



**Australian Government**

# **RII40815 Certificate IV in Civil Construction Design**

**Release 4**

## RII40815 Certificate IV in Civil Construction Design

### Modification History

Release	Comments
1	This qualification replaces RII40813 Certificate IV in Civil Construction Design. Amended packaging rules. Added new unit RIILAT402D Provide supervision in the leadership of diverse work teams to Group D electives. Updated codes of imported units.
2	This version was released with RII Resources and Infrastructure Training Package version 3.0.
3	This version includes minor changes from RII40815 Certificate IV in Civil Construction Design Version 2. Removed four deleted units of competency from Group B and replaced with three newly imported units of competency.

### Qualification Description

This qualification reflects the role of people providing design support for professional Engineers. They perform tasks involving a broad range of varied activities most of which are complex and non-routine, for example, this might include civil works drafting. They are responsible for applying the design work instructions and practices to ensure the quantity and quality of the output of others and contribute to the development of technical solutions to non-routine problems.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

### Entry Requirements

There are no entry requirements for this qualification.

### Packaging Rules

The following provides the packaging rules for this qualification, followed by the list of relevant units of competency.

Total number of units = 12

**12 elective units**, of which:

- at least two (2) must be chosen from Group A
- at least two (2) must be chosen from Group B
- at least two (2) must be chosen from Group C

- at least two (2) must be chosen from Group D
- no more than two (2) units may be chosen from elsewhere within this training package, or from another endorsed training package, or from an accredited course.

All elective units selected from outside this qualification must reflect current occupational and learning outcomes of this AQF qualification level.

There are prerequisites to imported units listed in this qualification. Where a unit is imported as an elective care must be taken to ensure that all prerequisites specified are complied with.

<b>Group A</b>	
<i>Unit code</i>	<i>Unit title</i>
BSBINM401	Implement workplace information system
BSBINN301	Promote innovation in a team environment
BSBLDR402	Lead effective workplace relationships
BSBMGT401	Show leadership in the workplace
BSBMGT403	Implement continuous improvement
BSBWOR404	Develop work priorities
<b>Group B</b>	
<i>Unit code</i>	<i>Unit title</i>
MEM09011B	Apply basic engineering design concepts <ul style="list-style-type: none"> <li>• Prerequisite unit: MEM09002B Interpret technical drawing</li> </ul>
MEM30031A	Operate computer-aided design (CAD) system to produce basic drawing elements
MEM30033A	Use computer-aided design (CAD) to create and display 3-D models <ul style="list-style-type: none"> <li>• Prerequisite unit: MEM30031A Operate computer-aided design (CAD) system to produce basic drawing elements</li> </ul>
<b>Group C</b>	
<i>Unit code</i>	<i>Unit title</i>
RIICWD501D	Prepare detailed design of foundations
RIICWD502D	Prepare detailed design of lighting
RIICWD504D	Prepare detailed design of environmental controls
RIICWD505D	Prepare detailed design of landscaping
RIICWD506D	Prepare detailed design of canals
RIICWD507D	Prepare detailed geotechnical design

RIICWD508D	Prepare detailed design of rural roads
RIICWD511D	Prepare detailed design of sub-divisions
RIICWD513D	Prepare detailed design of rail civil infrastructure
RIICWD514D	Prepare detailed design of dams
RIICWD515D	Prepare detailed design of airfield civil works
RIICWD516D	Prepare detailed design of bicycle ways
RIICWD517D	Prepare detailed design of industrial hardstands
RIICWD518D	Prepare detailed design of open car parks
RIICWD519D	Prepare detailed design of inter modal facilities civil works
RIICWD521D	Prepare detailed design of flexible pavements
RIICWD522D	Prepare stabilised material mix design
RIICWD523D	Prepare asphalt mix design
RIICWD524D	Prepare design of spray seal surfacing
RIICWD525D	Select pavement surfacing
RIICWD527D	Prepare detailed design of traffic signals
RIICWD529D	Prepare detailed design of underground services
RIICWD530D	Prepare detailed design of surface drainage
RIICWD531D	Prepare detailed design of subsurface drainage
RIICWD537D	Prepare detailed design of marine structures civil works
<b>Group D</b>	
<i>Unit code</i>	<i>Unit title</i>
CPPSIS3015A	Collect basic spatial data
CPPSIS5032A	Capture new spatial data
CPPSIS5035A	Obtain and validate spatial data
CPPSIS5036A	Integrate spatial datasets
MSL924003	Process and interpret data
MSL974016	Perform physical and mechanical tests
MSL974019	Perform chemical tests and procedures
MSL975031	Supervise sampling, inspections and testing at construction sites <ul style="list-style-type: none"> <li>• Prerequisite units: <ul style="list-style-type: none"> <li>• MSL954004 Obtain representative samples in accordance with sampling plan</li> <li>• MSL973021 Conduct field-based acceptance tests for construction</li> </ul> </li> </ul>

	materials
MSL975044	Perform complex tests to measure engineering properties of materials <ul style="list-style-type: none"> <li>• Prerequisite units: <ul style="list-style-type: none"> <li>• MSL974026 Perform tests to determine the properties of construction materials</li> <li>• MSL973022 Conduct laboratory-based acceptance tests for construction materials</li> </ul> </li> </ul>
RIICBS401D	Apply the principles for the asphalt paving and compaction
RIICBS402D	Apply the principles for the application of bituminous sprayed treatment
RIICBS403D	Apply the principles for the application of polymer modified binder
RIICBS404D	Apply the principles for the selection and use of bituminous emulsion
RIICBS405D	Apply the principles for the application of slurry surfacing
RIICBS406D	Apply the principles of pavement profiling using a profiler
RIICBS407D	Apply the principles for the manufacture and delivery of hot mix asphalt
RIICBS408D	Apply the principles for the manufacture of cold mix
RIICBS409D	Apply the principles for the manufacture of polymer modified binders
RIICBS410D	Apply the principles for the manufacture of bituminous emulsion
RIICBS411D	Apply the principles for the manufacture of slurry surfacing
RIICPL401D	Apply the principles for the installation of underground service using open excavation
RIICRC401D	Apply the principles of flexible pavement construction
RIICRC402D	Apply the principles of rigid pavement construction
RIICRC403D	Apply the principles of the stabilisation of materials
RIICRC404D	Inspect and report on pavement condition
RIICRC405D	Carry out pavement condition measurement
RIICSG401D	Apply the principles of civil concrete structures construction
RIICSG402D	Apply the principles of civil steel structures construction
RIICSG403D	Apply the principles of civil timber structures construction
RIICSG404D	Apply the principles of civil masonry, crib and gabion structure construction
RIICTC401D	Apply the principles of tunnel construction
RIICTT401D	Apply the principles for the installation of underground services using trenchless technology
RIICTT402D	Apply the principles for the repair and rehabilitation of underground services using trenchless technology

RIILAT402D	Provide supervision in the leadership of diverse work teams
RIIMEX403D	Apply the principles of canal construction
RIIMPO402D	Apply the principles of earthworks construction
RIISTD202D	Collect routine site samples

## Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RII40815 Certificate IV in Civil Construction Design	RII40813 Certificate IV in Civil Construction Design	Packaging rules changed to clarify intent; added an elective unit	Equivalent qualification

## Links

Companion Volume implementation guides are found in VETNet -

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