Phase 1 Heritage Impact Assessment of a proposed new cemetery at Theunissen, FS Province.

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Executive Summary

- A Phase 1 Heritage Impact Assessment was carried out in an area demarcated for a proposed new cemetery of about 10 ha at Winburg in the central Free State
- The site covers approximately 10 ha of flat and previously disturbed, open veld
- A pedestrian survey indicated that the proposed new cemetery will have no impact *in situ* Stone Age or Late Iron Age archaeological material, and there are also no indications prehistoric structures or historical buildings older than 60 years immediately adjacent to or within the affected area.
- Potential impact on intact fossil material within the Quaternary overburden is considered highly unlikely.
- There are no major palaeontological or archaeological grounds to suspend the proposed development.
- The site has been sufficiently recorded, mapped and documented in terms of conditions necessary for a Phase 1 impact assessment and can be accessed for further development.

Introduction

A Phase 1 Heritage Impact Assessment was carried out in an area demarcated for a proposed new cemetery of about 10 ha at Winburg in the central Free State (**Fig. 1**). The survey is required as a prerequisite for new development in terms of Section 38 (1) of the National Heritage Resources Act 25 of 1999. A site visit and subsequent assessment took place in May 2013. The task involved identification of possible heritage sites or occurrences in the proposed zone, an assessment of their significance, possible impact by the proposed development and recommendations for mitigation where relevant.

Terms of reference for assessment

- Identify and map possible heritage resources at the proposed site;
- Determine and assess the potential impacts of the proposed development on potential heritage resources in the proposed areas of impact;
- Recommend mitigation measures to minimize impacts associated with the proposed development.

Description of the Affected Area

Details of area surveyed

1:50 000 scale topographic map 2827CA Winburg.

1:250 000 scale geological map 2826 Winburg.

General site coordinates: 28°32'16.30"S 26°59'8.18"E

The proposed new cemetery is situated outside Winburg, on the farm Rietfontein 18. It borders the Makeleketle Township to the north and the N1 national road to the west (**Fig. 2**). The site covers approximately 10 ha of flat and previously disturbed, open veld (**Fig. 3**). An existing cemetery is bordering the affected area to the east of the affected area (**Fig. 4**).

Geology

Underlying sedimentary rocks in the region are represented by potentially fossil – bearing sandstones, shales and mudstones of the Adelaide Subgroup (Beaufort Group, Karoo Supergroup) (Nolte 1995). The site itself is capped by a thick mantle of Quaternary to Recent residual deposits made up unconsolidated sand, colluvium and

sheet wash. The modern substrate is largely represented by light brown soils of varying depth (**Fig**.**5)**.

Background

The Karoo geological strata underlying the affected area are generally accepted to be Late Permian in age and are assigned to the *Dicynodon* and Assemblage Zone (Kitching 1977; 1995). The sediments assigned to the *Dicynodon* AZ are associated with stream deposits and vertebrate fossils are primarily found in mudrock sequences between channel sandstones. Fossils are frequently preserved as articulated skeletons within well-defined blue-grey or red-brown calcareous nodules. Plant fossils (*Dadoxylon, Glossopteris*) and trace fossils (arthropod trails, burrow casts) are also present.

There are currently no records of Quaternary-age fossil sites from alluvial sediments in the vicinity of Winburg, but several late Pleistocene fosilliferous deposits are known from the Virginia-Theunisen area (De Ruiter *et al*. 2011). The sites are mainly represented by alluvial contexts from the Doring, Sand and Vet Rivers which occasionally include unassociated Middle Stone Age tools. Surface scatters of Later Stone Age and Middle Stone Age artefacts are frequent archaeological components along erosional gullies of rivers and streams of the southern Highveld. This include long, high-backed blades from the early Middle Stone Age, typical Florisian retouched blades, trimmed points and Levallois core types and the Smithfield Industries of the Holocene. There are no records of rock engravings in the vicinity of the survey area.

The study area is situated at the western periphery of distribution of Late Iron Age settlements in the Free State and stone-walled enclosures found on and around dolerite koppies exhibit telltale signs of basic structural units including huts, large enclosures, pieces of walling and stone circles related to prehistoric farming communities in the area. These sites were occupied from as early as the sixteenth and seventeenth centuries and represent a system that can be broadly attributed to groups ancestral to the Sotho-speaking people of today (Maggs 1976). Archaeological excavations at Doornpoort near Winburg, show a complex of stone-walled enclosures and an assortment of well-preserved pottery, beads, bone tools and animal figurines.

Extensive Iron Age settlements have also been recorded previously in the Willem Pretorius Nature Reserve north of Winburg.

The Winburg Voortrekker Monument as well as a small Voortekker graveyard is located about 1.3 km southeast of the affected area (**Fig. 6;** coordinates S28 32 39.5 E26 59 39.6). These sites will not be impacted by the proposed development.

