

GEOTECHNICAL DIVISION
South African Institution of Civil Engineering



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02 April 2019

Dear Member

LIST OF COMPETENT PERSONS FOR DEVELOPMENT ON D4 DOLOMITE LAND

The Tshwane Metropolitan Council has imposed a moratorium on the development of D4 dolomite land until they have been provided with a list of competent persons by the profession. Although no formal communication has been received in this regard, the Ekurhuleni Metropolitan Council and the Council for Geoscience have adopted the same stance. In order to have this moratorium lifted, SAIEG together with the Joint Structural and Geotechnical Divisions of SAICE are compiling a list of recommended competent persons which will be sent to these bodies to serve as a basis for them to compile their own lists of approved competent persons.

SANS 1936-3:2012 differentiates between a **competent person (engineer)** and a **competent person (geo-professional)**. The former would typically be a member of the Joint Structural Division or another specialist division of SAICE while the latter would typically be a member of SAIEG or the Geotechnical Division. There is, however, no requirement for a competent person to be a member of these voluntary associations. Annexure A to this letter provides a summary of the requirements for development of D4 dolomite land and Annexure B outlines the competency requirements for D4 dolomite practitioners including the definitions of a competent person (engineer) and a competent person (geo-professional) as given in the SANS 1936.

Should you meet these requirements and wish to be included on the list of competent persons to be recommended to the regulatory authorities, you are invited to submit an application to the appropriate voluntary association (SAIEG, JSD or Geotechnical Division) on the relevant application forms attached in Annexures D, before **06 May 2019**.

Your application will be considered by a panel consisting of three members each from SAIEG, the Joint Structural Division and the Geotechnical Division. You will be advised in due course of the success or otherwise of your application. The procedures to be followed by the panel when processing the initial round of applications and subsequent applications are set out in Annexure C.

Yours faithfully,

For SAICE Geotechnical Division

Solly Phalanndwa Pr.Eng

Chairman

ANNEXURES:

- A Requirements for development of D4 dolomite land
- B Competency requirements for D4 dolomite practitioners
- C Procedures for processing of applications
- D Application forms

ANNEXURE A:
Requirements for development of D4 dolomite land

1. DOLOMITE AREA DESIGNATIONS

Table 1 of SANS 1936-1 defines D4 dolomite as follows:

Dolomite area designation	Description
D1	No precautionary measures are required.
D2	General precautionary measures, in accordance with the requirements of SANS 1936-3, that are intended to prevent the concentrated ingress of water into the ground, are required.
D3	Precautionary measures in addition to those pertaining to the prevention of concentrated ingress of water into the ground, in accordance with the relevant requirements of SANS 1936-3, are required.
D4	Additional site-specific precautionary measures are required.

2. QUANTITATIVE PERFORMANCE REQUIREMENTS

Clause 4.3.4 of SANS 1936-1 sets the following site-specific requirements for D4 dolomite land:

<p>4.3.4 On land designated as D4, in terms of table 1, the following site-specific measures shall be implemented:</p> <ul style="list-style-type: none"> a) site characterization, analysis and design, specification of precautionary measures, supervision of implementation and formulation of a dolomite risk management plan shall be undertaken by a Competence Level 4 geo-professional (see annex A); b) the foundation design, design of the structure, precautionary measures and dolomite risk management plan shall specifically address and effectively mitigate the dolomite risks present on the site; c) the site characterization, foundation design and design of the structure, precautionary measures and dolomite risk management requirements shall be reviewed and approved by an independent Competence Level 4 geo-professional (see annex A) and, where relevant, by a structural engineer with a similar level of competence; and d) all aspects of the development proposal shall be reviewed and approved by the local authority, who may request a further review by an authority-designated Competence Level 4 peer (see annex A), if required. <p>These measures shall apply both to the structure and to the surrounding areas, particularly areas that will be highly trafficked.</p>

3. PRECAUTIONARY MEASURES FOR D4 DOLOMITE LAND

Clause 10 of SANS 1936-3 sets the following requirements of design of structures and infrastructure on D4 dolomite land:

10 Requirements and precautionary measures on dolomite area designation D4 sites

10.1 Development on dolomite area designation D4 sites requires site-specific precautions additional to those contained in this part of SANS 1936. These precautions shall be determined and reviewed by the competent persons (geo-professional and engineer) as laid down in SANS 1936-1 for the development of such land.

