

41035 Manage site-specific irrigation systems

Kaupae Level	4
Whiwhinga Credit	25
Whāinga Purpose	<p>The skill standard is for people working in irrigation or seeking skills in managing site-specific irrigation systems.</p> <p>People credited with this skill standard will be able to determine operational management requirements of irrigation systems. People will develop the skills required to produce a tailored operation and maintenance plan, and to manage the safe, compliant, and efficient functioning of irrigation systems across various land uses.</p> <p>This skill standard has been developed to align with the New Zealand Certificate in Irrigation System Management (Level 4) [Ref: 2556]. The New Zealand Certificate in Irrigation Design (Level 5) [Ref: 2557].</p>

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

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Develop a comprehensive operational plan tailored to a specific irrigation site and system.	a. Develop and document a site-specific and system-specific operation and maintenance manual detailing system features, operational procedures, and maintenance schedules.
	b. Determine and document standard operating procedures and safety protocols for start-up, shut-down, emergencies, health and safety, and system adjustments.
2. Plan and explain maintenance requirements for irrigation systems.	a. Develop and justify a maintenance schedule for critical components, on risk and performance priorities.
	b. Verify and document that the maintenance schedule aligns with manufacturer recommendations and industry standards.
	c. Explain procedures for routine inspections and preventive maintenance tasks.
3. Monitor irrigation system performance.	a. Conduct pre-season and in-season system checks, including calibrations, with recorded and verified results.
	b. Adjust system settings based on performance data to optimise efficiency.

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
4. Manage recording-keeping and reporting processes to support compliance and performance improvement.	a. Complete irrigation activity logs and maintenance records that meet regulatory and internal compliance requirements.
	b. Implement a system for tracking performance metrics to identify trends over time.
	c. Prepare reports summarising system performance, maintenance activities, and any issues encountered.
	d. Develop a system to review, reflect and adjust practices.
5. Plan for emergency or abnormal operating conditions.	a. Develop a training plan to ensure personnel are prepared for proper system operation, safety protocols, and emergency procedures.
	b. Create a response plan for addressing system malfunctions or inefficiencies, including operational continuity.

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

Assessment specifications:

Akōnga/learners must be assessed using naturally occurring evidence.

Activities can be assessed against existing, new or modified irrigation systems.

The irrigation system is for an agricultural or horticultural property, sports turf surface, landscape, golf course, amenities and wastewater.

All assessment activities and evidence must meet the requirements of accepted industry practice, worksite safety procedures, and any subsequent amendments to legislation.

Evidence for all outcomes must be presented in accordance with: New Zealand Piped Irrigation Systems Design Code of Practice; and Irrigation; available from the Irrigation New Zealand website, <http://irrigationnz.co.nz/> and any subsequent amendments.

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.

Definitions:

Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider tree felling industries as examples of best practice.

Worksite procedures refer to documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to standard operating procedures, site safety procedures, equipment operating procedures, quality assurance procedures, housekeeping standards, procedures to comply with legislative and local body requirements.

Ngā momo whiwhinga | Grades available

Achieved.

Ihirangi waitohu | Indicative content

Quality and Minimum Guidelines – Good Management Practice Plan Development

- Purpose and structure
- System overview, objectives, layout maps and site constraints
- Documentation formats (digital briefs, printed manuals)
- Reviewing and adjusting seasonal scheduling data.

Procedures and Safety

- Start-up, operational and shutdown procedures
- Health and safety protocols for pressurised systems, electrical components, moving parts
- Emergency shutdown steps and fault-recovery procedures.

Schedule Maintenance

- Servicing of emitters, filters, pumps, sensors, valves, pipes and controllers
- Maintenance schedules based on manufacturer guidance, usage and seasonal demand
- Tasks: line flushing, filter cleaning, mechanical inspections.

Monitoring and Optimising Performance

- Pressure, flow rate and application uniformity checks
- Calibration of sensors, flow meters and control devices
- Detect and correct inefficiencies (pressure loss, clogging, etc.).

Maintaining Records and Reporting

- Digital or paper logs for maintenance actions, operational checks, repairs and anomalies
- Performance data and records for audits and regulatory review
- Compliance with IrrigationNZ O&M Guidelines and Resource Management Act requirements.

Rauemi | Resources

Codes of Practice relevant to this skill standard include but are not limited to:

- Irrigation New Zealand website, <http://irrigationnz.co.nz/>
 - The New Zealand Piped Irrigation Systems Design Code of Practice
 - The New Zealand Piped Irrigation System Performance Assessment Code of Practice
 - The New Zealand Piped Irrigation Systems Design Standards
 - The New Zealand Piped Irrigation Systems Installation Code of Practice
 - The Irrigation New Zealand Guideline for Irrigation Management
 - The Irrigation New Zealand Design Brief Checklist
 - The Irrigation New Zealand Guideline for an Operations and Maintenance Manual.

Legislation relevant to this skill standard includes but is not limited to:

- Site specific water resource consent or water supply agreement, weather data (e.g. NIWA), crop descriptions and soil profile data sheets (e.g. SMap);
 - Health and Safety at Work Act 2015;
 - Resource Management Act 1991;
 - National Policy Statement for Freshwater Management 2014;
 - Various Regional Council Land and Water Regulations;
- and any subsequent amendments or replacements.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Muka Tangata – People Food and Fibre Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Engineering and Technology > Water Industry > Irrigation
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	18 December 2025	N/A
Kōrero whakakapinga Replacement information	This skill standard replaced unit standard 28936.		
Rā arotake Planned review date	31 December 2030		

Please contact Muka Tangata at qualifications@mukatangata.nz to suggest changes to the content of this skill standard.