

**Phase 1 Heritage Impact Assessment for a proposed new
township development on the Farm Kloof 2921, Bloemfontein,
Free State Province.**

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Summary

A Phase 1 Heritage Impact assessment was carried out with regard to planned township development on the Farm Kloof 2921 in Bloemfontein, FS Province. The proposed 40 ha development footprint is underlain by palaeontologically insignificant dolerites (Karoo Dolerite Suite) and associated contact metamorphic metasediments that are capped in places by a veneer of residual soil and sand. A foot survey of the terrain revealed no evidence for the accumulation and preservation of *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. There are also no indications of rock art (engravings on dolerite outcrop), prehistoric structures, above-ground evidence of graves or formal buildings with historical significance older than 60 years situated within the boundaries of the study area. As far as the palaeontological heritage is concerned, the proposed development may proceed with no additional heritage assessments necessary, provided that all excavation activities are restricted to within the boundaries of the development footprint. As far as the archaeological heritage is concerned the footprint is assigned site rating of Generally Protected C (GP.C).

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Introduction

A Phase 1 Heritage Impact assessment was carried out with regard to planned township development on the Farm Kloof 2921 in Bloemfontein, FS Province (**Fig. 1**). The assessment is required as a prerequisite for new development in terms of the National Environmental Management Act and is also called for in terms of the National Heritage Resources Act (NHRA) 25 of 1999. The region's unique and non-renewable archaeological heritage sites are 'Generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority. As many such heritage sites are threatened daily by development, both the environmental and heritage legislation require impact assessment reports that identify all heritage resources in the area to be developed, and that make recommendations for protection or mitigation of the impact of such sites.

Methodology

The heritage significance of the affected area was evaluated on the basis of existing field data, database information and published literature. This was followed by a field assessment by means of a pedestrian survey. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes. Maps and aerial photographs (incl. Google Earth) were consulted and integrated with data acquired during the on-site inspection.

Field Rating

Site significance classification standards prescribed by SAHRA (2005) were used to indicate overall significance and mitigation procedures where relevant (Table 1).

Terms of Reference

The task involved the following:

- Identify and map possible heritage sites and occurrences using available resources.
- Determine and assess the potential impacts of the proposed development on potential heritage resources;
- Recommend mitigation measures to minimize potential impacts associated with the proposed development.

Locality Data

The site covers approximately 40 ha of open veldt situated in rocky terrain next to the R700 provincial road on the northern outskirts of Bloemfontein (**Fig. 2 & 3**).

Site Coordinates (Fig. 2):

A) 29° 3'6.13"S 26°13'35.72"E

B) 29° 3'40.51"S 26°13'50.97"E

C) 29° 3'42.66"S 26°13'26.24"E

D) 29° 3'23.50"S 26°13'20.77"E

Background

The geology of the Bloemfontein area has been described by Theron (1963). According to the 1:250 000 scale geological map of the area the site is situated within the Beaufort Group, Adelaide Subgroup (Karoo Supergroup), primarily represented by late Permian, Balfour Formation sedimentary rocks, which are made up of alternating and potentially fossil-bearing sandstone and mudstone layers. The palaeontological footprint around Bloemfontein is primarily represented by Late Permian Karoo vertebrate fauna and Late Cenozoic (Quaternary) macrofossils (Broom 1909 a, b; Kitching 1977, 1995; Churchill *et al* 2000; Rossouw 1999, 2006). Quaternary-age surface deposits in the region can be highly fossiliferous in places, especially those that are directly related to fluvial environments along major river courses, or near spring areas and pans. Fossil assemblages, individual specimens and fossilized hyena burrows have been found preserved in Late Pleistocene alluvial sediments of the nearby Modder River and its tributaries.