10.2 The design of the foundations, structure and associated infrastructure, including the precautionary measures and dolomite risk management plan, shall specifically address and effectively mitigate the dolomite risks present on the site.

10.3 Unless the risks posed by the development of D4 dolomite land are effectively mitigated by alternative means, the precautionary measures adopted shall comply with or exceed the relevant requirements of this part of SANS 1936 for developments of D3 dolomite land.

10.4 Extensions, additions and upgrading or maintenance works to existing buildings, structures and infrastructure on developed sites which are dolomite area designation D4 sites in terms of SANS 1936-1 and SANS 1936-2, shall be subject to the same precautions as required for new construction works.

ANNEXURE B:

Competency requirements for D4 dolomite practitioners

4. DEFINITIONS

SANS 1936-1:2012, Clauses 3.2 & 3.3:

<p>3.2 competence level level of competence measure of proficiency for professionals engaged in work on dolomite land determined in terms of education, category of professional registration, experience, knowledge and recognition by the profession</p> <p>NOTE The competence levels (1 to 4) are defined in annex A.</p> <p>3.3 competent person person who is qualified by virtue of his experience, qualifications, training and in-depth contextual knowledge of development on dolomite land to</p> <p>a) plan and conduct geotechnical site investigations for the development of dolomite land, evaluate factual data, develop a geological model, derive interpretative data and formulate an opinion relating to the outcomes of such investigations;</p> <p>b) develop and inspect for compliance the necessary precautionary measures required on dolomite land to enable safe and sustainable developments to take place;</p> <p>c) develop dolomite risk management strategies; or</p> <p>d) investigate the cause of an event and participate in the development of the remedial measures required</p>

SANS 1936-3:2012, Clause 3.4

<p>3.4 competent person (engineer) person who is qualified by virtue of his experience, qualifications, training and in-depth contextual knowledge of development on dolomite land to interpret the necessary precautionary measures required on dolomite land into appropriate engineering design, construction and maintenance strategies to ensure that the development of dolomite land is in accordance with SANS 1936</p>

SANS 1936-3:2012, Clause 3.5

3.5**competent person (geo-professional)**

person who is qualified by virtue of his experience, qualifications, training and in-depth contextual knowledge of development on dolomite land to

- a) plan and conduct geotechnical site investigations for the development of dolomite land, evaluate factual data, develop a geological model, derive interpretative data and formulate an opinion relating to the outcomes of such investigations;
- b) develop and inspect for compliance the necessary precautionary measures required on dolomite land to enable safe and sustainable developments to take place;
- c) develop dolomite risk management strategies; or
- d) investigate the cause of an event and participate in the development of the remedial measures required.

NOTE See also 3.19.

SANS 1936-3:2012, Clause 3.19

3.19**geo-professional**

practitioner of geotechnical engineering or engineering geology who is registered in any category of registration provided for in the relevant national legislation (see foreword)

The relevant national legislation is the Engineering Profession Act (Act 46 of 2000 and the Natural Scientific Professions Act (Act 27 of 2003).

