

ASSESSMENT GUIDELINES

Unit 1015

Construct stone features in landscape work

Level 4, Credit 10, version 5

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Unit standard 1015

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Level of performance required for this unit standard

This is a level 4 unit standard. At this level trainees are expected to demonstrate the following abilities when completing assessment tasks:

- To work under broad guidance, independently; with complete responsibility for the standards of the outcome achieved.
- To apply technical skills, knowledge and innovation to complete the task to the specified standard, in a variety of familiar and unfamiliar context.
- To analyse and interpret information, and make an informed judgment.

Workplace assessment:

For guidelines on Workplace Assessment, please refer to the NZHITO Workplace Assessors Manual, and for further information, please contact: NZHITO, PO Box 8638, Christchurch. Ph 03 9644 735, Fax 03 9644 737, Website: www.hortito.org.nz

Special notes:

- 1 *Workplace procedures* refer to verbal or written instructions to staff on procedures for the worksite and equipment.
- 2 Legislation relevant to this unit standard includes but is not limited to the Health and Safety in Employment Act 1992, and the Resource Management Act 1991.
- 3 The New Zealand Standards applicable to this unit standard are: NZS 3109:1997 *Concrete construction*, NZS 4210:2001 *Masonry construction: Materials and workmanship*, AS/NZS 4671:2001 *Steel reinforcing materials*, available from <http://www.standards.co.nz>.
- 4 Any work carried out in playground areas must comply with NZS 5828:2004 *Playground equipment and surfacing*, available from <http://www.standards.co.nz>.

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ELEMENT	Competent	Range of evidence an assessor should consider
<p>Element 1 Identify the material requirements for stone landscape features</p>	<p>Yes/No</p>	<ul style="list-style-type: none"> ▪ Calculate stone for the construction of dry stone wall from drawings or specifications and is ordered for site delivery according to workplace procedures. This includes type of stone, size range and preferred shape, colour range where applicable, tonnage or square metres of face area, freight or delivery method. ▪ Calculate materials for mortared construction of stone features from drawings and specification, and order for site delivery in accordance with workplace procedures. This includes materials for three of – walls, retaining walls, seats, steps, columns, piers, posts and storage features; detailing – sand by grade and volume in cubic metres, cement by bag or tonne, and mixtures by volume and type.
<p>Element 2 Use hand and portable power tools and safe techniques in stone construction</p>	<p>Yes/No</p>	<ul style="list-style-type: none"> ▪ Select and use hand and power tools according to workplace procedures, to achieve a specified outcome without damage to materials, injury to the operator, or danger to others. Tools may include but are not limited to: lines, automatic level, spirit level, measuring rule, measuring tape, square, straight edge; hammer shovel, wheelbarrow, hand saw, sledge hammer, reinforcing steel bender, bolt cutters, club hammer, bolster, skutch hammer, cold chisel; hand concrete rammer, scrubbing brush, hose, pointing trowel, mortar board, laying trowel, pointing tool; concrete mixer, power saw, electric drill, electrical lead, residual current device, power saw and stone cutting blade or water lubricated stone cutting saw. ▪ Ensure tools are not damaged in achieving the outcome, and maintain them according to workplace procedures. Range: sharp, clean, adjusted, lubricated and undamaged. ▪ Use safety equipment according to workplace procedures to reduce the risk of injury when working with stone. This includes gloves, eye protection, ear protection, footwear and dust mask. ▪ Use lifting techniques which minimize the risk of back injury according with workplace procedures when working with stone.
<p>Element 3 Build a dry stone wall</p>	<p>Yes/No</p>	<ul style="list-style-type: none"> ▪ Ensure the set out for the feature is to the dimension show and the location identified on the site drawings for the wall. ▪ Ensure the foundations are appropriate to the breadth and purpose of foundation. ▪ Lay stone chosen for size and shape are to line, bedded in the excavation, and stabilized with compacted hardfill to establish a solid base for the wall. ▪ Ensure the remaining courses of stone achieve structural stability, dimension according to drawings, specifications, and dry wall ratios, weather resistance, and balanced visual appearance by the inclusion of accepted elements in the laying process. Elements include: ties, bonds, end and corner finishes, batter, pattern, balance of size and fill to double sided features. ▪ Select and place capping stones to provide weather proof finish and structural tie across the top of the wall, to line and height shown on site drawings and specifications. ▪ Remove surplus material and leave site in a condition which allows further work to be done unimpeded according to workplace procedures.

<p>Element 4 Construct mortared stone features</p>	<p>Yes/No</p>	<p>Select three of– walls, retaining walls, seats, steps, columns, piers and posts, storage features.</p> <ul style="list-style-type: none"> ▪ Construct features to dimension and in location shown on site drawings or specifications, and according to workplace procedures. ▪ Ensure the construction of foundation is to dimension shown on drawings and meets the requirements of the site specification and NZS 3109:1997 ▪ Select stone to be laid for shape, balance of size, and formation of joints to size defined in the site specification. ▪ Use techniques in cutting stone that reflects the working characteristics of the stone being used according to workplace procedures. This includes grain, hardness, breaking pattern. ▪ Mix and use mortar for laying stone according to the requirements of NZS 4210:2001 ▪ Finish joints to specification and shape to run water out of the structure. ▪ Ensure drainage requirements detailed in the site drawings or specifications are incorporated in the feature shown. ▪ Clean down the feature when mortar is dry, according to workplace procedures, to leave surface free of loose material and accumulated mortar.
<p>Element 5 Construct a stone feature with reinforced concrete backing</p>	<p>Yes/No</p>	<ul style="list-style-type: none"> ▪ Establish foundation to line, height, and location shown on drawings or specifications to include starter reinforcing. ▪ Construct formwork to contain concrete backing to line and height shown on drawings or specifications according to workplace procedures. ▪ Incorporate drainage provisions in the feature as detailed in drawings and specification. ▪ Cut, bend, place and fix reinforcing for the feature as shown in drawings, and according to the requirements of AS/NZS 4671:2001 ▪ Lay stone courses to maximum height specified, and mortar is allowed to set before placement of concrete backing is undertaken. ▪ Wet inner surface of stone, mix cement grout according to the site specification and apply to give total coverage before concrete is poured. ▪ Place concrete mixed to site specification and according to the requirements of NZS 3109:1987, in the cavity between stone and formwork without distorting the feature. This includes vertical layers to depth allowed in specification; concrete compaction which does not disturb stone facing; protection to keep concrete off the stone facing surface. ▪ Key and coat all joints in the backing concrete with grout before placement of the next layer. ▪ Finish joints as detailed in the site specification and clean the surface down to remove loose material and accumulated mortar on completion. Provide fixings for other construction elements in the feature to detail shown on drawings or specifications. Range: bolts, nailing blocks, brackets, ducting. ▪ Complete associated work to requirement of drawings and specification and without damage to the feature. Range may include but is not limited to - drainage, formwork removal, waterproof membranes, backfilling. ▪ Use devices which define areas of danger according to workplace procedures when work is accessible to the public. Range may include but is not limited to - barriers, lights, warning signs. <p>Remove surplus material and leave site in a condition which allows further work to be done unimpeded according to workplace procedures.</p>

_____ (Name of Apprentice)

is **Competent / Not yet competent** in Unit Standard 1015 (version 5)

Signed (Assessor): _____

WPA Registration Number: _____ Date: _____

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