Methodology

A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera, were used to record pertinent data. Relevant heritage information as well as existing fieldwork data were assimilated for the report and integrated with information acquired during the on-site inspection.

Results of Survey

The western boundary of the proposed site adjoins an N1 off ramp and it is clear that the area has already been disturbed by prior construction activities. The pedestrian survey indicated that the proposed new cemetery will have no impact *in situ* Stone Age or Late Iron Age archaeological material, and there are also no indications prehistoric structures or historical buildings older than 60 years immediately adjacent to or within the affected area. Potential impact on intact fossil material within the Quaternary overburden is considered highly unlikely.

Statement of Significance and Recommendations

Significance of impacts is summarized in **Table 1**. The proposed cemetery development will have little impact on potential heritage resources. There are no major palaeontological or archaeological grounds to suspend the proposed development. The site has been sufficiently recorded, mapped and documented in terms of conditions necessary for a Phase 1 impact assessment and can be accessed for further development.

References

De Ruiter, D.J. Churchill, S.E., Brophy, J.K. & Berger, L.R. 2011. Regional survey of MSA fossil vertebrate deposits in the Virginia-Theunissen area of the Free State, South Africa. *Navorsinge van die Nasionale Museum Bloemfontein* 27 (1): 1 – 20.

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Maggs, T.C. 1976. *Iron Age communities of the southern Highveld*. Occasional Papers of the Natal Museum No. 2.

Nolte, C.C. 1995. The geology of the Winburg area. *Geological Survey of South Africa.* Council for Geoscience.

Declaration

L. Rossouw does independent specialist consulting and is in no way connected with the proponents of the development, other than delivery of consulting services.

Table 1. Significance and rating of potential impact.

Scope	Heritage	Significance	Rating
Development of new cemetery at 28°32'16.30"S 26°59'8.18"E	Palaeontology	Low	General protection C (IV C)
Development of new cemetery at 28°32'16.30"S 26°59'8.18"E	Archaeology	Low	General protection C (IV C)

