Title	**Design, erect, and dismantle a roof saddle scaffold**		
Level	**5**	**Credits**	**15**

Purpose	This unit standard is for people who have intermediate scaffolding skills and who want to develop their scaffolding skills to an advanced level. People credited with this unit standard are able to: – design a roof saddle scaffold; – erect cantilevered elements of a roof saddle scaffold; – erect upright elements of a roof saddle scaffold; – erect hanging elements of a roof saddle scaffold; – check the structure is compliant and complete a GPG inspection report; and – dismantle a roof saddle scaffold.

Classification	Lifting Equipment > Advanced Scaffolding

Available grade	Achieved

Guidance Information

1 This unit standard has been developed for learning and assessment on-job or off-job in a simulated environment.

2 All tasks must be carried out in accordance with:
- a quality management systems;
- b designer's requirements and manufacturers' operating instructions; legislation, regulations, bylaws, Health and at Work Act 2015, and Health and Safety in Employment Regulations 1995;
- c the most up to date version of the *Good Practice Guidelines - Scaffolding in New Zealand (GPG),* 2016 available from https://www.worksafe.govt.nz/topic-and-industry/working-at-height/scaffolding-in-new-zealand/; and all subsequent amendments and replacements.

3 Definitions
Client refers to an individual or representative of a company who commissions a particular scaffold or scaffolding structure to be erected, or is an end user of the scaffold or scaffolding structure.
Hangers are also called *hanging tubes* or *droppers*, are the vertical hung members that form the 'skeleton' of hung scaffold portions of roof saddle scaffolds.
Needle refers to a cantilevered structural member that supports a cantilevered scaffold or other structure.
Project supervisor refers to the individual responsible for the project or activity for which the scaffolding is required or which it supports.

Restore or repair refers to the steps taken to ensure the end state of the supporting structure in accordance with site requirements.
Roof saddle scaffolds: combine cantilevered and hanging scaffolding to gain access to difficult-to-reach apex structures – principally roofs. The design, erection, and dismantling of roof saddle scaffolding is an advanced scaffolding function. The specifications of roof saddle scaffolds often need to be checked by a chartered professional engineer. The circumstances in which this is required are set out in the GPG.
Scaffold plan refers to a key design document prepared by the candidate and used as a basis for the erection of a particular scaffold.
Scaffolding is as defined in the GPG and in the Health and Safety in Employment Regulations 1995.

4 Training and assessment
During assessment against this unit standard, the erection and dismantling of scaffolds and scaffolding structures must take place under the supervision of a certified scaffolder who holds a current Certificate of Competence for the scaffolding concerned.

5 Range
Evidence is required for one roof saddle scaffold constructed from mixed proprietary systems and tube and fitting components.

6 Recommended skills and knowledge
New Zealand Certificate in Scaffolding (Level 4) [Ref: 2362], or demonstrate equivalent knowledge and skills; Unit 26598, *Design, erect, and dismantle advanced cantilevers*; and Unit 26599, *Design, erect, and dismantle hanging scaffolds*; or demonstrate equivalent knowledge and skills.

Outcomes and performance criteria

Outcome 1

Design a roof saddle scaffold.

Performance criteria

1.1 Confirm roof saddle scaffold requirements with the project supervisor, client, or chartered professional engineer.

Range includes – establishing maximum load;
may include but is not limited to – height, number, and placement of working lifts; access to points of attachment; intended purpose or nature of work to be conducted from the roof saddle scaffold.

1.2 Check the roof and supporting scaffold for their capacity to support the roof saddle scaffold.

Range includes but is not limited to – confirmation of roof structural integrity; placement of roof supports; presence of and need for buttress and/or raker bays; identification of attachment, tie, and bracing points.

1.3 Determine design parameters, where necessary, meeting chartered professional engineer's requirement.

Range includes but is not limited to – condition and placement of roof structural members, nature and supports for supporting scaffold, loading calculations, access, placement and nature of needles or propping and associated bracing and attachment points, direction and magnitude of forces, positioning of hangers, bracing methods, regulatory requirements, safety margins.

