

UNIVERSITY OF THE
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DESKTOP PALAEOONTOLOGICAL IMPACT ASSESSMENT

Extension 48 Township development at Klerksdorp, Northwest Province

Specialist report by:

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EXECUTIVE SUMMARY

Bruce Rubidge was appointed by Maxim Planning Solutions (2002/017393/07) on behalf of Edidor 108 (Pty) Ltd (2007/026471/07) to undertake a desktop Palaeontological Impact Assessment for the township development at Klerksdorp Extension 48, situated on Portion 576 of the farm Townlands of Klerksdorp No. 424-IP in Klerksdorp, /Northwest Province. The study area is located adjacent and to the east of the southern extension of Platan Avenue and is located south of Road N12 (Klerksdorp-Stilfontein Road). The proposed township area is located within the eastern part of the built-up urban area of Klerksdorp in the Northwest Province

The study area is underlain by Precambrian rocks of the Witwatersrand Supergroup, comprising the Jeppes town and West Rand Groups, which in turn are overlain by Quaternary alluvial deposits.

As the Precambrian Witwatersand Supergroup is not known to host fossils it is highly unlikely that palaeontological heritage will be affected by the proposed township development. There is a remote possibility that the Quaternary alluvial sediments, which are covered by vegetation in the study area, could host fossils of Quaternary-aged animals and plants. As these deposits are not consolidated it is very unlikely that any fossils will be present.

If in the unlikely event that fossils are exposed in the Quaternary sediments in the course of the proposed development, a qualified palaeontologist must be contacted to assess the exposure for fossils so that the necessary rescue operations are implemented.

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Introduction and Brief

A Palaeontological Impact Assessment was requested by Koot Raubenheimer of Maxim Planning Solutions on behalf of Edidor 108 (Pty) Ltd. The development is the proposed township area of Klerksdorp Extension 48 on Portion 576 of the farm Townlands of Klerksdorp No. 424-IP. The township area is located adjacent and to the east of the southern extension of Platan Avenue and is located south of Road N12 (Klerksdorp-Stilfontein Road). The proposed township area is located within the eastern part of the built-up urban area of Klerksdorp in the Northwest Province (Figure 1). The proposed development comprises a total area of about 3.7 hectares.

