

Title	Lay a polyethylene gas pipeline		
Level	3	Credits	6

Purpose	People credited with this unit standard are able to: demonstrate knowledge of procedures, documentation, and equipment for laying a polyethylene gas pipeline; prepare to lay polyethylene gas pipeline; lay polyethylene gas pipeline; and prepare the pipe for reinstatement.
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Classification	Gas Industry > Gas Network Construction
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Available grade	Achieved
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Guidance Information

- 1 This unit standard is intended for, but 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 procedures 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;
Excavation Safety available at <https://worksafe.govt.nz/topic-and-industry/excavation/excavation-safety-gpg/>;
AS/NZS 4645.1:2018 *Gas distribution networks – Network management*;
AS/NZS 4645.3:2018 *Gas distribution networks – Plastic pipe systems*;
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 This unit standard includes laying a pipe in an open trench or manually inserting a pipe in an annulus. This unit standard excludes site excavation, thrusting, drilling, testing, connecting, and purging and excludes the jointing of pipe.

7 Definition

Company procedures mean the documented methods for performing work activities, and include health and safety, operational, environmental, and quality management requirements. They may refer to legislation, regulations, guidelines, standard operating procedures, manuals, codes of practice, or policy statements.

- 8 Range** – to meet the requirements of this unit standard, you must lay two polyethylene pipelines; one under 50mm, and one 50mm or over.

Outcomes and performance criteria**Outcome 1**

Demonstrate knowledge of procedures, documentation, and equipment for laying a polyethylene gas pipeline.

Performance criteria

- 1.1** Documentation and company procedures for laying a gas pipeline are located and interpreted in relation to specified job requirements.
- 1.2** Job instructions are confirmed.
- Range** instructions may include – site location, utility plans, mark-outs, consents, easements, drill permit, network drawings, pipe route and depth.
- 1.3** Potential environmental and safety hazards are identified and controlled.
- Range** hazards may include – manual handling, working in excavations, other utilities, vehicles, general public, coiled pipe release drilling mud, pipe strain or damage;
evidence of four hazards is required;
controls may include – signage, barriers, personal protective equipment, safe access and egress, temporary traffic control, pipe trailers/drums, correct lifting techniques, breakaway coupler, waste disposal, pipe inspection, bending radius;
evidence of four different controls is required.
- 1.4** Types and function of gas pipe laying equipment, components, and materials are described.
- Range** may include – pipe, tracer wire, excavation equipment, pipe locator, anti-shear sleeves, riser, pipe supports, marker tape, breakaway coupler, pipe rollers, pipe trailer.
- 1.5** Potential faults associated with the incorrect application and operation of equipment and procedures, and the steps to avoid them are described.

1.6 Resource requirements are identified and sourced.

Range plant, tools, materials, documentation, personnel, communication equipment, personal protective equipment.

Outcome 2

Prepare to lay polyethylene gas pipeline.

Performance criteria

2.1 The position of the trench or annulus is confirmed in accordance with job instructions.

2.2 Pipe laying equipment is prepared, handled, and positioned.

Range may include – trailers, vehicles, rollers, lifting equipment, drum coils.

2.3 Underground plant is located, exposed, protected and supported to prevent damage.

2.4 Pipe is protected from damage.

Range free of – obstructions, sharp undulations, sharp bends;
protected from – rock, irregular materials, corrosive soils;
controls – bedding materials, penetration barriers.

2.5 Trench support system is inspected and confirmed as meeting requirements.

Range requirements include – worksite safety requirements; *Excavation Safety* guidelines.

2.6 Pipe is inspected for specification and damage, ends are sealed, and pipe is placed in specified position and supported in prelaying position.

Range may include – colouring, ovality, labelling, wall thickness, rating, defects.

Outcome 3

Lay polyethylene gas pipeline.

Performance criteria

3.1 Mechanical plant and equipment are operated to install gas pipe and tracer wire.

3.2 Pipe and fittings are prepared for laying.

3.3 Pipe is externally inspected.

- 3.4 Damaged pipe and fittings are marked, removed, quarantined, replaced and are reported.
- 3.5 Lay a gas pipeline.
- 3.6 Pipe clearance from other plant is maintained in accordance with other utility operator's requirements.

Outcome 4

Prepare the pipe for reinstatement.

Performance criteria

- 4.1 Pipeline and tracer wire are checked for positioning.
- 4.2 Additional pipeline protection is installed.
- Range may include – warning tape, mag-slab, rockshield, concrete.
- 4.3 Documentation is completed.
- Range may include – GPS, as-built, inspection sheets.

Replacement information	This unit standard replaced unit standard 10977 and unit standard 19548.
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Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	20 November 2006	31 December 2020
Review	2	17 August 2017	31 December 2021
Revision	3	30 August 2018	31 December 2021
Review	4	27 February 2020	N/A
Rollover	5	30 January 2025	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 Waihangā Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.