Follow OH&S policies and procedures

Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Scraper types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Scraper operating techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package
- Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - operational scrapers and/or two push pull scrapers
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the scraper equipment
  - specifications and work instructions

**... End ...**



**BCCPO3008B****Unit Descriptor****Conduct skid steer loader operations**

This unit specifies the competency required to conduct civil construction skid steer loader operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the skid steer loader for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**2 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Loader controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |                                    |  |
|---|------------------------------------|--|
| 3 | Operate skid steer loader          | 3.1 Site hazards associated with skid steer loader operations are identified and safe operating techniques are used to minimise risk   |
|   |                                    | 3.2 Operating techniques for skid steer loader are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |                                    | 3.3 Loader is operated to work instructions in accordance with company operating procedures  |
| 4 | Lift, carry and place materials    | 4.2 Communication practices associated with transportation and lifting of materials are conducted in accordance with site specific practices, procedures and confirmed between parties           |
|   |                                    | 4.3 Slings and lifting gear are selected, attached and applied in accordance with safe working load requirements identified in State or Territory OH&S legislation                               |
|   |                                    | 4.4 Weight of load is established  |
|   |                                    | 4.5 Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications  |
|   |                                    | 4.6 Load is shifted safely and effectively in accordance with industry safety standards and manufacturers' specifications  |
|   |                                    | 4.7 Load is moved in accordance with conventional hand and available signals that meet State or Territory OH&S legislation or work site specific practices and procedures                        |
| 5 | Select, remove and fit attachments | 5.1 Attachment is selected for the task  |
|   |                                    | 5.2 Attachment is removed and fitted according to manufacturers' manual and site requirements  |
|   |                                    | 5.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual   |
|   |                                    | 5.4 Attachment is used in accordance with manufacturers' recommendations and design limits   |
|   |                                    | 5.5 Removed attachments are cleaned and stored in designated location  |



6	Relocate the skid steer loader	6.1	Skid steer loader is moved safely between work sites, observing relevant codes and traffic management requirements
		6.2	Skid steer loader is prepared for relocation in accordance with the manufacturers' specifications
7	Carry out machine operator maintenance		Machine is safely parked, prepared for maintenance and shut down as per manufacturers' manual and organisational requirements
			Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements
			Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements
		7.4	Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements
8	Clean up	8.1	Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan
		8.2	Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A skid steer loader is a self-propelled wheeled machine in which steering is accomplished by skidding or reversing the wheels or tracks on one side of the machine. It has an integral front-mounted bucket-supporting structure and linkage, which loads or excavates through forward motion of the machine, and lifts, transports and discharges material
- Skid steer loader tasks are to include stripping/spreading topsoil and materials, backfilling, lifting, loading vehicles, excavations, mixing materials and site clean up

**Unit scope (continued)**

- Skid steer loader may include compacting, truck excavation, lifting and carrying materials, cutting batters and benches, rock breaking and any activities associated with attachments listed
- Attachments may include: a front end loader (FEL), multi purpose 4:1 bucket, forklift, dozer blade, backhoe, auger, chain digger, power broom, profiler, tiller/mixer, rotary hoe, hammer, asphalt cutter/saw, concrete cutter/saw.
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

**Safety (OH&S)**

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials, organic materials, typical construction site materials/waste and bituminous mixes</li><li>• Rock types may include metamorphic, igneous and sedimentary</li><li>• Construction materials may include pegs, wire, cordage, safety equipment and other support equipments</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools and maintenance equipment relevant to the particular loader</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of skid steer loaders on construction sites
- Regulatory/legislative requirements pertaining to skid steer loader operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

**Evidence Guide**

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of skid steer loader operations are to be performed in a minimum of two different soil types and to include the mandatory tasks of stripping/spreading topsoil and materials, lifting, loading vehicles, excavations, mixing materials and site clean up
- The application of emergency procedures
- The fitting and removal of at least one attachment
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

- Relationship to other units**
- Pre-requisite units are:  
  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role
- Specific knowledge required to achieve the performance criteria**
- A knowledge of
    - Skid steer loader types, characteristics, technical capabilities and limitations
    - Basic principles of soil technology for civil works
    - Site and equipment safety requirements
    - Techniques for calculating safe working loads
    - Skid steer loader techniques related to essential tasks
    - Processes for interpreting drawings and sketches
    - Operational, maintenance and basic diagnostic procedures
    - Site isolation and traffic control responsibilities and authorities
    - Materials Safety Data Sheets and materials handling methods
    - Project quality requirements
    - Civil construction terminology
    - Methods of changing machine attachments
    - Safe operating techniques in all terrain
    - Basic earthworks calculations
    - Civil construction activity sequences of road construction, earthworks and drainage
    - Levelling techniques
    - JSA's/Safe work method statement

- The context of assessment**
- The application of competency is to be assessed in the workplace or realistically simulated construction site
  - Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
  - Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
  - Assessment is to comply with relevant regulatory or Australian Standards requirements

- Specific key competencies, underpinning and employability skills required to achieve the performance criteria**
- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
  - Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
  - Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
  - Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
  - Assessment may be applied under project related conditions (real or simulated) and require evidence of process
  - Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
  - Assessment may be in conjunction with assessment of other units of competency, including those listed above

- Specific resource requirements for this unit**
- The following resources should be made available:
    - workplace location or simulated workplace
    - an operational skid steer loader with appropriate attachment(s) and lifting equipment
    - realistic tasks covering the mandatory task requirements
    - maintenance materials appropriate to the skid steer loader equipment
    - specifications and work instructions
- ... End ...**

**BCCPO3009B****Unit Descriptor****Conduct pipelayer operations**

This unit specifies the competency required to conduct civil construction pipelayer operations. It includes the minimum criteria for competency assessment

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the pipelayer for a range of mandatory tasks, the conduct of operator maintenance activities and the loading/unloading of the pipelayer onto a trailer or float.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**2 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Pipelayer controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |   |  |
|---|---|--|
| 3 | Operate pipelayer                               | 3.1 Site hazards associated with pipelayer operations are identified and safe operating techniques are used to minimise risk   |
|   |   | 3.2 Operating techniques for pipelayer are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances   |
|   |   | 3.3 Pipelayer is operated to work instructions in accordance with company operating procedures   |
| 4 | Attach, secure, lift, carry and place materials | 4.1 Communication practices associated with transportation of material are conducted in accordance with State or Territory OH&S legislation or work site specific practices and procedures |
|   |   | 4.2 Weight of load is established  |
|   |   | 4.3 Slings and lifting gear are selected, attached and used in accordance with safe working load requirements identified in State or Territory OH&S legislation                            |
|   |   | 4.4 Load is shifted safely and effectively in accordance with industry safety standards and manufacturers' specifications  |
|   |   | 4.5 Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications  |
|   |   | 4.6 Load is moved in accordance with hand and audible signals  |
| 5 | Transport pipelayer                             | 5.1 Pipelayer is moved safely between work sites, observing relevant codes and traffic management requirements   |
|   |   | 5.2 Pipelayer is prepared for relocation in accordance with the manufacturers' specifications  |
| 6 | Carry out machine operator maintenance          | 6.1 Machine is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements  |
|   |   | 6.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements   |
|   |   | 6.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements   |
|   |   | 6.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements  |



- |   |          |     |   |
|---|----------|-----|---|
| 7 | Clean up | 7.1 | Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan       |
|   |          | 7.2 | Pipelayer is loaded and unloaded from float or trailer in accordance with the manufacturers' or organisation instructions |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A pipelayer is a self-propelled crawler tractor with a purpose built side boom and winch assembly used for the express purpose of lifting and laying pipes, normally below ground level
- Pipelayer tasks are to include the lifting, moving and placement of pipes
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public