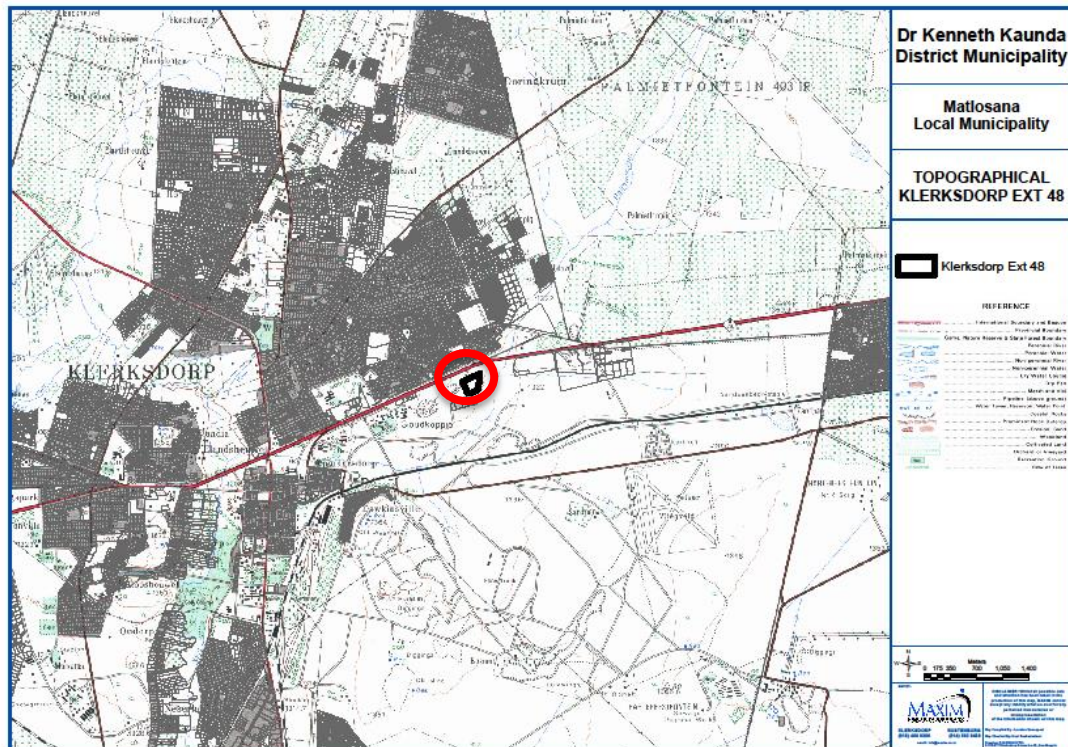


Figure 1: Topographic map (Sheet 2626DC). The proposed township development area of Klerksdorp Extension 48 is encircled in red

Legislative framework

National Heritage is protected by the South African Heritage Resources Act (Act No 25) of 1999. Developers are required to submit development plans to SAHRA for approval. These plans must include documentation detailing the expected impact that the development will have on national heritage.

Categories of heritage resources recognised as part of the National Estate in Section 3 of the Heritage Resources Act include:

- Geological sites of scientific or cultural significance
- Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, material, meteorites and rare geological specimens.
- Objects with the potential to contribute to understanding South Africa's natural or cultural heritage.

Accordingly a Heritage Impact Assessment (HIA) is required to assess the possible impacts of a proposed development on archaeological and palaeontological heritage. This report addresses the palaeontological aspects of the HIA as part of the Environmental Management Plan (EMP).

Details of the study area

The study area of the Klerksdorp Extension 48 township development (Figure 2) is located in Northwest Province on Portion 576 of the farm Townlands of Klerksdorp No. 424-IP in Klerksdorp, Northwest Province. The study area is covered by the 1:50 000 topographical map Sheet 2626DC (Figure 1). The proposed development area covers approximately 3.7 hectares.

The main infrastructure expansion is associated with the layout of a new township which will be developed to include twenty eight (28) "Special" (commercial use, light industry, service industry, vehicle workshop and wholesale trade as well as other uses with the special consent of the Local Authority) erven, one (1) "Special" (access and access control) erf as well as two (2) streets. With regard to services infrastructure, the proposed township area will be supplied with potable water. All sewerage generated in Klerksdorp Extension 48 is from a full waterborne system.

Geological Setting

The area is underlain by Precambrian rocks of the Jeppestown and West Rand Groups of the Witwatersrand Supergroup which in turn are overlain by less than a metre of Quaternary colluvial sand. The geological map indicates that Quaternary alluvial deposits occur west of the area proposed for Extension 48 (Figure 3).

