



Australian Government

RIICCM208 Carry out basic levelling

RIICCM208 Carry out basic levelling

Modification History

Release	Comments
1	This unit of competency was first released in RII Resources and Infrastructure Industry Training Package Release 11.0.

Application

This unit describes the skills and knowledge required to carry out basic levelling in civil construction, including establishing offsets to plans and drawings and setting up and using a levelling device.

It applies to those working under supervision to perform a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing/Regulatory Information

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

Pre-requisite unit(s)

No pre-requisite units

Competency field(s)

N/A

Unit sector(s)

Civil construction

Elements and Performance Criteria

Element	Performance criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Required knowledge, skills and application should be considered and clearly articulated.</i>

1. Plan and prepare for basic levelling	1.1 Access and apply relevant safety planning documentation, including safe work method statements (SWMS), job safety analyses (JSA) or equivalents, and safe operating procedures (SOP) or safe working instructions (SWI), in accordance with applicable legislation, regulatory requirements and worksite instructions 1.2 Confirm task requirements with site personnel in accordance with worksite instructions 1.3 Identify hazards associated with the worksite and plant, and implement required risk control measures in accordance with work health and safety (WHS) requirements and worksite instructions 1.4 Verify that SWMS/JSA (or their equivalents) control measures are in place and implemented in accordance with WHS requirements and worksite instructions 1.5 Wear designated personal protective equipment (PPE) prescribed by site signage and SWMS/JSA or equivalents after confirming serviceability, in accordance with WHS requirements and worksite or manufacturer instructions 1.6 Establish exclusion zones in accordance with the requirements of the worksite SWMS/JSA (or their equivalents) 1.7 Confirm emergency procedures and prepare for accidents and emergencies in accordance with WHS requirements and worksite instructions 1.8 Select plant, tools, equipment and materials required to carry out tasks after confirming serviceability, in accordance with WHS requirements and manufacturer and worksite instructions 1.9 Conduct prestart and start-up checks and complete a walkaround on plant and equipment in accordance with WHS requirements, manufacturer instructions and worksite instructions
2. Establish offsets to plans and drawings	2.1 Establish offset and recovery pegs and/or digital reference points from survey controls in line with specified plans, drawings, or digital models in accordance with worksite instructions 2.2 Re-establish earthwork and pavement control lines using offsets, recovery pegs, or digital survey systems in accordance with worksite instructions 2.3 Establish drainage offsets or digital reference points from provided survey controls to guide levelling operations in accordance with project drawings, digital models and worksite instructions
3. Set up and use levelling instruments	3.1 Identify levels or heights to be transferred or established from project plans, digital models, or worksite instructions 3.2 Set up and use levelling instruments including optical, laser, digital, or Global Navigation Satellite System (GNSS)-enabled

	systems in accordance with task requirements, and manufacturer and worksite instructions 3.3 Transfer or check levels from known control points or digital survey systems to required locations to support plant operations in accordance with worksite instructions 3.4 Record and document levelling results in site logs, quality assurance systems, or digital survey records in accordance with worksite instructions 3.5 Work safely around traffic, plant and services, and respond to changing or unsafe conditions in accordance with WHS requirements and worksite instructions
4. Conduct housekeeping activities	4.1 Remove temporary safety measures within scope of authority in accordance with WHS requirements and worksite instructions 4.2 Tidy the work area and remove, store, recycle, or dispose of waste materials in accordance with worksite instructions 4.3 Inspect the plant, tools, and equipment for damage and wear before cleaning and storing and report any faults in accordance with WHS requirements, manufacturer requirements and worksite instructions 4.4 Complete records if required in accordance with worksite instructions

Range of conditions

N/A

Assessment Requirements for RIICCM208 Carry out basic levelling

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit, including evidence of the ability to:

- carry out basic levelling on at least **two** occasions, including:
 - using an automatic, laser, or digital level on at least **one** occasion
 - recording and reporting levelling results in site logs, quality assurance documentation, or digital survey records in line with organisational requirements.

During the above, the candidate must:

- follow policies and procedures
- wear personal protective equipment (PPE) as per site requirements
- apply safe work practices when working around traffic, mobile plant, and services
- implement the requirements, procedures, and techniques for basic levelling, including:
 - selecting, checking, and using levelling instruments (automatic, laser, or digital levels) and associated tools
 - carrying out basic levelling calculations using the height of instrument (HI) or rise and fall methods, or digital equivalents
 - applying basic civil construction processes such as setting out, establishing pegs, transferring levels, and recording results
- work with others to complete basic levelling that meets required outcomes, including:
 - communicating effectively to receive and clarify work instructions
 - using communication methods and equipment (e.g. signage, hand signals, two-way radios, digital devices) to coordinate with others and establish exclusion zones
 - complying with organisational and project reporting requirements, including site logs, QA forms, or digital survey records.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legal regulations, standards, and codes of practice relevant to basic levelling tasks including those related to:

- work health and safety requirements including mandatory safety planning documents (SWMS) or job safety analysis (JSA or JSEA or JHA or their equivalent)
 - site safety requirements, including warning methods to alert bystanders when using lasers
- key workplace policies, procedures, and documentation required for levelling activities, including those related to:
 - organising work activities
 - applying safe work practices and environmental controls
 - recording and reporting results in organisational or digital systems particularly when using lasers or digital equipment
- levelling principles and tolerance checks, including:
 - using reverse readings or backsight/foresight checks to minimise error
 - checking results against project tolerances for earthworks, pavements, or drainage
 - ability to read and apply civil construction plans and drawings, including interpretation of basic symbols
- levelling procedures, including:
 - applying the rise and fall method of reduction to determine elevation changes
 - recording results and verifying calculations manually or digitally
- types, characteristics, technical capabilities, and limitations of tools and equipment for levelling, including:
 - automatic, laser, and digital levels
 - global navigation satellite system (GNSS) rovers and total stations (basic awareness).

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment (PPE)
 - equipment required to carry out basic levelling
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,

- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Assessor Requirements

In addition to the requirements in applicable vocational education and training legislation, frameworks and/or standards, assessors and industry experts must also have a minimum of two (2) years industry experience, directly relevant to the training and assessment being provided.

Mandatory Workplace Requirements

Assessment of performance evidence may be in a workplace setting or an environment that accurately represents a real workplace.

Unit Mapping Information

Previous Code and Title	Equivalence	Comments
RIICCM208E Carry out basic levelling	Equivalent	Supersedes and is equivalent.

Links

Companion volumes, including implementation guides, are found on the national training register - <https://training.gov.au/training/details/RII>.