5. COMPETENCY LEVELS

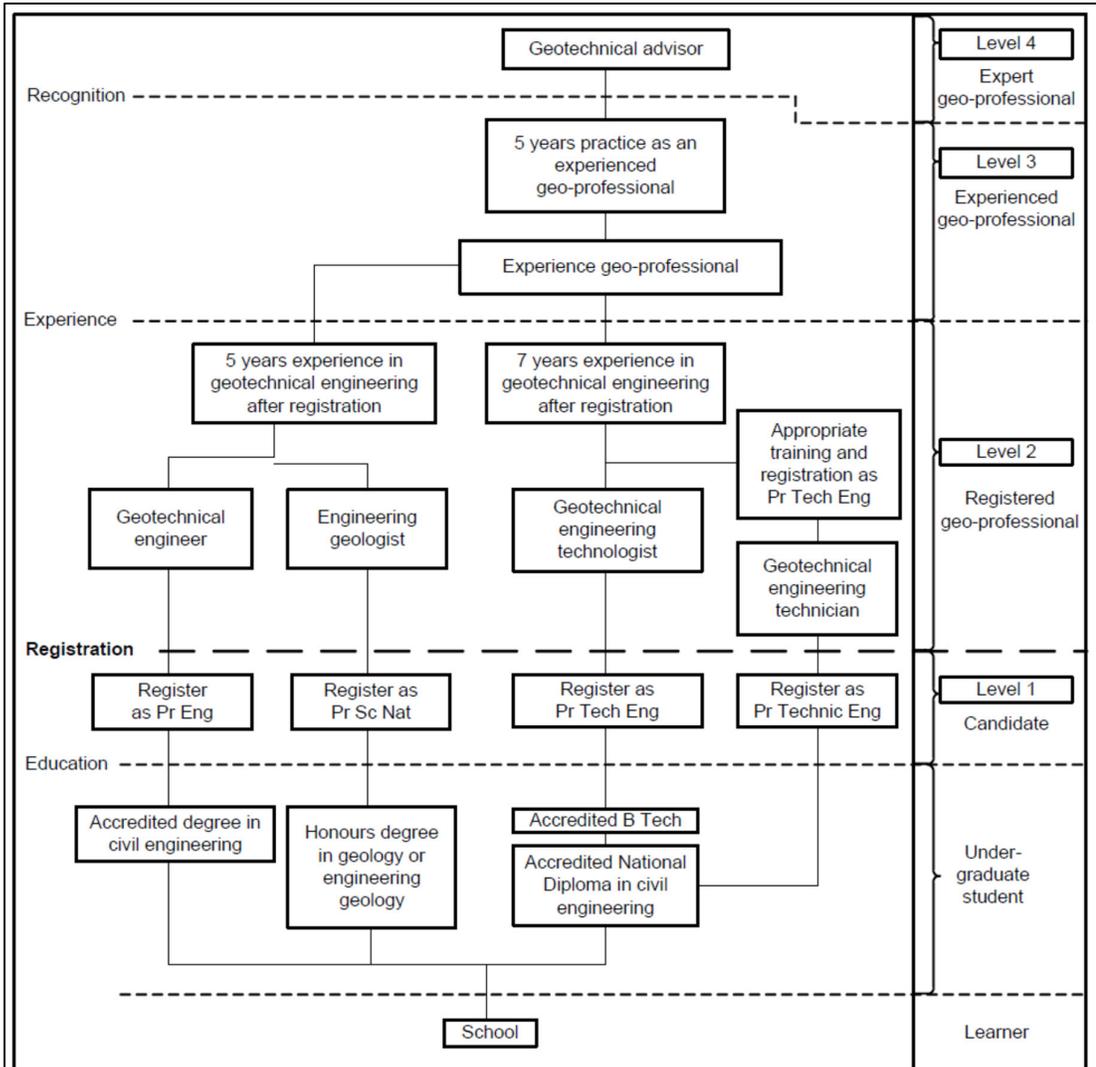
SANS 1936-1:2012, Clause A.2.5 & 2.6:

A.2.5 Geo-professionals in Competence Level 4 shall, in addition to the years of experience specified in figure A.1, enjoy recognition by the profession as specialist geo-professionals, possessing a level of specialist knowledge and experience above that expected of the profession. They should be making a contribution to the state-of-practice of the development of dolomite land by the application of advanced techniques or by means of research, publications or involvement in engineering education.