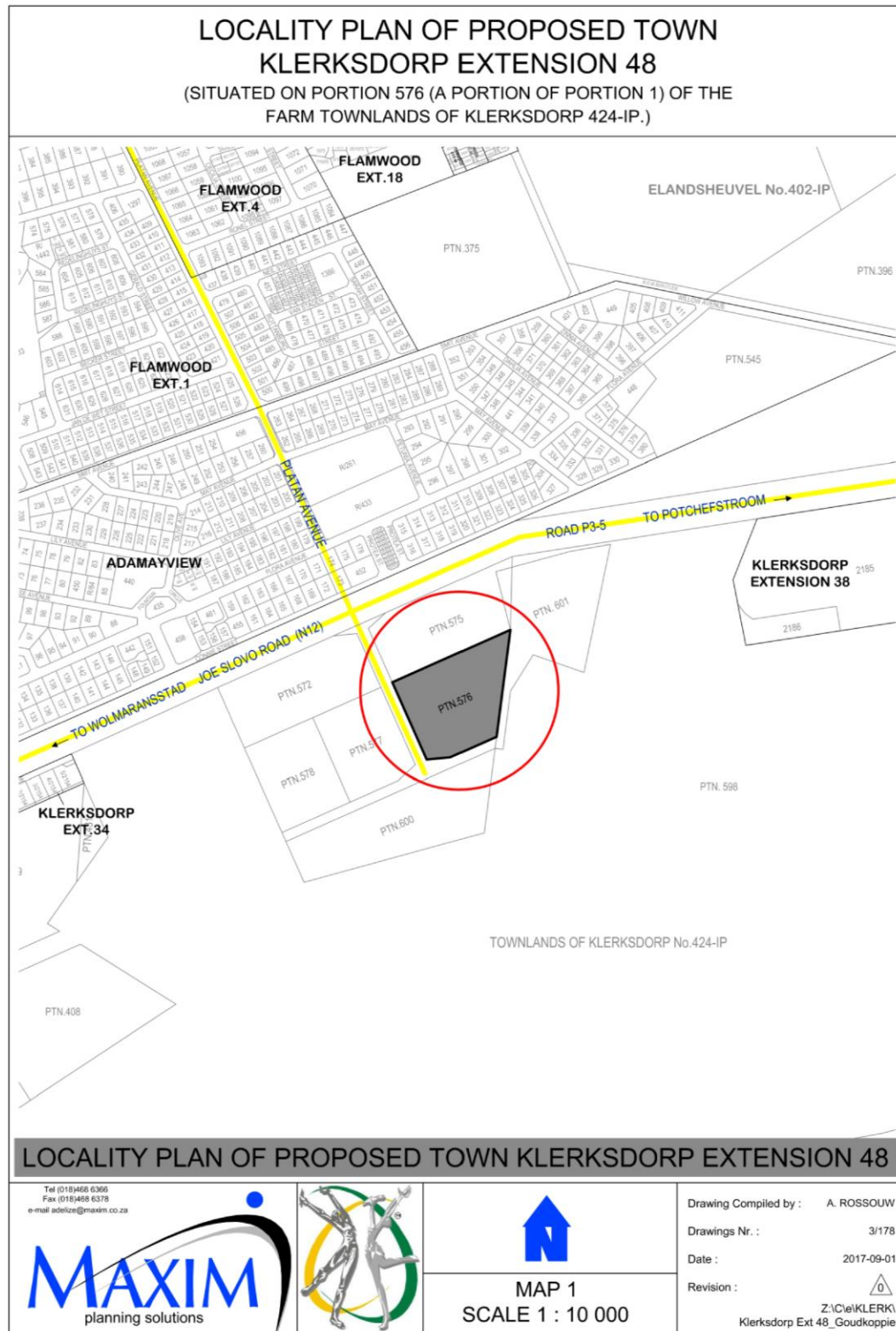


Figure 2: Locality plan of the proposed township development encircled in red.

Palaeontological Heritage

As the Precambrian Witwatersrand Supergroup is not known to host fossils it is highly unlikely that palaeontological heritage will be affected by the proposed township development. The Quaternary alluvial deposits are the only sedimentary deposits in the area which could possibly host fossils of Quaternary-aged animals and plants. As these deposits are not consolidated is very unlikely that any fossils will be present.