- |   |  |
|---|--|
| <b>Safety (OH&amp;S) continued</b>      | <ul style="list-style-type: none"><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency stop, fire fighting, medical and first aid and evacuation</li></ul> |
| <b>Environmental Requirements</b>       | <ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>  |
| <b>Quality Requirements</b>             | <ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>  |
| <b>Statutory/Regulatory Authorities</b> | <ul style="list-style-type: none"><li>• Statutory/regulatory authorities may include statutory/regulatory Government authorities, Local Government statutory authorities</li></ul>   |
| <b>Materials</b>                        | <ul style="list-style-type: none"><li>• Materials are to include pipes and may include trench shields</li></ul>  |
| <b>Tools and equipment</b>              | <ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools and maintenance equipment relevant to the particular pipelayer and lifting equipment</li></ul>   |
| <b>Communications</b>                   | <ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>  |

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of pipelayers on construction sites
- Regulatory/legislative requirements pertaining to pipelayer operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of pipelayer operations on three separate jobs which are to cover the lifting moving and placement of a minimum of nine pipe lengths, where the size of the pipes are to be greater than 50% of the authorised working load of the pipelayer machine and the ground conditions are to include level, sloping and broken surface
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Pipelayer types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Techniques for calculating safe working loads
  - Pipelayer and attachment operating techniques related to essential tasks
  - Processes for interpreting engineering drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package
- Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational pipelayer with appropriate lifting equipment
  - realistic tasks covering the mandatory task requirements
  - a trailer or float appropriate to the pipelayer
  - maintenance materials appropriate to the pipelayer equipment
  - specifications and work instructions

**... End ...**





**BCCPO3010B****Conduct integrated tool carrier operations****Unit Descriptor**

This unit specifies the competency required to conduct civil construction integrated tool carrier operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the integrated tool carrier for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.2 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.3 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.4 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.5 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.6 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**2 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Integrated tool carrier controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |   |  |
|---|---|--|
| 3 | Operate integrated tool carrier                 | <p>3.1 Site hazards associated with integrated tool carrier operations are identified and safe operating techniques are used to minimise risk</p> <p>3.2 Operating techniques for integrated tool carrier are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances</p> <p>3.3 Integrated tool carrier is operated to work instructions in accordance company operating procedures</p>   |
| 4 | Attach, secure, lift, carry and place materials | <p>4.1 Communication practices associated with transportation and lifting of materials are conducted in accordance with site specific practices, procedures and continued between parties</p> <p>4.2 Weight of load is established</p> <p>4.3 Slings and lifting gear are selected, attached and used in accordance with safe working load requirements identified in State or Territory OH&amp;S legislation</p> <p>4.4 Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications</p> <p>4.5 Load is shifted safely and effectively in accordance with industry safety standards and manufacturers' specifications</p> <p>4.6 Load is moved in accordance with conventional hand and audible signals that meet State or Territory OH&amp;S legislation or work site specific practices and procedures</p> |
| 5 | Select, remove and fit attachments              | <p>5.1 Attachment is selected for the task</p> <p>5.2 Attachment is removed and fitted according to manufacturers' manual and site requirements</p> <p>5.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual</p> <p>5.4 Attachment is used in accordance with manufacturers' recommendations and design limits</p> <p>5.5 Removed attachments are cleaned and stored in designated location</p>   |
| 6 | Relocate the integrated tool carrier            | <p>6.1 Integrated tool carrier is moved safely between work sites, observing relevant codes and traffic management requirements</p> <p>6.2 Integrated tool carrier is prepared for relocation in accordance with the manufacturers' specifications</p>   |

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- |   |  |   |
|---|--|---|
| 7 | Carry out machine operator maintenance | <ul style="list-style-type: none"><li>7.1 Integrated tool carrier is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements</li><li>7.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements</li><li>7.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements</li><li>7.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements</li></ul> |
| 8 | Clean up                               | <ul style="list-style-type: none"><li>8.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan</li><li>8.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices</li></ul>  |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- An integrated tool carrier is a self-propelled wheeled machine with an integral front-mounted bucket-supporting structure and linkage with integral quick coupler. It loads or excavates through forward motion of the machine, and lifts, transports and discharges material. It is a versatile machine due to the varying types of attachments that may be fitted via the integral quick coupler
- Integrated tool carrier tasks are to include mixing materials, stripping/spreading topsoil and materials, loading, cutting/boxing, backfilling, lifting and carrying materials
- Attachments are to include a front bucket, material handling arm (jib) and forklift attachments and may include but not be limited to auger, power rotary broom, asphalt cutter, angle blade, straight blade, hydraulic hammer and ripper/scarifier
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public

<b>Safety (OH&amp;S) (continued)</b>	<ul style="list-style-type: none"><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul>
<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials, organic materials, typical construction materials/waste and bituminous mixes</li><li>• Rock types may include metamorphic, igneous and sedimentary</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools, lifting and maintenance equipment relevant to the integrated tool carrier</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of integrated tool carriers on construction sites
- Regulatory/legislative requirements pertaining to integrated tool carrier operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

**Evidence Guide**

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of integrated tool carrier operations are to be performed in a minimum of two different soil types and are to include the use of the mandatory attachments in the conduct of the tasks of mixing materials, stripping/spreading topsoil and materials, loading, cutting/boxing, backfilling utilising the bucket and lifting and carrying materials using the forklift and material handling arm (as per the Range Statement)
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

**Relationship to other units**

- Pre-requisite units are:  
  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Integrated tool carrier types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Techniques for calculating safe working loads
  - Integrated tool carrier and attachment operating techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational integrated tool carrier with lifting equipment
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the integrated tool carrier equipment
  - specifications and work instructions.

**... End ...**



**BCCPO3011B****Unit Descriptor****Conduct tractor operations**

This unit specifies the competency required to conduct civil construction tractor operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the tractor for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**2 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Tractor controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |  |  |
|---|--|--|
| 3 | Operate tractor                        | 3.1 Site hazards associated with tractor operations are identified and safe operating techniques are used to minimise risk   |
|   |  | 3.2 Operating techniques for tractor are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |  | 3.3 Tractor is operated to work instructions in accordance with company operating procedures   |
| 4 | Select, remove and fit attachments     | 4.1 Attachment is selected for the task  |
|   |  | 4.2 Attachment is removed and fitted according to manufacturers' manual and site requirements  |
|   |  | 4.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual   |
|   |  | 4.4 Attachment is used in accordance with manufacturers' recommendations and design limits   |
|   |  | 4.5 Removed attachments are cleaned and stored in designated location  |
| 5 | Relocate tractor                       | 5.1 Tractor is moved safely between work sites, observing relevant codes and traffic management requirements   |
|   |  | 5.2 Tractor is prepared for relocation in accordance with manufacturers specifications   |
| 6 | Carry out machine operator maintenance | 6.1 Tractor is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements  |
|   |  | 6.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements   |
|   |  | 6.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements   |
|   |  | 6.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements  |
| 7 | Clean up                               | 7.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan  |
|   |  | 7.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices                               |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A tractor is a self propelled, wheeled or tracked, commercial or agricultural machine. A tractor may be a rigid or articulated, two wheel or all wheel drive. Tractors are normally used for towing and/or providing a power take off (PTO) for specified attachments
- Tractors are to include wheeled and may include tracked types
- Tractor tasks may include post hole digging, spraying of herbicides/fertilisers, mowing/slashing, lifting, sweeping and blade based functions
- Attachments may include: a front blade, forklift, slasher, mower, auger, drag broom, power broom, loading platform, rotary hoe, concrete mixer, spraying equipment and disc plough
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public