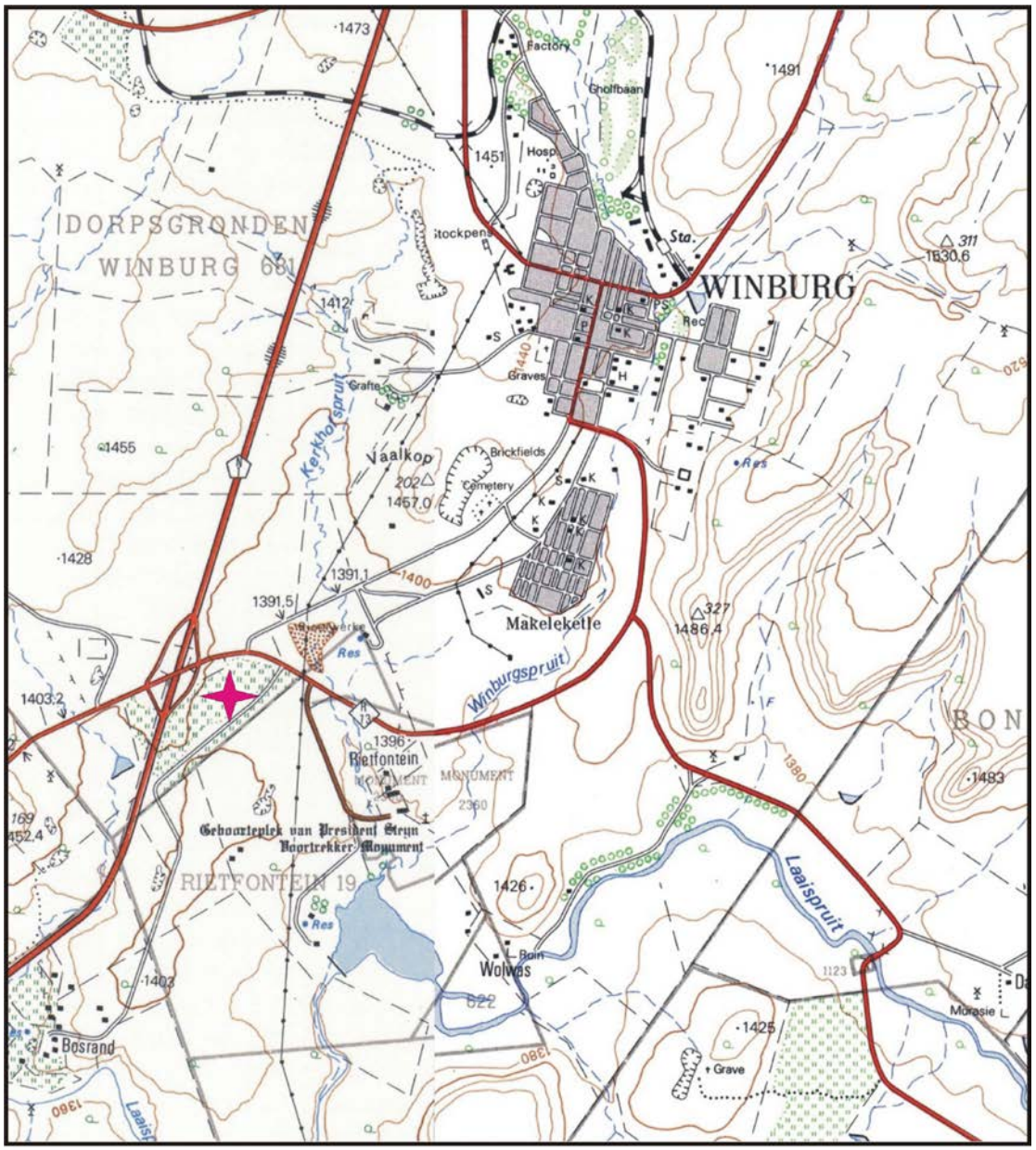

Figure 1. Locality map of the proposed new cemetary a Winburg (portion of 1:50 000 scale topographic map 2827CA Winburg).

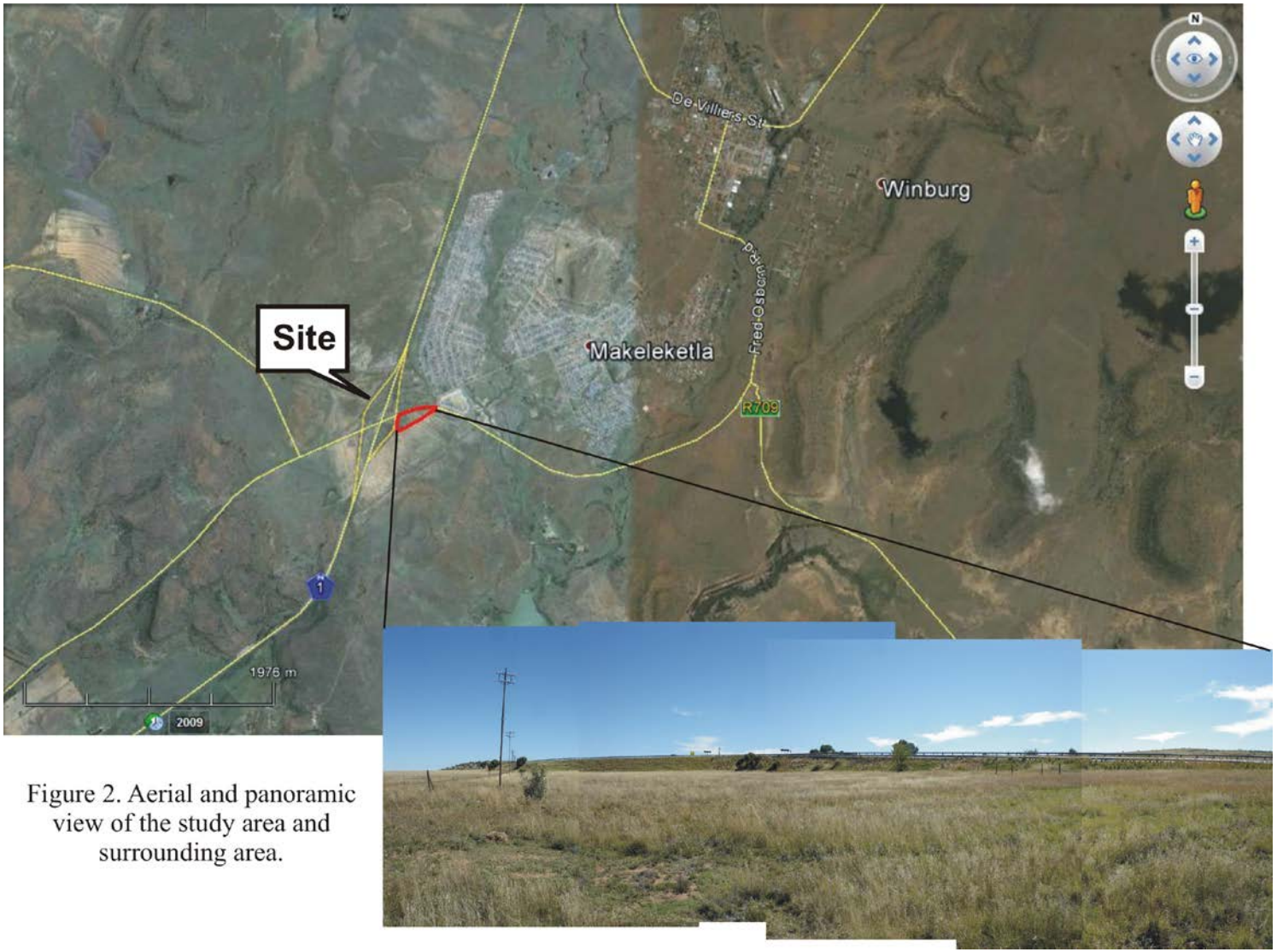

Figure 2. Aerial and panoramic view of the study area and surrounding area.