A.2.6 In the context of all the parts of SANS 1936, the experience required for attaining Competence Levels 3 or 4 shall include

- a) significant experience in site characterization;
- b) analysis and design of foundations, infrastructure and precautionary measures; and
- c) supervision of implementation and risk management in dolomite areas.

SANS 1936-1:2012, Figure A.1:



Drg.760i

NOTE 1 Adapted from *Site investigation in construction – Volume 2: Planning, procurement and quality management* (see bibliography).

NOTE 2 The uppermost block in each level is the requirement for progression to the next level.

NOTE 3 The number of years experience is a guideline and assumes that the person is practising predominantly in geotechnical engineering or engineering geology during this period.

Figure A.1 — Competence levels for geo-professionals

ANNEXURE C:
Procedures for processing of applications

C1 BACKGROUND

Where the design of structures or wet services is involved a competence level 4 engineer should also for part of the team. Annexure A of SANS 1936-1:2012 defines four levels of competence for geo-professionals. SANS 1936 requires that dolomite land designated as D4 must be evaluated by a Competence Level 4 professional. To put this requirement into practice, certain Regulatory Authorities have requested the profession to provide a list of Competence Level 4 professionals.

In response to this request, an ad-hoc committee was established by SAIEG, the Joint Structural Division and the Geotechnical Division of SAICE. These Voluntary Associations (VAs) represent the majority of professionals involved in the development of dolomite land. The Committee decided to invite applications from practitioners for inclusion on a list of recommended Competence Level 4 professionals to be forwarded to the Regulatory Authorities from which they may compile their own lists of approved Competence Level 4 professionals.

For studies and designs for development on D4 dolomite land it is preferable that there is input by both categories of geo-professionals, i.e. an engineering geologist and a geotechnical engineer, to fully understand the geological model and devise geotechnical solutions appropriate for the site conditions. The respective contributions of the geo-professionals will be governed by the scope of work. Where the design of structures or wet services is involved a competence level 4 engineer should be part of the team

This annexure sets out the procedures agreed to by ad-hoc committee for the processing of the initial and future applications for inclusion on the list of recommended Competence Level 4 professionals (the Recommended List).

C2 DOLOMITE PRACTITIONERS ADVISORY PANEL

C2.1 Composition

The Dolomite Practitioners Advisory Panel (the Panel) shall consist of nine members, three from each of the VAs. The members from each VA shall be nominated by the Chair or President, as the case may be, of the VA. All nominees shall be senior members of the nominating VA. The three nominations from each VA shall include at least two persons who are not applying for inclusion on the Recommended List or are already included on this list.

Vacancies which arise shall be filled by persons nominated by the relevant VA in accordance with the above requirements. Each VA has the right to replace any of its members on the Panel at any time.

C2.2 Duties

The duties of the Panel are:

- i. to receive and adjudicate applications from dolomite practitioners wishing to be included on the Recommended List; and
- ii. to forward such recommendations to the relevant Regulatory Authorities.

C2.3 Meetings

The Panel shall meet as often as required to process the initial applications. Thereafter, the Panel shall meet at least once every six months to process new applications. Meetings may be in person, by telephone or other means of communication.

Where matters before the Panel are to be decided by voting, each Panel member shall have one vote and all votes shall count equally.

C2.4 Dissolution

The Panel shall be dissolved and relieved of its duties by agreement of the Chairpersons or Presidents, as the case may be, of all three VAs.

C3 APPLICATIONS

Each VA shall draw up an application form to be used by practitioners in the discipline represented by the VA. The final application forms and any changes thereto shall be approved by the Panel or, prior to the establishment of the Panel, by the ad-hoc committee established by the VAs.

Application forms are to be made available on the web site of all three VAs.

Applications shall be submitted to the appropriate VA, depending on the applicant's discipline, to an email address to be specified by each VA.

C4 EVALUATION OF APPLICATIONS

The Panel members from each VA shall be responsible for the evaluation of applications received from practitioners in the discipline represented by the VA, using evaluation procedures to be decided upon by the VA concerned. Applications from practitioners that are not members of the VA shall be considered in the same way as other applications.

