

41289**Carry out irrigation system checks and maintenance**

Kaupae Level	3
Whiwhinga Credit	15
Whāinga Purpose	This skill standard is intended for people working with irrigation systems in, or supporting, a primary industry operation. They will be able to check irrigation performance, conduct scheduled irrigation system maintenance safely, and check and maintain infrastructure related to an irrigation system, under limited supervision. This skill standard aligns with the New Zealand Certificate in Arable Farming (Level 3) [Ref: 5679] and the Irrigation System Maintenance and Management (Micro-credential) (Level 3) [Ref: 5636-1].

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Check irrigation performance.	a. Describe the purpose of testing methods for irrigation performance assessment.
	b. Carry out a bucket test to check application uniformity, application intensity, and depth of application, with guidance.
	c. Check data from flow meter and pressure gauges against expected design parameters.
	d. Check emitters for damage or blockage.
	e. Identify and address irrigation system set-up issues.
2. Carry out scheduled irrigation system maintenance.	a. Identify risks and mitigations related to pressurised systems, mechanical parts, pump stations, and electrical equipment.
	b. Apply workplace safety procedures when conducting irrigation maintenance.
	c. Carry out pre-start checks on machinery.
	d. Identify and address basic maintenance issues.
	e. Report specialised maintenance issues.

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
3. Check and maintain infrastructure related to the irrigation system.	a. Check that water supply meets system operational requirements.
	b. Check the irrigation system and its surroundings for obstructions or hazards.
	c. Maintain infrastructure and report any issues affecting irrigation system operation.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications:

All activities must be carried out in accordance with workplace health and safety requirements, workplace procedures, and manufacturer's specifications.

Providers must give due consideration to embedding ngā kaupapa (principles) o Te Tiriti o Waitangi when designing delivery activities relevant to this standard. These principles are outlined in [Guidelines for Providers: Embedding Tirohanga Māori](#).

Providers must give due consideration to the needs and values of Pacific peoples and other cultural groups when designing delivery activities relevant to this standard, ensuring practices are inclusive and equitable.

Ākonga/learners should be assessed against this standard in a real-life context using naturally occurring evidence. A verifier's checklist with appropriate comments confirming competency is acceptable if accompanied by evidence that includes examples from the learner's performance.

For Learning Outcome 3, ākonga/learners are expected to carry out routine maintenance tasks that are within their role, responsibility, and workplace procedures. Where issues affecting irrigation system operation are identified, learners are expected to respond appropriately by taking action within their level of responsibility, or reporting the issue to an appropriate person when it is beyond their capability or authority.

Definition

Primary industry organisation refers to a workplace, business, or entity in the agriculture, horticulture, or wider primary sector that uses, manages, supplies, installs, services, or supports irrigation systems for primary industry operations.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

Irrigation performance

- testing methods, e.g. bucket test, rain gauge, soil moisture probe
- relevant sources of information, e.g. Standard Operating Procedures (SOPs), industry guidelines
- key performance indicators, e.g. pressure, flow, application uniformity, application intensity, depth of application

- irrigation system set-up issues, e.g. alignment, run length, speed, gear settings, irrigation zone valve configuration
- emitter issues, e.g. blockage, wear, damage.

Safety considerations

- risk assessment, e.g. Site Safe 5x5 assessment protocol
- legislative, regulatory and workplace-specific safety requirements
- awareness of surroundings, e.g. overhead powerlines, vehicles, fallen trees, water storage (e.g. dams, reservoirs, tanks, ponds, canals)
- hazards associated with pressurised systems, moving/mechanical parts, pump stations and electrical equipment
- safe operation at height and in enclosed spaces.

Scheduled maintenance

- operations and maintenance manual and workplace SOPs
- pre-start checks for irrigation machinery/equipment
- basic maintenance, e.g. oil change, lubrication, tyre pressures, line flushing, filter clearance
- reporting procedures for specialised maintenance issues.

Infrastructure

- water supply infrastructure, e.g. well depth, dams, fish screens/intakes
- obstructions, e.g. bird netting, fences, wire, vehicles and equipment, tracks, gates
- hazards, e.g. unstable ground, slippery surfaces, overhead powerlines, unsafe access around pump stations, intakes, or storage structures
- routine infrastructure maintenance, e.g. clearing debris from intakes or screens, maintaining access ways, checking and maintaining gates or tracks used for irrigation operation, vegetation clearance around infrastructure, minor upkeep of protective covers or supports
- issues affecting irrigation system operation, e.g. restricted water supply, low water levels in dams, blocked intake, damaged screen, unsafe or blocked access, damaged infrastructure requiring repair or reporting.

Rauemi | Resources

- [Health and Safety at Work Act 2015](#).
- [Irrigation Bucket Test Calculator](#) (DairyNZ).
- [Performance Assessment](#) (IrrigationNZ).
- [IRRIG8 Irrigation Evaluation Resources](#) (LandWISE).
- [CatchCan App](#) (IrrigationNZ).
- Workplace-specific Standard Operating Procedures.

Pārongo Whakaū Kouna | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Food and Fibre Industry Skills Board
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Agriculture, Forestry and Fisheries > Primary Sector > Primary Sector Core Skills
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0052

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	30 July 2026	N/A
Kōrero whakakapinga Replacement information	N/A		
Rā arotake Planned review date	31 December 2031		

Please contact the Food and Fibre Industry Skills Board at info@foodandfibreisb.nz to suggest changes to the content of this skill standard.