- |   |  |
|---|--|
| <b>Safety (OH&amp;S) continued</b>      | <ul style="list-style-type: none"><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul> |
| <b>Environmental Requirements</b>       | <ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>  |
| <b>Quality Requirements</b>             | <ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>  |
| <b>Statutory/Regulatory Authorities</b> | <ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>  |
| <b>Materials</b>                        | <ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, timber, blended materials, organic materials, light scrub, grasses and bituminous mixes</li></ul>  |
| <b>Tools and equipment</b>              | <ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools and maintenance equipment relevant to the particular tractor</li></ul>   |
| <b>Communications</b>                   | <ul style="list-style-type: none"><li>• Communications are to include but not limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>   |

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of tractors on construction sites
- Regulatory/legislative requirements pertaining to tractor operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### **Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of tractor operations are to include a minimum of three of the tasks listed in the Range Statement in accordance with project specifications and/or client requirements
- The application of emergency procedures
- The fitting and removal of at least one attachment
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### **Relationship to other units**

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Tractor types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Tractor and attachment operating techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational tractor with appropriate attachment(s)
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the tractor equipment
  - specifications and work instructions

**... End ...**



## BCCPO3012B

### Unit Descriptor

## Conduct tip truck operations

This unit specifies the competency required to conduct civil construction tip truck operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the tip truck for a range of mandatory tasks, and the conduct of operator maintenance and work finalisation activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Vehicle, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

#### 2 Conduct machine pre-operational checks

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Tip truck controls and functions, including tray, steering, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |                                   |  |
|---|-----------------------------------|--|
| 3 | Operate truck                     | <ul style="list-style-type: none"><li>3.1 Site hazards associated with tip truck operations are identified and safe operating techniques are used to minimise risk</li><li>3.2 Engine power is managed to ensure efficiency of truck movements and to minimise damage to the engine and gears</li><li>3.3 Engine power is coordinated with gear selection ensuring smooth transition and operation within torque range</li><li>3.4 Tip truck is operated to work instructions in accordance with company operating procedures</li><li>3.5 Road/traffic conditions are constantly monitored taking into account of road standards, traffic flow, distance and load, ensuring no injury to people or damage to property, equipment, loads and facilities</li><li>3.6 Vehicle is brought to a halt smoothly, minimising the wear and tear on vehicle using the engine retarder, gears and brakes</li></ul>  |
| 4 | Load, transport and tip materials | <ul style="list-style-type: none"><li>4.1 Vehicle is positioned at load and discharge points with a minimum of manoeuvre</li><li>4.2 Tip truck movements including the raising and lowering of the tray are smooth and controlled</li><li>4.3 Weight and distribution of load is assessed for type of material and size of vehicle to ensure it is within vehicle capacity</li><li>4.4 Safety and security of load, including load cover requirements, are maintained from loading site to discharge site</li><li>4.5 Load is discharged on slope and/or over face at fill site in accordance with safe operating techniques and company operating procedures</li><li>4.6 Material is dumped/spread evenly to work instructions in accordance with safe operating techniques and company operating procedures</li><li>4.7 Tray is cleared, lowered and secured before resuming travel in accordance with manufacturers' instructions</li></ul> |

- |   |                              |     |  |
|---|------------------------------|-----|--|
| 5 | Carry out driver maintenance | 5.1 | Tip truck is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements            |
|   |                              | 5.2 | Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements                         |
|   |                              | 5.3 | Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements                     |
|   |                              | 5.4 | Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements                              |
| 6 | Clean up                     | 6.1 | Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan                                    |
|   |                              | 6.2 | Vehicle, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A tip truck is a self-propelled vehicle designed for on road use to transport a variety of construction materials to and from construction sites. Tip trucks may be rigid (with or without a dog trailer) or articulated. The configuration of various types of tip trucks, the number of vehicle axles, the weight of each vehicle and load capacities are dependent on the vehicle class. Loads are normally discharged by tipping from the rear of the vehicle or trailer; however, methods of material discharge may also include side and belly dumping
- National Licence Classes for trucks are:
  - MR (Medium rigid) – a vehicle (2 axle only) which is greater than 8t GVM, plus a trailer of not more than 9t GVM
  - HR (Heavy Rigid) - a vehicle (no axle limit) which is greater than 8t GVM, plus a trailer of not more than 9t GVM
  - HC (Heavy combination) - a heavy rigid vehicle with a trailer greater than 9t GVM or a prime mover and semi trailer
- Tip truck tasks are to include the transporting and tipping of soils, sand, rocks and construction gravels on public roads and worksites. The tasks are to include static tipping and mobile tipping and spreading, discharging/tipping on slopes and discharging/tipping over edges
- Tip truck tasks may include discharging into bins and hoppers and spreading aggregate
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

<b>Safety (OH&amp;S)</b>	<ul style="list-style-type: none"><li>• OH&amp;S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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</li><li>• Personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices</li><li>• Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with fill-site traffic movement, overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public</li><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul>
<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>

**Materials**

- Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, bituminous mixes, timber, blended materials, organic materials, typical construction site materials/waste and aggregates
- Rock types may include metamorphic, igneous and sedimentary

**Tools and equipment**

- Tools and equipment are to include the hand tools and maintenance equipment associated with the particular tip truck

**Communications**

- Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task
- On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of tip trucks on construction sites
- Regulatory/legislative requirements pertaining to tip truck operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of tip truck operations are to be performed on two separate projects and are to include the mandatory tasks of:
  - a minimum of two discharges on slopes, and
  - a minimum of two discharges over edges
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

### **Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Tip truck types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Tip truck operational techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Load quantity calculations
  - JSA's/Safe work method statement

### **The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

### **Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application



of underpinning knowledge

- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational tip truck
  - realistic tasks and loads covering the mandatory task requirements
  - maintenance materials appropriate to the tip truck equipment
  - specifications and work instructions

**... End ...**



**BCCPO3013B****Unit Descriptor****Conduct roller operations**

This unit specifies the competency required to conduct civil construction roller operations to roll and compact materials. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the roller for a range of mandatory tasks and the conduct of operator maintenance activities.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**2 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

**3 Conduct machine pre-operational checks**

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Roller controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |  |     |   |
|---|--|-----|---|
| 3 | Operate roller                         | 3.1 | Site hazards associated with roller operations are identified and safe operating techniques are used to minimise risk   |
|   |  | 3.2 | Operating techniques for roller are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |  | 3.3 | Roller is operated to work instructions in accordance with company operating procedures   |
| 4 | Select, remove and fit attachments     | 4.1 | Attachment is selected for the task   |
|   |  | 4.2 | Attachment is removed and fitted according to manufacturers' manual and site requirements   |
|   |  | 4.3 | Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual  |
|   |  | 4.4 | Attachment is used in accordance with manufacturers' recommendations and design limits  |
|   |  | 4.5 | Removed attachments are cleaned and stored in designated location   |
| 4 | Relocate the roller                    | 5.1 | Roller is moved safely between work sites, observing relevant codes and traffic management requirements   |
|   |  | 5.2 | Roller is prepared for relocation in accordance with the manufacturers' specifications  |
| 5 | Carry out machine operator maintenance | 6.1 | Roller is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements  |
|   |  | 6.2 | Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements  |
|   |  | 6.3 | Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements  |
|   |  | 6.4 | Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements   |
| 7 | Clean up                               | 7.1 | Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan   |
|   |  | 7.2 | Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices                              |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A roller is a self propelled or towed machine used for the primary purpose of compacting a variety of types of construction materials. A roller may be rubber tyred, smooth drum, padded drum or grid/open face type and achieves compaction by one or a combination of the following compactive methods: static weight, kneading, vibration and impact. A grid roller is utilised to breakdown oversized construction materials
- Types of rollers may include: Self propelled pneumatic tyred; Self propelled smooth drum vibratory roller; Self propelled padded drum vibratory roller; self propelled smooth drum roller (including 3 pointers); self propelled double drum vibratory roller; towed pneumatic multi-tyred roller; towed grid roller; towed smooth drum vibratory roller; towed padded drum vibratory roller.
- Roller tasks are to include compacting materials to pattern and density, sealing and finishing
- Activities for roller tasks may include earthworks, pavement, bitumen and asphalt works
- Attachments are to include scraper bars and may include interchangeable drums, spray bars, wheel/drum brooms, drag brooms, padded drum attachments and blades
- Padded drums may include sheepsfoot, padfoot, tamping foot or wedge foot
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