The recommendations from the Panel members of each VA shall be considered and approved by the Panel prior to being sent to the relevant Regulatory Authorities.

C5 APPEALS

The Panel is responsible for making recommendations to the Regulatory Authorities. The responsibility for approval of a Competence Level 4 professional rests with the Regulatory Authorities.

Any appeals by practitioners not included on the Recommended List should be addressed to the relevant Regulatory Authority.

ANNEXURE D:
Application Forms

Instructions:

1. Applications from **Civil Engineers** or other persons registered with the Engineering Council of South Africa for recommendation as **Competent Persons (engineer)** must be submitted using **Form 1 and Form 2** to dolomite@jsd.co.za.
2. Applications from **Geotechnical Engineers** or other persons registered with the Engineering Council of South Africa for recommendation as **Competent Persons (geo-professional)** must be submitted using **Form 1 and Form 3** to dolomite@geotechnicaldivision.co.za.
3. Applications from **Engineering Geologists** or other persons registered with the South African Council for Natural Scientific Professions for recommendation as **Competent Persons (geo-professional)** must be submitted using **Form 1 and Form 4** to dolomite@saieq.co.za.

FORM 1: To be completed by all applicants

PLEASE PRINT

- Application for:
- Competent Person (engineer)
 - Competent Person (geo-professional)
Geotechnical Engineer
 - Competent Person (geo-professional)
Engineering Geologist

1. NAME AND CONTACT DETAILS

Title: _____

Full Name: _____

Address: _____

Email: _____

Telephone: _____

2. QUALIFICATIONS

From (mm/yyyy)	To (mm/yyyy)	Educational Institution attended	Qualification obtained

3. **PROFESSIONAL REGISTRATION**

Professional Registration
(tick as appropriate)

PrTechEng	PrEng	PrSciNat
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Professional registration no.: _____

Date of registration: _____

4. **MEMBERSHIP OF PROFESSIONAL BODIES AND VOLUNTARY ASSOCIATIONS**

Grade of membership	Name of Institution or Society	Year of election or admission

5. **CURRICULUM VITAE OF DOLOMITE RELATED PROJECTS**

The application form must be accompanied by a dolomite Curriculum Vitae (CV) in which information about the date, nature and duration of the projects as well as the clients' names are supplied. A list of publications or presentations on dolomite should be attached to the CV.

6. **APPLICATION AND DECLARATION**

I _____ (name) hereby apply to be included on the Recommended List of Competence Level 4 professionals and certify that the information provided in this application is complete and correct.

Signature

Date

FORM 2

Application form for Competent Person (engineer)

This application form is intended to enable an assessment of the applicant's eligibility as a Competence Level 4 Engineer in terms of Annexure A of SANS 1936-1:2012. It relies on self-assessment by the applicant, which will be reviewed by the Dolomite Practitioners Advisory Panel.

Full Name: _____

Number of years' experience since registration: _____ years

Estimated % of this experience on dolomite related work _____ %

1. LEVEL OF SPECIALISATION

In column 2 of the Table 1, rate your level of specialisation with respect to the activities listed in column 1 on a scale of 1 – 5 where:

- 1 = general practitioner with experience of development on dolomite land
- 3 = practitioner with in-depth knowledge of development on dolomite land
- 5 = specialist practitioner working mainly on development on dolomite land

In column 3, assign a rank of 1 – 5 to the five activities in which you are most involved where a rank of 1 is given to the activity in which you have most involvement.

TABLE 1: Level of specialisation SANS 1936-3:2012

Activities 1-6 include design, documentation, quality control & certification.

