



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **RIICTB309A Construct, maintain and remove coffer dams**

**Release: 1**

## RIICTB309A Construct, maintain and remove coffer dams

### Modification History

Not applicable.

### Unit Descriptor

This unit covers the construction, maintenance and removal of coffer dams in the civil construction industry. It includes planning and preparing, constructing and maintaining a dam, removing a coffer dam, and cleaning up. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

### Application of the Unit

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

- Civil construction

### Licensing/Regulatory Information

Refer to Unit Descriptor.

### Pre-Requisites

Not applicable.

### Employability Skills Information

This unit contains employability skills.

### Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply <b>compliance documentation</b> relevant to the work activity 1.2. Obtain and confirm <b>safety requirements</b> from the <b>site</b> safety plan and organisational policies and procedures, and apply to the allotted task 1.3. Identify, obtain and implement <b>signage</b> requirements from the project <b>traffic</b> management plan 1.4. Select plant, <b>tools and equipment</b> to carry out tasks consistent with the requirements of the job, check for serviceability and rectify or report any faults 1.5. Identify <b>materials</b> appropriate to the work application, and ensure they are safely handled and located ready for use 1.6. Identify <b>environmental protection requirements</b> from the project environmental management plan
2. Construct and maintain a dam	2.1. Contact utilities to check placement of marine cables before <b>coffer dam construction</b> 2.2. Drive sheet piles into location in accordance with specifications 2.3. <b>Brace</b> sheet piles 2.4. <b>Dewater</b> and <b>caulk</b> dammed area 2.5. Install sump and/or pump to remove excess water seepage 2.6. Remove mud manually from dammed area 2.7. <b>Level dammed area</b> ready for bridge work to commence
3. Remove coffer dam	3.1. Clear dammed area of any refuse or construction waste 3.2. Remove temporary concrete slab, where used 3.3. Flood coffer dam 3.4. Remove sheet pile 3.5. Extract and dismantle sheet piling allowing waterway to restore its original flow

4. Clean up	4.1. Clear work area and dispose of or recycle materials in accordance with state or territory legislation 4.2. Clean, check, maintain and store machinery, tools and equipment
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## Required Skills and Knowledge

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

### Required skills

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

- apply legislative, organisation and site requirements and procedures for construction, maintenance and removal of coffer dams
- organise work activities
- select and use relevant tools and equipment safely
- identify and report on hazards related to the worksite and work activity
- communicate effectively to receive and clarify work instructions

### Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following, as required to construct, maintain and remove coffer dams:

- site and equipment safety requirements
- boat and water safety
- sheet piling
- environmental protection act
- dewatering
- caulking
- dial before you dig
- bridge foundations
- bridge heritage
- equipment types, characteristics, technical capabilities and limitations
- processes for the calculation of material requirements
- operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- materials safety data sheets and materials handling methods
- quality assurance systems and standards
- JSAs/safe work method statements

## Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p><b>Overview of assessment</b></p>	
<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> <li>• knowledge of the requirements, procedures and instructions for construction, maintenance and removal of coffer dams</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of construction, maintenance and removal of coffer dams</li> <li>• working with others to undertake and complete the construction, maintenance and removal of coffer dams that meets all of the required outcomes</li> <li>• consistent timely completion of the construction, maintenance and removal of coffer dams that safely, effectively and efficiently meets the required outcomes</li> <li>• construction, maintenance and removal of at least one coffer dam, with at least four sheet piles, large enough to require bracing</li> </ul>
<p><b>Context of and specific resources for assessment</b></p>	<ul style="list-style-type: none"> <li>• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.</li> <li>• Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site</li> </ul>

	<p>circumstances.</p> <ul style="list-style-type: none"> <li>• The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job.</li> <li>• Customisation of assessment and delivery environment to sensitively accommodate cultural diversity.</li> <li>• Aboriginal people and other people from a non English speaking background may have second language issues.</li> <li>• Where applicable, physical resources should include equipment modified for people with disabilities. Access must be provided to appropriate learning and/or assessment support when required.</li> </ul>
<b>Method of assessment</b>	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> <li>• written and/or oral assessment of the candidate's required knowledge</li> <li>• observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes</li> <li>• consistent achievement of required outcomes</li> </ul> </li> <li>• first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• working with others to undertake and complete the construction, maintenance and removal of coffer dams</li> </ul> </li> </ul>
<b>Guidance information for assessment</b>	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

## Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><b>Relevant compliance documentation</b> may include:</p>	<ul style="list-style-type: none"> <li>• legislative, organisational and site requirements and procedures</li> <li>• manufacturer's guidelines and specifications</li> <li>• Australian standards</li> <li>• Employment and workplace relations legislation</li> <li>• Equal Employment Opportunity and Disability Discrimination legislation</li> </ul>
<p><b>Safety requirements</b> may include:</p>	<ul style="list-style-type: none"> <li>• OHS requirements in accordance with state or territory legislation and regulations, organisational safety policies and procedures, and project safety plan, including protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances</li> <li>• safe parking practices including ensuring access ways are clear, equipment/machinery is away from overhangs and refuelling sites, safe distance are kept from excavations, and areas secured from unauthorised access or movement</li> <li>• safe operating procedures including recognising and preventing hazards associated with uneven/unstable terrain, trees, pits, poles, trip hazards, dirt mounds, overhead service lines, bridges, surrounding buildings, obstructions, structures, facilities, dangerous materials, recently filled trenches, other machines, personnel, traffic control, working in proximity to others, worksite visitors and the public</li> <li>• recognising hazards and risks including uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li> </ul>



	<ul style="list-style-type: none"> <li>• emergency procedures related to equipment operation including emergency shutdown and stopping, extinguishing equipment fires, organisational First Aid requirements and evacuation</li> </ul>
<b>Site locations</b> may include:	<ul style="list-style-type: none"> <li>• any water or ground conditions in urban and rural areas where damming is to occur for the purposes of bridge construction or repair</li> </ul>
<b>Signage</b> may include:	<ul style="list-style-type: none"> <li>• boat navigation devices (including night navigation)</li> <li>• site safety signage</li> <li>• temporary signage for the benefit of boat operators and other waterway users</li> </ul>
<b>Traffic</b> conditions may include:	<ul style="list-style-type: none"> <li>• rivers</li> <li>• streams</li> <li>• trafficked waterways</li> </ul>
<b>Tools and equipment</b> may include:	<ul style="list-style-type: none"> <li>• sheet piling</li> <li>• boats</li> <li>• pneumatic hammers</li> <li>• pile drivers</li> <li>• sheet lifters</li> <li>• excavators/backhoes</li> <li>• shovels</li> <li>• sludge pumps</li> <li>• bracing</li> <li>• slings</li> <li>• chains</li> <li>• shackles</li> <li>• crane</li> </ul>
<b>Materials</b> may include:	<ul style="list-style-type: none"> <li>• caulking material</li> <li>• concrete</li> </ul>
<b>Environmental protection requirements</b> may include:	<ul style="list-style-type: none"> <li>• waste management</li> <li>• stormwater protection</li> <li>• noise</li> <li>• dust</li> <li>• vibration</li> <li>• safe use of preservatives</li> <li>• waterway protection</li> <li>• clean-up management</li> </ul>
<b>Coffer dam construction</b> may include:	<ul style="list-style-type: none"> <li>• sheet pile construction</li> <li>• sandbags, timber or proprietary systems</li> <li>• construction conducted in conjunction with</li> </ul>

	plant operators and doggers
<b>Brace</b> may include:	<ul style="list-style-type: none"> <li>• pipes</li> <li>• timber</li> <li>• jacks</li> <li>• adjustable props</li> </ul>
<b>Dewater</b> refers to:	<ul style="list-style-type: none"> <li>• the process of removing water and sludge from the sheeted off or dammed area using pumps and sumps (a pit excavated at the lowest point to collect excess water seepage)</li> </ul>
<b>Caulk</b> may include:	<ul style="list-style-type: none"> <li>• caulking of sheet piling joints using sealants including: <ul style="list-style-type: none"> <li>• bitumen</li> <li>• concrete expansion strips</li> <li>• impregnated fibre board</li> <li>• rubber strips</li> </ul> </li> </ul>
<b>Level dammed area</b> may include:	<ul style="list-style-type: none"> <li>• laying of a temporary concrete slab</li> </ul>

## Unit Sector(s)

Timber Bridge Construction and Maintenance

## Competency field

Refer to Unit Sector(s).

## Co-requisite units

Not applicable.