**Safety (OH&S)**

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

<b>Environmental Requirements</b>	<ul style="list-style-type: none"> <li>Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li> </ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"> <li>Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li> </ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"> <li>State/Regulatory Authorities may include Federal, State and Local Authorities</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials and bituminous mixes</li> <li>Rock types may include metamorphic, igneous and sedimentary</li> </ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"> <li>Tools and equipment are to include hand tools and maintenance equipment relevant to the particular roller</li> </ul>
<b>Communications</b>	<ul style="list-style-type: none"> <li>Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li> <li>On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li> </ul>
<b>Information</b>	<ul style="list-style-type: none"> <li>Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches</li> <li>Safe work procedures related to the operation of rollers on construction sites</li> <li>Regulatory/legislative requirements pertaining to roller operations and the environment</li> <li>Manufacturers' specifications and instructions</li> <li>Organisation work specifications and requirements.</li> <li>Instructions issued by authorised organisational or external personnel</li> <li>Relevant Australian Standards</li> </ul>

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of roller operations are to be performed in a minimum of three different soil types and include the mandatory tasks of:
  - compacting materials to pattern and density
  - sealing and finishing
- The removal and fitting of at least one attachment
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role



**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Roller types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Basic principles of soil compaction
  - Site and equipment safety requirements
  - Rolling/compacting techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package
- Assessment methods must confirm consistency and accuracy of performance together with application of

underpinning knowledge

- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above
- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational roller and attachments
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the roller equipment
  - specifications and work instructions

**Specific resource  
requirements for this unit**

**... End ...**

## BCCPO3014B

### Unit Descriptor

## Conduct water cart operations

This unit specifies the competency required to conduct civil construction water cart operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the water cart for a range of mandatory tasks, and the conduct of operator maintenance and work finalisation activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Vehicle, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

#### 2 Conduct machine pre-operational checks

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Water cart controls and functions, including tray, articulation, steering, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |                                      |  |
|---|--------------------------------------|--|
| 3 | Operate water cart                   | <ul style="list-style-type: none"><li>3.1 Site hazards associated with water cart operations are identified and safe operating techniques are used to minimise risk</li><li>3.2 Engine power is managed to ensure efficiency of water cart platform movements and to minimise damage to the engine and gears</li><li>3.3 Engine power is coordinated with gear selection ensuring smooth transition and operation within torque range</li><li>3.4 Water cart platform is operated to work instructions in accordance with company operating procedures</li><li>3.5 Road/traffic conditions are constantly monitored taking into account of road standards, traffic flow, distance and load, ensuring no injury to people or damage to property, equipment, loads and facilities</li><li>3.6 Vehicle is brought to a halt smoothly, minimising the wear and tear on vehicle using the engine retarder, gears and brakes</li></ul> |
| 4 | Load, transport and distribute water | <ul style="list-style-type: none"><li>4.1 Water cart is positioned at load and discharge/distribution points with a minimum of manoeuvre</li><li>4.2 Water cart is loaded to within the authorised carrying capacity and to suit the site and task conditions</li><li>4.3 Water cart is moved from loading to the discharge/distribution point safely and smoothly avoiding surge and sway</li><li>4.4 Water is discharged or distributed in accordance with the task specifications</li><li>4.5 Discharge and distribution systems including pumps, lines and nozzles, are monitored and maintained throughout the operations</li></ul>   |

- |   |                              |   |
|---|------------------------------|---|
| 5 | Carry out driver maintenance | 5.1 Water cart is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements<br><br>5.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements<br><br>5.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements<br><br>5.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements |
| 6 | Clean up                     | 6.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan<br><br>6.2 Vehicle, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices   |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- Water carts may be purpose built vehicles or other vehicle/plant platforms being used for the purpose
- Water cart functions are to include loading, transporting, discharging and distribution of water
- National Licence Classes for trucks are:
  - MR (Medium rigid) – a vehicle (2 axle only) which is greater than 8t GVM, plus a trailer of not more than 9t GVM
  - HR (Heavy Rigid) - a vehicle (no axle limit) which is greater than 8t GVM, plus a trailer of not more than 9t GVM
  - HC (Heavy combination) - a heavy rigid vehicle with a trailer greater than 9t GVM or a prime mover and semi trailer
- Discharging water means the movement of water from the water cart by either pressure pumping or gravity feed through pipes, lines and nozzles and/or spraybars

**Unit Scope (continued)**

- Distribution of water means the movement of water from the water cart into another form of water storage area/receptacle
- Water cart loading tasks are to include loading from standpipes and/or purpose built pressure loading points and loading from water sources where water must be pumped from the source
- Discharging tasks are to include the spraying of water in civil construction compaction operations by pressure means and by gravity means. Discharging tasks may include dust suppression, stabilisation operations, fire fighting support and road maintenance
- Distribution tanks are to include pressure and gravity discharge into another storage facility which may include the filling of water tanks, water points and/or fire points
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

**Safety (OH&S)**

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with discharge-site traffic movement, overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement

<b>Safety (OH&amp;S) (continued)</b>	<ul style="list-style-type: none"><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul>
<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include the hand tools and maintenance equipment associated with the particular water cart</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of water carts on construction sites
- Regulatory/legislative requirements pertaining to water cart operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards



## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of water cart operations are to be performed over not less than three shifts and are to include the mandatory tasks stated in the Range Statement and include:
  - The loading and transporting of water
  - Pressure and gravity discharging of water evenly in civil construction compaction operations in a minimum of two different soil types to meet moisture content requirements
  - Pressure and gravity distribution of water into two separate water storage facilities/receptacles
  - Dust suppression operations
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Water cart types, characteristics, technical capabilities and limitations
  - Pumps and pumping system operations
  - Water distribution systems types, characteristics, technical capabilities and limitations
  - Basic dust suppression theory
  - The causes and effects of surge and sway in bulk fluid loads
  - Site and equipment safety requirements
  - Safe operating techniques in all terrain
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Practical field tests for moisture content
  - Levelling techniques
  - Basic soil types and characteristics
  - Basic soil compaction theory including the effects of moisture content and mechanical interlock
  - Processes for interpreting engineering drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package
- Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational water cart
  - standpipes and/or purpose built pressure water loading points
  - water sources where water must be pumped from the source
  - realistic tasks and loads covering the mandatory task requirements
  - maintenance materials appropriate to the water cart equipment
  - specifications and work instructions

**... End ...**

## BCCPO3015B

## Conduct continuous bucket trencher operations

### Unit Descriptor

This unit specifies the competency required to conduct civil construction continuous bucket trencher operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the continuous bucket trencher for a range of mandatory tasks, the fitting and removal of buckets and the conduct of operator maintenance activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