(Indicate category of application: Civil, Structural or Both)

Civil	Yes/No	Structural	Yes/No
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1	2	3
Activity (Dolomite related) for all relevant items listed in Table 2 Development Sector below.	Self-rating of level of specialisation	Rank of top five activities
1) Wet and dry engineering services –see C,RH,RL,RN,A & IN in Table 2 below	1 - 5	
2) Ground improvement and piling-see C,RH,RL,RN,A2 & IN in Table 2 below	1 - 5	
3) Foundation and Structures (also Foundation/ Structure interaction) incl. parking garages – see C,RH,RL,RN & IN2 below	1 - 5	
4) Liquid retaining structures etc. see IN2 & IN4 below	1 - 5	
5) Roads, runways etc. see IN1 in Table 2 below	1 - 5	
6) Yards, depots, open parking, open areas see C5,C6,C8, IN3 & IN5 in Table 2 below		
7) Peer review of D4 Civils dolomite designs (Items 1,2,4,5,6 above)	1 - 5	

1	2	3
Activity (Dolomite related) for all relevant items listed in Table 2 Development Sector below.	Self-rating of level of specialisation	Rank of top five activities
8) Peer review of D4 Structures dolomite designs (Items 2,3,4 above) Structures	1 - 5	
9) Investigation and remediation of dolomite instability features.	1 - 5	
10) Compilation/Implementation/Review of dolomite risk management strategy (DRMS) and dolomite risk management plan (DRMP).	1 - 5	

2. DEVELOPMENT SECTOR

In column 2 of Table 2, assign a rank of 1 – 7 seven development sectors in which you undertake dolomite-related work, where a rank of 1 is given to the sector in which you have most involvement.

TABLE 2: Development Sector SANS 1936-1:2012 Tables 2 and 3 Designations as per SANS Listed in **Yellow** : Short summary, refer to SANS 1936-1:2012 for detailed descriptions

1	2	3	4
Type of Development	No of projects	Indicate Type building	Rank of top 7
SECTION COMMERCIAL			
Places of detention, police stations, homes for the handicapped and aged – C1			
Hospitals, clinics, hostels, hotels C2			
Commercial < 3 storeys, including railway stations, shops, stores, offices, worship places, theatres, indoor sports, public assembly venues, educational buildings, exhibition halls & museums, light industrial, warehouses, sub stations, filling stations C3			
C4 :As per C3 but >3 storeys			
Fuel depots, process plants, liquid and waste storage C5			
Outdoor storage, stock yards, container depots C6			
Parking garages C7 , Parking areas C8			
SECTION RESIDENTIAL	No of projects		
Residential – high rise >10 storeys RH1			
Residential – high rise >3 to ≤10 storeys <1500 persons/ha RH2			
Residential – high rise >3 to ≤10 storeys <800 persons/ha coverage ≤ 0.4 RH3			
Residential – low rise ≤ 3storeys, 80-120 u/ha <600 persons/ha RL1			
Residential – low rise ≤ 3storeys, <80 u/ha <400 persons/ha RL2			
Residential dwelling houses 1-60 houses/ha			

Stands >150m ² RN1			
Residential dwelling houses 1-25 houses/ha Stands >300m ² RN2			
Residential dwelling houses 1-10 houses/ha Stands 1000-4000m ² RN3			
SECTION AGRICULTURE	No of projects		
Agriculture including botanical gardens, sport Fields, driving ranges, golf courses, parkland and public open spaces with irrigation A2			
SECTION INFRASTRUCTURE AND SOCIAL FACILITIES	No of projects		
National & Regional trunk roads, primary distributors, arterial roads, railway lines, power lines ,runways, bulk pipelines, incl. water, sewer Fuel and gas and pump stations IN1			
Reservoirs and public swimming pools, water care works, attenuation and retention ponds IN2			
Cemeteries IN3			
Dams, Slimes Dams IN4			
Solid waste disposal facilities IN5			

3. CONTRIBUTION TO PROFESSION

On a separate sheet, list your contributions to the profession relating to the development of dolomite land. These contributions may include research, teaching, development of codes of practice, technical publications, papers presented at conferences, attendance of conferences, application of advanced techniques, etc. Use a format similar to that in Table 3 overleaf.