1.4 Prepare design documents, including where necessary, advice from a chartered professional engineer.

Range includes – scaffold plan, gear list, and, where necessary, engineer's requirements;
may include but is not limited to – CAD printouts, work schedules, staffing allocation, WorkSafe New Zealand and local authority approvals, workplace-specific documentation.

1.5 Submit where necessary, the scaffold plan and associated design documents to a chartered professional engineer for checking and adjustments made as required.

Outcome 2

Erect cantilevered elements of a roof saddle scaffold.

Range to support both upright and hanging scaffold elements.

Performance criteria

2.1 Confirm design parameters on-site before work begins in accordance with the scaffold plan.

Range includes but is not limited to – attachment distances and placement of spurs, needles, and propping; number of working lifts supported; bracing and tie points and their structure; load weights; bracing methods; direction and magnitude of forces.

2.2 Source the necessary equipment in accordance with the scaffold plan.

2.3 Position, secure tie and brace needles and/or other cantilevered members to the supporting scaffold in accordance with the scaffold plan.

2.4 Erect, brace and plank subsequent cantilever components progressively to form the cantilevered portion in accordance with the scaffold plan.

Outcome 3

Erect upright elements of a roof saddle scaffold.

Performance criteria

3.1 Confirm design parameters in accordance with the scaffold plan.

Range includes but is not limited to – attachment points to cantilevered base, bracing and tie points, load weights, bracing methods, direction and magnitude of forces.

3.2 Source the necessary equipment in accordance with the scaffold plan.

3.3 Raise and secure standards on the cantilevered base in accordance with the scaffold plan.

3.4 Erect transoms, ledgers, and bracing, plank lift(s) and plank in accordance with the scaffold plan.

Outcome 4

Erect hanging elements of a roof saddle scaffold.

Performance criteria

4.1 Check safety factors in accordance with the scaffold plan.

Range includes but is not limited to – attachment points to cantilevered base, number of drops, drop distances, number of working lifts supported, bracing and tie points and their structure, load weights, bracing methods, direction and magnitude of forces.

4.2 Source the necessary equipment in accordance with the scaffold plan.

4.3 Install, check fittings, hangers, and associated components in accordance with the scaffold plan.

4.4 Lock hangers, check the structure is square, erect bracing, and planking accordance with the scaffold plan.

4.5 Erect, brace and plank subsequent scaffolding components progressively from the bottom up in accordance with the scaffold plan.

Outcome 5

Check the structure is compliant and complete a GPG inspection report.

Performance criteria

5.1 Check the structure for compliance in accordance with the scaffold plan.

5.2 Complete a GPG inspection report.

5.3 Make changes to the structure to ensure compliance and amend the GPG inspection report accordingly.

5.4 Arrange for the structure, where necessary, to be inspected by a certificated scaffolder who has an appropriate certificate or by a chartered professional engineer.

Outcome 6

Dismantle a roof saddle scaffold.

Range cantilevered elements are cleared from the extremities inward and hanging elements from the bottom up.

Performance criteria

6.1 Clear the section of the scaffold to be dismantled of load.

6.2 Remove scaffolding components, and their bracing and ties, progressively back to the supporting members.

6.3 Remove supporting members and their bracing progressively.

6.4 Restore or repair attachment points in accordance with site requirements.

Replacement information	This unit standard, unit standard 26598, unit standard 26599, unit standard 26600, and unit standard 26601 replaced unit standard 4209 and unit standard 4211.

Planned review date	31 December 2026

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 July 2011	31 December 2016
Review	2	16 July 2015	31 December 2025
Review	3	24 February 2022	N/A
Revision	4	24 August 2023	N/A

Consent and Moderation Requirements (CMR) reference	0003

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact the Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.