#### 2 Conduct machine pre-operational checks

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Bucket trencher controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |  |  |
|---|--|--|
| 3 | Operate continuous bucket trencher     | 3.1 Site hazards associated with continuous bucket trencher operations are identified and safe operating techniques are used to minimise risk  |
|   |  | 3.2 Operating techniques for continuous bucket trencher are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerance |
|   |  | 3.3 Bucket trencher is operated to work instructions in accordance with company operating procedures   |
|   |  | 3.4 Trenching is conducted to specification and without damage to existing underground services  |
|   |  | 3.5 Trenches/drains are excavated, constructed and cleaned to width and depth in accordance with job specifications and regulatory requirements  |
| 4 | Select, remove and fit attachments     | 4.1 Attachment is selected for the task  |
|   |  | 4.2 Attachment is removed and fitted according to manufacturers' manual and site requirements  |
|   |  | 4.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual   |
|   |  | 4.4 Attachment is used in accordance with manufacturers' recommendations and design limits   |
|   |  | 4.5 Removed attachments are cleaned and stored in designated location  |
| 5 | Relocate continuous bucket trencher    | 5.1 Continuous bucket trencher is moved safely between work sites, observing relevant codes and traffic management requirements  |
|   |  | 5.2 Continuous bucket trencher is prepared for relocation in accordance with the manufacturers' specifications   |
| 6 | Carry out machine operator maintenance | 6.1 Machine is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements  |
|   |  | 6.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements   |
|   |  | 6.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements   |
|   |  | 6.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements  |

- |   |          |     |  |
|---|----------|-----|--|
| 7 | Clean up | 7.1 | Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan                                  |
|   |          | 7.2 | Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A self-propelled purpose designed crawler tractor machine with a continuous bucket assembly mounted on the front of the machine
- Continuous bucket trencher tasks are to include trenching and draining
- Continuous bucket trencher tasks may include pipelaying
- Attachments are to include buckets and may include rocksaws
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

**Safety (OH&S)**

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

**Environmental Requirements**

- Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management



<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil and bituminous mixes</li><li>• Rock types may include metamorphic, igneous and sedimentary</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools and maintenance equipment relevant to the particular machine</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>
<b>Information</b>	<ul style="list-style-type: none"><li>• Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches</li><li>• Safe work procedures related to the operation of continuous bucket trenchers on construction sites</li><li>• Regulatory/legislative requirements pertaining to continuous bucket trencher operations and the environment</li><li>• Manufacturers' specifications and instructions</li><li>• Organisation work specifications and requirements.</li><li>• Instructions issued by authorised organisational or external personnel</li><li>• Relevant Australian Standards</li></ul>

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of site based continuous bucket trencher operations which are to include the following minimum requirements:
  - Operate a trenching machine in straight line for 200m to line, level and specified depth
  - Trenches/drains cleared to width and depth as per plan
- The application of emergency procedures
- The fitting and removal of at least one attachment
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
 BCCCM1001C Follow OH&S policies and procedures  
  
 Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Continuous bucket trencher types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Continuous bucket trencher operating techniques related to essential tasks
  - Processes for interpreting engineering drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package
- Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource  
requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational continuous bucket trencher and attachments
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the continuous bucket trencher equipment
  - specifications and work instructions

**... End ...**



## BCCPO3016B

### Unit Descriptor

## Conduct dump truck operations

This unit specifies the competency required to conduct civil construction dump truck operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the dump truck for a range of mandatory tasks, and the conduct of operator maintenance and work finalisation activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

- |   |  |
|---|--|
| <p>1 Plan and prepare</p>                       | <p>1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task</p> <p>1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task</p> <p>1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented</p> <p>1.4 Vehicle, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported</p> <p>1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task</p> |
| <p>2 Conduct machine pre-operational checks</p> | <p>2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements</p> <p>2.2 Dump truck controls and functions, including tray, articulation, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported</p>   |

- |   |                                   |   |
|---|-----------------------------------|---|
| 3 | Operate truck                     | <ul style="list-style-type: none"><li>3.1 Site hazards associated with dump truck operations are identified and safe operating techniques are used to minimise risk</li><li>3.2 Engine power is managed to ensure efficiency of truck movements and to minimise damage to the engine and gears</li><li>3.3 Engine power is coordinated with gear selection ensuring smooth transition and operation within torque range</li><li>3.4 Dump truck is operated to work instructions under varied site and weather conditions in accordance with safe work practices and company operating procedures</li><li>3.5 Road/traffic conditions are constantly monitored taking into account of road standards, traffic flow, distance and load, ensuring no injury to people or damage to property, equipment, loads and facilities</li><li>3.6 Vehicle is brought to a halt without injury to personnel or damage to property, equipment and loads, through the use of engine retarder, gears and brakes using straight line braking techniques</li><li>3.7 Responsibility for self-direction to achieve finished product to job/design specification is assumed</li></ul> |
| 4 | Load, transport and tip materials | <ul style="list-style-type: none"><li>4.1 Vehicle is positioned at load and discharge points with a minimum of manoeuvre</li><li>4.2 Dump truck movements including the raising and lowering of the tray are smooth and controlled</li><li>4.3 Weight and distribution of load is assessed for type of material and size of vehicle to ensure it is within vehicle capacity</li><li>4.4 Safety and security of load, including load cover requirements, are maintained from loading site to discharge site</li><li>4.5 Load is discharged on slope and/or over face at fill site in accordance with company procedures</li><li>4.6 Material is dumped/spread evenly in accordance with company procedures</li><li>4.7 Tray is cleared, lowered and secured before resuming travel in accordance with manufacturers' instructions</li></ul>  |



- |   |                              |  |
|---|------------------------------|--|
| 5 | Carry out driver maintenance | <div style="padding-left: 20px;">5.1 Dump truck is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements</div> <div style="padding-left: 20px;">5.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements</div> <div style="padding-left: 20px;">5.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements</div> <div style="padding-left: 20px;">5.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements</div> |
| 6 | Clean up                     | <div style="padding-left: 20px; padding-top: 20px;">6.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan</div> <div style="padding-left: 20px;">6.2 Vehicle, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices</div>  |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- Dump trucks are primarily off-road large capacity vehicles which may be electrical/mechanical and which are generally operated on a site permit basis
- Dump trucks, due to their size, are transported between sites
- Dump truck tasks are to include transporting soil, rock and material, static and mobile dumping, discharging on slopes and discharging over edges
- Dump truck tasks may include discharging into bins and hoppers and spreading aggregate
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

**Safety (OH&S)**

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with fill-site traffic movement, overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

**Environmental Requirements**

- Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management

**Quality Requirements**

- Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction

<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• Statutory/regulatory authorities may include statutory/regulatory Government authorities, Local Government statutory authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil and bituminous mixes</li><li>• Rock types may include metamorphic, igneous and sedimentary</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include the hand tools and maintenance equipment associated with the particular dump truck</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>
<b>Information</b>	<ul style="list-style-type: none"><li>• Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches</li><li>• Safe work procedures related to the operation of dump trucks on construction sites</li><li>• Regulatory/legislative requirements pertaining to dump truck operations and the environment</li><li>• Manufacturers' specifications and instructions</li><li>• Organisation work specifications and requirements.</li><li>• Instructions issued by authorised organisational or external personnel</li><li>• Relevant Australian Standards</li></ul>

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of site based dump truck operations which are to be under both wet and dry conditions and include:
  - transporting soil, rock and material,
  - static and mobile dumping,
  - discharging on slopes, and
  - discharging over edges

where at least one load is prone to hangup and one to free flow
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:  
 BCCCM1001C Follow OH&S policies and procedures  
 Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Dump truck types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Dump truck operational techniques related to essential tasks
  - Processes for interpreting engineering drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application

of underpinning knowledge

- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above
- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational dump truck
  - realistic tasks and loads covering the mandatory task requirements
  - maintenance materials appropriate to the dump truck equipment
  - specifications and work instructions

**Specific resource  
requirements for this unit**

**... End ...**

## BCCPO3017B

## Conduct self-propelled compactor operations

### Unit Descriptor

This unit specifies the competency required to conduct civil construction self-propelled compactor operations as part of civil construction or a landfill tip. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the self-propelled compactor for a range of mandatory tasks, the conduct of operator maintenance activities and the loading/unloading of the self-propelled compactor onto a transporter.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