4. DECLARATION AND SIGNATURE

I _____(name) declare that the information provided in this application is my best assessment of my involvement in the development of dolomite land and is complete and correct in all respects

Signature

Date

TABLE 3: Contributions to the Profession – Typical format

1	2
Date	Contribution to Profession
	<p><u>RESEARCH</u> List research activities here.</p>
	<p><u>TECHNICAL PUBLICATIONS</u> List publications here</p>
	<p><u>ETC. & RELEVANT PROJECT EXPERIENCE ON DOLOMITES NOT LISTED IN TABLE 2</u> Insert additional headings as required and contributions. Use separate sheets as required.</p>

FORM 3

Application form for Competent Person (geo-professional) **from a Geotechnical Engineer**

This application form is intended to enable an assessment of the applicant's eligibility as a Competence Level 4 Geo-professional in terms of Annexure A of SANS 1936-1:2012. It relies on self-assessment by the applicant, which will be reviewed by the Dolomite Practitioners Advisory Panel.

Full Name: _____

Number of years' experience since registration: _____ years

Number of years' experience in geotechnical engineering: _____ years

Estimated % of this experience on dolomite related work _____ %

1. LEVEL OF SPECIALISATION

In column 2 of the Table 1, rate your level of specialisation with respect to the activities listed in column 1 on a scale of 1 – 5 where:

- 1 = general practitioner with experience of development on dolomite land
- 3 = practitioner with in-depth knowledge of development on dolomite land
- 5 = specialist practitioner working mainly on development on dolomite land

In column 3, assign a rank of 1 – 4 to the four activities in which you are most involved where a rank of 1 is given to the activity in which you have most involvement.

TABLE 1: Level of specialisation

1	2	3
Activity	Self-rating of level of specialisation	Rank of top four activities
Feasibility level dolomite stability investigations (Clause 4.2, SANS 1936-2:2012 or equivalent) including inherent hazard classification.	1 - 5	
Design level dolomite stability investigations (Clause 4.3, SANS 1936-2:2012 or equivalent)	1 - 5	
Regional dolomite stability hazard studies	1 - 5	
Investigation and remediation of dolomite instability features	1 - 5	
Peer review of D4 dolomite investigations / precautionary measures	1 - 5	
Compilation / implementation / review of dolomite risk management strategy (DRMS) and dolomite risk management plan (DRMP) (SANS 1936-4:2012 or equivalent)	1 - 5	
Specialist geohydrological studies of groundwater on dolomite land	1 - 5	

Specification of ground improvement on dolomite land	1 - 5	
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2. DEVELOPMENT SECTOR

In column 2 of Table 2, assign a rank of 1 – 3 to three development sectors in which you undertake dolomite-related work, where a rank of 1 is given to the sector in which you have most involvement.

TABLE 2: Development Sector

1	2
Type of Development	Rank of top three sectors
Residential – high density	
Residential – low density	
Commercial	
Industrial	
Mining	
Infrastructure including public utility companies	

3. CONTRIBUTION TO PROFESSION

On a separate sheet, list your contributions to the profession relating to the development of dolomite land. These contributions may include research, teaching, development of codes of practice, technical publications, papers presented at conferences, attendance of conferences, application of advanced techniques, etc. Use a format similar to that in Table 3 overleaf.

4. DECLARATION AND SIGNATURE

I _____(name) declare that the information provided in this application is my best assessment of my involvement in the development of dolomite land and is complete and correct in all respects

Signature

Date

TABLE 3: Contributions to the Profession – Typical format

1	2
Date	Contribution to Profession
	<u>RESEARCH</u> List research activities here.
	<u>TECHNICAL PUBLICATIONS</u> List publications here
	<u>ETC.</u> Insert additional headings as required and contributions. Use separate sheets as required.