Cultural remains previously recorded around the northern outskirts of Bloemfontein can be divided into four categories: Stone Age remains, South African War remnants, graveyards and historical structures, including residential buildings, stone-built kraal and dam walls (Dreyer 2004a, 2004b, 2004c, 2004d, 2005; Henderson 2006; Henderson *et al.* 2008; Rossouw 2012) (**Fig. 4**). The Stone Age archaeological record of the Modder River catchment north of Bloemfontein spans back to the early Middle Stone Age. Widespread traces of prehistoric human habitation, in the form of stone tool scatters and individual surface finds, have previously been recorded at Bayswater 286, Lilyvale 2313 and Hillandale 249 (Goodwin and Van Riet Lowe 1929, Henderson *et al.* 2008; Rossouw 2012). After Bloemfontein was occupied by British forces on 13 March 1900, the city became a major military centre, with several farms north of Bloemfontein

requisitioned for military purposes which also included military hospitals, rifle ranges, sangars and a large remount camp at Hillandale (**Fig. 5**). Hillandale was owned by Abraham Fischer, and was expropriated by the British along with the Tempe farms. In military correspondence it is referred to as Fischer's Farm (FS Archives). The Tempe Farms were originally expropriated as grazing for the horses of the South African Constabulary in August 1901, and eventually bought by the War Office in 1904. Archaeological remains related to British military activities in the area include stone wall structures and rubbish dumps, kraals and graveyards (**Fig. 6**). A large military rubbish dump was recorded on Lilyvale 2313/25(33), the property adjacent to the survey area. The stone wall structures are one of the last remaining traces of the British military occupation of the northern part of Bloemfontein. The walls were built by the British Engineers, which had their camp stationed at Tempe. They formed part of a wall which originally ran from the water towers east of Tempe to the edge of Hillandale farm. Some sections can still be seen at the Botanical Gardens, as well as in the Lilyvale and Bayswater areas, between Hillsboro and the R700 road south of the N1. Graveyards and isolated graves are also known from this area.

Field Assessment

The proposed development footprint is underlain by intrusive Jurassic dolerites (Karoo Dolerite Suite) and associated contact metamorphic metasediments that are capped in places by a veneer of residual soil and sand (**Fig. 7**). A foot survey of the terrain revealed no evidence for the accumulation and preservation of *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. There are also no indications of rock art (engravings on dolerite outcrop), prehistoric structures, above-ground evidence of graves or formal buildings with historical significance older than 60 years situated within the boundaries of the study area.

Impact Statement and Recommendations

Dolerite, in the form of dykes, sills or inclined sheets is not considered palaeontologically significant. The site is also regarded as of low palaeontological significance with regards to the superficial residual soils capping the dolerite in places (Quaternary overburden). This is mainly due to a lack of suitable alluvial/fluvial deposits at the site. As far as the palaeontological heritage is concerned, the proposed development may proceed with no additional heritage assessments necessary, provided that all excavation activities are restricted to within the boundaries of the development footprint. As far as the archaeological

heritage is concerned the footprint is assigned site rating of Generally Protected C (GP.C).

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DECLARATION OF INDEPENDENCE

I, Lloyd Rossouw, declare that I act as an independent specialist consultant. I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference. I have no interest in secondary or downstream developments as a result of the authorization of this project

A handwritten signature in black ink, appearing to read 'L Rossouw', with a large, stylized initial 'L'.

22 / 08 / 2018

Tables and Figures

Table 1. Field rating categories as prescribed by SAHRA.