- |   |  |     |   |
|---|--|-----|---|
| 2 | Conduct machine pre-operational checks | 2.1 | Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements  |
|   |  | 2.2 | Compactor controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported |



- |   |  |   |
|---|--|---|
| 3 | Operate self-propelled compactor       | 3.1 Site hazards associated with self-propelled compactor operations are identified and safe operating techniques are used to minimise risk   |
|   |  | 3.2 Operating techniques for self-propelled compactor are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |  | 3.3 Compactor is operated to work instructions in accordance with company operating procedures  |
| 4 | Relocate the self-propelled compactor  | 4.1 Self-propelled compactor is moved safely between work sites, observing relevant codes and traffic management requirements   |
|   |  | 4.2 Self-propelled compactor is prepared for relocation in accordance with the manufacturers' specifications  |
| 5 | Carry out machine operator maintenance | 5.1 Self-propelled compactor is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements  |
|   |  | 5.2 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements  |
|   |  | 5.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements  |
|   |  | 5.4 Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements   |
| 6 | Clean up                               | 6.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan   |
|   |  | 6.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices  |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A compactor is a self-propelled, tamping foot drum, wheeled machine, used to compact a variety of types of construction materials. It can operate at relatively high speeds and may have a dozer blade mounted on the front-end of the machine allowing for dozing, filling and compacting versatility. The tamping feet on the wheels of the machine may vary in size, shape and depth.
- Self-propelled compactor tasks are to include towing and levelling and compacting to specification (construction) or to spread, level, cover and compact (tip) materials
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement

<b>Safety (OH&amp;S) (continued)</b>	<ul style="list-style-type: none"><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul>
<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• Statutory/regulatory authorities may include statutory/regulatory Government authorities, Local Government statutory authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to clays, silts, stone, gravel, mud, rock, sand, topsoil and bituminous mixes</li><li>• Rock types may include metamorphic, igneous and sedimentary</li><li>• Landfill may include household and commercial waste and soil</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools and maintenance equipment relevant to the particular compactor</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of self-propelled compactors on construction or landfill sites
- Regulatory/legislative requirements pertaining to self-propelled compactor operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

**Evidence Guide**

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of self-propelled compactor operations which are to include:
  - Towing and
  - Levelling and compacting to specification (construction) and/or
  - Spreading, covering, levelling and compacting landfill materials (tip)
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

**Relationship to other units**

- Pre-requisite units are:  
  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Self-propelled compactor types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Basic principles of soil compaction
  - Site and equipment safety requirements
  - Self-propelled compactor techniques related to essential tasks
  - Processes for interpreting engineering drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - JSA's/Safe work method statement

- The context of assessment**
- The application of competency is to be assessed in the workplace or realistically simulated construction site
  - Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
  - Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
  - Assessment is to comply with relevant regulatory or Australian Standards requirements

- Methods of assessment**
- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
  - Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
  - Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
  - Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
  - Assessment may be applied under project related conditions (real or simulated) and require evidence of process
  - Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
  - Assessment may be in conjunction with assessment of other units of competency, including those listed above

- Specific resource requirements for this unit**
- The following resources should be made available:
    - workplace location or simulated workplace
    - an operational self-propelled compactor
    - realistic tasks covering the mandatory task requirements
    - a trailer or float appropriate to the self-propelled compactor
    - maintenance materials appropriate to the self-propelled compactor equipment
    - specifications and work instructions

... End ...

## BCCPO3018B

### Unit Descriptor

## Conduct paver operations

This unit specifies the competency required to operate a paver for placing of granular, bound material and concrete as part of civil construction operations. It includes the minimum criteria for competency assessment.

This unit covers the planning and preparation for work, the conduct of pre-operational checks, the operation of the paver, the relocation of the paver, the conduct of operator maintenance and other work finalisation activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.5 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

#### 2 Conduct paver pre-operational checks

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Paver controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |                                |  |
|---|--------------------------------|--|
| 3 | Operate paver                  | 3.1 Site hazards associated with paver operations are identified and safe operating techniques are used to minimise risk   |
|   |                                | 3.2 Operating techniques for paver are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |                                | 3.3 Paver is operated to work instructions in accordance with company operating procedures   |
| 4 | Relocate paver                 | 4.1 Paver is driven safely on highways and construction sites, observing highway code and local safety requirements  |
|   |                                | 4.2 Paver is prepared for relocation in accordance with the manufacturers' specifications  |
| 5 | Carry out operator maintenance | 5.1 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements   |
|   |                                | 5.2 Routine operational servicing and lubrication tasks are carried out to manufacturers' and/or organisational requirements   |
|   |                                | 5.3 Minor maintenance is carried out to manufacturers' and/or organisational requirements  |
|   |                                | 5.4 Performance of machine is constantly recorded to enable timely repair of equipment   |
| 6 | Clean up                       | 6.1 Work area is cleared and materials disposed of or recycled in accordance with project environment management plan  |
|   |                                | 6.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices                             |



## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A paver is a self-propelled purpose designed crawler tractor, wheeled or combination machine for the purpose of the laying and spreading of construction materials
- Paver tasks are to include but not be limited to the laying and spreading of granular, bound and concrete materials
- Site locations may include but not be limited to car parks, airport runways, container yards, hard stands, footpaths and bikeways
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement

**Safety (OH&S)  
(continued)**

- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Traffic control signage may include but not be limited to escort vehicle, highway traffic signs, site safety signage, temporary signage for the benefit of motorists and pedestrians, and traffic conditions signage
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

**Environmental  
Requirements**

- Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management

**Quality Requirements**

- Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction

**Statutory/Regulatory  
Authorities**

- Statutory/regulatory authorities may include statutory/regulatory Government authorities and Local Government statutory authorities

**Materials**

- Materials are to include but not limited to granular materials, bound materials and concrete

**Tools and equipment**

- Tools and equipment are to include hand tools and maintenance equipment relevant to the particular paver

**Communications**

- Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task
- On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures or equivalent related to paver operations
- Regulatory/legislative requirements pertaining to paver operations
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards and Austroads

**Evidence Guide**

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- A minimum of five sections of straight paving (at least one of 100 metres) plus three intersections are to be placed
- Safe and effective operational use of tools, plant and equipment
- Communication and working effectively and safely with others

- Relationship to other units** • Pre-requisite units are:
- BCCCM1001C Follow OH&S policies and procedures
- Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role
- Specific knowledge required to achieve the performance criteria** • A knowledge of
- Paver types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Paving operations and techniques
  - Site and equipment safety requirements
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Processes for the calculation of material requirements, mix, application rates, uniformity and travel speed
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated workplace.
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context.
- Assessment is to comply with relevant regulatory or Australian Standards requirements.

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational paver
  - materials relevant to paving
  - hand and power tools, plant and equipment appropriate to paving
  - specifications and work instructions

**... End ...**

## BCCPO3019B

### Unit Descriptor

## Conduct stabiliser operations

This unit specifies the competency required to conduct stabiliser operations covering the mixing of materials and additives and the achievement of specified line and depth. It includes the minimum criteria for competency assessment.