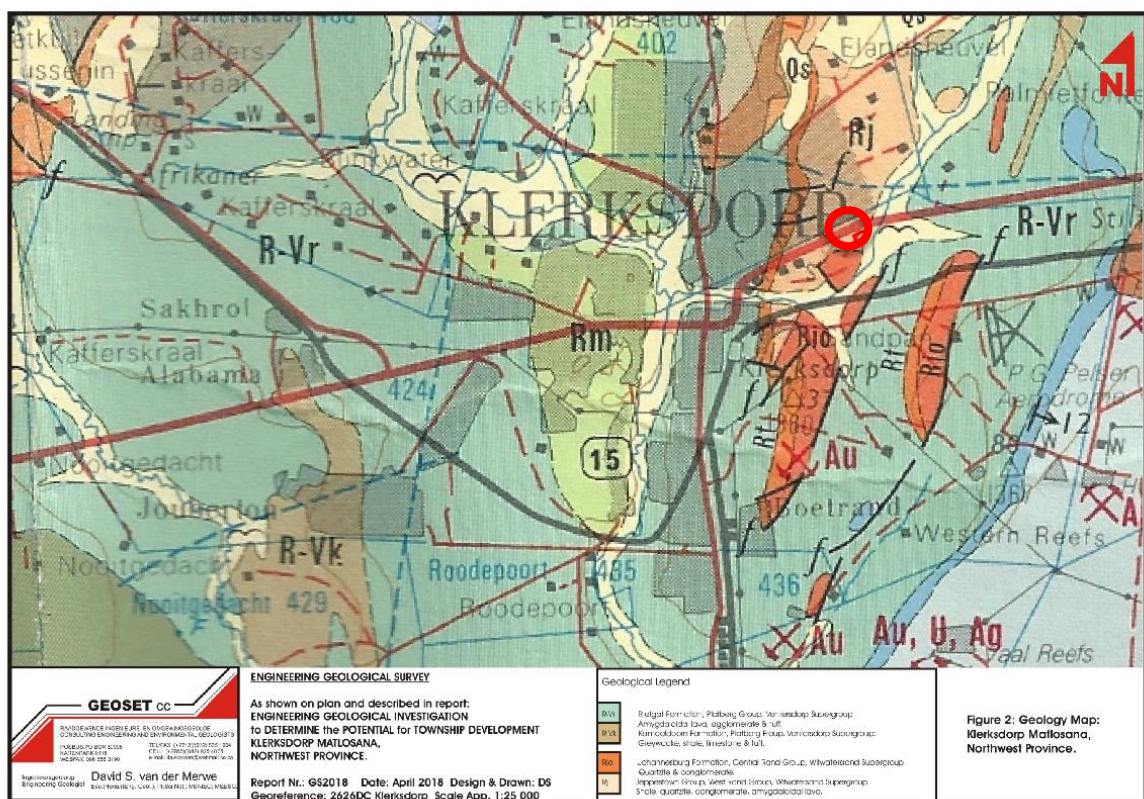


Figure 3: Geological map (2626 West Rand) showing the position of the study locality (outlined in red) in relation to the regional geology.

Methodology

Because the study area is underlain by Precambrian rocks of low palaeontological sensitivity a desktop Palaeontological Impact Assessment was undertaken to identify possible fossil occurrences, comment on the impact of the proposed development, and to make mitigating recommendations.

Recommendations

From the documentation supplied regarding the development it is extremely unlikely that the proposed development will have any effect on palaeontological heritage. However if fossils are exposed in the Quaternary colluvial or alluvial deposits it will create a unique opportunity to explore the area for fossils. It is thus recommended that, in the unlikely event that fossils are exposed as a result of construction activities, a qualified palaeontologist must be contacted to assess the exposure for fossils before further development takes place so that the necessary rescue operations are implemented. Depending on the nature of the fossils discovered this could entail excavation and removal to a registered palaeontological museum collection. A list of professional palaeontologists is available from South African Heritage Resources Agency (SAHRA).

Conclusion

The proposed Klerksdorp Extension 48 township development area is underlain by Precambrian aged rocks of the Witwatersrand Supergroup which in turn are overlain by unconsolidated Quaternary-aged alluvial deposits. It is extremely unlikely that fossils will be exposed as a result of the development. From a palaeontological perspective, the proposed township development should proceed but, if fossils are uncovered in the course of construction activities, the developer must immediately call in a qualified palaeontologist to assess the situation and, if necessary, undertake excavation of the fossils.

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A handwritten signature in blue ink, appearing to read 'B. Rubidge'.

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