Draft 0.1

This is our work-in-progress update to CPCCBC6016A Assess construction faults in large building projects: https://training.gov.au/Training/Details/CPCCBC6016A.

We are working with industry experts to ensure the updated unit:

- meets current and anticipated industry needs
- complies with current Standards for Training Packages
- is written in clear understandable English.

Information on our training package review and development process is available here: http://www.artibus.com.au/project-stage.

Summary of changes from current endorsed unit

Re-templated to meet Standards for Training Packages 2012.

Sequenced Elements and Performance Criteria.

Specified what and how performance is demonstrated in Performance Evidence.

Captured critical Range Statement items and included industry relevant knowledge in Knowledge Evidence.

Stated mandatory conditions and specific requirements for assessment.

CPCCBC6016
Assess construction faults in large building projects

Application

This unit of competency specifies the skills and knowledge required to identify construction faults in large, high rise and complex buildings and define the problem. It includes analysing faults, determining alternative options and methods and deciding on a reasonable solution.

It applies to builders and other related construction industry professionals who recognise the root cause of construction faults, clarify key issues and establish processes to remediate faults.

This unit of competency supports builders, project managers and related construction industry professionals responsible for assessing construction faults, addressing complex construction problems and seeking advice from relevant experts to eliminate potential future implications.

Prerequisite Unit

Nil.

Unit Sector

Construction.

Elements and Performance Criteria

1. Identify and analyse construction faults.	1.1	Collect information relating to specific construction faults.
	1.2	Analyse original construction project plans and specifications to identify potential causes of construction problems.
	1.3	Document and communicate construction problem to relevant personnel following organisational work practices.
	1.4	Gather expert analysis and opinions as required from project team members and external professionals.
	1.5	Use problem solving techniques to identify typical faults and problems.
	1.6	Decide on a rectification action that meets the performance requirements of the National Construction Code (NCC).
2. Analyse construction techniques, methods and materials.	2.1	Use building terminology accurately in the communication of issues.
	2.2	Evaluate working drawings and specifications to identify any existing or designed in construction problems.
	2.3	Prepare alternative methods and materials to meet the project specification's objectives and comply with NCC and relevant building legislation.
3. Evaluate alternative construction solutions.	3.1	Consider and evaluate commonly occurring on-site problems with building materials and their causes.
	3.2	Prepare report identifying available alternative methods and materials available to meet the construction aims and objectives of the specifications.

	3.3	Prepare detailed sketches of available alternative methods and materials that meet the construction aims and objectives of the specification.
4. Resolve construction faults using alternative construction methods.	4.1	Evaluate solutions and recommend suitable alternative methods to resolve the problem and meet project aims and objectives and organisational processes.
	4.2	Integrate selected methods into the project construction works to align with construction schedules and timeframes.
	4.3	Manage and monitor alternative forms of construction to ensure compliance.
5. Communicate preferred solution to construction problem.	5.1	Document technical resolution in detail of identified problem.
	5.2	Lodge appropriate documentation and communicate with appropriate project and other construction professionals.
	5.3	Determine and implement strategies to monitor corrective action processes and procedures.

Foundation Skills

As well as the foundation skills explicit in the performance criteria of this unit, candidates require:

- technology skills to:
  - use digital tools and devices to communicate and collaborate effectively with others
  - use equipment and programs to access, extract information and develop relevant documentation

Unit Mapping Information

Supersedes and equivalent to CPCCBC6016A Assess construction faults in large building projects.

Links

Companion Volume Implementation Guide: to be added.

Assessment Requirements for CPCCBC6016 Assess construction faults in large building projects

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by identifying and assessing the impact of construction faults on a large Type A building project.

In doing this, the candidate must identify, assess the impact of and determine remedial action for each of the following faults:

- structural
- installation
- refurbishment
- renovation
- restoration

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- government building legislation and regulation
- building codes and standards
- National Construction Code (NCC)
- project drawings, details and specifications
- design principles and behaviour of structural members undergoing stress, strain, tension, compression, bending or combined actions
- nature of materials and effects on performance
- structural design:
    - aesthetics
    - economy
    - equilibrium
    - functionality
    - stability
    - strength
- properties, characteristics and limitations of structural materials:
    - reinforced and pre-stressed concrete and tilt-up panels
    - composite steel and concrete
    - masonry
    - steel (cold-formed steel) and aluminium
- performance characteristics of columns analysis:
    - bending behaviour and performance of loaded support beams
    - eccentric and axial load effect
    - load spanning elements for bending moments, shear forces, deflection and torsion
    - effect of connections

    - effect of slab behaviour in relation to spans and stress distribution
    - effect of slenderness ratio
- high performance structural elements:
    - castellated beams
    - connections
    - fire resistance
    - laminated beams
    - pre-stressed beams
    - slabs
    - trusses
    - use of steel to reinforce concrete
    - waffle slabs
- applications of structural principles in buildings:
    - dead and live load calculations and characteristics
    - fire resistance of materials
    - impact of thermal effects
    - impact of time-dependent effects, including creep and shrinkage
    - impact of wind, snow, ground water, earthquake, liquid pressure, rainwater and earth pressure actions
    - structural resistance of forms of construction
    - structural resistance of materials
- work health and safety (WHS) and organisational quality procedures and processes
- temporary structural elements:
    - bracing
    - close sheeting
    - formwork props
    - pressure resistant formwork
    - scaffolding sole plates
    - shields
    - shoring collar sets
    - soldier sets

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment of performance must be undertaken in the workplace or in a simulated workplace environment.

Candidates must be provided with:

- relevant government building legislation codes and standards
- environmental and sustainability requirements
- manufacturer's specification and installation instructions
- organisational policies, procedures and workplace safety requirements
- project plans and specifications
- sufficient equipment and materials to assess construction faults in large building projects.

Links

Companion Volume Implementation Guide: to be added.