

# Palaeontological Impact Assessment

On behalf of Henwood Environmental Solutions

## Acorns to Oaks School

MDEDETs REF. NO.: 17/2/3/E-106

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### Site and proposed development

The proposed Acorn to Oaks School is situated on Portion 17 of the farm Acornhoek 212 KU, located east of the R40 road, approximately 1 km north east of Tintswalo Village, Acornhoek, Bushbuckridge Local Municipality, Mpumalanga Province. 24°34'22.13" 31°04'52.57"

The application is for the construction of a Secondary School with classrooms, administrative buildings, sports facilities, playing fields and a hostel for about 650 learners. A sewerage treatment facility may also be constructed.

### Geology and Palaeontology

The site is to be constructed on Klaserie Gneiss of tonalitic to granodiorite composition rocks which are overlain by Quaternary soils (Fig 1). The basement rocks in this area are part of the Swazian system which are ancient, more than 3 000 million years, so do not contain recognizable fossils. The only possible fossils at this age would be algae and fungi but such igneous rocks do not preserve fossils (Taylor et al., 2009). There is no record of very young fossils from the overlying soils and the topography is unlikely to reveal any.

### Recommendation

Construction of the Acorns to Oaks School should proceed as there is no threat to the palaeontological record. In the unlikely event of Quaternary fossils (vertebrate bones, terrestrial shells, fossil wood, seeds or leaves) being exposed then a palaeontologist should be called immediately to rescue and remove the material so that the development can continue. The material would have to be housed in a recognized institute but a permanent loan could be negotiated and the fossils used by the school as a display for teaching purposes.

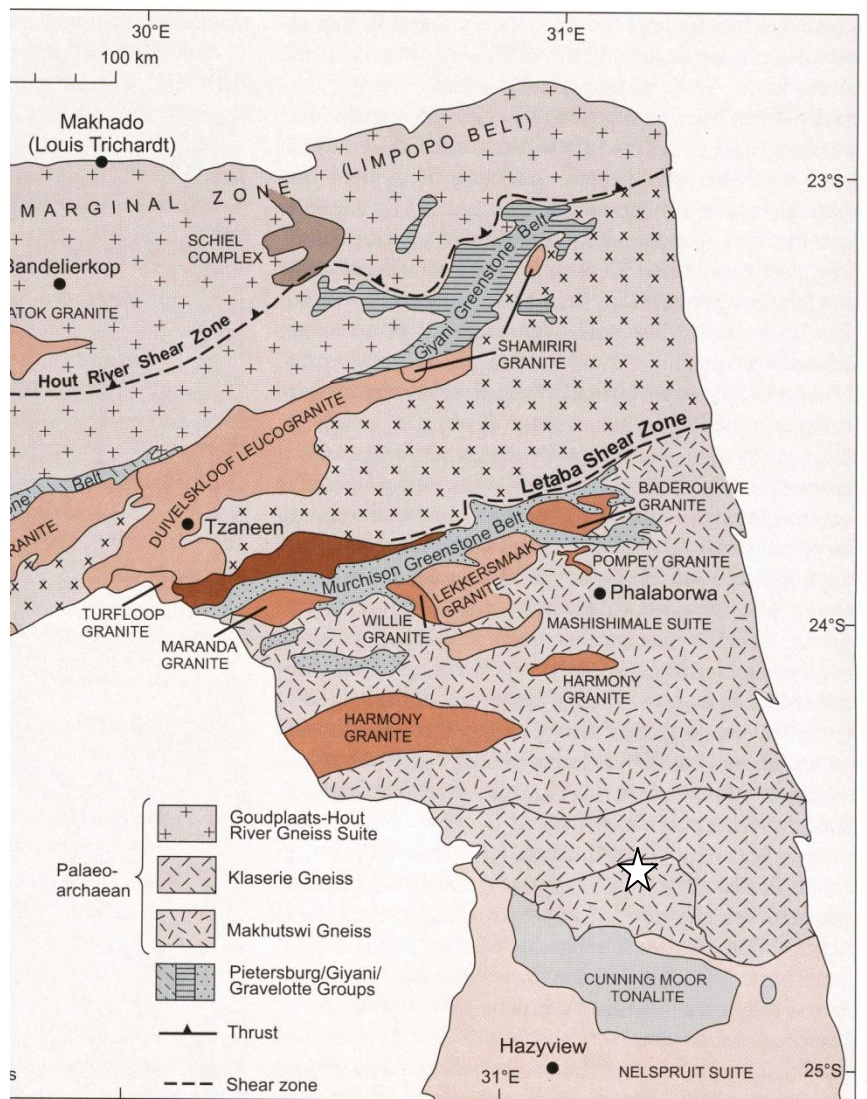


Figure 1. Map of the northern and north eastern sector of the Kaap Vaal Craton, northeastern South Africa (from Robb et al., 2006). The location of the proposed site for the Acorns to Oaks School is indicated by a star.

## References

Robb, L.J., Brandl, G., Anhauser, C.R., Poujol, M., 2006. Archaean granitoid intrusions. In: Johnson, M.R., Anhauser, C.R. and Thomas, R.J., (eds). *The Geology of South Africa*. Geological Society of South Africa, Johannesburg / Council for Geoscience, Pretoria. pp 57-94.

Taylor, T.N., Taylor, E.I., Krings, M., 2009. *Palaeobotany. The biology and evolution of fossil plants*. Academic Press, Burlington MA, USA. 1230pp.