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

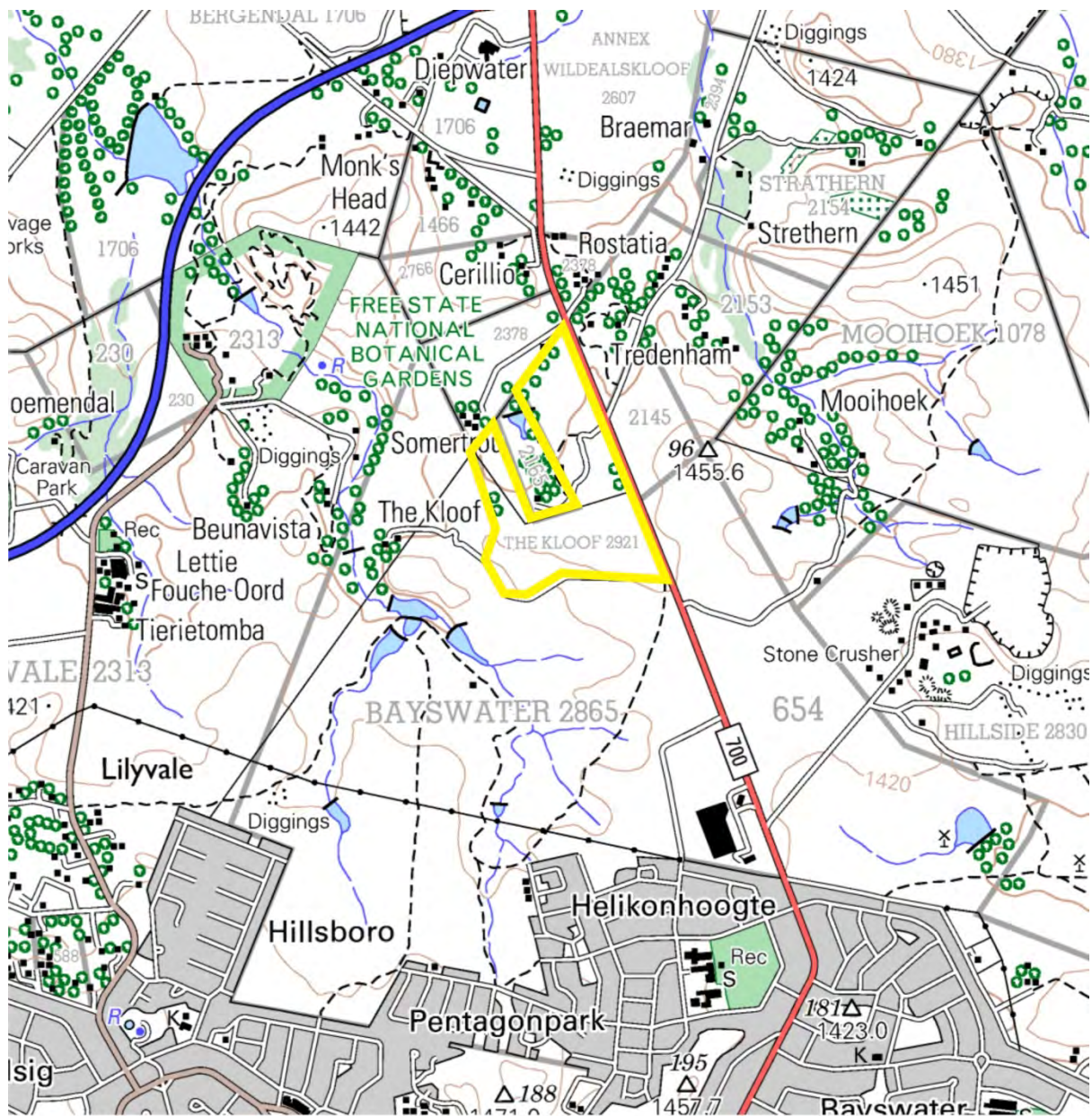


Figure 1. Map of the study area (portion of 1:50 000 scale topographic 2926 Bloemfontein).



Figure 2. Aerial view and layout of the site.



Figure 3. General view of the terrain, looking north above and west (below).

