



Australian Government

RIICRC209D Lay reinforced concrete box culverts

Release: 2

RIICRC209D Lay reinforced concrete box culverts

Modification History

Release	Comment
1	This unit replaces RIICRC209A Lay reinforced concrete box culverts
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to lay reinforced concrete box culverts in Civil Construction.

This unit is appropriate for those working in operational roles.

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.

Unit Sector

Civil construction

Elements and Performance Criteria

1. Plan and prepare to lay reinforced concrete box culverts	1.1 Access, interpret and apply reinforced concrete box culverts laying documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Identify and address potential risks, hazards and environmental issues, and implement control measures 1.4 Select and wear correct personal protective equipment appropriate for work activities 1.5 Identify, obtain, confirm and implement signage requirements 1.6 Select and check for faults all plant, tools and equipment to carry out tasks 1.7 Check box culverts (RCBC) units to ensure conformity to
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	relevant drawing and job specifications 1.8 Confirm plant and/or crane requirements to assist in preparing ground and placing box culverts
2. Set out and excavation	2.1 Determine location and depths of excavation from job drawings 2.2 Set out and clearly mark excavation location 2.3 Advise plant operator of excavation requirements 2.4 Check excavation depths and grades to conform with plans and specifications 2.5 Compact and prepare foundations base for testing
3. Construct concrete base	3.1 Set out and construct formwork to required dimensions 3.2 Place steel reinforcement to specifications 3.3 Form recesses in slab as specified 3.4 Connect and tighten hold down anchors to specified requirements 3.5 Place, compact, finish and cure concrete to specified requirements
4. Lay culvert units	4.1 Place continuous mortar bed to support legs 4.2 Lower and position RCBC units to line and level on supporting slab 4.3 Connect hold down anchors to RCBC units 4.4 Finish joints between RCBC units to specification 4.5 Infill space between legs of multiple culverts to specification 4.6 Install spanning slabs where specified for multiple culverts 4.7 Cut off and treat lifting lugs 4.8 Finish inlet and outlet of culvert 4.9 Advise plant operator of compaction and backfill requirements and backfill culvert to required finish level
5. Clean up	5.1 Clear work area and dispose of or recycle materials 5.2 Clean, check, maintain and store tools and equipment

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIICRC209A Lay reinforced concrete box culverts

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICRC209D Lay reinforced concrete box culverts

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Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies applicable documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of reinforced concrete box culvert laying including:
 - accessing, interpreting and applying documentation relevant to pipe laying
 - identifying and applying relevant drawings and job specifications to all work activities
 - identifying, addressing and reporting potential hazards and risks
 - identifying, obtaining, confirming and implementing signage requirements
 - selecting and checking for faults all plant, tools and equipment to carry out tasks
 - identifying, addressing and reporting environmental issues and ground conditions
 - confirming plant and/or crane requirements to assist in preparing ground and placing box culverts
- works effectively with others to undertake and complete the laying of reinforced concrete box culverts that meets all of the required outcomes including:
 - preparing for and organising work activities to meet all task requirements
 - communicating clearly and concisely with others to receive and clarify work instructions
 - using a range of communication techniques and aids to advise others of work activity and exclusion zones
 - monitoring hazards and identifying and communicating changes to the work environment during the work process

- demonstrates completion of laying reinforced concrete box culverts that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - setting out and excavating for placing RCBC units in correct location, depths and grades to conform with plans and specifications
 - compacting and preparing foundations base for testing
 - constructing a concrete base to specified requirements by constructing formwork, placing steel reinforcement with form recesses in slab as specified, connecting and tightening hold down anchors and placing, compacting, finishing and curing concrete
 - laying and finishing off culvert units to specifications
 - advising plant operator of compaction and backfill requirements and backfilling culvert to required finish level
 - clearing work area and disposing of, recycling or storing materials installation of thirty (30) RCBC culvert units to design specifications
 - construction of a minimum of two (2) RCBC support slabs

Knowledge Evidence

The candidate must demonstrate knowledge of laying reinforced concrete box culverts through:

- applying organisation and site requirements and procedures for:
- identifying and managing risks
 - identifying, addressing and reporting environmental issues and ground conditions
 - setting up work activity
 - site isolation and traffic control responsibilities
 - work health and safety
 - managing waste
 - selecting and checking for faults, tools and equipment to carry out tasks
 - carrying out work to drawings and specifications
 - applying effective concrete box culverts laying techniques

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,

- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

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