

Title	Locate pipes and cables and advise on works in the vicinity of a gas pipeline		
Level	4	Credits	8

Purpose	People credited with this unit standard are able to: demonstrate knowledge of documentation, company procedures, hazards and equipment for locating gas pipelines; prepare for and locate pipes and cables; advise on, control and inspect works in the vicinity of a gas network; and complete reporting and documentation.
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Classification	Gas Industry > Gas Network Operations
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Available grade	Achieved
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Guidance Information

- 1 This unit standard is intended for, but is not limited to, workplace assessment. The range statements relate to enterprise specific equipment, procedures, and processes.
- 2 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer's specifications, company and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 3 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of:
 - Health and Safety at Work Act 2015;
 - Health and Safety in Employment (Pipelines) Regulations 1999;
 - Gas Act 1992;
 - Gas (Safety and Measurement) Regulations 2010;
 - Resource Management Act 1991;
 - Hazardous Substances and New Organisms Act 1996;
 - Excavation Safety Good Practice Guidelines* ISBN: 978-0-908336-49-4 ([online](#));
 - Guide for Safety with Underground Services* ISBN 0-477-03665-1 ([online](#));
 - AS/NZS 4645.1:2018 *Gas distribution networks - Network management*;
 - AS/NZS 4645.2:2018 *Gas distribution networks - Steel pipe systems*;
 - AS/NZS 4645.3:2018 *Gas distribution networks - Plastics pipe systems*
 - AS 2885.1-2012 *Pipelines – Gas and liquid petroleum Design and construction*;
 - AS 2885.3-2012 *Pipelines – Gas and liquid petroleum Operation and maintenance*;
 - and any subsequent amendments and replacements.
- 4 References
 - Australian standards (AS) may be found at www.standards.org.au;

Australian/New Zealand standards (AS/NZS) may be found at www.standards.govt.nz.

- 5 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 6 Outcomes 2 and 3 of this unit standard relate to low, medium and intermediate pressure gas pipelines. High pressure gas pipelines are covered in Unit 25314, *Control excavations in the vicinity of a high pressure gas pipeline*.
- 7 Paint colours used for marking services should comply with the [Guide for Safety with Underground Services](#).
- 8 Definitions
Company requirements refer to instructions to staff on policy and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – company specifications and procedures, work instructions, manufacturer specifications, product quality specifications and legislative requirements.
Works include notifiable works.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of documentation, company procedures, hazards and equipment for locating gas pipelines.

Performance criteria

- 1.1 Documentation and company procedures for locating pipes and cables and working in the vicinity of gas pipelines are located and interpreted.

Range	may include – network technical standards, WorkSafe guidelines, other utility requirements, safe working procedures, equipment operation manuals.
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- 1.2 Documentation and instructions for a specified job are obtained.

Range	may include – job card, site location, hazard identification, utility plans, network plans, mark-outs, easements, third party requests, close approach consents, permits, temporary traffic management plan, as-built, global positioning system (GPS) references, corridor access requests.
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- 1.3 Potential environmental and safety hazards and controls are described.
- Range hazards may include – other utilities, work in excavations, traffic, public, electrical fences, stock, remote working, ground conditions; controls may include – utility location, safe access and egress, personal protective equipment, signage and barriers, traffic management plan, notifying landowners.
- 1.4 Types and function of location equipment for locating gas pipes are described.
- Range equipment includes – transmitter, receiver, connection cable, earth spike or plate, loud speaker, batteries, magnetic coupling, ground penetrating radar, sonde; function – sensitivity, depth indication, modes, alarms, controls, frequencies, inductive, conductive, placement, signals, peak and null, test.
- 1.5 Resource requirements are described.
- Range may include – communication equipment, personal protective equipment, probe and extensions, pegs, paint, potholing equipment, measuring wheel or tape, GPS equipment.
- 1.6 Survey techniques for locating pipes and cables are described.
- Range assessment of plans, inductive survey, conductive survey, grid search, ground penetrating radar survey, potholing, probing.
- 1.7 Potential hazards associated with incorrect application and operation of equipment are described.
- Range may include – asset damage, equipment damage, personal injury, pipeline coating damage, tracer wire damage, loss of pipe clearances, cathodic protection, incorrect asset identification.

Outcome 2

Prepare for and locate pipes and cables.

Performance criteria

- 2.1 Safety and environmental hazards are identified and controlled.
- Range hazards may include – other utilities, work in excavations, traffic, public, electric fences, stock, remote working; controls may include – utility location, signage, barriers, personal protective equipment, safe access and egress, traffic management plan, notifying landowners.

2.2 Site is surveyed for asset features.

Range may include – measurements, boundaries, survey pegs, structures, cathodic protection test points, tracer wire, gas network assets, other utility assets, street furniture.

2.3 Equipment for locating gas pipes is prepared and used.

2.4 Located pipes and cables are marked.

2.5 Potholing and probing is completed to determine pipeline location.

Outcome 3

Advise on, control and inspect works in the vicinity of a gas network.

Performance criteria

3.1 Work types around gas network systems are identified in accordance with location.

Range may include – excavation, directional drilling, roading, planting, seismic survey, construction, heavy haulage.

3.2 Controls for works in the vicinity of a gas network are advised and recorded.

Range may include – plans, works authorisation, permit, safety controls, standover, close approach instructions.

3.3 Works are inspected for compliance with controls, and any deviations from required controls are identified and remedied.

Outcome 4

Complete reporting and documentation.

Performance criteria

4.1 Records and documents are completed and processed, and information is communicated to internal or external parties as required.

Range may include – special conditions, completion notice, additional work, close approach consents, field data sheet, as-built, pipeline permits, asset location verification.

Replacement information	This unit standard replaced unit standard 9548, unit standard 10992 and unit standard 19551.
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Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 August 2017	31 December 2023
Review	2	27 May 2021	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.