Title	**Describe field investigation tests in civil engineering**		
Level	**4**	**Credits**	**15**

Purpose	People credited with this unit standard are able to describe: field investigation test methods; and the reporting requirements, meaning, and applicability of field investigation test results, in civil engineering.

Classification	Infrastructure Civil Engineering > Infrastructure Laboratory

Available grade	Achieved

Guidance Information

1 Applicable rules, standards, and codes include but are not limited to:
ISO/IEC 17025:2018 *General requirements for the competence of testing and calibration laboratories*, available from https://www.iso.org/store.html;
NZS 4402:1986 *Methods of testing soils for civil engineering purposes - Preliminary and general*, available from https://www.standards.govt.nz/,
NZS 4407:2015 *Methods of sampling and testing road aggregates,* available from https://standards.govt.nz;
TNZ T/01:1977 *Standard Test Procedure for Benkelman Beam Deflection Measurements,* available from https://www.nzta.govt.nz*;*
New Zealand Geotechnical Society (NZGS), *Guideline for the Field Classification and Description of Soil and Rock for Engineering Purposes* (December 2005), available from: https://www.nzgs.org/library/field-description-of-soil-and-rock/.

2 Evidence is required for five field investigation tests used in civil engineering, which may include but are not limited to – Nuclear Density Meter, Benkelman beam, Scala penetrometer, shear vane, cone penetrometer test, static penetrometer test, falling weight deflectometer, lightweight deflectometer, impact soil tester (clegg), sand circle, British pendulum, National Association of Australian State Road Authority (NAASRA), grip tester, sand replacement, balloon densometer, core cutters, in situ California Bearing Ratio, plate bearing, soil and rock logging.

3 Definitions
Describe refers to stating the individual components of the test sequentially in terms of the relevant test method and organisational requirements. Components will vary between the tests and include but are not limited to – the sample specifications, equipment requirements, environmental requirements, units of measurement, purpose and scope of the test. Describe does not include the explanation of results, the interaction between tests or their scientific basis.

Organisational requirements refer to instructions to staff on policy and procedures which are formally documented or generally accepted at the worksite. This may include legislation; industry standards and methods; national and international standards and methods; customer/organisation developed methods; standard operating procedures; specifications; manuals; and manufacturer's information. *Samples* may include but are not limited to – prepared materials and test materials such as standards and reagents

Outcomes and performance criteria

Outcome 1

Describe field investigation test methods in civil engineering.

Performance criteria

1.1 The test is described in terms of scope, sample requirements, equipment, processes involved and results.

Range may include but is not limited to – equipment, apparatus, samples, technique, calibration, environment.

1.2 The factors that influence the outcomes of the test are described in accordance with organisational requirements.

Range may include but is not limited to – temperature, humidity, environment condition of sample, size of sample.

1.3 The quality assurance of the test is described in accordance with organisational requirements.

Range may include but is not limited to – sampling plan, test method, recording requirements, checking.

Outcome 2

Describe the reporting requirements, meaning, and applicability of field investigation test results in civil engineering.

Performance criteria

2.1 The reporting requirements for test results are described in accordance with organisational requirements.

Range may include but is not limited to – equipment, apparatus, samples, technique, calibration, environment, rounding, remarks.

2.2 The meaning and applicability of test results are described in accordance with organisational requirements.

Range may include but is not limited to – uncertainty of measurement, specification reliability, limitations.

Planned review date	31 December 2025

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 January 2011	31 December 2016
Review	2	19 February 2015	31 December 2021
Review	3	23 January 2020	N/A
Rollover and Revision	4	24 October 2024	N/A

Consent and Moderation Requirements (CMR) reference	0101

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangaAraRau.nz if you wish to suggest changes to the content of this unit standard.