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GEO-TECHNICAL REPORT

LOCATION: ROODEPAN AREA TO THE NORTH WEST AND NORTH OF KAMFERSDAM (SEE ATTACHED LOCALITY SKETCH)

PREAMBLE

A very extensive soil survey with an associated geotechnical survey was carried out during October 1986. The appointment for the project came from the Municipality of Kimberley and was funded by the then House of Representatives. This report is based on the findings of that survey dated December 1986.

It is recommended that a more detailed geotechnical survey be undertaken in the specific areas of the proposed development once approved in principal.

GEOLOGY OF THE AREA

The area under discussion is situated on the Sediments of the Karoo System and of which Ecca Series features prominently. The weathered shales found in this Series have properties which result in a potential of high vertical movement during wet and dry climatic cycles.

There is also areas where volcanic activities were prominent. The Kimberlite diamond pipes are situated in these. Where the volcanic activity came in contact with the surrounding sediments some "burning" of the latter occurred. The other volcanic activities in the area resulted in the forming of the dolerites within the sediments of the area. The "burning" of the surrounding materials resulted in the inactive layers of soils suitable to built on within the possibility of heaving clays.

The presence of the khaki coloured very stiff clays form about 2 meter below natural ground level and reaching depths of more than 45 meters indicates the potential heaving clay areas.

Some areas towards the north of the area under investigation had between 1 m and 2 m thick collapsing sand layers over the residual soil profile.

RECOMMENDATIONS

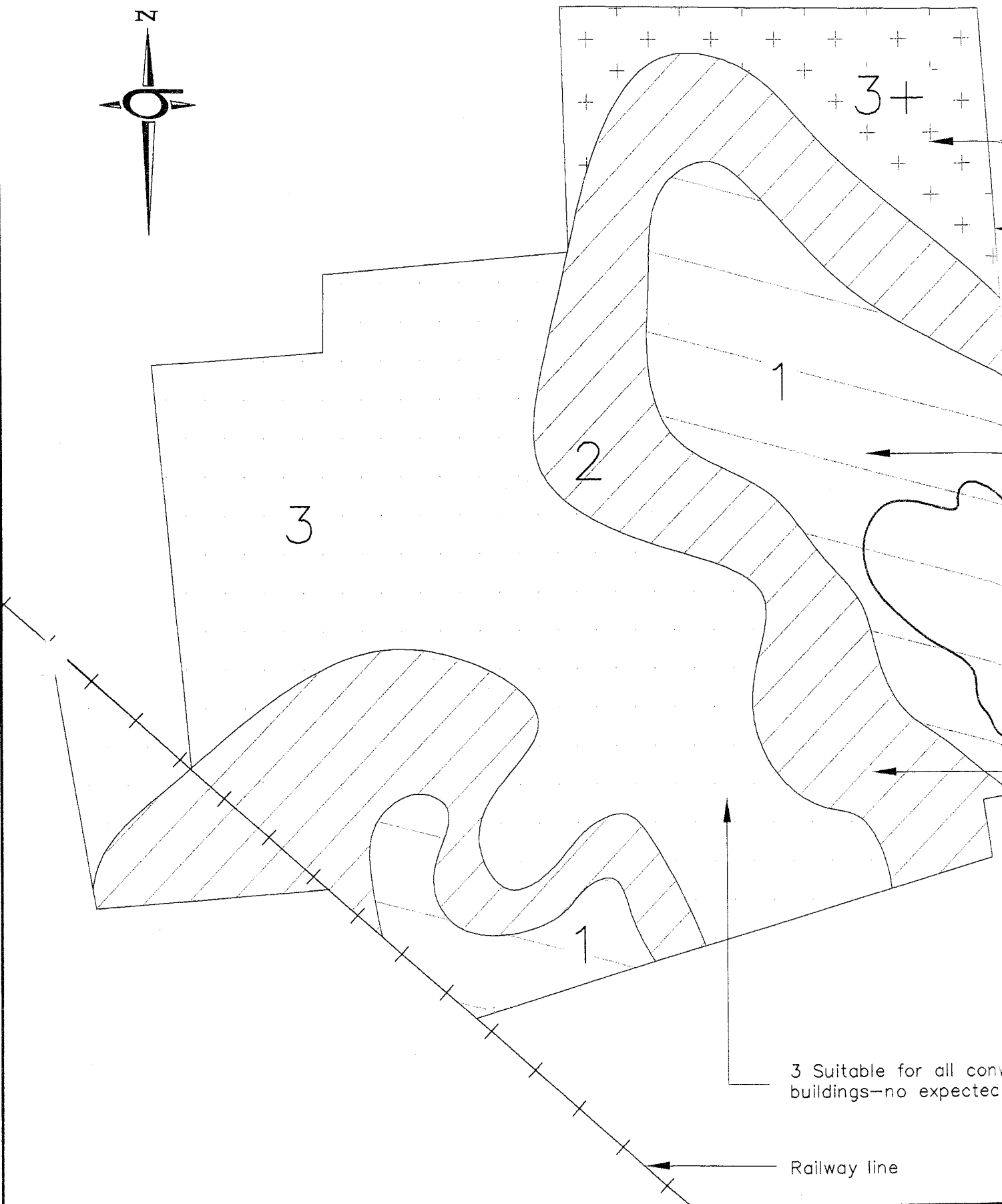
Please refer to the attached sketch of the area under investigation. The specific utilization of the various areas is shown on the sketch.

Trust this will suffice at this stage.

Yours faithfully



JAN H. V. VILJOEN Pr. Eng
4 OCTOBER 2007



3 Suitable for all conventional buildings—no expected...

Railway line

3+ Possibility of 1m to 2m thick collapsing sand layer overlay.

Outline of proposed area

1 Area not suitable for buildings with conventional footings, potential heaving present—up to 50mm vertical

2 Transitional area conventional footings, but provide for movement in soil of up to 10mm vertical

1 in 50 year floodline

Foundations to allow for differential movement.

Handwritten signature: J. H. van der Merwe

NOTAS / NOTES

DATUM DATE	NR. NO.	WYSIGING AMENDMENT	HANDT. SIGN.

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DIENS / SERVICE
**ROODEPAN
GEOTECHNICAL REPORT**

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