

Subdivisional Geotechnics

As applying to work covered by:
AS 2870 Residential slabs and footings – construction; and
AS 3798 Guidelines on earthworks for commercial and residential
development

1 Introduction

This document states the eligibility criteria for applicants seeking recognition on the National Professional Engineers Register (NPER) in the specific area of practice of subdivisional geotechnics. All applicants for recognition must be registered in the general area of practice – Civil.

The Guideline has been prepared by a competency panel comprising representatives of the Australian Geomechanics Society and the College of Civil Engineers. The setting of standards and administration of the registration scheme is the responsibility of the competency panel, but assessment of applications is the responsibility of an assessment panel, established by Engineers Australia and comprising experienced practitioners from the Society and the Civil College.

Administration of the registration scheme is the responsibility of the Associate Director Registration, Engineers Australia.

2 Background to Subdivisional Geotechnics

This specific area of practice is for civil engineers whose practice includes geotechnical aspects of subdivisions and the foundations of buildings up to three storeys.

The area applies to practitioners with experience in the design, specification and construction of foundations, earthworks, earth retaining structures and pavements relevant to subdivisions and low rise buildings. Applicants for recognition in this area of practice are expected to be familiar with site investigation techniques, relevant codes of practice and Australian Standards and good construction practices and to demonstrate they have practised competently in the areas described in section 3 below.

A prerequisite for this specific area of practice is registration on NPER – Civil.

Civil engineers applying for recognition in the specific area of practice of subdivisional geotechnics are also expected to possess an awareness of the effects and limitations of:

- land instability, mine subsidence, earthquakes, contamination and ground / structure interactions
- appropriate investigation and design methods that can be utilised
- influences of heavy and / or extensive loadings
- local geotechnical factors peculiar to the geological setting of an area or region
- risk / hazard classification
- cost implications of design solutions.

Recognition in the specific area of practice subdivisional geotechnics **does not** of itself imply the competence to work with:

- major geotechnical projects
- footings for high rise buildings
- excavations for mines and deep basements, heavy pile design and dewatering
- water retaining structures, rock slope engineering and embankment stability
- contaminated site investigation and rehabilitation
- stabilisation techniques and heavy duty pavements (e.g. runways)
- underground construction

3 Essential Competencies for Subdivisional Geotechnics

Applicants must demonstrate that they have practised competently in the following areas:

1. Site Investigations

- Planning and undertaking appropriate site investigation
- Correctly interpreting test results
- Developing geotechnical models and design parameters

2. Design

- Taking account of design loadings, earth and water pressures

- Analysing stability, bearing capacity and displacements
- Specifying appropriate standards of compaction, batter slopes, erosion control measures and control of ground water effects

3. Construction

- Developing inspection and testing programs including audit of test results
- Verifying design assumptions during construction
- Responding appropriately to construction practices.

4 The Application and Assessment Process

4.1 Making an application

The following sections indicate what you must do to register on NPER in the general area of practice, NPER - Civil, and receive recognition in the specific area of subdivisional geotechnics.

You do not need to join Engineers Australia to register on NPER.

4.2 Required Documents

If you are not a CPEng, you must follow application guidelines in the [Chartered Status Applicant's Handbook](#), (<http://www.engineersaustralia.org.au> >education >chartered status) (even if you do not intend to join Engineers Australia) and use the application form in it to apply simultaneously for NPER – Civil and Subdivisional Geotechnics. The same process will also allow you to obtain Chartered Membership (CPEng) if you wish.

If you are a CPEng, you may apply simultaneously for registration on NPER – Civil and NPER – Subdivisional Geotechnics using the [Application for Registration on NPER](#) (<http://www.nerb.org.au/applying/introduction.cfm>) under the *applying* tab. You must submit a Statement of Experience and evidence of how you have kept up to date in your civil engineering practice, as explained on the form.

Whether you are applying for both NPER – Civil, and NPER – Subdivisional Geotechnics, or are already registered on NPER – Civil and are applying only for NPER – Subdivisional Geotechnics, you must:

- Complete an [Application for Registration on NPER](#) indicating your wish to apply for recognition in the specific area of practice Subdivisional Geotechnics
- provide a detailed statement of recent responsibilities for geotechnical site investigations, design and construction supervision as described in sections 2 and 3 above
- provide a record of relevant continuing professional development (CPD) activities
- provide a fee of \$242 incl GST.

All applicants must provide clear evidence that they have worked competently in the area covered by Subdivisional Geotechnics, showing they have had recent responsibilities for geotechnical site investigations, design and construction supervision as described in sections 2 and 3 above. Your documents must be reviewed and substantiated by an experienced professional engineer as being a true representation of your recent responsibilities.

4.3 Assessment

Your statement of experience will be analysed for evidence that you have exercised the essential competencies for subdivisional geotechnics (see section 3 above).

Your application may be subject to a professional interview conducted by an assessment panel having expertise in the specific area of practice as described in sections 2 and 3 above. The format of the interview is explained in the appropriate Engineers Australia documents mentioned in section 4.2 above.

The interview enables a quality assurance check of the educational background and professional experience detailed in your application. You should bring to the interview examples of professional work that illustrate your experience and competencies.

Your application for recognition in the Subdivisional Geotechnics specific area of practice, together with appropriate attachments and fees, must be forwarded to: Associate Director Registration, Engineers Australia, 11 National Circuit, Barton ACT 2600