This unit covers the planning and preparation for work, the conduct of pre-operational checks, the operation of the stabiliser, the conduct of operator maintenance and other work finalisation activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.3 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.4 Material to be laid and handling procedures to be employed are determined according to specifications
- 1.5 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.6 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

- |   |   |     |  |
|---|---|-----|--|
| 2 | Conduct stabiliser pre-operational checks | 2.1 | Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements   |
|   |   | 2.2 | Stabiliser controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported |



- |   |                                |  |
|---|--------------------------------|--|
| 3 | Operate stabiliser             | <ul style="list-style-type: none"><li>3.1 Site hazards associated with stabiliser operations are identified and safe operating techniques are used to minimise risk</li><li>3.2 Operating techniques for stabiliser are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances</li><li>3.3 Stabiliser is operated to work instructions in accordance with company operating procedures</li><li>3.4 Stabiliser is operated to produce results, including mixing of materials, use of additives and line and length within design specifications to meet specified tolerances</li></ul> |
| 4 | Relocate stabiliser            | <ul style="list-style-type: none"><li>4.1 Stabiliser is moved safely between work sites, observing relevant codes and traffic management requirements</li><li>4.2 Stabiliser is prepared for relocation in accordance with the manufacturers' specifications</li></ul>   |
| 5 | Carry out operator maintenance | <ul style="list-style-type: none"><li>5.1 Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements</li><li>5.2 Routine operational servicing and lubrication tasks are carried out to manufacturers' and/or organisational requirements</li><li>5.3 Minor maintenance is carried out to manufacturers' and/or organisational requirements</li><li>5.4 Performance of machine is constantly recorded to enable timely repair of equipment</li></ul>   |
| 6 | Clean up                       | <ul style="list-style-type: none"><li>6.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan</li><li>6.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices</li></ul>   |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A stabiliser is a self propelled wheeled machine designed to pulverise and mix a variety of types of insitu construction materials during stabilisation operations. The stabiliser may also work in conjunction with a water truck.
- Stabiliser tasks are to include the mixing of materials, the application of additives and the achievement of specified line and depth
- Stabilisation is to include but not be limited to enhancing the properties of the existing pavement, decreasing permeability, volume change, increased strength and durability
- Stabilisation is undertaken to failing pavement by churning up (excavating and remixing) the existing fill (pavement) to the depth specified by the geotechnical report, mixing it with additive and refilling it in layers using the stabilised material. The pavement is then left in the specified shape to allow for even placement of bitumen seal or asphalt
- Additives to the existing soil or pavement are to include but not be limited to cement and may include lime, bitumen or other chemicals where the existing material is not conducive to cement treatment. Site locations may include but not be limited to car parks, airport runways, container yards, hard stands, footpaths, bikeways, rural and urban roads and highways
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

**Safety (OH&S)**

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public
- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

**Environmental Requirements**

- Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management

**Quality Requirements**

- Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction

**Statutory/Regulatory Authorities**

- State/Regulatory Authorities may include Federal, State and Local Authorities

- |                            |   |
|----------------------------|---|
| <b>Materials</b>           | <ul style="list-style-type: none"><li>• Materials are to include but not be limited to imported fill, aggregates, cement and may include lime, bitumen and other chemicals</li></ul>  |
| <b>Tools and equipment</b> | <ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools and maintenance equipment relevant to the particular stabiliser</li></ul>   |
| <b>Communications</b>      | <ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>  |
| <b>Information</b>         | <ul style="list-style-type: none"><li>• Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches</li><li>• Safe work procedures or equivalent related to stabiliser operations</li><li>• Regulatory/legislative requirements pertaining to stabiliser operations</li><li>• Manufacturers' specifications and instructions</li><li>• Organisation work specifications and requirements.</li><li>• Instructions issued by authorised organisational or external personnel</li><li>• Relevant Australian Standards and Austroads</li></ul> |

## Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

### Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of stabiliser operations are to be performed on two separate projects and are to include the mandatory tasks stated in the Range Statement and the stabilising of an area of at least 500m<sup>2</sup> ensuring moisture content, additive application rate, pulverising, mixing, line and length are in accordance with project specifications. This is to be performed utilising two different additive types
- The conduct of authorised operator maintenance
- Safe and effective operational use of tools, plant and equipment
- Communication and working effectively and safely with others

### Relationship to other units

- Pre-requisite units are:

BCCCM1001C Follow OH&S policies and procedures

Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Basic principles of soil technology for civil works
  - Stabiliser types, characteristics, technical capabilities and limitations
  - Stabilising techniques including pulverising, mixing and the use of additives
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Site and equipment safety requirements
  - Processes for the calculation of material requirements, mix, application rates, uniformity and travel speed
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated workplace.
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context.
- Assessment is to comply with relevant regulatory or Australian Standards requirements.

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package
- Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource  
requirements for this unit**

- The following resources should be made available:
    - workplace location or simulated workplace
    - an operational stabiliser
    - access to a water cart
    - materials relevant to the stabilising tasks
    - specifications and work instructions
- ... End ...**



**BCCPO3020B****Unit Descriptor****Load and unload plant**

This unit specifies the competency required to load and unload plant items from trailers or floats.

The unit covers planning and preparation for work, the loading and securing of the plant onto a float or trailer, the removal of securing devices and the unloading of the plant from the trailer or float.

**Employability Skills**

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

**Element**

Elements define the essential outcomes of a unit of competency.

**Performance Criteria**

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1 Plan and prepare**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the loading/unloading task
- 1.3 The loading/unloading site is made safe and isolated from general traffic flow by appropriate barriers

- |   |                |  |
|---|----------------|--|
| 2 | Load the plant |  |
|   |                | <ul style="list-style-type: none"><li>2.1 The dimensions and capacity of the trailer or float to safely carry the plant item is confirmed</li><li>2.2 Tools and load securing equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement</li><li>2.3 Preparation of the plant for transportation are confirmed as having been completed in accordance with State and Territory and manufacturers' requirements</li><li>2.4 Loading aids, including ramps and bridging materials, are placed and secured in accordance with the trailer or float specifications</li><li>2.5 Co-ordination issues between the operator and guide(s) are resolved and agreed before loading commences</li><li>2.6 The plant item is moved onto the trailer or float and halted at the designated position</li><li>2.7 The plant item is secured for transportation in accordance with approved specifications</li></ul> |

- |   |                  |   |
|---|------------------|---|
| 3 | Unload the plant | 3.1 Co-ordination issues between the operator and guide(s) are resolved and agreed before unloading commences<br>3.2 Unloading aids, including ramps, are placed and secured in accordance with the trailer or float specific<br>3.3 Securing devices are slackened and removed in a sequence which optimises safety<br>3.4 The plant item is moved off the trailer or float and halted at the designated position<br>3.5 Stow loading aids including ramps and bridging materials and securing devices for further use |
|---|------------------|---|

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit Scope

- Plant to be loaded and unloaded may be wheeled or tracked
- The float or trailer may be of generic construction or purpose designed for a particular item or range of plant
- The float or trailer will normally have self loading aids although some may require an established drive on/off ramp

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, securing devices under strain, centre of gravity and balance requirements, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public

**Safety (OH&S)  
(continued)**

- Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement
- Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation

**Environmental  
Requirements**

- Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management

**Quality Requirements**

- Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction

**Statutory/Regulatory  
Authorities**

- State/Regulatory Authorities may include Federal, State and Local Authorities

**Tools and equipment**

- Tools and equipment are to include hand tools, ramps and bridging materials, levelling aids and approved load securing equipment

**Communications**

- Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task
- On site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, load tables, tie-down instructions and charts and material safety data sheets (MSDS)
- Safe work procedures related to the loading and unloading of plant items from floats or trailers
- Regulatory/legislative requirements pertaining to the loading and unloading of plant items from floats or trailers
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

**Evidence Guide**

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The loading and unloading of a minimum of two different items of plant from a float or trailer including the attaching and removal of securing devices in accordance with all relevant regulatory and commercial criteria
- Communication and working effectively and safely with others

- Relationship to other units**
- Pre-requisite units are:  
  
BCCCM1001C Follow OH&S policies and procedures  
  
Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role
- Specific knowledge required to achieve the performance criteria**
- A knowledge of
    - Site and equipment safety requirements
    - Civil construction plant terminology
    - Techniques and processes for preparing plant for transportation
    - Basic motion and restraint theory related to heavy plant on floats or trailers
    - Basic centre of gravity and balance theory related to heavy plant on floats or trailers
    - Types, operation, uses and imitations of load securing equipment
    - Site isolation and traffic control responsibilities and authorities
    - Material safety data sheets
    - Levelling techniques
    - JSA's/Safe work method statement
- The context of assessment**
- The application of competency is to be assessed in the workplace or realistically simulated construction site
  - Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
  - Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
  - Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - operational plant items to be loaded/unloaded
  - a trailer or float appropriate to the plant
  - specifications and work instructions.