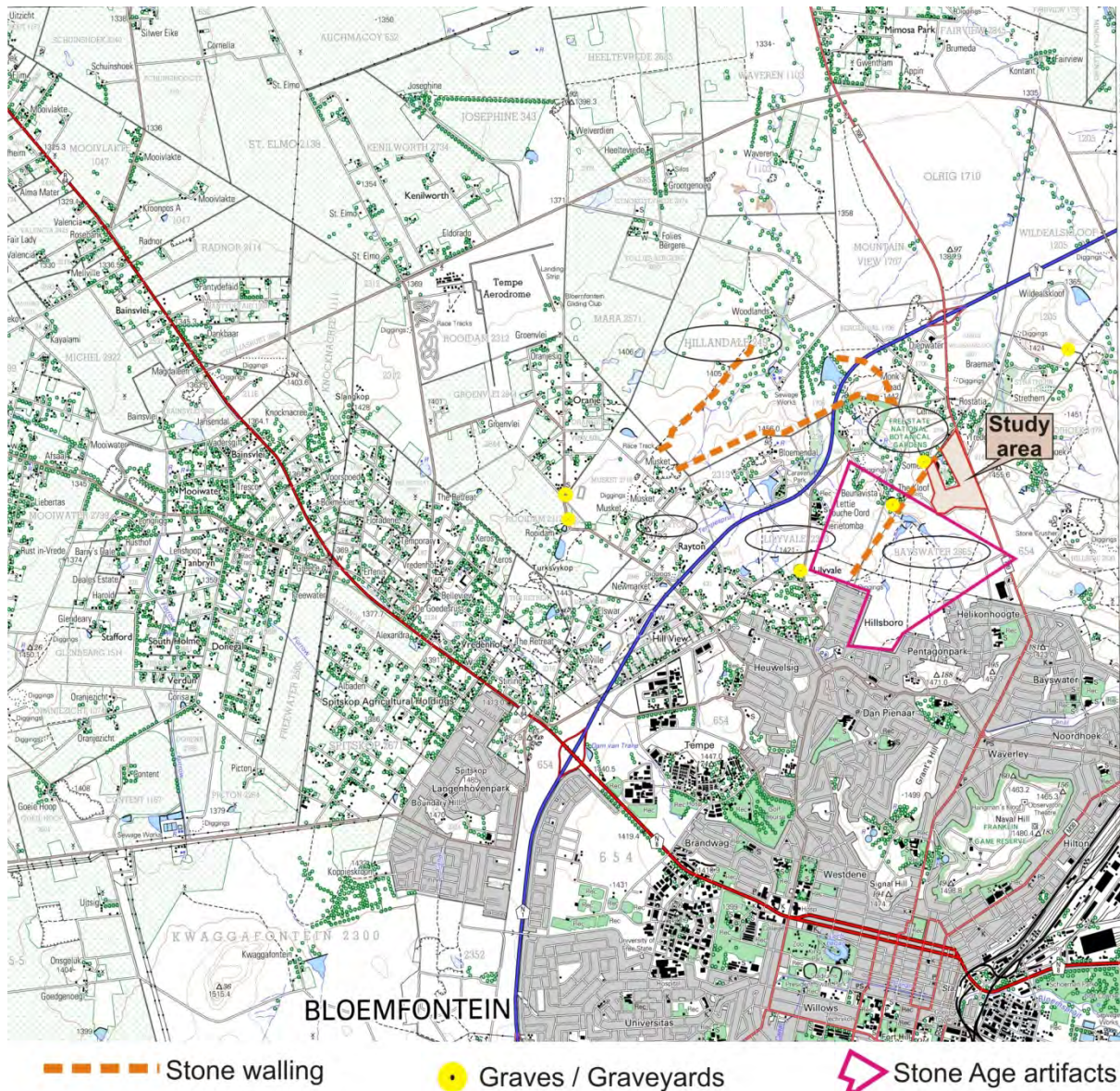


Figure 4. Low stone wall structures and sangars are one of the last remaining traces of the British military occupation of the northern part of Bloemfontein. The walls were built by the British Engineers, which had their camp stationed at Tempe. They formed part of a wall that originally ran from the water towers east of Tempe to the edge of Hillandale farm.