FORM 4
**Application form for Competent Person Geo-professional -
Engineering Geologist**

Full Name: _____

Documents/information to be completed and required for application by Engineering Geologists

NB Applicants must be able to substantiate his/her statements in Tables 1, 2 and 3

Minimum requirements in accordance with SANS 1936-1 (Annex A)

A TABLE 1: QUALIFICATIONS AND EXPERIENCE

LEVEL	REQUIREMENT	CANDIDATE OWN STATEMENT			PANEL DETERMINATION
		Do not comply	Comply	Exceed requirement	
Level 1	Hons degree in Engineering Geology or Geology				
	Registered as PrSciNat				
Level 2	5 years' experience in geotechnical engineering after registration				
Level 3	5 years practice as experienced geo-professional				
Level 4	Geotechnical Advisor				

TABLE 2: LEVEL 4 Requirements in respect of experience in development on dolomite

Experience as a senior geo-professional in certain fields, such as those listed in SANS 1936 (2012) and indicated in the attached annexures A and B, are considered compulsory for competency level 4.

REQUIREMENT	CANDIDATE OWN STATEMENT			PANEL DETERMINATION
	Do not comply	Comply	Exceed requirement	
1. Significant experience in site investigation and characterization				
2. Experience in the design of foundations, infrastructure and precautionary measures				
3. Experience in the compilation and implementation of DRMS's and DRMP's and risk management in dolomite areas				
4. Experience in investigation and rehabilitation of sinkholes and structures damaged by such ground movements				
5. Experience with geohydrology in dolomite and dewatering of dolomite areas				
6. Other				

Note: It is the applicant's responsibility to provide sufficient evidence in support of his/her request to be placed on the list of Level 4 Competence Persons available for work related to development on dolomite.

TABLE 3: LEVEL 4 Requirements with respect to recognition from profession:

REQUIREMENT	CANDIDATE OWN STATEMENT			PANEL DETERMINATION
	Do not comply	Comply	Exceed requirement	
1. The Applicant is recognised as being a specialist geo-professional in dolomite work				
2. The Applicant possesses a level of specialist knowledge and experience above that expected of the profession (at general level)				
3. The Applicant contributes to the state-of-practice of the development by the application of advanced techniques OR				
4. The Applicant contributes to the state-of-practice of the development by means of research, publications or involvement in engineering education				

Note: The Applicant may complete either Requirement 3 or 4 or both in Table 3 above.

B CURRICULUM VITAE (dolomite related projects)

It is the applicant's responsibility to provide evidence in support of his/her request to be placed on the list of Level 4 Competence Persons available for work related to development on dolomite.

The application therefore must be accompanied by a dolomite Curriculum Vitae (CV) where information about the date, nature and duration of the projects as well as the clients name are supplied. A list of publications or presentations must be attached to the CV.

C REFERENCES

Please supply a list of references (persons who may be contacted by the panel)

D ADDITIONAL INFORMATION (non-compulsory)

The comprehensive dolomite CV is mandatory. The following information may however help to summarize the data in the CV and assist the adjudicating panel.

D1 SUMMARY OF EXPERIENCE IN DIFFERENT FIELDS WITH INDICATION OF LEVEL OF RESPONSIBILITY

Layout for completing "Field of experience"

If available, list a couple of important projects in selected fields. Also add estimated number of additional projects.

FIELD	Hours (estimated)	Responsibility	
		Team Member	Team Leader
Greenfields investigations			
Site and footprint investigations			
Investigations and rehabilitation of sinkholes and subsidences			
Investigations and rehabilitation of damaged structures			
Peer Reviews/Reviews/2 nd opinions			
Geohydrological studies			
Compilation /implementation/review of DRMS's and DRMP's			
Publications, seminar's or conference contributions/ dolomite related committees/ contribution to education			
Contribution to classification and investigation techniques/ state of practise/ relevant research			

D2 EMPLOYERS AND MENTORS

Provide a list of relevant parties that may have had a significant, positive impact on your knowledge and professional development specifically with respect to the theoretical and applied aspects of engineering geology on dolomite land. This list could include employers, organisations, institutions, professional persons, associates, partners, colleagues in the industry, etc. Briefly outline the nature of the interactions.