**... End ...**





## BCCPO3021B

## Conduct telescopic materials handler operations

### Unit Descriptor

This unit specifies the competency required to conduct civil construction telescopic materials handler operations. It includes the minimum criteria for competency assessment.

The unit covers planning and preparation for work, the conduct of operational checks, the safe and effective operation of the telescopic materials handler for a range of mandatory tasks, the fitting, use and removal of attachments and operator maintenance activities.

### Employability Skills

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

### Element

Elements define the essential outcomes of a unit of competency.

### Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

#### 1 Plan and prepare

- 1.7 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
- 1.8 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
- 1.9 Signage requirements are identified and obtained from the project traffic management plan and implemented
- 1.10 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported
- 1.11 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task

#### 2 Conduct machine pre-operational checks

- 2.1 Pre-start, start up, park and shut down procedures are carried out in accordance with manufacturers' and/or site specific requirements
- 2.2 Telescopic materials handler controls and functions, including implements or other attachments, brakes and manoeuvrability are checked for serviceability and any faults are rectified or reported

- |   |   |   |
|---|---|---|
| 3 | Operate telescopic materials handler            | 3.4 Site hazards associated with telescopic materials handler operations are identified and safe operating techniques are used to minimise risk   |
|   |   | 3.5 Operating techniques for telescopic materials handler are identified and applied to achieve optimum output in accordance with manufacturers' design specifications while achieving specified tolerances |
|   |   | 3.6 Telescopic materials handler is operated to work instructions in accordance company operating procedures  |
| 4 | Attach, secure, lift, carry and place materials | 4.7 Communication practices associated with transportation and lifting of materials are conducted in accordance with site specific practices, procedures and continued between parties                      |
|   |   | 4.8 Weight of load is established   |
|   |   | 4.9 Slings and lifting gear are selected, attached and used in accordance with safe working load requirements identified in State or Territory OH&S legislation   |
|   |   | 4.10 Machinery is positioned ensuring stability and located to effectively shift materials according to job specifications  |
|   |   | 4.11 Load is shifted safely and effectively in accordance with industry safety standards and manufacturers' specifications  |
|   |   | 4.12 Load is moved in accordance with conventional hand and audible signals that meet State or Territory OH&S legislation or work site specific practices and procedures                                    |
| 5 | Select, remove and fit attachments              | 5.1 Attachment is selected for the task   |
|   |   | 5.2 Attachment is removed and fitted according to manufacturers' manual and site requirements   |
|   |   | 5.3 Attachment is tested to ensure correct fitting and operation as specified in manufacturers' manual  |
|   |   | 5.4 Attachment is used in accordance with manufacturers' recommendations and design limits  |
|   |   | 5.5 Removed attachments are cleaned and stored in designated location   |

- |   |   |     |  |
|---|---|-----|--|
| 8 | Relocate the telescopic materials handler | 6.1 | Telescopic materials handler is moved safely between work sites, observing relevant codes and traffic management requirements                                  |
|   |   | 6.2 | Telescopic materials handler is prepared for relocation in accordance with the manufacturers' specifications   |
| 9 | Carry out machine operator maintenance    | 7.1 | Telescopic materials handler is safely parked, prepared for maintenance and shut down in accordance with manufacturers' manual and organisational requirements |
|   |   | 7.2 | Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or organisational requirements                                 |
|   |   | 7.3 | Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements                             |
|   |   | 7.4 | Regular programmed maintenance tasks are carried out in accordance with manufacturers' and/or organisational requirements                                      |
| 8 | Clean up                                  | 8.1 | Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan  |
|   |   | 8.2 | Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices           |

## Range Statement

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

### Unit scope

- A telescopic materials handler (sometimes referred to as a 'telehandler') is a self-propelled wheeled machine with a hydraulically operated telescopic boom assembly. It is a versatile machine due to its manoeuvring capabilities, reach height and the varying types of attachments that may be fitted generally via the integral quick coupler. On some equipment there may also be outriggers fitted.
- Telescopic materials handler tasks are to include lifting and carrying materials and may include forklift activities and working with front bucket attachments.
- Attachments may include various types of buckets, various types of material handling arms (jibs), various types of forklift attachments and carriages and lifting hooks.
- Equipment load charts are provided for each attachment fitted to telescopic materials handlers. For each attachment utilised correct understanding and use of the applicable load chart is mandatory.
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

### Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This 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
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public

<b>Safety (OH&amp;S) (continued)</b>	<ul style="list-style-type: none"><li>• Safe parking practices are to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement</li><li>• Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li><li>• Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational first aid requirements and evacuation</li></ul>
<b>Environmental Requirements</b>	<ul style="list-style-type: none"><li>• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management</li></ul>
<b>Quality Requirements</b>	<ul style="list-style-type: none"><li>• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li></ul>
<b>Statutory/Regulatory Authorities</b>	<ul style="list-style-type: none"><li>• State/Regulatory Authorities may include Federal, State and Local Authorities</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>• Materials may include but are not limited to typical construction materials and waste, palletised materials, and building and construction products and materials</li></ul>
<b>Tools and equipment</b>	<ul style="list-style-type: none"><li>• Tools and equipment are to include hand tools, lifting equipment including chains and slings and maintenance equipment relevant to the telescopic materials handler</li></ul>
<b>Communications</b>	<ul style="list-style-type: none"><li>• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task</li><li>• On site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues</li></ul>

**Information**

- Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, material safety data sheets (MSDS) and diagrams or sketches
- Safe work procedures related to the operation of telescopic materials handlers on construction sites
- Regulatory/legislative requirements pertaining to telescopic materials handler operations and the environment
- Manufacturers' specifications and instructions
- Organisation work specifications and requirements.
- Instructions issued by authorised organisational or external personnel
- Relevant Australian Standards

**Evidence Guide**

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit**

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The conduct of telescopic materials handler operations are to be performed in a minimum of two separate activities which must include lifting, carrying and placing operations. These activities must include the correct use of appropriate loadshifting charts.
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

**Relationship to other units**

Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

**Specific knowledge required to achieve the performance criteria**

- A knowledge of
  - Telescopic materials handler types, characteristics, technical capabilities and limitations
  - Basic principles of soil technology for civil works
  - Site and equipment safety requirements
  - Techniques for calculating safe working loads
  - Telescopic materials handler and attachment operating techniques related to essential tasks
  - Processes for interpreting drawings and sketches
  - Operational, maintenance and basic diagnostic procedures
  - Site isolation and traffic control responsibilities and authorities
  - Materials Safety Data Sheets and materials handling methods
  - Project quality requirements
  - Civil construction terminology
  - Methods of changing machine attachments
  - Safe operating techniques in all terrain
  - Basic earthworks calculations
  - Civil construction activity sequences of road construction, earthworks and drainage
  - Levelling techniques
  - JSA's/Safe work method statement

**The context of assessment**

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

**Methods of assessment**

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction Training Package and relevant NOHSC standards where they apply
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

**Specific resource requirements for this unit**

- The following resources should be made available:
  - workplace location or simulated workplace
  - an operational telescopic materials handler with lifting equipment
  - realistic tasks covering the mandatory task requirements
  - maintenance materials appropriate to the telescopic materials handler equipment
  - specifications and work instructions.

**... End ...**