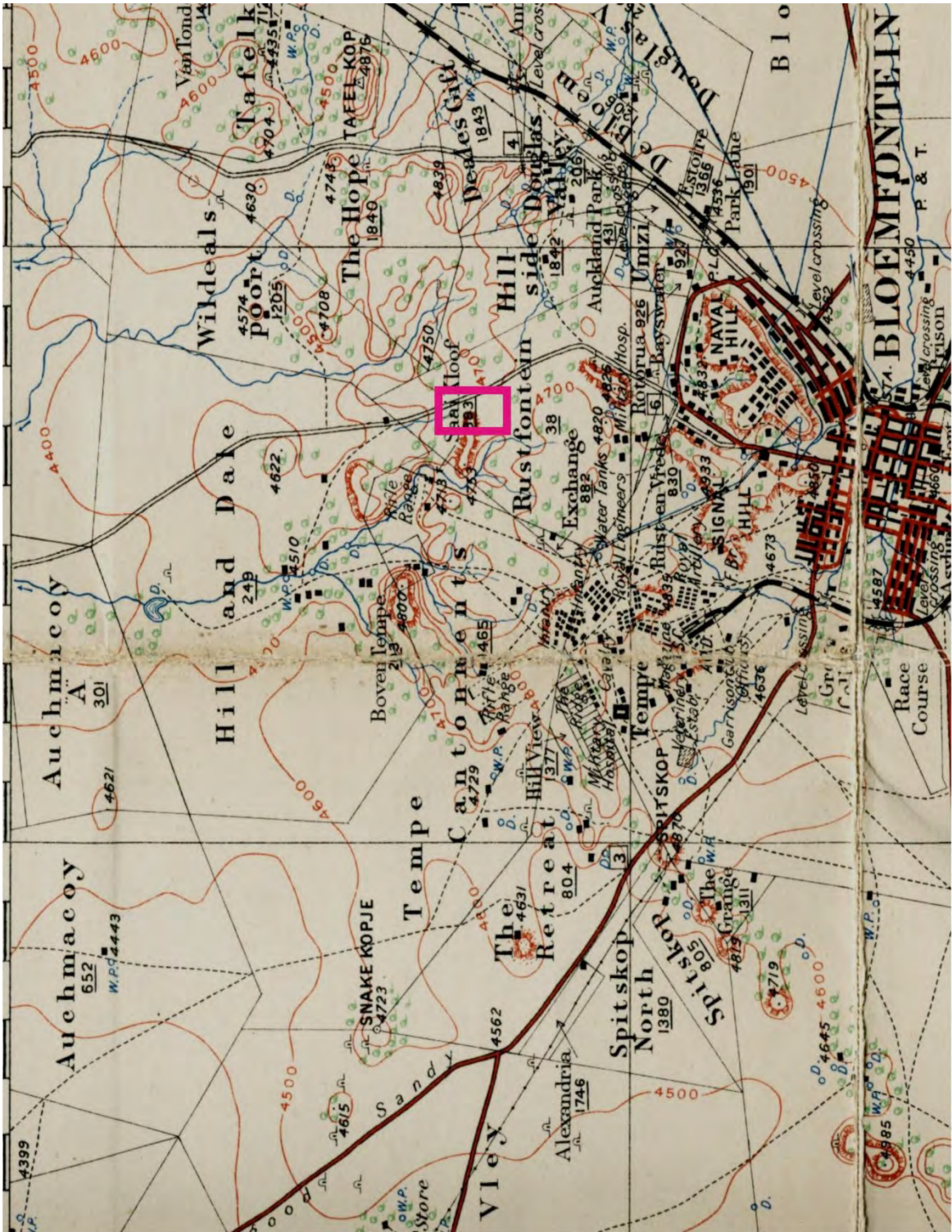


Figure 5. Position of the study area marked on a British military map circa 1913.



Figure 6. Military rubbish dump and its remains (top & center left), graves (bottom left) and stone wall structure (right) recorded west of the study area.



Figure 7. Dolerite hill looking south (above) and weathered dolerite outcrop capped by veneer of unconsolidated residual soils, looking northwest (below).