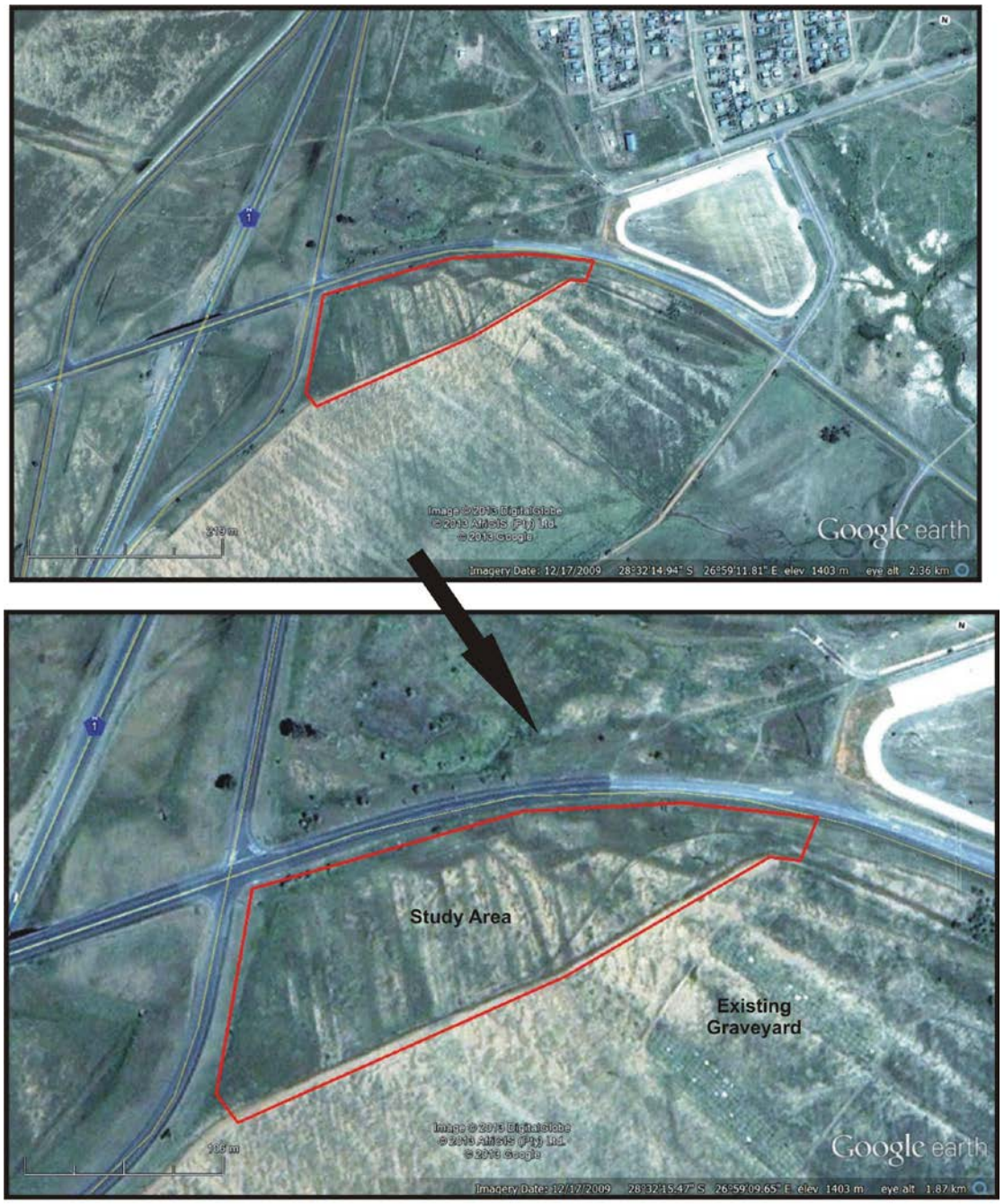

Figure 3. The site covers approximately 10 ha of flat and previously disturbed, open veld.

Figure 4. An existing cemetery is located to the east of the affected area (coordinates S28 32 15.9 E26 59 13.6).

Figure 5. The site is capped by a thick mantle of Quaternary to Recent residual deposits made up unconsolidated sand, colluvium and sheet wash. The modern substrate is largely represented by light brown soils of varying depth

Figure 6. A small Voortrekker graveyard dating back to ca. late 19th century.